

The Influence of Green Marketing Tools on Green Eating Efficacy and Green Eating Behaviour

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Abstract: This study employs the Legitimacy Theory and Self-efficacy Theory to examine the potential role of green marketing tools in fostering green eating behaviour. Using the mall-intercept technique at major retailers, data were collected using a self-administered questionnaire survey on South African consumers who regularly buy green products. Data analysis was conducted with the aid of the Statistical Package for the Social Sciences (SPSS) 22.0. The results indicate that South African consumers are significantly influenced by eco-labels and eco-brands when buying green products. The study, however, shows a negative relationship between green advertising and green eating efficacy. It also reveals a positive relationship between green eating efficacy and green eating behaviour. The findings of the study highlighted important implications and policy directions that marketers and policy makers may implement in order to promote green eating behaviour.

Keywords: *Green marketing tools, green eating behaviour, green eating efficacy, Legitimacy Theory, Self-efficacy Theory*

1. Introduction

The growth in environmental concern continues to permeate contemporary consumer buyer behaviour (Mourad and Amed, 2012). This concern steers the adoption of a new consumption epoch known as sustainable consumption (Lee, 2014). The use of green marketing tools has emerged as the key driver of sustainable consumption (Rahbar and Wahid, 2011). Sustainable consumption, which is heralded as a potential solution to environmental sustainability (Kotler, 2011), involves purchase decisions that are favorably inclined towards environmentally friendly, fair-traded and organically produced products (Belz and Peattie, 2009). The use of green marketing tools such as eco-labels, eco-brands and green advertising are central to the green marketing strategy aimed at promoting sustainable consumption (Tzilivakis, Green, Warner, McGeevor and Lewis, 2012). The integration of green marketing tools into the conventional marketing mix is part of the 'going-green-trek' aimed at promoting sustainable consumption (Belz and Peattie, 2009; Rahbar and Wahid, 2011; Magali, Francis and Hulten, 2012). Consistent with global trends, South Africa's Fast Moving Consumers Goods (FMCG) Sector, the contextual setting for this study, has witnessed a phenomenal growth in environmentally friendly products (Woolworths Holdings Limited, 2012). In particular, Fairtrade Certification Mark and MSC branded products have a marked presence in South Africa's leading retail outlets. Despite the growth in green advertising, eco-labels and eco-brands, little is known about their effect on green eating efficacy and green eating behaviour.

Problem statement: Although companies are taking significant strides in promoting pro-environmental behaviour, translating environmental concern into green eating behaviour remains a challenge (Kotler and Keller, 2012). Skepticism is identified as the major barrier that limits the market appeal of green marketing tools (Borin, Cerf and Krishnan, 2011; Leonidou, Leonidou, Hajimarcou and Lytovchenko, 2014). In particular, most advertising claims, eco-brands and eco-labels are perceived as misleading and not comprehensive (Leonidou, Leonidou, Palihawadana and Hultman, 2011). For instance, a study conducted by the Environmental Research in South Africa revealed that about 46 percent of the participants perceived environmental labels as misleading (Environmental Research, 2013). Moreover, Rex and Baumann (2007) observed that eco-labelled products still fail to garner a significant market share. Another challenge faced by consumers is to comprehend a wide array of eco-labels that dominate today's markets (Belz and Peattie, 2009). This view resonates with the findings of The Nielsen Company (2014) report which revealed that South African consumers are failing to understand what eco-labels entail. In addition, the credibility deficit of green adverts triggers green washing concern among consumers (Tschupp, 2012). Green washing refers to the falsification, omission and presentation of unsubstantiated environmental benefits of green products in green marketing communications (Tinne, 2013; Tschupp, 2012), which has the potential to erode the trust

bestowed on green marketing messages by consumers and inhibit the adoption of sustainable lifestyles (Bratt, Hallstedt, Robert, Broman and Oldmark, 2011).

It is important to note that past studies on the relationship between green marketing tools and green purchase behaviour have been largely confined to developed economies, and often yielded contradictory results (Brouhle and Khanna, 2012; Leonidou et al., 2014). The use of green marketing tools is still at a nascent stage in South Africa; there is no any known research that has examined the nexus between green advertising, eco-labels, eco-brands, green eating efficacy and green eating behaviour. Thus, the thrust of this study revolves around examining the effect of green marketing tools on green eating efficacy and green eating behaviour. The article is organised as follows: first the objectives are outlined, followed by the review of literature on green marketing tools and hypotheses development. The research methodology, that specifies the target population, sampling methods and data collection methods follows. Thereafter, the measures employed to enhance validity and reliability are discussed. The last section discusses data analysis, findings of the study, and implications on marketing practice and policy formulation, limitations, directions for further research and conclusion.

Objectives of the study: The main objective of the study was to examine the influence of green marketing tools on green eating efficacy and green eating behaviour among South African consumers. The primary objective was achieved through the following empirical objectives:

- to ascertain the relationship between environmental advertising and green eating efficacy among South African consumers;
- to determine the relationship between environmental labels and green eating efficacy among South African consumers;
- to ascertain the association between eco-brands and green eating efficacy among South African consumers; and
- to understand the relationship between green eating efficacy and green eating behaviour among South African consumers.

2. Theoretical underpinnings

The study extends the application of the Legitimacy Theory and Self-efficacy Theory to examine the influence of green marketing tools on green eating efficacy and green eating behaviour. The Legitimacy Theory postulates that the operations of the organization need to be consistent with the value system of the community in which it operates (Dowling and Pfeffer, 1975). Consistent with corporate governance principles, companies are required to engage in activities that enhance societal value (Woolverton and Dimitri, 2010). Towards this end, the Legitimacy Theory places a moral obligation on corporates to operate within the confines of societal norms, values and expectations (Farache and Perks, 2010). The Legitimacy Theory posits that a company is only regarded as a responsible corporate citizen if its operations are fair and socially acceptable (Lindblom, 1984).

Based on the Legitimacy Theory, marketers and manufacturers need to refrain from engaging in practices that have negative effects on the environment (Corner and Randall, 2011). The Legitimacy Theory is valid in explaining the role of green marketing tools such as eco-labels, green advertising and eco-brands. By rolling out these tools, the organization enhances its legitimacy by disseminating environmental messages that inform consumers about the benefits of sustainable consumption (Leonidou et al., 2014). Thus, communication of environmentally centred messages reflects positively on the company's legitimacy. The concept of self-efficacy is based on the premise that an individual's attitudes and responses to behaviour performance are a function of the belief that exerted efforts can result in favorable outcomes (Bandura, 1977). A study conducted by Pickett-Baker and Ozaki (2008) showed that a significant number of consumers experience challenges in identifying greener products, an indication of the inadequacy of green marketing tools in fostering green eating efficacy. Thus, the Self Efficacy Theory is employed to examine the extent to which green marketing tools enhance consumer efficacy when engaging in green eating behaviour.

Theoretical background and hypotheses: The surge in environmental concern that peaked in the early 1990s triggered the re-orientation of the marketing mix (Hartmann and Apaolaza-Ibanez, 2012; Kotler, 2011;

Peattie and Crane, 2005). This resulted in the growth in the use of green marketing tools such as green advertising, environmental labels and eco-brands (Magali, Francis and Hulten, 2012; Rahbar and Wahid, 2011). The use of green marketing tools is aimed at enhancing green consumerism, communicating the environmental enhancement projects of the organization and persuading consumers to buy environmentally friendly products (Akenji, 2014). An environmental conscious ethos also boosts the legitimacy of an organization in its operating environment (Parguel, Benoit-Moreau and Larceneux, 2011). The main green marketing tools in extant literature are discussed as follows:

Green advertising: Green advertising is defined as promotional messages that appeal to the needs and desires of environmentally concerned consumers (Zinkhan and Carlson, 1995). Green advertising attempts to promote a pro-environmental image of an organization and adoption of sustainable consumption patterns (Ahmad, Shah and Ahmad, 2010). The objectives of green advertising are to create environmental awareness, enhance recognition of green brands, facilitate the formation of positive attitudes towards green products and influence green product purchase intention (Chang, 2011; Cherian and Jacob, 2012). The effectiveness of green advertising is contingent on its ability to generate awareness, interest, trust and stimulate green purchase intention (Chen and Chang, 2012). In order to frame an effective sustainability message, the green advertising strategy needs to be structured around consumer education and empowerment (Ottman, 2011; White, MacDonnel and Dahl, 2011). Based on the Classical Conditioning Theory, consumers are likely to learn if they are conditioned to environmental stimulus (Pavlov, 1927). To generate green product awareness, it is imperative to maintain genuine and transparent communication (Leonidou et al., 2011). This can be done by employing an information based consumer empowerment strategy whereby marketers position green products based on fact-based environmental claims (Chen and Chang, 2012). To date, skepticism and ambivalence are the key factors that constrain the effectiveness of green advertising in enhancing green eating behaviour (Bailey, Mishra and Tiamiyu, 2014). Based on the preceding discussion, it is hypothesized that:

H1: Green advertising has a positive significant influence on green eating efficacy.

Eco-label: Eco-labels play a strategic role of attracting consumers' attention and communicating the green product attributes to the prospective consumers (Bougherara and Combris, 2009). Eco-labels offer the advantage of enhancing consumer interaction with the product at the point of purchase (Atkinson and Rosenthal, 2014). The interaction with the product is facilitated by the provision of information related to the environmental qualities of products with the aim of bridging the information gap perceived by consumers (Amstel, Driessen and Glasbergen, 2008; Brouhle and Khanna, 2012). Based on the Legitimacy Theory, eco-labels 'legitimise' the potential of the product to satisfy consumer needs with minimum harm to the environment (Bougherara and Combris, 2009). It is worth noting that trust and credibility are central to the success of eco-labels, therefore marketers need to engender trust to promote the market appeal of eco-labels (Bostrom and Klintmann, 2008). Additionally, Rashid (2009) notes that messages communicated using eco-labels play a central role when consumers are assessing eco-label purchase decisions. To consumers, eco-labels offer a quality assurance signal that provides evidence of the environmental impact of products (Bratt et al., 2011). However, the quality assurance role of eco-labels is only guaranteed if a detailed product life cycle assessment is conducted with specific focus on production, distribution, usage and disposal (Rashid, 2009).

From a marketing perspective, the market penetration of eco-labels should be considered as a chance to enhance sales volumes by way of improved environmental responsiveness (Horne, 2009). The eco-label attests that the product is produced following environmentally friendly processes and offers benefits to consumers and the natural environment (Brouhle & Khanna, 2012). As Bostrom and Klintman (2008) noted, eco-labels offer competitive advantage through symbolic differentiation. Eco-labels also incentivizes producers to embrace sustainable practices and create competitive advantage by targeting the growing market of green consumers (Brouhle and Khanna, 2012). Although eco-labels are growing in popularity, there is increased concern about their credibility (Tzilivakis, Green, Warner, McGeevor and Lewis, 2012). Based on the foregoing discussion, it is hypothesized that:

H2: A positive significant relationship exists between eco-label and green eating efficacy.

Eco-brand: An eco-brand or green brand refers to a symbol, design or name that is used to identify products that are not detrimental to the natural environment (Rahbar and Wahid, 2011). Eco-branding attempts to promote sustainable consumption patterns by utilizing environmental protection as a selling proposition (Chen and Chai, 2010). The ultimate objective of eco-brands is to create brand loyalty by positioning green products in line with the target market's environmental concerns and biospheric values (Belz and Peattie, 2009). The key success factors of an eco-branding strategy are differentiation and credibility (Mourad and Ahmed, 2012). From a consumer perspective, the relevance of an eco-brand depends on its ability to accurately communicate environmental benefits that are important to consumers (Meffert, Rauch and Lepp, 2010). This explains why effective green brand positioning is contingent on robust communication about the environmental attributes of the product (Hartmann and Apaolaza-Ibanez, 2012). For this reason, Chen and Chang (2012) opine that to enhance green purchase intentions, marketers need to strive to increase green brand trust. According to Chen (2010), green brand trust depicts an individual's willingness to patronize a product based on its credibility, benevolence and ability to deliver consistently on environmental performance. The green brand trust is measured by environmental reputation, environmental performance and credibility of environmental claims (Chen and Chang, 2012). To cultivate green trust, marketers need to develop strategies that trigger positive green product perceptions and foster long-term relationships with the target market (Chen and Chang, 2012). Thus, to enhance the market appeal of eco-brands and close the credibility gap, there is need to manage the quality of eco-brands and justify the premium price. Thus, it is hypothesized that:

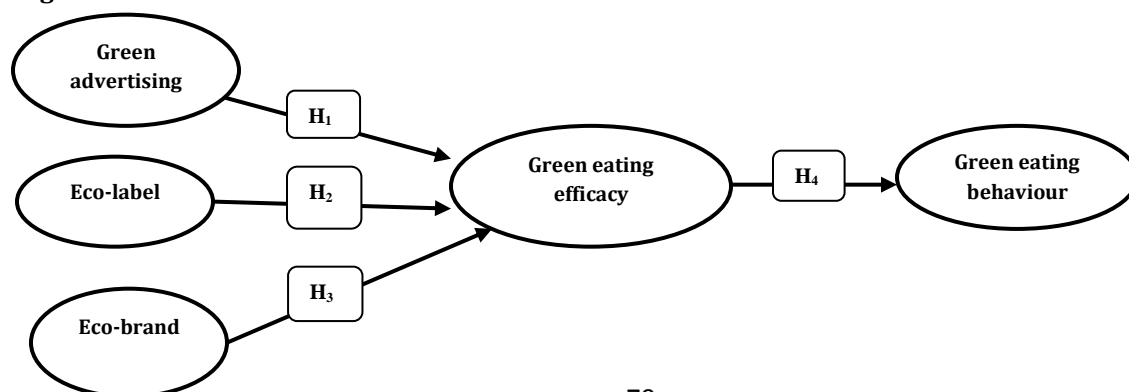
H3: There is a positive significant relationship between eco-brand and green eating efficacy.

Green eating behaviour and green eating efficacy: A mismatch between environment concern and sales of green products continue to be a recurring finding in most empirical studies (Atkinson and Kim, 2014). This mismatch is attributed in part to challenges associated with engaging in green eating behaviour (Weller et al., 2014). For instance, a study by Atkinson and Kim (2014) showed that consumers are doubtful whether their green eating behaviour can make a noticeable difference. In a related study, Perrini, Castaldo, Misani and Tencati (2010) noted that consumers feel less informationally empowered to evaluate green products in the marketplace. With regards to green eating behaviour, Ellen, Wiener and Cobb-Walgren (1991:103) employed the term "perceived effectiveness of environmental behaviour" to refer to "a domain-specific belief that the efforts of an individual can make a difference in the solution to a problem". An individual with high perceived consumer effectiveness has confidence in his or her ability to bring about favorable outcomes through the performance of certain behaviour (Kim and Choi, 2005). The concept of self-efficacy is similar to perceived behaviour control under the Theory of Planned Behaviour that reflects an individual's beliefs about the easiness or difficulties associated with engaging in the behaviour of interest (Ajzen, 1991). In the case of green eating behaviour, the cost and unavailability of green products are considered as inhibiting factors (Young, Hwang, McDonald and Oates, 2010). In order to enhance consumers' self-efficacy perceptions, Roberts (1996) emphasized the importance of conveying environmental messages that reinforce the notion that individuals have the capacity to address environmental problems. Thus, it is hypothesized that:

H4: Green eating efficacy has a significant positive relationship on green eating behaviour.

Based on the literature reviewed and posited hypotheses, Figure 1 illustrates the theoretical relationship of the constructs in the study.

Figure 1: Research Model



3. Methodology

Target population and Sampling Method: The study is grounded in the quantitative research design with the aim of examining the hypothesized relationships between variables under investigation. Cross sectional data was collected with the aid of a structured self-administered questionnaire. The study was undertaken for two months from 1 July to 30 August 2015 using the mall intercept technique. Small convenience stores were not included as they seldom sell green products. Respondents were pre-screened based on their purchase experience of green products and participation was voluntary.

Instrumentation: A three section self-administered, structured questionnaire was utilized to collect data. Section A comprises questions on the demographic profile of respondents. Section B covers questions on green marketing tools. The study utilized a five-point Likert scale (1 strongly disagree, 5 strongly agree) for all the measurement items. Green advertising was operationalised using a 10 item-scale that was adapted from a validated scale developed by Bailey, Mishra and Tiamiyu (2014). The eco-label construct was measured using 6 Items adapted from a study conducted by Do Paco, Alves, Shiel and Filho (2014). Eco-brand was operationalised using 5 items derived from a study conducted by Rahbar and Wahid (2011). Section C covers questions on green eating efficacy. Green eating efficacy was measured using 5 item scale adapted from the work of Weller et al. (2014). The green eating behaviour scale consisted of 5 items that were adapted from a study conducted by Weller et al. (2014). The questionnaire was pretested with fifty marketing students drawn from a University of Technology in Gauteng Province and minor modifications were affected.

Data collection procedures: The hypothesized model was tested using data drawn from twelve hypermarkets and supermarkets that sell environmentally friendly products. The participating outlets were drawn from leading retailers which sell a wide array of organic foods, Fairtrade and MSC branded products. A total of 30 university students enrolled for a marketing research course were trained as field workers and collected data during weekends. Fieldworkers were positioned in different mall entry and exit points and they changed their positions after an hour. Special effort was made to ensure that sample selection was bias free. In total, 450 questionnaires were administered although 128 were discarded due to incompleteness leaving a total of 322 valid responses, resulting in a response rate of 71 percent.

Reliability and Validity Analysis: The internal consistency of measurement items was assessed by computing Cronbach's alpha coefficient and the item-to-total values. The study yielded Cronbach's alpha values that ranged from 0.775 to 0.891 well above the recommended threshold of 0.70 suggested by Hair, Black, Babin, Anderson, Tatham and Black (2010). The item-to-total values for all the measurement items were all above the baseline value of 0.5 demonstrating the cohesiveness of measurement items (Anderson and Gerbing, 1988).

The questionnaire was pilot-tested as suggested by Malhotra (2007), using 50 respondents to enhance content validity. Discriminant validity was also assessed by inspecting the inter-construct correlation matrix. As shown in Table 1, the inter-construct correlation values ranged from -0.122 to 0.426 below the rule of thumb of 0.8 (Fraering and Minor, 2006), indicating the attainment of discriminant validity. Predictive validity was assessed by inspecting the Beta coefficients and t-values. The study shows significant relationships between the constructs under investigation indicating the prevalence of satisfactory levels of predictive validity. Table 1 summarizes the reliability and validity measures employed in the study.

4. Data analyses

The data was statistically analyzed using the statistical software SPSS, version 22.0. Exploratory factor analysis, descriptive analysis, correlation analysis and multiple regression were employed to process data.

Sample composition: A total of 322 questionnaires were deemed valid for empirical analysis. Within the final sample, almost 70 percent of the respondents were female (69.9 percent; n = 225) and 30.1 percent (n = 97) were males. In terms of age distribution, the majority were aged 20 to 40 years, accounting for 88 percent (n = 284) of the sample, followed by the 40-50 age category with 7.1 percent (n = 23) and finally, subjects aged 51 and above made up 5.9 percent of the sample (n = 19). In terms of educational level, approximately

63 percent (n = 203) of the respondents had a matriculation certificate, 31.4 percent (n = 101) were diploma holders and 5.6 percent (n = 18) had degrees. With regard to ethnicity, 71.4 percent of the respondents were black Africans (n = 230), 18.6 percent (n = 60) were white, 5.3 percent (n= 17) were Indians and 4.7 percent (n = 15) were Colored.

Table 1: Reliability and validity measures employed in the study

Research construct	Descriptive statistics		Cronbach's test		
	Mean	SD	Item-total	α Value	
Eco-brand (ECB)	ECB1		.755	.891	
	ECB2		.727		
	ECB3	3.9	.65		.677
	ECB4		.750		.765
	ECB5		.692		.637
Eco-label (ECL)	ECL1	3.5	.58	.509	.775
	ECL2			.785	
	ECL3			.840	
Green advertising (GA)	GA1	2.7	.57	.616	.864
	GA2			.705	
	GA3			.644	
Green eating efficacy (GEE)	GEE1	3.9	.65	.770	.841
	GEE2			.724	
	GEE3			.721	
Green eating behaviour (GEB)	GEB1	3.9	.62	.665	.887
	GEB2			.773	
	GEB3			.753	
	GEB4				
	GEB5				

Exploratory factor analysis (EFA): The measurement items of all the constructs that constituted the research model were subjected to factor analysis. This was done to ascertain whether the 31 items that measured the variables under investigation could be reduced into significant factors (Lee 2011). As recommended by Pallant (2011), the factorability of the data was assessed using Bartlett's test of sphericity and Keiser Meyer-Olkin's (KMO) measure of sampling adequacy. The Bartlett's test of sphericity yields a significance level of $p < 0.000$ and the KMO measure of sampling adequacy was 0.771, thereby indicating the suitability of the data for factor analysis (Pallant, 2011). Exploratory factor analysis (EFA) was then undertaken using varimax rotation and principal component analysis. The scree plot, percentage of variance explained, eigenvalues and factor loadings were used as a criterion to extract items. A total of 13 items were deleted for having cross loadings above 0.4. After accounting for factors with high cross loadings, five components were extracted accounting for approximately 73.387% cumulative variance. All the items report factor loadings ranging from 0.700 to 0.937 which are well above the minimum threshold of 0.50 (Malhotra, 2007). The eigenvalues for the extracted factors were all above 1 (5.311, 3.283, 2.320, 1.587 and 1.442). The extracted five factors were labelled Eco-brand (Factor 1), Green eating behaviour (Factor 2), Green advertising (Factor 3), Green eating efficacy (Factor 4) and Eco-label (Factor 5). The final exploratory factor structure is reported in Table 2.

Table 2: Factor loading Matrix

Variable description		Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
ECB1	I am aware of eco-brands	.830				
ECB2	Eco-brand is symbol of product reliability	.823				
ECB3	I believe eco-brand is truthful	.813				
ECB4	I support brands that support the environment.	.809				
ECB5	Eco-brand is a symbol of product quality	.755				
GEB1	How often do you choose products labelled fair		.871			

	trade					
GEB2	How often do you buy organically produced food	.843				
GEB3	How often do you buy meat labelled free range	.828				
GEB4	How often do you buy products that are labeled as fairly-traded?	.818				
GEB5	I check products for environmentally harmful ingredients?	.757				
GA1	I am willing to purchase products marketed as being green.		.937			
GA2	Environmental advertisement guide me to make informed green purchase decisions		.798			
GA3	Environmental advertisement enhance my knowledge about green products		.794			
GEE1	Eating green is too expensive			.811		
GEE2	I can't find green products where I shop			.798		
GEE3	Sustainably produced goods aren't available to me			.794		
ELC1	I gain respect of friends when using e-cigarettes				.811	
ELC2	I consider the Fairtrade as the best logo				.798	
ECL3	The Fairtrade logo is easy to recognize				.794	
% of variance		27.950	17.279	12.212	8.354	7.591
Eigenvalue values		5.311	3.283	2.320	1.587	1.447
Cronbach alpha coefficient		.891	.887	.864	.841	.775
Bartlett's Test of Sphericity		.000				
KMO Measure of Sampling Adequacy		.771				
Loadings above 0.50 were considered significant loadings with cross loadings less than 4.						
Rotation method: Varimax. Rotation-Principal factor analysis.						

Correlation Coefficients between Constructs: The Spearman's rho was employed to examine the interrelationships between constructs.

Table 3: Spearman's rho correlations

Constructs	ECB	ECL	GA	GEE	GEB
ECB	1.00				
ECL	.375**	1.000			
GA	-.069	-.070	1.000		
GEE	.426**	.264**	-.122*	1.000	
GEB	.121*	.235**	-.054	.246**	1.000

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

ECB = Eco-brand, ECL = Eco-label, GA = Green Advertising, GEE = Green eating efficacy, GEB = Green eating behaviour

Regression analysis: Multiple regression analysis was used to test the posited hypotheses. The first step involved the verification of whether the prerequisites for conducting regression analysis were met. The adequacy of the sample size was assessed since regression analysis is susceptible to sample size. Tabachnick and Fidell (2007) suggested a sample size of $N > 50 + 8m$ (where m = number of independent variables) as adequate to conduct multiple regression analysis. In this study, the sample size was 322 respondents, which surpasses a minimum of 82 respondents which is recommended when four independent variables are involved. Secondly, the tolerance value, variance inflation factor (VIF) and the inter-correlation matrix were inspected to check multicollinearity. Multi-collinearity is evident when constructs are highly correlated (Shen and Gao, 2008). As indicated in Table 4, correlations between constructs are all below +0.80 and -0.80. In

addition, the highest tolerance value is 0.988 and the VIF is 1.171 signifying the absence of multicollinearity (Grewal, Cote and Baumgartner, 2004).

The standardized residual plot, Cook's Distance and scatter plot were used to assess the presence of outliers. The standardized residual plots were all below 3.3 and -3.3, The highest value of the Cook's Distance was 0.088 and all scores on the scatter plot were confined to the middle, tangential to the zero point. All these statistics indicate that outliers did not affect the model results (Tabachnick and Fidell, 2007). Model 1, which had eco-label, eco-brand and green advertising as predictor variables and green eating efficacy as a outcome variable showed an R^2 of .256 indicating that 25.6 per cent of the variance in green eating efficacy was accounted for by predictor variables. The F-statistic showed a significance value of 0.05 implying that the variance explained by the model was not based on chance. As for Model 2, that included green eating efficacy as a predictor variable and green eating behaviour as an predictor variable, the R^2 was .055, indicating that approximately 5.5 per cent of the variance in green eating behaviour could be explained by green eating efficacy. The results of regression analysis are indicated in Table 4.

Table 4: Results of regression analysis

Dependent variable: Green eating efficacy		Beta	T	Sig	Collinearity Statistics	
Model 1: Independent variables					Tolerance	VIF
Eco-brand		.363	6.939	.000	.854	1.171
Eco-label		.216	4.122	.000	.856	1.168
Green advertising		-.092	-1.884	.061	.988	1.012
R=0.506 $R^2 = 0.256$ Adjusted $R^2 = 0.249$						
Dependent variable: Green eating behaviour		Beta	T	Sig	Collinearity Statistics	
Model 2: Independent variable					Tolerance	VIF
Green eating efficacy		.235	4.318	.000	1.00	1.00
R=0.235 $R^2 = 0.055$ Adjusted $R^2 = 0.052$						

Discussion of results: The study examined the influence of green marketing tools on green eating efficacy and green eating behaviour. The empirical results are discussed as follows:

Hypothesis 1 predicted a positive relationship between green advertising and green eating efficacy. This hypothesis was rejected ($\beta = -0.092$, t-value = -1.884, $p < 0.061$). This result is also supported by the existence of a negative correlation ($r = -0.122$, $p < 0.05$). Moreover, green advertising construct scored the lowest summated mean of 2.7 out of 5, implying that most respondents doubt the effectiveness of green advertising in enhancing green eating efficacy. This result is supported by Chan's (2004) study, which revealed that low credibility of green adverts significantly reduces green purchase behaviour. The growth in scepticism associated with green adverts resulted in calls for a detailed assessment of environmental claims used by companies (Leonidou et al., 2014). This implies that unsubstantiated environmental claims translate into negative attitudes towards green products. For this reason, Atkinson and Rosenthal (2014) stressed the importance of trust and credibility when structuring green advertising messages.

Hypothesis 2 predicted that there would be a positive relationship between eco-label and green eating efficacy. This hypothesis was confirmed ($\beta = 0.216$, t-value = 4.122, $p < 0.000$). The result was also supported by the existence of a strong positive correlation ($r = 0.264$, $p < 0.01$). The eco-label construct also scored a high summated mean of 3.5 out of 5, implying that most of the respondents perceive eco-label as instrumental in fostering green eating efficacy. This result is supported by research of Rahbar and Wahid (2011), which revealed that eco-labels enhance green purchase behaviour. Overall, this result suggests that respondents surveyed in this study have trust in eco-labels. This result also gains support from Brouhle and Khanna (2012) who argued that honesty in environmental claims is a key cornerstone for the success of eco-labels. Similarly, Leire and Thidell (2005) argue that an eco-label may only be considered as a strategic marketing tool if it aids consumers in decision making and act as a differentiating cue for competing products.

Hypothesis 3 proposed that eco-brand positively influences green eating efficacy. This hypothesis was validated ($\beta = 0.363$, t -value = 6.939, $p < 0.000$). The result is also supported by the existence of a significant positive correlation ($r = 0.426$, $p < 0.01$) between eco-brand and green eating efficacy. In addition, the eco-brand construct scored a mean of 3.9 of 5. This result implies that the majority of respondents perceived eco-brand as effective in enhancing their green eating efficacy through provision of information. This result is congruent with that of Rahbar and Wahid (2011) that revealed that eco-brands are instrumental in enhancing environmental knowledge and green purchase behaviour. As indicated in Table 4, eco-brand predicts green eating efficacy more than eco-label and green advertising. This implies that for marketers intending to promote green eating efficacy, eco-brands should be considered as the central component of the green marketing mix.

Hypothesis 4 posited a positive relationship between green eating efficacy and green purchase behaviour. Results confirm the hypothesized relationship ($\beta = 0.235$, t -value = 4.318, $p < 0.000$). The result is also supported by the existence of a strong positive correlation ($r = 0.246$, $p < 0.01$). In addition, the eco-brand construct scored a mean of 3.9 of 5 implying that most respondents perceived eco-brand as effective in enhancing green eating efficacy. This result suggests that respondents perceive less barriers when engaging in the buying of green products. This result is congruent with that of Weller et al. (2014), which revealed that the higher the perceived self-efficacy, the higher the likelihood of an individual engaging in green purchase behaviour.

Marketing implications: The study offers three important marketing implications. Firstly, green marketing tools only manage to explain 25, 6 percent of green eating. This result implies that marketers need to explore other pertinent factors that account for almost 74.4 percent of green eating efficacy. Secondly, the results indicate the need to enhance credibility of green advertising messages. To solicit behavioral change, environmental messages need to be communicated using appropriate tone, analogy, complemented by accurate scientific information and delivered through credible media channels. This gains support from Chen and Chang (2012) who emphasized the need to engage in corrective advertising to rectify deceptive impressions that might have been created. Thirdly, the study identifies eco-label and eco-brand as the most effective tools in promoting green eating efficacy. Based on this result, marketers may need to reorient their marketing mix and give more prominence to eco-brands and eco-labels in order to encourage green purchase behaviour.

Policy implications: The study contributes to policy development in the promotion of green purchase behaviour. The acceptance of eco-labels by consumers compels policy makers to monitor the integrity of eco-labels in order to avoid the exploitation of consumers. This may be done through regular audits and by encouraging marketers to use quality assured third party certified eco-labels. The study further shows that green advertising messages are viewed with skepticism. These points to the need to improve enforcement of advertising laws by the South African government in order to stamp out misleading environmental claims. The positive association between green eating efficacy and green purchase behaviour suggests the need for interventions that make it easy for consumers to buy green products. To that end, government policy should be focused on making green products affordable and conveniently accessible.

Limitations and avenues for further research: This study is inherent to limitations that offer avenues for future research. It utilizes a non-probability sampling method to select respondents. Future research efforts may employ probability sampling methods to enhance the external validity of the findings. Secondly, the results of the study are limited to the consumers of green products in the Gauteng Province in South Africa. It would therefore be more useful to examine influence of green marketing tools on green eating efficacy and green eating behaviour using a broader population. Finally, the study was based on green products in the grocery retail sector. Future research should seek to examine the influence of green marketing tools on green eating efficacy and green eating behaviour in the context of high-involvement green products. The relatively small adjusted R^2 value of 0.249 infers that there are yet others factors that affect green eating behaviour that could be examined to improve the underlying determinants of green eating behaviour.

5. Conclusion

The greening of the marketing mix is at the crux of driving green consumerism. Eco-brands, eco-labels and green advertising are the major green marketing tools that are used to enhance green purchase behaviour. The growth in unsubstantiated green marketing claims represents a profound threat to the adoption of green consumerism. To enhance credibility and abate skepticism, marketers should develop environmental messages that are clear and understandable. To deliver a green marketing message effectively, it is also important to understand consumer needs and empower consumers to make informed purchase decisions.

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