

ACADEMIC PAPER

Types of value and cost in consumer–green brands relationship and loyalty behaviour

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Abstract

Recent literature has proposed the dynamic construct of customer value (CV) as an alternative approach to studying proenvironmental consumer purchase and loyalty behaviour. This study empirically tests and validates a model pertaining to the factors that motivate and/or hinder the development of the relationship between consumers and green brands. Findings from a survey on green brands in the detergent category indicate that a set of value dimensions and (purchase) costs have a significant influence on perceptions of CV, which, as an overall assessment construct, mediate the relationship between value dimensions and costs and loyalty to the green brand. This research also examines the moderating effect of involvement on the relationships between the 3 antecedents (value dimensions, purchase costs, and switching costs) and perceived CV. Overall, the current study offers a multiattribute understanding of consumers' relational behaviour, concluding with several value-enhancing and cost-minimising implications for green marketing practitioners.

1 | INTRODUCTION

The fact that consumers support green brands (i.e., “brands with an active communication and differentiation from competitors through their environmentally sound attributes”; Hartmann, Ibanez, & Sainz, 2005, p. 10) is currently a market trend that has resulted in considerable growth in the sales of such brands (Flash Eurobarometer 367., 2013). The increasing penetration of green products moves practitioners' focus from the initial purchase of these products to repeated buying, that is, building strong and sustainable relationships between the consumer and the green brand that can establish long-term loyalty. However, research on proenvironmental consumer purchase behaviour has primarily investigated the relation between consumer values, various abstraction-level attitudes (e.g., attitudes towards the environment), and purchase intentions, which has often revealed a gap between consumer attitudes and behaviour (e.g., Grimmer, Kilburn, & Miles, 2016; Lee & Holden, 1999; Seegebarth, Behrens, Klarmann, Hennigs,

& Scribner, 2015; Tanner & Kast, 2003), with little emphasis on green branding and loyalty behaviour. Moreover, theorists maintain that even the most environmentally conscious consumers do not choose brands merely on the basis of their environmental aspects; rather, the choice is often the outcome of a multiattribute evaluation process, where consumers engage in trade-offs among various product attributes perceived either positively or negatively (e.g., Schuitema & De Groot, 2015; Seegebarth et al., 2015). To fill this gap, research on perceived value for environmentally sustainable products becomes even more relevant (De Medeiros, Ribeiro, & Cortimiglia, 2016) to provide insight on the motivators and the barriers that consumers perceive when making environmentally friendly product purchases (Cronin et al., 2011). However, studies use either cost or value perspectives independently to understand their influences on consumers' behavioural intentions (Wu, Chen, Chen, & Cheng, 2014), so a simultaneous examination of the value and cost effects on consumers' repurchase intentions and their interplay is necessary.

To this end, Papista and Krystallis (2012) have recently suggested a conceptual model that consolidates the rich body of literature on the

Abbreviations: CV, Customer value; RQ, Relationship quality; PLS, Partial least square

drivers of customer value (hereafter, CV) and the relationship quality (hereafter, RQ) research stream, which, as a higher-order construct, offers a deeper understanding of the consumer–brand relationship. In more detail, their model coexamines the value- and cost-related effects, some of which may have been sporadically identified in the proenvironmental consumer-behaviour literature, on relationship development and purchase loyalty under realistic, multiattribute situations. However, research has not yet empirically tested the specific model. The present study aims to empirically validate the Papista and Krystallis (2012) model in a fast-moving consumer goods market, operationalise conceptual constructs and adapt its measurement scales. Specifically, the objectives of the paper are to test (a) the effect of value dimensions and costs on the consumer–green brand RQ and loyalty towards the brand, (b) the relative influence of CV and RQ as mediators on consumer loyalty, and (c) the moderating effect of consumer involvement on the relationships between value and cost dimensions and RQ.

This study thus adds a more robust explanation of the value–cost–loyalty linkage to the existing environmental literature, offering a multiattribute approach to the consumer–green brand relationship building. Moreover, the study contributes to the CV literature by validating multidimensional conceptualisations of value and costs and extending existing knowledge regarding the relationships among constructs. The following sections present the model and its components, describe the methodology and the results, discuss the findings, and suggest opportunities for further research.

2 | CONCEPTUAL FRAMEWORK AND HYPOTHESES

Zeithaml (1988) defines CV as “the consumer’s overall assessment of the utility of a product based on perceptions of what is received and what is given” (p. 14); therefore, both value (in terms of benefits, utilities, and higher-level abstractions) and costs (such as time, energy, and search effort) determine CV. To describe the multidimensional CV concept, we adopt Papista and Krystallis’s (2012) conceptualisation. In that paper, the CV approach is applied to study environmental

consumer behaviour in high-realism situations, where consumers have to balance their preferences over different brand benefits and costs when considering a green brand as a potential partner in the consumer–brand relationship.

In more detail, their model builds the theorisation of CV on two premises: perceived value dimensions and perceived costs. With regard to value dimensions, the authors adopt Holbrook’s (2006) conceptualisation, which suggests that economic, social, hedonic, and altruistic value dimensions capture both the cognitive and affective components of value. In relation to perceived costs, the different types of costs that the CV literature has identified (i.e., price, effort, evaluation cost, and performance risk) are organised into two dimensions. The first dimension refers to purchase costs (i.e., price and effort), which are the sacrifices consumers make at any time they consider purchasing a brand (Baker, Parasuraman, Grewal, & Voss, 2002). The second dimension reflects switching costs of breaking an existing relationship with a favourite brand and forming a new one with another brand (i.e., evaluation and performance), which entails the investment of effort, time, and money, as well as the psychological costs of trying a new brand (Burnham, Frels, & Mahajan, 2003). Such inclusive and theoretically supported conceptualisations are generally lacking when describing CV or perceived cost, which are still often operationalised as unidimensional constructs (Gallarza, Gil-Saura, & Holbrook, 2011; Jones, Mothersbaugh, & Beatty, 2002; Perrea, Grunert, & Krystallis, 2015).

Overall, the core construct of the model is CV (Figure 1). The overall sequence of effects is that value dimensions and costs perceived in relation to a green brand influence CV, which in turn affects RQ and loyalty in the green brand. Finally, the level of consumer involvement in the product category is expected to moderate the relationship between perceived value dimensions and costs and CV. The following paragraphs briefly explain the nature of these constructs and depict their interplay, as postulated in Papista and Krystallis (2012) and reflected through the research hypotheses of the present study.

2.1 | Value dimensions of green brands

Economic Value is provided when a brand serves as a means to accomplish consumers’ own objectives (Holbrook, 2006) and derives from a

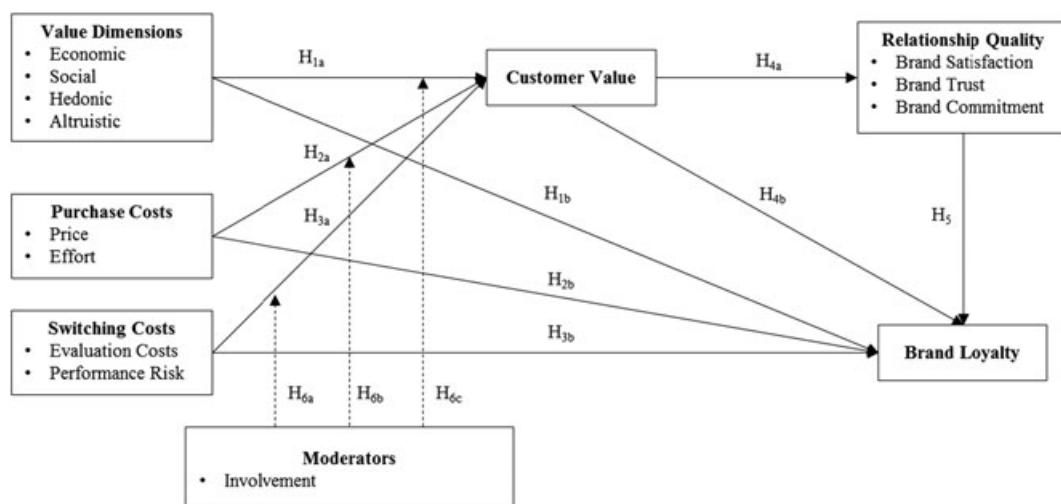


FIGURE 1 Conceptual model and study hypotheses

product's attributes, such as reliability, durability, product/service quality, and staff professionalism (Sheth, Newman, & Gross, 1991; Sweeney & Soutar, 2001). Moreover, in the specific framework of environmentally friendly products, it entails the performance advantages that green brands offer, such as savings in energy consumption or extending the life of the product (e.g., Hartmann & Ibanez, 2006; Hur, Woo, & Kim, 2015; Koller, Floh, & Zauner, 2011; Schuitema & De Groot, 2015). Furthermore, green products have been proven to have lower side effects, hazards, toxic substances, and health issues and higher recyclability and environmental friendliness (Maniatis, 2016).

Social Value reflects the perceived utility of a product to enhance an individual's social self-concept and association with one or more specific social groups (Pihlström & Brush, 2008; Sheth et al., 1991). Behaving according to prevailing social norms satisfies a diverse set of social needs, which encourages consumers to engage in environmentally friendly purchasing (Hur et al., 2015; Iyer & Kashyap, 2007; Koller et al., 2011; Seegebarth et al., 2015). In more detail, peer groups exert direct and indirect effects on green consumer behaviour by directly reinforcing green consumption or a green lifestyle and nurturing a consumer's emotions and passion towards the environment, thus leading to green purchase behaviour (Nath, Kumar, Agrawal, Gautam, & Sharma, 2013).

Hedonic Value is associated with an offering's ability to trigger consumers' emotions, change their emotional status, or arouse their feelings and affective states through stimuli such as playfulness and aesthetics (Hahnel, Golz, & Spada, 2014; Holbrook, 2006; Sheth et al., 1991). Hedonic value may arise from consumers' own pleasure, liking, and comfort in the consumption experience with the product (Perrea et al., 2015). In the case of a green brand, consumers may derive pleasure from the look, feel, and taste of more environmentally benign product alternatives, such as organically produced garments using natural fibres and dyes or organically produced, traditional varieties of fruit and vegetables (Schaefer & Crane, 2005). This dimension may also provide a set of context-specific positive emotions based on the "green to feel good" rationale (Koller et al., 2011, p. 1,158). Thus, the arousal of positive emotions or feelings can drive alternative choice and affect CV (Hur et al., 2015).

Altruistic Value entails a "concern for how my own consumption behaviour affects others ... as when engaging in ethically desirable practices in which virtue is its own reward" (Holbrook, 2006, p. 716). Consumers make choices altruistically for their own sake and because they perceive them to be the morally "right" thing to do (Lee & Holden, 1999), and they experience an intrinsic value in using green products or services, an individual motivation to adopt the brand that comes from a "... warm glow of giving, which could be seen as an impure form of altruism" (Hartmann & Ibanez, 2006, p. 676). Thus, many forms of consumption experiences are imbued with ethical aspects, that is, empathy, altruism, and ecology (Hahnel et al., 2014; Lee & Holden, 1999; Sanchez-Fernandez, Iniesta-Bonillo, & Holbrook, 2009).

The above definitions indicate that various dimensions of value may exist in the context of green purchasing, forming a higher order construct of overall perceived value with the green brand as a significant prerequisite and source of CV (Koller et al., 2011). However, research has mostly provided support to the economic

value link—as evaluated through perceptions of product quality—to CV (e.g., Cronin, Brady, & Hult, 2000; Sirohi, McLaughlin, & Wittink, 1998) and to RQ (e.g., Pihlström & Brush, 2008). Papista and Krystallis (2012) propose that all value dimensions of the Holbrook conceptualisation form the overall CV of green brands, which mediates their effect on loyalty behaviour towards the green brand. Except for evidence arguing for the mediating role of CV (e.g., Seegebarth et al., 2015; Sweeney, Soutar, & Johnson, 1999), research also supports the direct effect of dimensions of value on relational outcomes (e.g., Cronin et al., 2000; Pihlström & Brush, 2008; Sirohi et al., 1998). For example, the economic or social value that a green brand can offer may be the sole and most significant prerequisite for the consumer to purchase the brand, ignoring all other types of value and cost; in these cases, the consumer may continue buying the brand without developing an actual relationship with it (Koller et al., 2011; Papista & Krystallis, 2012). Accordingly, the present study tests the following hypotheses:

H_{1a}: *Perceived value dimensions positively impact the customer value of a green brand.*

H_{1b}: *Perceived value dimensions positively impact loyalty to a green brand.*

2.2 | Types of costs with green brands

2.2.1 | Purchase costs

Price: Consumers who pay a higher price are more likely to suffer from financial loss than those who pay a lower price; thus, price is an indicator of sacrifice and an obstacle to the purchase of a green brand (e.g., De Pelsmacker, Driesen, & Rayp, 2005; Erdem, Swait, & Valenzuela, 2006), which lowers the perceived CV (e.g., Baker et al., 2002; Dodds, Monroe, & Grewal, 1991; Perrea et al., 2015; Petrick, 2002).

Effort refers to the physical effort of product search, selection, and purchase, as well as time costs, such as the waiting and travel time required for the purchase. Even if a person is motivated to buy green brands, he or she cannot buy such goods if they are not offered for sale in an accessible location (Tanner & Kast, 2003). Therefore, limited brand availability may increase the effort required from the customer to find and purchase it, thus lowering the perceptions of brand-delivered CV (Baker et al., 2002; Grimmer et al., 2016; Zeithaml, 1988). Furthermore, research provides support for the perceived time barriers, that is, lack of time to search, decide, and buy green brands, which is negatively related to environmental purchase behaviour (Grimmer et al., 2016; Tanner & Kast, 2003; Young, Hwang, McDonald, & Oates, 2010).

The above definitions support the proposition that the augmented price and perceived effort to complete the purchase of a green brand have a negative impact on CV (e.g., De Pelsmacker et al., 2005; Wu et al., 2014). Furthermore, consumers may reject green brands due to the increased effort required to access them or due to their higher prices without considering the types of value that the brand offers; in other words, certain types of cost may be significant enough to the consumer to directly limit his or her repeat purchase behaviour (e.g., Papista & Krystallis, 2012; Wu et al., 2014). Hence, it is meaningful to assume that when consumers evaluate the possibility of

repurchasing a green brand, they tend to see purchase costs as negative elements, and thus, such evaluations directly and negatively influence loyalty. Consequently,

H_{2a}: *Perceived purchase costs negatively impact the customer value of a green brand.*

H_{2b}: *Perceived purchase costs negatively impact loyalty to a green brand.*

2.2.2 | Switching costs

Evaluation Cost involves the time and mental effort associated with the information search and analysis to reduce uncertainty and make a brand-switching decision (Burnham et al., 2003; Jones et al., 2002; Wu et al., 2014). The purchase of environmentally friendly products may be contingent on the effort and time required to gather and analyse information about the benefits of the green brand (De Pelsmacker et al., 2005; Iyer & Kashyap, 2007), which hinders the transformation of green consumers' motivation into actual proenvironmental behaviour (Young et al., 2010).

Performance Risk refers to the loss incurred when a brand does not perform as expected by the consumer or to the perceived uncertainty regarding the performance of the new brand (Burnham et al., 2003; Jones et al., 2002). Consumers may assume that the environmental performance of a green brand is equal to its product performance (Luchs, Naylor, Irwin, & Raghunathan, 2010). Buying a green product that is perceived as an unacceptable substitute for the conventional version presents a large cost to the individual, who might attempt to alleviate this cost by purchasing a conventional product (Young et al., 2010).

The above definitions suggest that consumers might perceive evaluation costs and the risk of lower functional performance as negative attributions when evaluating the CV of a green brand. Moreover, when switching costs are substantial or the switching processes especially painful, dissatisfied customers are more likely to maintain business relationships with existing service providers and resist the dissolution of the relationship and the formation of a new relationship with an alternative brand (Wang, 2010; Wu et al., 2014). Hence, switching costs have a negative effect on customer loyalty towards a new green alternative (e.g., Chebat, Davidow, & Borges, 2011).

H_{3a}: *Perceived switching costs negatively impact the customer value of a green brand.*

H_{3b}: *Perceived switching costs negatively impact loyalty to a green brand.*

2.3 | Relationship quality

RQ is a multidimensional construct that reflects the overall nature of the relationship between a brand and a consumer and acts as a mediator between relational motivators and loyalty (Hennig-Thurau, Gwinner, & Gremler, 2002). Past research proposes that satisfaction, trust, and commitment are key dimensions of RQ (e.g., Hennig-Thurau et al., 2002; Palmatier, Dant, Grewal, & Evans, 2006). Satisfaction is the consumer's affective state resulting from

an overall appraisal of his relationship or the constant confirmation of his expectations regarding a product's performance and a brand's behaviour as a relationship partner (Odekerken-Schroder, De Wulf, & Schumacher, 2003). Trust is consumers' willingness to rely on the ability of the brand to perform its stated function (Chaudhuri & Holbrook, 2001). Finally, commitment is consumers' intention to behave in a manner supportive of the relationship longevity in terms of faithfulness and willingness to make small sacrifices (Aaker, Fournier, & Brasel, 2004). In addition to the well-established direct effect of CV on RQ and its dimensions (e.g., Chaudhuri & Holbrook, 2001; Loureiro, Miranda, & Breazeale, 2014), based on past literature, Papista and Krystallis (2012) postulate a direct effect of CV on loyalty (e.g., Cronin et al., 2000; Gallarza et al., 2011; Loureiro et al., 2014; Seegebarth et al., 2015; Wang, 2010; Wu et al., 2014), as well as an indirect effect mediated by RQ (e.g., Oh, 1999; Palmatier et al., 2006). This study intends to measure the effect of these mediating variables on loyalty behaviour, when considered simultaneously. Accordingly,

H_{4a}: *Customer value positively impacts consumer-green brand relationship quality.*

H_{4b}: *Customer value positively impacts loyalty to a green brand.*

H₅: *Relationship quality positively impacts loyalty to a green brand.*

2.4 | Involvement

Papista and Krystallis (2012) indicate that several psychographic variables may influence the degree of consumers' overall CV in the context of proenvironmental consumer behaviour. Among the variables proposed to moderate the role of perceptions of value and cost in CV, involvement is well documented by environmental literature as a psychographic characteristic influencing environmental behaviour (e.g., Atkinson & Rosenthal, 2014; Foxall & Bhate, 1993; Minton, Kahle, & Kim, 2015). In the specific context, several researchers have argued that involvement is likely to have an impact on an individual's perceptions of the costs and benefits of behaving in an environmentally conscious manner (e.g., Roberts & Bacon, 1997). In general, highly involved consumers are more likely to perceive value; show a higher interest in engaging in a relationship; allocate more time, effort, and money; and generally provide a strong basis for extending the relationship (Beatty, Kahle, & Homer, 1988; Odekerken-Schroder et al., 2003; Varki & Wong, 2003). Thus, in a relationship development framework, the involved consumer would recognise mostly the positive aspects of the brand offering, that is, its value dimensions, and accept or undervalue the negative ones, that is, its purchase and switching costs, due to stronger interest in the product category compared to a less involved consumer. Consequently,

H_{6a}: *The effect of perceived value dimensions on the customer value of a green brand is stronger (vs. weaker) for consumers with high (vs. low) involvement in the product category.*

H_{6b}: *The effect of perceived purchase costs on the customer value of a green brand is weaker (vs. stronger) for consumers with high (vs. low) involvement in the product category.*

H_{6c}: *The effect of perceived switching costs on the customer value of a green brand is weaker (vs. stronger) for consumers with low (vs. small) involvement in the product category.*

3 | METHODOLOGY

3.1 | Data collection

To test the postulated hypotheses, we conducted an online survey with Greek consumers of green detergent brands. A detergent is considered “green” when it is free of toxic chemicals that are harmful to both humans and the environment, it is biodegradable, and/or its manufacturing process is environmentally friendly; in other words, a green product has an environmental impact that is at least lower than comparable conventional products and, at the same time, its performance level is not inferior to traditional, nongreen products (De Medeiros et al., 2016). Greece is among the European countries in which the relative majority of citizens are in the regular maintenance behaviour stage, that is, often buying environmentally friendly products (Flash Eurobarometer 367., 2013), whereas the green detergent market is in its development stage, with several brands certified and positioned as green.

The survey was distributed through popular web distribution channels (i.e., blogs and social media). In total, 167 respondents offered valid responses. Their sociodemographic background and purchase-related behaviour appear in Table 1.

The respondents were asked to choose the brand they most frequently bought among the most popular green detergent brands found in the Greek market at the time the survey took place. Those who never bought any of the listed brands were excluded from the survey (429 participants; response rate 28%). Next, the questionnaire introduced the respondents to the instrument measuring the

constructs in the proposed conceptual model. The survey ended with questions about respondents' sociodemographic backgrounds.

3.2 | Measures

All first-order constructs were measured using reflective indicators, formulated as Likert-type agreement statements anchored from 1 (*strongly disagree*) to 7 (*strongly agree*). The content validity of the constructs was ensured by adopting scales and items from the literature (DeVellis, 2011). In addition, a pre-test with a convenience sample of 40 participants was conducted, which resulted in modifications to the wording of some of the items. Appendix presents the items and their sources, together with descriptive statistics and internal consistency measures.

3.3 | Model estimation

The model was estimated using a partial least squares (PLS) approach to structural equation modelling (Hulland, Chow, & Lam, 1996). Compared to covariance-based approaches, PLS is more appropriate when the sample size is relatively small and data are not normally distributed (Ringle, Sarstedt, & Straub, 2012), which was the case with the specific data. In addition, PLS allows the estimation of models that include both formative and reflective indicators (Hair, Ringle, & Sarstedt, 2011), which was also the case of the model estimated here. The analysis was performed using SmartPLS 3 (Ringle, Wende, & Becker, 2015).

The structural model contained seven key constructs: value dimensions, purchase costs, switching costs, CV, RQ, involvement, and brand loyalty. Each indicator of value dimensions (economic, social, hedonic, and altruistic), purchase costs (price and effort), switching costs (evaluation costs and performance risk), RQ (brand satisfaction, brand trust, and brand commitment), CV, involvement, and brand loyalty was modelled as a first-order reflective construct. Then, value dimensions, purchase costs, and switching costs were modelled as second-order formative constructs, and RQ as a second-order reflective construct. The decision on the operationalization of the constructs was based on theory (i.e., as proposed by Papista & Krystallis, 2012) and criteria proposed by Jarvis, MacKenzie, and Podsakoff (2003, 2003). Moderation analysis was conducted by

TABLE 1 Sociodemographic background and purchase behaviour of the sample

Variable	Percent (%) / mean	Variable	Per cent (%) / mean
Gender		Family status	
Male	51.5	Single	40.1
Female	48.5	Married	59.9
Age	38.1	Education	
Live in a place with ...		Training school or below	19.2
Less than 100,000 inhabitants	28.7	Bachelor degree	53.9
Between 100,000 and 500,000 inhabitants	18.6	Master degree or higher	26.9
More than 500,000 inhabitants	52.7		
Preferred green brand		Number of years buying the brand	
Planet	66.5	Less than 3 years	49.1
Arkadi	26.9	More than 3 years	50.1
Other	6.6		

introducing an interaction term to the model between each moderating variable and the second-order constructs of value dimensions, purchase costs, and switching costs.

4 | RESULTS

4.1 | Measurement reliability and validity

Table 2 reports measures of reliability and validity for each first-order construct. All latent-variable composite reliabilities exceeded the commonly accepted threshold of 0.7 and thereby indicate a high level of internal consistency (Jarvis et al., 2003, 2003). Moreover, all items loaded highly on their respective constructs, with all of them above the suggested threshold of 0.7 (Chin, 1998a). Convergent validity is also met with all average variance extracted values exceeding the threshold of 0.5 (Henseler, Ringle, & Sinkovics, 2009). The Fornell–Larcker criterion, which suggests that the squares of the absolute correlation coefficients between constructs should be higher than the respective average variance extracted value, additionally met the requirements for discriminant validity (Table 3; Fornell & Larcker, 1981). The same assessment process validated the second-order reflective construct of RQ (Table 4). Finally, Table 5 presents the validation of the formative second-order constructs. At the indicator level, each dimension had a significant weight on its respective construct. To assess the significance of estimates, a bootstrapping procedure using 500 subsamples was performed (Chin, 1998b). The variance inflation factor scores, which ranged below the suggested critical level of 5 (Hair et al., 2011), suggested that multicollinearity is not harmful in our study.

4.2 | Common method bias

We further checked whether common method bias could be an issue because we used self-reported data. The procedure suggested by

Liang, Saraf, Hu, and Xue (2007) was performed by including a common method factor whose indicators included all the principal constructs' indicators. Then, each indicator's variance was calculated and substantively explained by the principal construct. The analysis was performed excluding the moderating effect of involvement because the exercise would result in an extremely complex model to be tested. According to Podsakoff, MacKenzie, Lee, and Podsakoff (2003), the two criteria that indicate absence of common method bias are when method factor loadings are insignificant and items' substantive variances are substantially higher than their counterpart method variances. The results indicated that the average substantive variance of the items was 0.78, whereas the average method variance was 0.01, forming a ratio of substantive variance to method variance of approximately 78:1. In addition, a small number of method factor loadings was found to be significant (9 out of 46). We thus concluded that common method bias is not a serious concern in our study.

4.3 | Model estimation results

The significance of the structural coefficients for each path was computed by means of a bootstrapping procedure using 500 subsamples. Table 6 provides a summary of the results. Inspection of the path coefficients shows that value dimensions have a significant and positive direct effect on CV and on loyalty, which supports H_{1a} and H_{1b} . Purchase costs show a negative and significant direct effect on CV and no significant effect on loyalty, supporting H_{2a} but not H_{2b} . Switching costs show no significant direct effect on either CV or loyalty, thus rejecting H_{3a} and H_{3b} . CV shows a significant and positive direct effect on RQ and loyalty, lending support to H_{4a} and H_{4b} . Finally, RQ shows a significant and positive direct effect on loyalty, supporting H_5 .

Furthermore, the size of the predictor effect (f^2) for each path was assessed. The f^2 values of 0.02, 0.15, and 0.35 can be classified as low, medium, and high, respectively (Cohen, 1988). From the significant

TABLE 2 Reliability and validity measures for first-order latent constructs

Construct	No. of indicators	Item loading range	Composite reliability	Average variance extracted
Value dimensions				
Economic	4	.84 → .94	.95	.82
Social	3	.94 → .94	.96	.88
Hedonic	3	.84 → .87	.89	.73
Altruistic	3	.88 → .94	.92	.80
Purchase costs				
Price	4	.74 → .93	.92	.73
Effort	6	.76 → .93	.95	.77
Switching costs				
Evaluation costs	2	.89 → .90	.89	.80
Performance risk	4	.88 → .93	.95	.84
Relationship quality				
Brand satisfaction	3	.91 → .94	.95	.86
Brand Trust	4	.86 → .92	.94	.79
Brand commitment	4	.73 → .87	.88	.65
Brand loyalty	3	.87 → .92	.92	.80
Customer value	3	.90 → .92	.94	.83
Involvement	3	.86 → .92	.93	.81

TABLE 3 Assessment of discriminant validity of the first-order constructs using the Fornell–Larcker criterion

	1	2	3	4	5	6	7	8	9	10	11	12	13
Economic (1)	.90												
Social (2)	.27	.85											
Hedonic (3)	.67	.33	.85										
Altruistic (4)	.41	.35	.57	.90									
Price (5)	-.07	-.02	-.04	-.03	.86								
Effort (6)	-.05	.12	.01	.01	.35	.88							
Evaluation costs (7)	-.06	-.08	-.03	-.07	.17	.23	.90						
Performance risk (8)	-.16	-.14	-.15	-.21	.15	.11	.63	.92					
Brand satisfaction (9)	.62	.26	.52	.52	-.25	-.09	-.03	-.18	.93				
Brand trust (10)	.61	.29	.48	.50	-.21	-.08	.00	-.16	.89	.89			
Brand commitment (11)	.43	.46	.45	.42	-.25	.00	.00	-.13	.63	.65	.81		
Brand loyalty (12)	.57	.31	.51	.47	-.27	-.15	-.09	-.18	.71	.68	.76	.90	
Customer value (13)	.54	.21	.50	.44	-.39	-.19	-.04	-.19	.83	.77	.63	.75	.91

Note: Values on the diagonal are squared root average variance extracted values, and those outside the diagonal are the correlations.

TABLE 4 Reliability and validity measures for second-order reflective constructs

Construct	Indicators	Indicator loadings	Composite reliability	Average variance extracted
Relationship quality	Brand satisfaction	.94	.95	.62
	Brand Trust	.95		
	Brand commitment	.82		

TABLE 5 Reliability and validity measures for second-order formative constructs

Construct	Indicators	Weight	t value (p value)	VIF range
Value dimensions	Economic	.49*	16.66 (.000)	1.17 → 1.55
	Social	.17*	5.16 (.000)	1.49 → 2.24
	Hedonic	.31*	15.92 (.000)	1.17 → 1.30
	Altruistic	.30*	14.84 (.000)	1.13 → 1.89
Purchase costs	Price	.43*	8.47 (.000)	1.00
	Effort	.76*	16.34 (.000)	1.00
Switching costs	Evaluation costs	.30*	15.25 (.000)	1.00
	Performance risk	.79*	29.32 (.000)	1.00

Note. VIF = variance inflation factor.

*Significant at the < .001 level; VIF values were calculated by regressing each indicator against the remainder of each construct.

TABLE 6 Results of the structural path model

Criterion	Predictors	Hypothesis	Path	t value (p value)	f ²	R ²
Customer value	Value dimensions	H _{1a} supported	.54**	7.24 (.000)	.47	.49
	Purchase costs	H _{2a} supported	-.24**	3.68 (.000)	.15	
	Switching costs	H _{3a} not supported	-.01	0.06 (.952)	.03	
Loyalty	Value dimensions	H _{1b} supported	.17	1.90 (.057)	.04	.67
	Purchase costs	H _{2b} not supported	-.06	1.56 (.119)	.01	
	Switching costs	H _{3b} not supported	-.02	0.48 (.628)	.00	
	Customer value	H _{4b} supported	.27*	2.56 (.011)	.06	
	Relationship quality	H ₅ supported	.44**	3.97 (.000)	.14	
Relationship quality	Customer value	H _{4a} supported	.82**	30.61 (.000)	-	.68
Moderating effects						
Customer value	Involvement	-	.06	0.90 (.368)	-	-
	INV × VAL	H _{6a} not supported	.04	0.64 (.522)	.03	-
	INV × PC	H _{6b} not supported	.04	0.71 (.477)	.02	-
	INV × SWC	H _{6c} supported	-.04*	2.00 (.046)	.03	-

Note. INV = involvement; PC = purchase costs; SWC = switching costs; VAL = value dimensions.

*Significant at the < .05 level.

**Significant at the < .001 level; the effect size f^2 is calculated as the relationship of the determination coefficients when including or excluding each of the predictors from the structural model, that is, $f^2 = (R^2_{\text{included}} - R^2_{\text{excluded}}) / (1 - R^2_{\text{included}})$.

relationships, value dimensions have a strong influence on CV. Purchase costs have a medium influence on CV, as CV does on loyalty. RQ has a weak influence on loyalty. Finally, given that CV is the only predictor for RQ, no effect size was estimated. Table 6 also provides the R^2 values for endogenous latent variables, which determine the explanatory power of the underlying model. The suggested classification for the R^2 values of 0.67, 0.33, and 0.19 is substantial, moderate, and weak, respectively (Chin, 1998b). The explanatory power of the model is thus close to substantial.

4.4 | Moderating effects

The next analysis tested the moderating effects of involvement on the relationships between the three antecedents (value dimensions, purchase costs, and switching costs) and CV. The existence of a moderation effect depends on a significant path coefficient of the interaction term, regardless of the values of path coefficients between the predictor or the moderator and the dependent variable (Henseler & Fassott, 2010). As Table 6 shows, involvement is found to moderate the effect of switching costs on CV, whereas no other significant moderation effect is observed. Thus, H_{6a} and H_{6b} are not supported, whereas H_{6c} is supported, which implies that the effect of switching costs on CV decreases as the level of involvement to the product category increases. However, when inspecting the effect size of the interaction term, our findings suggest that the moderating effect of involvement on the relationship between switching costs and CV is weak.

5 | DISCUSSION

The present study aims to empirically validate the conceptual CV model by Papista and Krystallis (2012), as an alternative to the traditional “values – attitudes – intention” approach to understanding consumer behaviour towards green brands. As a multiattribute evaluation process and a prerequisite to relationship development, the application and adaptation of the well-established CV framework offer new insights on the study of proenvironmental consumer purchase behaviour. Moreover, the study provides further support and validation on issues pertaining to the conceptualisation of CV, that is, the empirical testing of Holbrook's (2006) value typology and operationalisation of costs as a multidimensional construct, thus broadening researchers' scope of other antecedents of CV. Furthermore, the study empirically supports the link between CV and the higher-order construct of RQ because existing research has mostly tested the effect of CV on the separate dimensions of satisfaction and trust (e.g., Chaudhuri & Holbrook, 2001; Gallarza et al., 2011). Finally, this research confirms and extends existing findings regarding the direct or indirect link of value and cost dimensions to loyalty, as mediated by CV (e.g., Cronin et al., 2000).

The results indicate that consumers recognise different types of gains in relation to a number of green brand attributes, which Holbrook (2006) conceptualises as perceived value dimensions. Indeed, all four dimensions proposed here have a statistically significant contribution to a higher order construct of value, which determines the overall CV of a green brand (H_{1a} supported). Among the different types of value that consumers perceive when in a relationship with a green brand,

economic value, hedonic value, and altruistic value are the most significant. The significance of economic value is in accordance with the bulk of past evidence suggesting that consumers are unwilling to sacrifice “expected” functional performance when considering the adoption of a green brand (e.g., Ginsberg & Bloom, 2004; Schuitema & De Groot, 2015). The finding of the weak contribution of social value contrasts previous studies suggesting that social approval is an important motivator of the preference for and purchase of a brand, which may be attributed to product conspicuousness: The social invisibility of the selected brands prevents consumers from demonstrating their environmental consciousness to others, so this specific product-category may not reflect social ties (e.g., Aagerup & Nilsson, 2016; Melnyk, van Herpen, Fischer, & van Trijp, 2013). Contrary to the unexpectedly weak contribution of social value, the strong influence of hedonic value is rather surprising for the product category under consideration because detergents do not belong to a typical social or hedonic product category. It is possible that consumers sense context-specific, positive emotions with their specific green brand choices (Schaefer & Crane, 2005), which stem from product scent, feelings aroused during and after brand usage—such as comfort and relaxation offered by a clean house—or the aesthetics based on the ecological design of the packaging. Likewise, consumers perceive altruistic value, that is, a sense of virtue based on the personal contribution to the environmental sustainability (Hartmann & Ibanez, 2006), which enhances the specific offering in relation to a nongreen alternative.

When purchasing a green brand, consumers also perceive several losses that also influence a green brand's overall CV. Past literature groups these negatively perceived product attributes into purchase and switching costs, referring to negative perceptions experienced under various stages of the green-brand adoption process, with switching costs being more obvious during the early stages of relationship building and purchase costs experienced mostly alongside subsequent stages in the relationship development process (Burnham et al., 2003; Young et al., 2010). The statistically significant impact of each type of cost on its respective higher order construct supports the proposed two-dimensional conceptualisation of costs, extending the existing literature on CV and proenvironmental behaviour that examines a single facet of cost (e.g., Burnham et al., 2003) or measures the different types of cost as a unidimensional construct (e.g., Jones et al., 2002).

Furthermore, the results support the negative effect of purchase costs on the CV of the green brand (H_{2a} supported), whereas switching costs do not show a significant effect on CV (H_{3a} rejected). These findings indicate that it is mostly the perceived augmented price of the green detergent and—to a lesser extent—the effort to purchase the brand that are indeed considered negative product attributes perceived during every purchase, reducing the overall CV. Thus, results are in accordance with existing evidence, suggesting that the majority of consumers are unwilling to bear the higher price or the search effort of a green brand in comparison to a nongreen alternative (e.g., Ginsberg & Bloom, 2004). However, although performance risk is the most significant dimension of switching costs, it does not affect the green detergent's CV. This finding is anticipated in the specific product category because consumers either do not consider the environmentally friendly composition of the product as a threat to its functional

performance or regard potential losses caused by the poor green brand performance to be of a small scale and magnitude. Regarding evaluation costs, the green detergent category offers abundant information (i.e., advertising campaigns, information on packaging, and proenvironmental labelling tools), which renders the existence of this type of cost rather unlikely.

Apart from their influence on shaping consumer evaluations of a green brand's CV, the study examines the direct effect of perceived value dimensions and costs on determining loyalty to the green brand. Findings indicate that both purchase and switching costs have only an indirect impact on brand loyalty, mediated through CV (H_{2b} and H_{3b} rejected); however, there is a direct link between value dimensions and loyalty (H_{1b} supported). Economic, hedonic, and altruistic values are important enough prerequisites to motivate loyalty to the green brand, as existing literature suggests (e.g., Cronin et al., 2000). In some cases, the consumer may continue buying the green brand, even without developing an actual relationship with it, as long as he enjoys certain benefits that the brand offers (Papista & Krystallis, 2012). At the same time, the consumer of a green detergent considers the relative significance of costs in terms of price and effort to purchase the brand; however, given the strong impact of value dimensions on forming overall CV and loyalty, the impact of purchase costs is too weak to lead to a rejection of the green brand as a relationship partner or discourage loyalty behaviours. Switching costs do not have a statistically significant direct effect on loyalty, either, which is also anticipated, given that the switching costs-CV relationship is insignificant. These results also confirm the role of CV as an overall assessment construct and a mediator between types of value and costs and purchase behaviour, as suggested by previous work (e.g., Baker et al., 2002; Sweeney et al., 1999). As far as the relative effect of CV and RQ on loyalty is concerned (H_{4b} and H_5), the latter is achieved with a combination of both concepts. Because CV also affects loyalty indirectly via RQ, the relative effect of RQ on loyalty is higher. However, it would be of great significance for future research to investigate the antecedents of consumer relational behaviour during the different stages of relationship development: up to which point do value and cost dimensions matter most in determining loyalty and when does the emotional bonding to the brand begin to exercise more influence on consumer behaviour.

On the other hand, the effect of value dimensions and costs on CV may depend on several consumer psychographic characteristics. The conceptual model of Papista and Krystallis (2012) suggests several potential moderators, of which this study tested the level of consumer involvement in the product category. The findings indicate that involvement does not influence the impact of consumers' perceptions of value dimensions and purchase costs on CV (H_{6a} and H_{6b} rejected); in the green detergent category, consumers of different profiles seem equally responsive to the green brands' value dimensions and are concerned with its purchase costs. As far as switching costs are concerned, consumers appear willing to bear them as their level of involvement with the product category increases (H_{6c} accepted); in other words, for consumers who are highly involved in the product category, the evaluation of alternatives or the risk of poor performance are insignificant tests.

The application of the CV framework in the specific context provides new insights for managerial practice, as empirical findings highlight the most important utility and sacrifice parameters to target

green consumers. The demand for green products may be encouraged not only by fostering proenvironmental beliefs but also by promoting additional consumption motives, such as the various dimensions of value. The results suggest the importance that consumers attach to the functional performance of the green brand, and as long as this is satisfactory, the green attributes further positively influence purchase intentions (Schuitema & De Groot, 2015); thus, managers of green brands should focus on product design to build a competitive set of characteristics and specifications. Product categories that could also benefit from the environmental product design in terms of enhanced economic value, such as the lower energy consumption of a green home appliance or the avoidance of skin allergies by green detergents, should further communicate this additional type of economic value as a differentiation asset and a competitive advantage in relation to non-green alternatives. Positioning strategies and communication campaigns should also stress the opportunity provided by the green brand to the consumer to experience hedonic and altruistic value in terms of positive emotions stemming from the adoption of green consumption habits and the personal contribution to environmental sustainability.

Furthermore, the categorisation of costs into two factors enables managers to apply different practices in each case. When targeting new customers, managers should be well aware of the switching costs that the customer faces and take action to remove the barriers that restrict the purchase of the green brand, such as offering abundant, accessible, and easy-to-comprehend information about product performance or minimising the perceived performance risk with guarantees and fully refundable return policies. Ultimately, disseminating information that increases consumers' knowledge has a lasting effect on proenvironmental behaviours (Iyer & Kashyap, 2007). The finding that perceived availability and time barriers reduce CV, which hinders purchases of green brands, implies that there is potential for an increase in green brand sales as long as accessibility restrictions are minimised by offering alternative purchase channels and delivery methods.

However, the indirect effect of purchase costs on loyalty as mediated through CV reveals that consumers take into account the bundle of value and cost dimensions when evaluating the future of their relationship with the green brand. Consumers may be willing to accept the higher price of a green brand, given its superior perceived value compared to conventional alternatives; thus, the CV approach offers managers an alternative approach to estimate the price of the green brand. Overall, managers are encouraged to conduct context-, product-category-, and brand-specific CV studies when designing the value offering of the green brand. The detailed study of the main or alternative contexts in which the experience with the green brand occurs can shed light on new sources of value (e.g., altruistic value when using the green brand on a daily basis or hedonic value when buying the brand as a gift) and to context-specific costs (e.g., a lack of information and a need for trained staff when making the purchase), which provide opportunities to build competitive advantage.

These findings are limited to the specific product category of green detergents and to the national context of this study. Testing the model in other product categories will enable more empirically grounded generalisations. The effects of value and cost dimensions may differ completely across different product categories, that is, the perceived switching and/or purchase costs may directly influence behaviour in

product categories with high perceived switching and/or purchase costs, such as financial services or insurance companies, or the effect of social value may vary depending on a product's conspicuousness. Furthermore, application of research across product categories of varying levels of involvement may produce more enlightening results regarding the moderating role of involvement; for example, in a category of de facto higher involvement, such as automobiles or house appliances, the consumer may pay more attention to the value received and be willing to tolerate any switching or purchase costs as prerequisites in order to purchase the brand. The description of various consumer profiles can be further enriched with other psychographic characteristics that may moderate the perceptions of value and cost, such as environmental consciousness, in the specific context of green brands and perceived consumer effectiveness. Finally, future research can also use dimensions of value and costs as segmentation variables, which may lead to benefit segmentation.

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APPENDIX

SURVEY ITEMS, MEASUREMENT, AND RELIABILITY

Factor	Indicator	Mean	SD	Cronbach's α
Value dimensions				
Economic value (Sweeney & Soutar, 2001)	a) Have consistent quality b) Are well made c) Have an acceptable standard of quality d) Perform consistently	5.14	1.32	.92
Hedonic value (Sweeney & Soutar, 2001)	a) I like the products of this brand b) I feel relaxed about using the products of this brand c) The products of this brand make me feel good	4.90	1.46	.81
Social value (Sweeney & Soutar, 2001)	a) Improves the way I am perceived by other people b) Makes a good impression to other people c) Gives those who buy it social approval	2.41	1.59	.93
Altruistic value (Sanchez-Fernandez et al., 2009)	a) Buying this brand has an ethical interest for me, considering that the products have been ecologically produced b) The environmental preservation of this brand is coherent with my ethical values c) Purchasing this brand has an ethical value for me	5.22	1.67	.88
Purchase costs				
Price (Erdem et al., 2006; Sweeney & Soutar, 2001)	a) Are not reasonably priced b) Are not as good products as their price indicates c) Are more expensive than the average brand in the category d) Are not economical	3.45	1.50	.88
Effort (Petrick, 2002)	a) Require too much time to find b) Require too much effort to find c) Are hard to buy d) Require too much time to buy e) Require too much effort to buy d) Are hard to find	1.93	1.22	.94

(Continues)

(Continued)

Factor	Indicator	Mean	SD	Cronbach's α
Switching costs				
Evaluation costs (Burnham et al., 2003)	a) I cannot afford the time to get the information to fully evaluate them	3.05	1.64	.75
	b) Comparing the benefits of my previously preferred detergent brand with the benefits of this brand takes too much time and effort			
Performance risk (Sweeney et al., 1999)	a) There was a chance that the products of this brand would not clean properly	3.76	1.76	.94
	b) There was a chance that I would lose money (e.g., because they would not clean as well as my previously preferred detergent brand)			
	c) The products of this brand were risky in terms of how they would perform in household or fabric cleaning			
	d) I worried that these products would not clean as well as I expected			
Customer value				
Customer value (Cronin et al., 2000; Dodds et al., 1991)	a) The products of this brand are a good value for the money	4.93	1.30	.90
	b) The products of this brand are considered to be a good buy			
	c) Compared to what I have to give up, the overall ability of this brand to satisfy my needs is high			
Relationship quality				
Brand satisfaction (Hennig-Thurau et al., 2002)	a) My choice to use this brand was a wise one	5.25	1.24	.91
	b) Overall, I am satisfied with this brand			
	c) I think I did the right thing when I decided to use this brand			
Brand trust (Chaudhuri & Holbrook, 2001)	a) I trust this brand	5.14	1.18	.91
	b) I rely on this brand			
	c) This is an honest brand			
	d) This brand is safe to use			
Brand commitment (Aaker et al., 2004)	a) I am willing to make small sacrifices in order to keep using this brand	3.27	1.43	.82
	b) I would be willing to postpone my purchase if the products of this brand were temporarily unavailable			
	c) I would stick with this brand even if it let me down once or twice			
	d) I am so happy with this brand that I no longer feel the need to look for other alternatives			
Moderating variables				
Involvement (Beatty et al., 1988)	a) I am very concerned about what brands of detergents I purchase	5.02	1.49	.88
	b) I care a lot about what brands of detergents I use			
	c) Generally, choosing the right brands of detergents is important to me			
Other variables				
Loyalty (Chaudhuri & Holbrook, 2001)	a) I intend to keep purchasing this brand	4.43	1.50	.88
	b) I will buy this brand the next time I buy detergents			
	c) I will use this brand in spite of competitors' offerings			