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Green Branding:

The Impact of Functional Attributes and Emotional Benefits on Brand Attitude

Abstract

This paper suggests alternative green branding strategies, based either on environmentally sound product attributes or on emotional consumer benefits. Three distinct types of emotional brand benefits suitable for green branding were identified: the feeling of well being (“warm glow”) while acting in an altruistic way, self-expressive benefits, and nature related consumption experiences. The dimensionality of perceived green brand benefits and impact on brand attitude were tested in the scope of a survey of consumer perceptions of three established energy brands in the Spanish consumer-energy market, one of them positioned as a “green energy” brand. Results of the study confirm the proposed dimensions of green brand benefits as well as significant positive attitude effects of emotional brand benefits consistent of nature related consumption experiences.

Key words: Green branding, emotional brand benefits, environmental marketing

1. Introduction

Green marketing has been an important research topic for at least three decades (Kassarjian, 1971; Kinnear et al., 1974; Coddington, 1993; Meffert and Kirchgeorg, 1993; Hopfenbeck, 1993; Ottman, 1994; Peattie, 1995; Polonsky and Mintu-Wimsatt, 1995; Schlegelmilch et al., 1996; Bigné, 1997; Fuller, 1999; Kalafatis et al., 1999; Calomarde, 2000; Fraj and Martínez, 2002). Despite this there are few studies focused specifically on green branding. At present, there is little doubt about the strategic importance of a well defined brand identity as a prerequisite for delivering brand value (Aaker and Joachimsthaler, 2000; de Chernatony and Dall’Olmo Riley, 1998). A green brand identity is defined by a specific set of brand attributes and benefits related to the reduced environmental impact of the brand and its perception as being environmentally sound. A well implemented green brand identity should provide benefits to environmentally conscious consumers. While there are some studies on the perceived value of environmentally sound product attributes (Roozen and Pelsmacker, 1998), the role of emotional benefits of green brands is still largely unassessed.

2. Green brand associations

2.1 Functional brand attributes

A brand strategy based on functional environmental product benefits aims to build brand associations by delivering information on product attributes or technical characteristics that are responsible for the reduced environmental impact of the brand. Functional green branding should be based on real environmental advantages of the product in comparison with competing products, and may refer to production processes, product use and/or product elimination (Meffert, 1993; Peattie, 1995). The success of this type of green branding strategies may be limited due to the important fact that the reduction of a product's environmental impact generally does not deliver individual benefits to its buyer. Therefore, the perceived customer benefit might be insufficient as a motivating factor for brand purchase (Belz and Dyllik, 1996). For most products, the consumer would experience functional benefits (i.e. improvement of environmental quality) only in case of generalized environmentally sound consumer behaviour. Furthermore, branding based on functional benefits can have some general disadvantages: it can often be easily imitated, assumes rational buyer decisions and may reduce the flexibility of brand differentiation (Kroeber-Riel, 1991; Aaker, 1996). This last reason is especially relevant in environmental markets, where all of the competing brands may stress the same set of environmental benefits. Thus it may be necessary to further differentiate brands within their environmental positioning, and it is at this point where emotional benefits start gaining particular relevance.

2.2. Emotional brand benefits

At present many brands are built on emotional benefits (Aaker, 1996). The analysis of emotional reactions suitable to deliver emotional benefits to consumers leads to the identification of at least three different types of emotional benefits:

- 1) A feeling of well-being ("*warm glow*") while acting in an altruistic way (Ritov and Kahnemann, 1997). Environmentally conscious consumers experience personal satisfaction by contributing to the improvement of the "common good" environment.

2) Self-expressive benefits through the socially visible consumption of green brands (Belz and Dyllik, 1996). The consumption of green brands allows consumers to show their environmental consciousness to others.

3) Emotional nature experiences if the brand activates sensations and feelings normally experienced through contact with nature. In this case, emotional benefits are the result of a sensation of “*emotional affinity towards nature*,” e.g. “loving nature” or “feeling one with nature” (Kals et al., 1999). Most people experience feelings like wellbeing or even happiness in contact with natural environments.

It seems probable that green brands can evoke positive emotions in certain target groups by simply offering information on environmentally sound product attributes. Knowing that a brand is environmentally sound may make some consumers feel better while purchasing and consuming the brand. However a much stronger and effective emotional response can be obtained through specific emotional benefits evoked actively by the brand. There is a large number of well studied approaches to the implementation of emotional brand benefits, e.g. transformational advertising (Aaker and Stayman, 1992), emotional conditioning (Kroeber-Riel, 1984; Kim, Lim and Bhargava, 1998). The theory of classical conditioning postulates that if a brand is paired repeatedly with an emotional stimulus, subsequently the brand itself will evoke the emotional response of the stimulus. In current saturated communication environments, visual stimuli capable of evoking automatic, unconscious emotional responses are especially useful for the implementation of emotional brand benefits (Kroeber-Riel, 1996). Following this method, for instance, green brands can be associated through communication campaigns at a perceptual level with imagery of nature and evoke emotional experiences like the abovementioned “affinity towards nature”. Past communication campaigns of brands like Opel (“Wonderful World”), AEG Eco-Lavamat, BP, as well as recent campaigns such as the “Energía Verde” (Green Energy) campaign of the Spanish utility Iberdrola embed the brand in pleasant imagery of natural environments, aiming to evoke nature experiences as emotional brand benefits.

Hypothesis 1: Green brand associations form distinct dimensions, representing the perception of either functional environmental sound product attributes, feelings of well being (“warm glow”) while acting in an altruistic way, self-expressive benefits, or emotional nature experiences.

3. Attitudinal effects of green brand associations

Following the approach of persuasion models such as the ELM (Petty & Cacioppo, 1983) or ARI model (Buck et. al., 1995, 2000), it can be expected that two basically distinct processes in the perception of green brand attributes lead to the formation of brand attitudes: the cognitive evaluation of functional brand attributes and the affective reaction to emotional brand benefits. Regarding the attitudinal effects of green branding, while most authors suggest that a growing environmental consciousness among consumers leads to generalized positive attitudes towards brands that are perceived as environmentally sound (Bech-Larsen, 1996; Eagly & Kulesa, 1997; Swenson & Wells, 1997), some studies show that in certain situations consumer attitudes can be less positive towards green brands as a consequence of a perceived trade-off between functional performance of the brand and its environmental impact (Coddington, 1993; Schlegelmilch et al., 1996; Fuller 1999).

Hypothesis 2: Green branding leads to a positive effect on brand attitude.

A further controversy in green marketing addresses the respective strength of the attitudinal effects of either functional -product attribute based- or emotional persuasion strategies (Monhemius, 1993; Davis, 1993, Smith, Haugtvedt & Petty, 1994; Finger, 1994; Swenson & Wells, 1997; Fuller, 1999), leading to the following research question:

Research Question: Which of the proposed green brand associations, i.e. functional environmental sound product attributes, feelings of well being (“warm glow”), self-expressive benefits, or emotional nature experiences, has the strongest effect on brand attitude?

4. Method

During the data collection for the empirical study, only one energy brand in the Spanish consumer-energy market was positioned as a green brand: “Iberdrola Green Energy” of the Spanish utility Iberdrola. The data collection was carried out in the 4th and 5th month of an intense brand building effort through advertising campaigns in television, print and mail. Earlier studies (Hartmann, Apaolaza & Forcada, 2002) show a lower degree of environmental associations of the Iberdrola brand before the campaign than any of the further brands in the

study. The advertising campaign was developed to associate emotional nature experiences with the brand, following recommendations by Hartman (2002), through the use of nature imagery and emotional brand conditioning. Visual stimuli included nature imagery proposed and tested in an earlier study (Hartmann, 2002), eg. flying eagle, mountain scenery, waterfall, etc. Furthermore, both TV and print ads contained claims developed to build “warm glow” benefits of good feelings (“Now, every time you switch on your light you can feel good because you are helping nature”). Additionally the images of a group of young people in the TV-spot and the claim “join us” were aimed at group-specific social norms, associating the brand with self-expressive benefits.

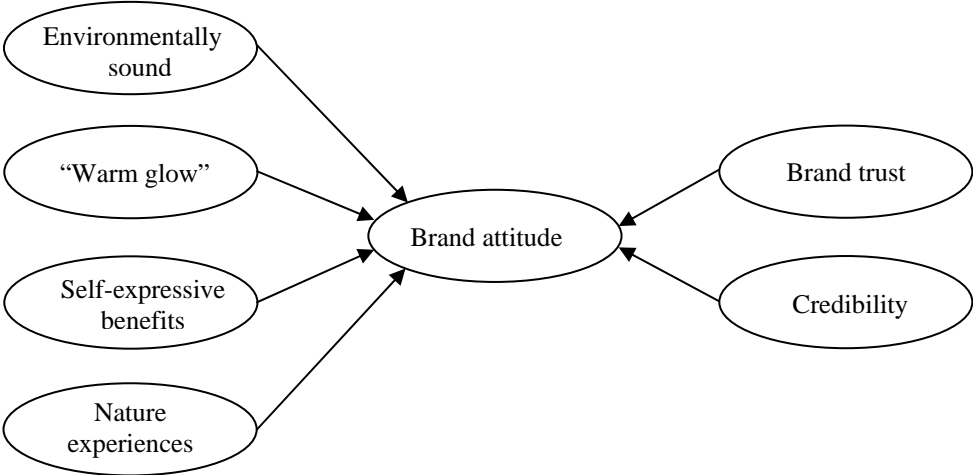
In line with the study’s objective of exploring and testing the dimensions of green brand associations and its effects on brand attitude, scales containing items to measure a brand’s associations related to green product attributes and emotional benefits were developed. Items consisted of one phrase statements representing functional brand associations and the perception of “warm glow”, self-expressive benefits and nature experiences (Table 1). To further assess the non-verbal content of emotional nature experiences, the measurement included visual items representing nature scenery. Respondents agreement or disagreement with the statements was measured in 3 point Likert-type scales (full agreement / some agreement / disagreement). Additionally the survey included measures of two non-environmental dimensions of brand associations: Brand trust and credibility. Both constructs were assessed by two indicators. In a recent study by Apaolaza, Hartmann & Zorrilla (2003), based on a EMER-GfK representative survey of the Spanish consumer-energy market, both dimensions were found to be principal antecedents of customer satisfaction and loyalty.

Consistent with accepted measures in attitude research (Kim et al., 1998; Herr and Fazio, 1993; Allen et al., 1992; Petty et al., 1991; Mitchel, 1986), attitude towards the brand was measured through the indicators “overall evaluation”, “global service quality”, “positive feeling” and “behavioural intention”. Subjects were asked to rate their agreement with single-phrase statements on 3 point Likert-type scales (full agreement / some agreement / disagreement).

The scales of the measurement model were validated by testing the scales’ ability to discriminate between the brand associations of the two strongest conventional consumer energy brands in the Spanish market besides the Iberdrola brand (Endesa and Union Fenosa)

and the green energy brand “Iberdrola Energía Verde”. Exploratory and confirmatory factor analysis of the data were used to investigate the dimensionality of perceived green brand associations. Attitudinal effects of extracted dimensions were assessed in the scope of a structural equation model, developed from the measurement model. The model tested, including the additional, non-environmental brand associations is illustrated in Figure 1.

Figure 1: Hypothesized model



A total of 432 consumer in 5 cities of northern Spain were interviewed by student interviewers recruited from the marketing course of the final year of Business Administration of the faculty. Subjects were select by quota and convenience sampling. The composition of the sample was 51% female, 49% male, 44% aged between 20 and 30, 44% aged 30-50 and 12% aged 40-64. The quota by sex and age were supposed to approximate the characteristics of the target group of the green energy brand in the study.

5. Results

Exploratory maximum likelihood factor analysis with varimax rotation was used to explore the structure of perceived green brand associations (Table 1). Five dimensions were identified, related to either functional product attributes (“environmental”) or emotional brand benefits, i. e. feelings of well being (“warm glow”), self-expressive benefits and nature experiences. This last dimension was identified as being a two-dimensional construct with

individual factors assessing its semantic and visual associations. Together, both factors of the nature experiences construct explain 33% of the total variance of green brand associations.

Table 1: Exploratory maximum likelihood factor analysis

Indicator	Factor	Nature visual	Nature semantic	Environmental	Self-expressive	“Warm glow”
Renewable energy		0,199	0,125	0,596	0,164	0,228
Reduced emissions		0,146	0,151	0,756	0,148	0,131
Prevents global warming		0,211	0,186	0,563	0,197	0,241
Feel good helping environment		0,168	0,171	0,469	0,267	0,545
Help nature and humans		0,187	0,282	0,368	0,351	0,611
Feel good not polluting		0,193	0,267	0,402	0,329	0,629
Show environmental consciousness		0,198	0,299	0,365	0,527	0,388
Show preoccupation for environment		0,164	0,257	0,256	0,864	0,212
Friends perceive consciousness		0,191	0,314	0,205	0,739	0,252
Imagine nature		0,283	0,751	0,224	0,209	0,175
Inspires sensation to be in nature		0,253	0,855	0,166	0,242	0,156
Feeling united with nature		0,303	0,671	0,193	0,311	0,218
Forest (Image)		0,823	0,242	0,206	0,123	0,136
Coast (Image)		0,823	0,224	0,157	0,132	0,144
Waterfall (Image)		0,805	0,203	0,202	0,160	0,093
Variance extracted		0,17	0,16	0,15	0,15	0,11

Exploratory results were tested by confirmatory factor analysis (Amos 5.0; Arbuckle & Wothke, 1999). The latent dimensions of green brand associations were formed by the items with high factor loadings in the prior exploratory factor analysis. The nature experiences construct was measured as a second order factor build upon two factors, assessing either its semantic or visual associations (Table 2).

Table 2: Confirmatory factor analysis: regression coefficients (standardized, unstandardized), correlations, variance extracted, construct reliability, model fit (p<0,000 in all regression coefficients)

Indicator	Factor								
	Environmental	“Warm glow”	Self-expressive	Nature semantic	Nature visual	Nature experience	Brand trust	Credibility	Brand Attitude
Renewable energy	0,70; 0,44								
Reduced emissions	0,75; 0,44								
Prevents global warming	0,74; 0,48								
Feel good helping environment		0,79; 0,50							
Help nature and humans		0,87; 0,57							
Feel good not polluting		0,87; 0,58							
Show environmental consciousness			0,87; 0,58						
Show preoccupation for environment			0,89; 0,60						
Friends perceive consciousness			0,94; 0,64						
Imagine nature				0,89; 0,30					
Inspires sensation to be in nature				0,92; 0,30					
Feeling united with nature				0,86; 0,28					
Forest (Image)					0,90; 0,48				
Coast (Image)					0,89; 0,47				
Waterfall (Image)					0,87; 0,47				
Nature semantic						0,87; 1,80			
Nature visual						0,71; 1,00			
Trust							0,73; 0,45		
Takes care							0,60; 0,35		
Credible								0,83; 0,51	
Holds promise								0,74; 0,40	
Global quality									0,69; 0,35
Overall evaluation									0,83; 0,50
Positive feeling									0,81; 0,49
Behaviour intention									0,50; 0,33
Correlations									
“Warm glow”	0,81 (159,3*)			-	-				
Self-expressive	0,65	0,79 (520,6*)		-	-				
Nature experience	0,68	0,76	0,77	-	-				
Brand trust	0,71 (68,5*)	0,69 (81,1*)	0,56	-	-	0,61			
Credibility	0,59	0,63	0,52	-	-	0,64	0,75 (52,1*)		
Brand attitude	0,66	0,70	0,60	-	-	0,77 (110,5*)	0,82 (37,0*)	0,86 (69,7*)	
Variance Extracted	0,53	0,71	0,81	0,79	0,79	0,63	0,44	0,61	0,52
Construct Reliability	0,77	0,88	0,93	0,92	0,92	0,77	0,61	0,76	0,80
Alpha (Cronbach)	0,77	0,88	0,91	0,92	0,92	0,90	0,60	0,75	0,77
Model Fit	RMR=0,01; GFI=0,94; AGFI=0,92; PGFI=0,7; NFI=0,96; CFI=0,97; RMSA=0,04								

(*) Chi-square difference with fixed correlation = 1 (gl=1; p<0,000).

Criteria for model adjustment (Hu & Bentler, 1995) indicate an adequate fit with Root Mean Square Residual (RMR) = 0,01. Both the Goodness of Fit Index (GFI) and the Adjusted Goodness of Fit Index (AGFI; Jöreskog & Sörbom, 1984), as well as the Compared Fit Index (CFI; Bentler, 1990) are sufficiently close 1.0 to be indicative of adequate fit. Also the Root Mean Square Error of Approximation (RMSEA; Steiger & Lind, 1980), indicates adequate fit with values less than 0.05 (Kaplan, 2000; Byrne, 2001). The dimensionality of the constructs was established following Anderson & Gerbing (1988). Factor loadings of all indicators are significant ($p < 0,000$) and exceeding minimum recommended values of 0.5. Furthermore, the variance extracted measures range from 0,44 to 0,81, exceeding the square of the correlation estimate in most cases. For factors which did not fulfil this condition, Anderson & Gerbing's (1988) recommended additional analysis was carried out, restricting the correlation between factors to 1,0 and re-estimating the model. In all cases the resulting model had a significantly ($p < 0,000$) lower fit, suggesting adequate discrimination and distinct factors. Also, variance extracted and construct reliability (ranging from 0,61 to 0,93) exceed recommended thresholds of 0,4 and 0,6 respectively (Fornell & Larcker, 1981; Bagozzi y Yi, 1994; Hair et al., 1999). The brand trust factor obtained the overall lowest variance and reliability scores, but is not critical to the subject of the study.

Subsequently to the validation of the measurement model, a structural equation analysis was conducted to assess the effect of the extracted dimensions on the attitude construct. Since the model was developed modifying only latent variable correlations to regression coefficients, the fit of the structural model was nearly equal to that of the measurement model and can be considered as adequate (Table 3).

Table 3: Structural equation model: regression coefficients (standardized, unstandardized; p), model fit

Factor	Brand attitude		
Environmental	-0,05	-0,02	0,41
“Warm glow”	0,01	0,00	0,91
Self-expressive	-0,08	-0,03	0,11
Nature Experiences	0,39	0,13	p<0,000
Brand trust	0,35	0,12	p<0,000
Credibility	0,41	0,14	p<0,000
Model fit			
	RMR	0,01	
	GFI	0,94	
	AGFI	0,92	
	PGFI	0,70	
	NFI	0,96	
	Delta1	0,97	
	CFI	0,97	
	RMSEA	0,04	

Results of the structural analysis of the effects of the dimensions of green brand associations on the attitude construct (Table 3) indicate significant positive influences ($R=0,39$; $p=0,000$) of the “nature experiences” construct. Both brand trust and credibility have also a significant impact on brand attitude, with the highest overall influence in the case of the latter. The effects of functional green brand attributes, “warm glow” feelings, and self-expressive benefits are not significant in the scope of the proposed model.

6. Discussion and Implications

Results of the exploratory and confirmative factor analysis conducted seem to support the hypothesis of distinct dimensions of perceived green brand benefits (H1). Furthermore, the structural equation analysis proved partially supportive of an overall positive effect of green brand associations on brand attitude (H2) in the case of green energy branding, since nature experiences had a significant positive influence on the attitude construct. Regarding the research question addressing the controversy on the adequateness of either functional or emotional branding strategies in green branding, results suggest a stronger influence of the emotional benefit “nature experiences” in this specific case. Still, the conclusion that an exclusively emotional green branding would be the most effective branding strategy in green marketing cannot be supported, as all dimensions of green brand associations were highly

correlated, being indicative of a high degree of interaction of cognitive and emotional processes in the formation of attitude towards green brands.

The study suggests that a well implemented green branding strategy can lead on the whole to a more favourable perception of the brand, thus giving support to the green marketing approach in general. However, there is still a certain controversy about which green branding strategy would be the most effective. While most researchers in green marketing postulate functional strategies delivering detailed information on environmentally sound product attributes, this study supports significant attitude effects of emotional green brand benefits, specifically of the type “nature experiences”. An exclusively functional green branding may fall short of delivering individual benefits to customers (Belz & Dyllik, 1996), assumes rational decision processes and limits capacity for brand differentiation (Kroeber-Riel, 1991; Aaker, 1996). While emotional green branding has the potential to overcome these limitations, an exclusively emotional green branding could lead to weaker than possible attitude effects, caused presumably by a possible misinterpretation of vague green claims (Picket, Kangun & Grove, 1995). Thus, brand managers should deliver emotional benefits through the brand, at the same time making sure that target groups perceive real environmental benefits. Attitude formation most probably takes place through an intensive interaction of cognitive and emotional processes. Consequently, the most effective strategy would be a green branding strategy centred in the creation of emotional benefits that are sustained by information on environmentally sound functional attributes.

The study has a number of limitations. First, the research has primarily been of an exploratory nature focusing on just one particular green brand in one specific product category. The findings need to be confirmed for other brands and product categories. Second, the measures used, while providing good reliability and validity, have their limitations, especially in the case of the emotional dimensions of green brand associations. Third, the sample consisted of subjects selected by convenience and quota. A representative sample would have strengthened the results obtained.

Future research should first concentrate on the further development of the constructs used in the study, particularly that of the emotional dimension of green brand associations. The method using visuals should be combined with additional measures, e.g. semantic differential scales, biometric measures, etc. This can in turn result in a better assessment of variables,

after which the relationships between the considered constructs and other variables can be better understood. The study should then be replicated within different product categories and with a more representative sample.

References

- Aaker, D. A. (1996). *Building Strong Brands*. New York: The Free Press.
- Aaker, D. A., & Joachimsthaler, E. (2000). *Brand Leadership*. New York: The Free Press.
- Aaker, D. A., & Stayman, D. M. (1992). Implementing the concept of transformational advertising. *Psychology & Marketing*, Vol. 9, No. 3, May/June, 237-253.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modelling in practice: A review and recommended two-step approach. *Psychological Bulletin*, Vol. 103, No. 3, 411-423.
- Apaolaza Ibáñez, V., Hartmann, P., & Zorrilla Calvo, P. (2003), Antecedentes de la lealtad del cliente de energía doméstica: calidad del servicio, satisfacción, confianza y costes de cambio, *XVI Encuentro de Profesores Universitarios de Marketing, Conference Proceedings*, ESIC, 159-173.
- Arbuckle, J. L., & Wothke, W. (1999). *Amos 4.0 User's Guide*. Chicago: SmallWaters Corporation.
- Bech-Larsen, T. (1996). Danish Consumers' Attitudes to the Functional and Environmental Characteristics of Food Packaging. *Journal of Consumer Policy*, Vol. 19, 339-363.
- Belz, F., & Dyllik, T. (1996). Ökologische Positionierungsstrategien. In Tomczak, T. R., & Roosdorp, A. (Eds.), *Positionierung – Kernentscheidung des Marketing* (pp. 170-179). St. Gallen: Thexis Verlag.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107, 238-246.
- Buck, R., Anderson, E., Chaudhuri, A., & Ray, I. (2002). Emotion and reason in persuasion. Applying the ARI model and the CASC Scale. *Journal of Business Research*, in press, available online 28 May 2002, 1-11.
- Buck, R., Chaudhuri, A., Georgson, M., & Kowta S. (1995). Conceptualizing and operationalizing affect, reason, and involvement in persuasion: the ARI model and the CASC Scale. *Advances in Consumer Research*, Vol. 22, 440-447.
- Byrne, B. M. (2001). *Structural Equation Modelling with AMOS*. Mahwah, New Jersey: Lawrence Erlbaum.

- Coddington, W. (1993). *Environmental Marketing*. New York: McGraw-Hill.
- Davis, J. J. (1993). Strategies for Environmental Advertising. *Journal of Consumer Marketing*, Vol. 10, No. 2, 19-36.
- Finger, M. (1994). From Knowledge to Action? Exploring the Relationships Between Environmental Experiences, Learning, and Behavior. *Journal of Social Issues*, Vol. 50, 179-197.
- Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18, February, 39-50.
- Fuller, D. A. (1999). *Sustainable Marketing*. Thousand Oaks: Sage Publications.
- Hair, J. F., Anderson, R. E., Tatham R. L., & Black, W. C. (1998). *Multivariate Data Analysis*. NJ: Prentice Hall.
- Hartmann, P. (2002), *Efecto de los atributos ecológicos en la percepción y actitud hacia la marca*, Bilbao: Editorial Universidad del País Vasco.
- Hartmann, P., Apaolaza Ibáñez, V., & Forcada Sainz, F. J. (2002), El efecto del posicionamiento en la lealtad del cliente: un análisis empírico para el caso de Iberdrola (Loyalty effects of brand positioning, a field study for the electric utility Iberdrola), *Cuadernos de Gestión*, Vol.2; No.2, 103-118
- Hines, J. M., Hungerford, H. R., & Tomera, A. N. (1987). Analysis and Synthesis of Research on Responsible Environmental Behavior: A Meta-Analysis. *Journal of Environmental Education*, Vol. 18, 1-8.
- Hu, L.-T., & Bentler, P. M. (1995). Evaluating Model Fit. In Hoyle, R. H. (Eds.), *Structural equation modeling. Concepts, issues and applications* (pp. 76-99). London: Sage Publications.
- Jöreskog, K. G., & Sörbom, D. (1984). *LISREL VI user's guide*. 3rd ed., Mooresville, IN: Scientific Software.
- Kals, E., Schumacher, D., & Montada, L. (1999). Emotional affinity toward nature as a motivational basis to protect nature, *Environment and Behavior*, Vol. 31, No. 2, March, 178-202.
- Kaplan, D. (2000). *Structural Equation Modeling. Foundations and Extensions*. London: Sage Publications.
- Kim, J., Lim, J.-S., & Bhargava, M. (1998). The Role of Affect in Attitude Formation: A Classical Conditioning Approach. *Journal of the Academy of Marketing Science*, Vol. 26, No. 2, pp.143-152.

- Kroeber-Riel, W. (1984). Emotional Product Differentiation by Classical Conditioning (with Consequences for the “Low-Involvement Hierarchy”). In Kinnear, Th. (Eds.), *Advances in Consumer Research*, Vol. 11, 538-543.
- Kroeber-Riel, W. (1991). *Strategie und Technik der Werbung*. Stuttgart: Kohlhammer.
- Kroeber-Riel, W. (1996). *Bildkommunikation: Imagerystrategien fuer die Werbung*. Muenchen: Vahlen.
- Meffert, H., & Kirchgeorg, M. (1993). *Marktorientiertes Umweltmanagement*. Stuttgart: Schaeffer-Poeschel.
- Monhemius, K. C. (1993). *Umweltbewusstes Kaufverhalten von Konsumenten*. Frankfurt am Main: Peter Lang.
- Ottman, J. A. (1994). *Green Marketing*. Lincolnwood: NTC Business Books.
- Peattie, K. (1995). *Environmental Marketing Management*. London: Pitman Publishing.
- Petty, R. E., & Cacioppo, J. T. (1983). Central and peripheral routes to persuasion: Application to advertising. In Percy, L., & Woodside, A. G. (Eds.), *Advertising and Consumer Psychology* (pp. 3-23). Lexington, MA: Lexington Books.
- Petty, R. E., Unnava R. H., & Strathman, A. J. (1991). Theories of Attitude Change. In Robertson, T. S., & Kassarian, H. H. (Eds.), *Handbook of Consumer Behavior* (pp. 241-280). Englewood Cliffs, NJ: Prentice Hall.
- Pickett, G. M., Kangun, N., & Grove, S. J. (1995). An Examination of the Conserving Consumer: Implications for Public Policy Formation in Promoting Conservation Behavior. In Polonsky, M. J., & Mintu-Wimsatt, A. T. (Eds.), *Environmental Marketing: Strategies, Practice, Theory, and Research* (pp. 77-99). New York: The Haworth Press.
- Polonsky, M. J., & Mintu-Wimsatt, A. T. (1995). *Environmental Marketing: Strategies, Practice, Theory, and Research*. New York: The Haworth Press.
- Ritov, I., & Kahnemann, D. (1997). How People Value the Environment. Attitudes Versus Economic Values. In Bazerman, M. H., Messick, D. M., Tenbrunsel, A. E., & Wade-Benzoni, K. A. (Eds.), *Environment, Ethics, and Behavior* (pp. 33-51). San Francisco: The New Lexington Press.
- Roozen, I. T. M., & Pelsmaker (de), P. (1998). Attributes of Environmentally Friendly Consumer Behavior. *Journal of International Consumer Marketing*, Vol. 10, No. 3, 21-41.
- Schlegelmilch, B. B., Bohlen, G. M., & Diamantopoulos, A. (1996). The link between green purchasing decisions and measures of environmental consciousness. *European Journal of Marketing*, Vol. 30, No. 5, 35-55.

- Smith, S. M., & Haugtvedt, C. P. (1995). Implications of Understanding Basic Attitude Change Processes and Attitude Structure for Enhancing Pro-Environmental Behaviors. In Polonsky, M. J., & Mintu-Wimsatt, A. T. (Eds.), *Environmental Marketing: Strategies, Practice, Theory, and Research* (pp. 155-176). New York: The Haworth Press.
- Smith, S. M., Haugtvedt, C. P., & Petty, R. E. (1994). Attitudes and Recycling: Does the Measurement of Affect Enhance Behavioral Prediction? *Psychology and Marketing*, Vol. 11, No. 4, 359-374.
- Stone, G., Barnes, J. H., & Montgomery, C. (1995). Ecoscale: A Scale for the Measurement of Environmentally Responsible Consumers. *Psychology & Marketing*, Vol. 12, No. 7, October, 595-612.
- Swenson, M. R., & Wells, W. D. (1997). Useful Correlates of Pro-Environmental Behavior. In Goldberg, M. E., Fishbein, M., & Middlestadt, S. E. (Eds.), *Social Marketing, Theoretical and Practical Perspectives* (pp. 91-109). Mahwah, New Jersey: Lawrence Erlbaum.
- Wiener, J. L., & Doescher, T. A. (1991). A Framework for Promoting Cooperation. *Journal of Marketing*, Vol. 55, April, 38-47.