# THE IMPACT OF GREEN APPEALS ON CREDIBILITY: A MIXED-METHOD APPROACH

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## ABSTRACT

Many advertisers use green advertisements to convey their products' and company's responsibility towards the environment. However, previous studies suggest that consumers are skeptic towards such claims. As credibility is an important indicator of ad effectiveness, the current paper investigates the impact of green advertising on credibility by relating the green characteristics of advertisements to perceived credibility. In general, results of a quantitative study indicate that level of greenness has a positive impact, while environmental involvement has a negative impact on the credibility of green advertisements.


## INTRODUCTION

In the late 60's, early 70's, people started to worry about the deteriorating effects their consumption behavior may have on the environment. Accordingly, consumers were searching for alternative ways to decrease their ecological footprint (Montoro-Rios, Luque-Martinez, Fuentes-Moreno & Cañadas-Soriano, 2006). In this respect, consumers incited companies to take care of the environment in their organizational processes (Ottman, 1993). Since then, consumers searched for environmentally-friendly products (Ahmad, Shah & Ahmad, 2010). Public concerns about the environment have only increased in recent years (Chang, 2011; Hanas, 2007). Companies respond to this trend by adopting 'green strategies' (Ginsberg & Bloom, 2004). However, recent studies show that consumers are rather skeptical towards green claims in advertisements (Grillo, Tokarczyk & Hansen, 2008; Pfanner, 2008). As credibility is an important antecedent of ad effectiveness (McKenzie & Lutz, 1989), the current study investigates the impact of green advertisements on credibility by relating the green characteristics of advertisements to perceived credibility.

Many scholars constructed content analysis models to explore the green characteristics of advertisements (e.g. Iyer, Banerjee & Gulas, 1994, Iyer & Banerjee, 1993 & D'Souza & Taghian, 2005). A widely used model to assess the degree of greenness of advertisements is the MECCAS-model (Means-End Chain Conceptualization of Advertising Strategy, Grillo et al., 2008; Wagner & Hansen, 2002). This model distinguishes five characteristics that categorize advertisements into five incremental levels of greenness. These characteristics convey which environmental information is given about the product or company promoted in the advertisement. The first characteristic is the integration of an *important environmental claim* that is a prominent part of the ad and not hidden within the body copy. The second characteristic is the *executional framework* which refers to the fact that the ad looks 'green'. The third characteristic is the mentioning of the *product life cycle phase*, either raw material, production, packaging, transportation/distribution, consumption or disposal. The fourth characteristic is the mentioning of a *driving* force, which refers to planet preservation, animal life or personal health. The final characteristic is the presence of a *leverage point* linking the driving force with tangible message elements: either rational, emotional, moral or zeitgeist.

Since consumers deliberately seek solid product information in advertisements (Chan, Leung & Wong, 2006), it can be assumed that the more green characteristics an ad has, the more integrated and convincing the environmental stance becomes, which might have a positive effect on its credibility. Scholars have, however, indicated that this is exactly a void to fill in research (Leonidou, Leonidou, Palihawadana & Hultman, 2011). Up till now, studies exploring green ads' characteristics and those exploring consumers' responses to green appeals remained two separate streams of research, isolated from each other. This paper tries

to fill this void precisely by combining these two types of research on green advertising to explore the relation between ad characteristics and consumer responses. Moreover, Leonidou *et al.* (2011) also suggest to explore differences between environmentally conscious buyers and their less sensitive counterparts regarding how they react towards green communication. Therefore, the moderating role of environmental involvement will also be taken into account in this study.

## THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

### Green advertising

Companies are constantly trying to distinguish from competitors and hope to attract environmentally involved consumers by promoting green products (Iyer & Banerjee, 1993; Chen, 2001; D'Souza & Taghian, 2005; Ottman, 1994) and integrating environmental claims into their advertising campaigns (Ahmad *et al.*, 2010; Shrum, McCarty & Lowrey, 1995). Claiming environmental soundness in advertising is a logical step in the light of Corporate Social Performance, or the extent to which a company takes multiple stakeholders (instead of only the company's interests) into account. A firm's reputation is, among others, determined by this social performance (Brammer & Pavelin, 2006), and the environment is one of its most important aspects (Turban & Greening, 1997). As such, well implemented green positioning strategies can provide more favorable brand perceptions (Connolly & Prothero, 2003).

Green advertising is defined as advertising that suggests either a positive relationship between a product and the environment, promotes a green lifestyle, or presents a positive corporate environmental image (Banerjee, Gulas & Iyer, 1995). It refers to all appeals that target the needs and desires of environmentally concerned stakeholders (Zinkhan & Carlson, 1995). The studies on green communication can be divided into two specific research streams. The first is ad-based and studies the anatomy of green advertisements, or the level of environmental information that is conveyed in the ad (Banerjee *et al.*, 1995; Chamorro, Rubio & Miranda, 2009; Kilbourne, 1995; Leonidou *et al*., 2011; Shrum *et al.*, 1995; Manrai, Manrai, Lascu & Ryans, 1997; Wagner & Hansen, 2002). Although this research stream reveals primordial information on green advertising, this type of research has become less popular in the last decade (Chamorro *et al.*, 2009). The second, more popular research stream, is that of consumer-based studies in which consumers' responses to green appeals are the object of study (Chamorro *et al.*, 2009; Leonidou *et al*., 2011; Shrum *et al.*, 1995; e.g. Chan *et al.*, 2006; D'Souza & Taghian, 2005). However, both ad-based and consumer-based studies should be combined to gain a better insight in the effectiveness of green advertisements (Leonidou *et al*., 2011).

### Characteristics of green advertisements and ad effectiveness

The green characteristics of an ad convey information about the product's and company's environmentalness and this information may have an important effect on ad effectiveness (Ahmad *et al.*, 2010). However, only few studies have linked this environmental information to ad effectiveness. D'Souza & Taghian (2005), for instance, tried to uncover the impact of informational aspects of an advertisement on consumers' attitudes towards this advertisement. However, although credibility is an important indicator of ad effectiveness (McKenzie & Lutz, 1989), no study investigated the impact of informational aspects of a green advertisement on the perceived credibility of the ad. Authors postulate conflicting views on the credibility of environmental appeals, with earlier research suggesting that green appeals are credible (Mathur & Mathur, 2000) and more recent studies suggesting that skepticism is growing and credibility is thus decreasing (Crane, 2000; Grillo *et al.*, 2008). Greenwashing

practices (i.e., green advertising without real commitment to the environment, Grillo *et al.*, 2008) have erased the clear connection between the promoted product and its environmental benefits. This is a major problem since it is exactly the integration of various communication tools and messages that is shown to have a positive relationship with brand outcomes (cf. Integrated Marketing Communication (IMC), Reid, 2005). This lack of integration of information conveyed in the ad may explain consumer incredulity towards green ads. As a consequence, we hypothesize that the more different features conveying information in the ad are seamlessly connected and integrated, the more consumers will be convinced that the environmental stance is genuine. This leads to the following hypotheses:
*H1: The level of greenness of advertisements has a positive impact on perceived credibility*
*H2: The five characteristics of green ads (MECCAS) positively influence perceived credibility*

**Moderating impact of environmental involvement**
The effectiveness of green ads is further influenced by individual differences. In particular, concern about the environment is supposed to influence consumers' responses to green appeals in advertising (Chang, 2011; D'Souza & Taghian, 2005). Traditional product involvement studies show that highly involved consumers show higher purchase intention and more favorable brand attitudes (Schuhwerk & Leffkoff-Hagius, 1995). Moreover, involvement appears to have a positive impact on attitude towards the ad and ad credibility (D'Souza & Taghian, 2005). The Elaboration Likelihood model advocated that information processing depends on the consumer's involvement along with the ability and motivation to process information. Highly involved consumers follow the central route and diligently elaborate on the information given in the ad. Lowly involved consumers, on the other hand, follow the peripheral route and resort to non-content cues to shape their response to the advertisement (Petty & Cacioppo, 1986). As a result, we expect that perceived credibility may be predicted by content characteristics for individuals who are highly involved with environmental issues, while it may be predicted by peripheral characteristics for individuals who are lowly involved with environmental issues, leading to the following hypothesis:
*H3: Environmental involvement moderates the impact of level of greenness on perceived credibility*
*H4: Central (content) characteristics will constitute a better predictor for highly involved than for lowly involved consumers. The opposite holds for peripheral (non-content) characteristics.*

## METHOD

**Design and Procedure**
We conducted an experimental study, using a within-subjects design, to investigate the perceived credibility of 162 ads containing different levels of greenness. Each respondent had to rate a large subset of 20 ads on perceived level of greenness and perceived credibility.

**Stimuli**
We conducted a pretest to select a variety of ads containing various levels of greenness. To enhance internal validity, genuine ads instead of mock-ups were used (Beltramini & Evans, 1985; Soh, Reid & King, 2009). We conducted a content analysis of all ads that were published in a whole volume of three general public magazines (October 2008 – September 2009), resulting in a sample of 162 unique ads. The selection of advertisements was carried out in accordance to Iyer & Banerjee (1993), Banerjee *et al.* (1995) and Carlson, Grove & Kangun (1993). The degree of greenness of each individual ad is determined by the MECCAS-model (Grillo *et al.*, 2008; Wagner & Hansen, 2002). Accordingly, the

advertisements are categorized into five incremental levels of greenness based on the specific combination of five characteristics; *important environmental claim, executional framework, product life cycle phase, driving force* (e.g. planet preservation) and *leverage point*. Table 1 demonstrates which specific combination leads to which level of greenness of each ad. Objectivity of the coding was measured by recoding a randomly selected subset of ads (N = 33 or 20%) and by calculating the Cohen's Kappa interjudgement reliability of each variable separately (Hayes & Krippendorff, 2007; Kassarjian, 1977). Reliabilities range from 0.79 to 0.96, one just below, but all others well beyond the 0.80 threshold recommended in literature (Banerjee *et al.*, 1995, Perreault & Leigh, 1989). Among the unique advertisements published in the 2008-2009 time span, a majority was brown (49%) while 28% was green. Light green (16%) and green-brown (5%) take positions three and four, and an absolute minimum (2%) was extra green.

INSERT TABLE 1 ABOUT HERE

**Participants**

52 Flemish respondents participated in this study. The average age of the sample was 48 years (SD = 19.95). The majority was female (58%), married or living together (77%), higher educated (54%) and in full-time employment (31%).

**Measures**

Credibility is measured by one item ('This advertisement is credible') to be answered on an 11-point Likert type scale ranging from 0 (not at all) to 10 (completely). Furthermore, to assess respondents' environmental involvement, they were given a list of 34 green behaviors such as recycling and purchasing local produce in which they had to indicate the specific behaviors they currently display (C-Change, 2009). The amount of specific actions respondents undertake was then used to divide them into two groups of involvement based on a median split: highly and lowly involved individuals.

## RESULTS

Overall, results reveal that the credibility of advertisements is rather low ($M$ = 4.43, $SD$ = 2.74). A two-way ANOVA with level of greenness and environmental involvement as independents and perceived credibility as dependent variable reveals a main effect of level of greenness on perceived credibility ($F(4, 1031)$ = 19.48, $p$ <.001). In particular, results show that green ads are perceived as most credible ($M$ = 5.02), followed by extra green ads ($M$ = 4.73), green-brown ads ($M$ = 4.64), light green ads ($M$ = 4.47) and brown ads ($M$ = 4.00). Moreover, a nonparametric correlation showed that the ad's greenness level is positively correlated with perceived credibility, $r$ = .157, p<.001. These results confirm our first hypothesis. Furthermore, there appears to be a significant main effect of level of environmental involvement on perceived credibility ($F(1, 1031)$ = 6.93, p < .001). In particular, lowly involved respondents ($M$ = 5.23) perceived green ads as more credible than highly involved respondents ($M$ = 3.92). Although the interaction effect between involvement and level of greenness is not significant ($F(4, 1031)$ = 1.29, $p$ = .272), t-tests reveal that highly involved respondents perceive ads less credible than lowly involved respondents for brown ($t(504)$ = 2.64, $p$ = .008), green ($t(295)$ = 3.06, $p$ =.002) and extra green ads ($t(20)$ = 2.40, $p$ = .026). Highly and lowly environmentally involved respondents do not differ from each other for the perceived credibility when ads are green-brown ($t(50)$ = 1.93, $p$ = .060) and light green ($t(162)$ = 1.51, $p$ = .134). These results confirm H3.

To test H2, multiple regression analysis was used. The advertisement characteristics were entered as independents to assess how they are related to ad credibility. Note that dummy variants of *life cycle phase* and *driving force* were entered. The predictors explained a significant proportion of variance in credibility ($R^2$ = .104, $F(7,1033) = 18.18$, $p$ <.001). Hence, H2 was confirmed. Mentioning raw materials ($\beta$ = -.083, $p$ = .008), production ($\beta$ = -.113, $p$ = .001) and consumption ($\beta$ = -.125, $p$ < .001) have a negative effect on credibility. Mentioning disposal issues ($\beta$ = .179, $p$ < .001) and planet preservation ($\beta$ = .157, p < .001) have the strongest positive influence, followed by claim ($\beta$ = .084, p = .007) and animal life ($\beta$ = .063, p = .043). Subsequently, it was assumed that the variable *environmental claim* constitutes the central cue since it conveys the core environmental benefit of the product, while *executional framework* constitutes the peripheral cue since it also conveys green information that is, however, not the core environmental stance. However, for neither *highly* ($\beta$ = .022, $p$ = .674) nor *lowly involved* ($\beta$ = -.029, $p$ = .603) respondents, *executional framework* was a significant predictor of perceived credibility. In contrary to our expectations, claim was only a significant predictor for lowly involved respondents ($\beta$ = .102, $p$ = .051), but not for highly involved respondents ($\beta$ = .074, $p$ = .182). Hence, H4 that involved consumers base their judgment on the green claim, while their less-involved counterparts are already satisfied if the ad merely looks green, could not be confirmed. Apparently, the fact that the ad looks green does not make a difference, while the environmental claim does, but for non-involved consumers.

## DISCUSSION, CONCLUSIONS, FURTHER RESEARCH

The current study provides additional insights in the field of green advertising by combining the two major research movements in this field, namely ad-based and consumer-based studies. Such research is primordial since a combination of these two streams is needed to fully understand the effectiveness of green advertisements. D'Souza and Taghian (2005) already showed that characteristics of green advertising influence consumers' attitudes toward the advertisement. The current study complements this study by focusing on ad credibility and by employing the MECCAS model to assess an ad's characteristics and its corresponding level of greenness.

The results of this study provides further evidence for the low effectiveness of green advertisements in terms of credibility of green advertising, especially for highly involved consumers. This is in line with the study of D'Souza and Taghian (2005). As a consequence, it might be better to target highly and lowly environmentally involved consumers differently. However, this study also shows that the higher the greenness level of advertisements, the more they are perceived as credible. When using green claims in advertisements, advertisers should take this into account and accordingly associate the green claim with the product. Finally, results show that green characteristics of advertisements explain a significant proportion of variance in credibility, showing that communication effectiveness is indeed related to ad characteristics.

Despite these above mentioned contributions, the current study also has some limitations. First, since all respondents had to judge the credibility of a subset of 20 advertisements, this could cause fatigue and impact their judgments. Therefore, future studies should experimentally investigate the effectiveness of green advertisements containing various levels of greenness by showing them to different groups of respondents so that each respondent has to judge only one advertisement. Second, it would be interesting to investigate the impact of level of greenness on other measures of ad effectiveness. Finally, future studies could enhance validity by using fictitious ads instead of real ones, and by employing a scale such as the three-measure approach proposed by McKenzie and Lutz (1989) to measure ad credibility.

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Table 1 - MECCAS Measurement model

| | Important environmental claim | Executional framework (looks 'green') | Product life cycle | Driving force & leverage point |
|---|---|---|---|---|
| Extra green | ✓ | ✓ | ✓ | ✓ |
| Green | ✓ | ✓ | ✓ | |
| Green | ✓ | ✓ | | ✓ |
| Light green | ✓ | ✓ | | |
| Green-brown | ✓ | | ✓ | |
| Green-brown | ✓ | | | ✓ |
| Green-brown | ✓ | | | |
| Brown | | | | |