

Who are the potential energy-efficient product buyers? A market segmentation based on consumption values.

The purpose of this study is to identify and profile potential segments of users of energy-efficient appliances in South Africa. Although previous studies have investigated eco-friendly consumer segments, a segmentation of users of energy-efficient appliances based on consumption values and other key antecedents to the adoption of energy-efficient products such as purchase intention and consumers' attention to environmental labels is lacking. Using data obtained from a survey involving 550 users of appliances with energy rating living in the Gauteng province, this study applied the cluster analysis to identify the relevant segments. Three distinctive segments were identified and appeared to significantly differ across consumption values, the intention to purchase energy-efficient products and the attention paid to the energy-efficiency rating of the product in a purchase situation. The segments were further profiled across demographic variables. Important recommendations were made for policy makers and marketing practitioners.

Keywords: Energy-efficiency, Market segmentation, Consumption values, consumers' attention.

INTRODUCTION

There is a pressing need for global efforts to preserve and protect the environment (ASSAF, 2014; IEA, 2015; Death, 2014). In South Africa, resources such as water and energy are under the greatest demand, yet the current supply cannot sustain the consumption level in the country (Hoogendoorn, Grant & Fitchett, 2015; Death, 2014). There is a particularly pressing need for intervention strategies to champion a parsimonious use of energy resources and minimise the environmental impact of energy consumption in South Africa (Mtutu & Thondhlana, 2016; Isock, 2017; ASSAF, 2014). In this respect, the South African Bureau of Standards (SABS) introduced a mandatory environmental labelling scheme for electronic home appliances sold in South Africa (SABS, 2014). Environmental labels are product seals or communication tools used to provide consumers with environment-related and product-specific information at the point of purchase to assist consumers in making an environmentally informed purchase decision (Taufique et al., 2017). Energy-efficiency label is a form of an environmental label that provides information about the energy efficiency of electronic products.

Despite the various attempts at 'greening' the South African economy, advancements in mitigating environmental damages remain slow (Swilling, Musango & Wakeford, 2016;

Hoogendoorn, Grant & Fitchett, 2015). Studies globally (Haws et al., 2014; Paco & Raposo, 2010; Park & Lee, 2014; Issock, Mpinganjira & Duh, 2017) indicate that there are various consumer segments with idiosyncratic differences in the value they place on protecting the environment which is crystallised by an eco-friendly purchasing behaviour. In the South African context, previous research suggests that the majority of consumers are not willing to trade-off the perceived higher quality and the lower price of conventional products against environmentally friendly offers (Dreyer, et al., 2016; Sonnenberg, Erasmus, & Schreuder, 2014; Hoogendoorn, Grant & Fitchett, 2015). This is because eco-friendly products are often perceived to be less performant or overpriced (Dekhili & Achabou, 2013; Tan, Johnstone & Yang, 2016). Notwithstanding the reported prevalence of South African consumers with no regards for environmental attributes of products in a purchase situation, some consumers, albeit few, integrate the environmental credentials of a product in a purchase situation. Little is however known about the profile of South African consumers who take into consideration the energy-efficiency rating specific to electronic products in their decision to purchase.

Evidence suggests that consumers' purchasing behaviours are strongly influenced by underpinning consumption values (Biswas & Roy, 2015b; Gonçalves, Lourenço & Silva, 2016; Lin & Huang, 2012; Sheth, Newman & Gross, 1991). Understanding the motives behind environmentally friendly consumption and the profile of green consumer segments is central to devising green marketing strategies to spur more eco-friendly consumption behaviours (Park & Lee, 2014; Yildirim & Candan, 2015)

The overarching objective of this study is to identify potential South African energy-efficient consumer segments and assess whether there are significant differences between these segments in terms of their consumption values, eco-friendly purchase intention, and attention to energy-efficiency labels in a purchase situation. South Africa's growing need to conserve energy, and the ever-spreading range of energy-efficient labelled appliances in South African store shelves (ASSAF, 2014) makes this study a timely contribution to the body of knowledge and marketing practitioners.

LITERATURE REVIEW

Green Marketing and Green market segmentation

Green marketing is described as the integration of environmental issues into corporate marketing strategy, especially the 4P's (Zhu & Sarkis, 2016). Green marketing strategies encourage consumers to reduce the usage of natural resources, change their lifestyle and

consume environment-friendly products to meet the current needs and aspirations of the future generations (Biswas & Roy, 2015b:465).

The concept of green or environmental marketing was introduced in 1975 by the American Marketing Association through a workshop on ecological marketing (Paco & Raposo, 2010; Zhu & Sarkis, 2016). Since then, practitioners and academics have put in more efforts into determining and understanding the relationship between marketing initiatives, customer buying behaviour and the environment (Paco & Raposo, 2010; Testa, Iraldo, Vaccari & Ferrari, 2015). Therefore, terms such as energy-efficiency, fuel-efficient, recyclable or organic food have permeated advertising messages of many organisations in the automobile, electronic, and consumer packaged goods industries (Park & Lee, 2014). These green marketing efforts have had an effect on the consumption patterns of some consumers (Testa et al., 2015; Zhu & Sarkis, 2016).

Given that consumer segmentation is a cornerstone of strategic marketing (Keller & Kotler, 2016), there have been many attempts to segment and profile green customers in various countries such as China (Zhao et al., 2014), United States of America (Park & Lee, 2014), Germany (Tabi, Hille & Wüstenhagen, 2014), Turkey (Yildirim & Candan, 2015), Portugal (Paco & Raposo, 2010) and Slovakia (Rypakova, Stefanikova & Moravcikova, 2015). In South Africa, some studies (Sonnenberg et al., 2014; Issock et al., 2017) have investigated potential segments of energy efficient consumers. A study by Sonnenberg et al. (2014) segmented South African home appliance users according to their preference to product attributes such as brands, prices, load capacities, energy ratings, wash cycles and brand perceptions. Issock et al's (2017) study used a social marketing approach to segment South African electricity users based on their propensity to conserve electricity in their household. In contrast with this past research in the South African context, research into green consumer segments based on customer values has been limited. Globally, few studies have attempted to segment eco-friendly customers based on their customer values (Yildirim & Candan, 2015; Gordon et al., 2018). Most environmentally-related segmentation studies reported in the literature are mainly premised on a mixture of socio-demographic characteristics, psychographic variables, personal values, lifestyle and behavioural variables (Verain et al., 2012; Park & Lee, 2014; Paco & Raposo, 2010). Yet, consumption values are one of the most important underpinning motives of purchasing behaviour and constitute a good base for dividing consumers into homogeneous segments (Sweeney & Soutar, 2001; Long & Shiffman, 2000; Gordon et al., 2018; Yildirim & Candan, 2015). Consumption values provide insights into the types of consumers who hold particular value perceptions (Gordon et al., 2018). In the following section, the consumptions values are discussed in detail.

The consumption values

The theory of consumption value developed by Sheth et al., (1991) sheds light on why consumers choose to buy or not to buy (use or not use) a product and what motivates them to choose a specific product type over another (Sheth et al., 1991; Gonçalves et al., 2016). The theory has been useful in understanding the motives for eco-friendly consumption behaviours (Gonçalves et al., 2016; Lin & Huang, 2012; Biswas & Roy, 2015b).

The consumption theory was also used for consumer segmentation. For example, Long and Schiffman (2000) applied the theory to segment consumers according to their consumption values and relationships with service providers. Gordon et al (2018), as well as Yildirim and Candan (2015), further used the theory to identify green consumers in Australia and Turkey respectively.

While the consumption value literature lacks a consensus on the number of the dimensions of consumption value, all different sets of consumption values proposed in the literature are premised on Sheth et al's (1991) pioneering work. According to Sheth et al's (1991) five consumptions values determine customer purchasing behaviours: functional, emotional, social, epistemic and conditional values. Building from these values, Sweeney & Soutar (2001) proposed four consumption values adapted to durable goods. These are functional, economic, social, emotional (Sweeney & Soutar, 2001; Lin and Huang, 2012; Gonçalves et al., 2016). Other studies (Koller et al., 2011; Biswas, 2017, Gordon et al., 2018) expanded from these two studies and added environmental (or ecological) values to cater for eco-friendly products. Given that this study investigates energy-efficient appliances which are eco-friendly durable goods, to the four Sweeney & Soutar's (2001) consumption value dimensions, the environmental value dimension is added. The five dimensions are therefore expanded in the subsection below.

Environmental value

Haws et al. (2014:337) define environmental values as “the tendency to express the value of environmental protection through one's purchases and consumption behaviours”. Environmental value is an important consumption value to explain eco-friendly consumption behaviour (Biswas, 2017; Gordon et al., 2018; Khan & Moshin, 2017; Biswas & Roy, 2015b). This value is relevant in situations where there is an environmental imperative (such as energy conservation) because of the nexus between consumption and potential harm to the natural

environment (Koller et al., 2011). Extant research reveals that environmental value can be used to group energy-efficient consumers in segments (Gordon et al., 2018).

Functional value

Functional value reflects the consumers' perception of the product performance as durability, permanence, dependability, reliability and quality (Biswas & Roy, 2015b). Studies show that functional value strongly influences green product consumer choices (Khan & Moshin, 2017; Biswas & Roy, 2015b). Moreover, functional value has been used as a segmentation criterion that helps to significantly differentiate consumer segments (Gordon et al, 2018, Yildirim & Candan, 2015).

Economic value

Also known as price value, economic value is described as the utility derived from the product due to the reduction of its perceived short-term and long-term costs (Sweeney & Soutar, 2001). Economic value is a critical determinant of consumer purchase of eco-friendly products (Khan & Moshin, 2017; Biswas & Roy, 2015a) because these products are usually more expensive than the conventional ones (Haws et al., 2014). Sonnenberg et al. (2014) posit price as the most important attribute of consumer choice behaviour in home eco-friendly appliances in South Africa. Prior research revealed that customers significantly differ as per the economic value they hold towards a product (Gordon et al, 2018, Sonnenberg et al., 2014; Yildirim & Candan, 2015).

Emotional value

Emotional value alludes to the perceived utility that consumers associate with the ability of a product to arouse emotional reactions after its usage (Khan & Moshin, 2017). That feeling can be negative or positive (Sweeney & Soutar, 2001). Using eco-friendly products usually make people feel good because of their positive contribution to the protection of the environment (Issock, 2017; Lin & Huang, 2012). Emotional value has a strong impact on consumers' choice of eco-friendly offers (Khan & Moshin, 2017; Lin & Huang, 2012), and has been used to differentiate green consumers (Yildirim & Candan, 2015).

Social value

This value represents the perceived net utility derived from a product consumption based on the perception about social pressure or prestige gain through – in the case of this study – engagement in energy-efficient buying (Biswas & Roy, 2015a). The symbolic value conveyed by energy-efficient products can signal to others that a consumer contributes to the protection

of the environment (Koller et al., 2011; Sweeney & Soutar, 2001). Evidence suggests that social value has a strong influence on consumer eco-friendly purchasing behaviour (Lin and Huang, 2012; Gonçalves et al., 2016; Khan & Moshin, 2017) and is a significant criterion for clustering pro-environmental customer segments (Yildirim & Candan, 2015; Long & Shiffman, 2000).

Purchase intention and Paying attention to energy-efficient labels

Many studies have been carried out to explore the key drivers shaping the consumers' decision to purchase energy-efficient products (Sonnenberg et al., 2014; Testa et al., 2016, Sharma & Gupta, 2013), highlighting the importance of variables such as personal and social norms, attitudes, knowledge or trust. Specific to the determinants of eco-labelled products (e.g., home appliances with graded energy-efficiency labels), findings point to the fact that the consumer's purchase intention and attention to environmental label affixed to the product are two important proximal antecedents of the purchase decision of such products (Issock, Mpinganjira & Roberts-Lombard, 2018; Klockner, 2012; Thøgersen, 2000).

On the one hand, the attention that consumers pay to environmental labels is of critical importance because details about the environmental credentials of the product depicted in such labels can prompt the final decision to purchase the eco-friendly product (Issock et al., 2018; Klockner, 2012; Thøgersen, 2000). On the other hand, the direct effect of purchase intention on actual purchasing behaviour is widely supported in the green literature (Chen & Tung, 2014; Liobikienė & Bernatoniene, 2017; Yadav & Pathak, 2017). Consumer intention to purchase eco-friendly is described as the willingness of consumers to give preference to eco-friendly products over conventional products in purchase situation (Yadav & Pathak, 2017).

Previous studies have differentiated consumers based on their intention to purchase eco-friendly products (Issock et al., 2017; Paco & Raposo, 2010; Tabi et al., 2014). Although no studies have used consumer's attention to energy-efficiency labels as a segmentation criterion, this study is of the opinion that consumers can be clustered based on their attention to energy-efficient labels because this attention emanates from a various factors inherent to consumers such as the attitudes towards the environment, the knowledge of environmental issues, the perceived social influences or the intention to purchase eco-friendly products (Issock et al., 2018; Thogersen, 2000).

One hypothesis can therefore be developed from the ongoing discussion.

H1: There are significant subgroups for energy-efficient appliance customers based on their consumption values, attention to energy rating and purchase intention.

RESEARCH METHODOLOGY

This study applied a single cross-sectional research design which is quantitative in nature. A survey was conducted among users of electronic home appliances living in the Gauteng province. Given that the South African Bureau of Standards launched a mandatory energy-efficient labelling scheme in the year 2014, all appliances purchased after 2014 display the energy-efficiency rating of the appliance. Thus, only users having purchased at least one electronic home appliance after the year 2014 were eligible to participate in this survey. A non-probabilistic quota sampling technique was used to ensure that major demographic groups were represented. The criteria such as gender, income level or ethnicity were taken into consideration when selecting respondents.

Nine trained field workers collected the data from various places including malls, university campuses and workplaces. The data were collected in one and half months (mid-October 2017 to end November 2017). Out of 700 questionnaires handed out, 550 were found usable. Using existing scales developed and validated in the extant literature (Biswas & Roy, 2015b; Gonçalves et al., 2016; Khan & Moshin, 2017; Thøgersen, 2000; Yadav & Pathak, 2017), the measurement instruments were adapted to energy-efficiency products. A five-point scale was used to measure the constructs throughout the questionnaire.

RESULTS AND FINDINGS

Reliability and validity of the constructs

Given that scales were used to measure the variables forming the segmentation base, the construct validity and reliability of the scale needs to be ascertained in order to confidently report the results of the segmentation. A confirmatory factor analysis was conducted in IBM AMOS version 25 to validate the structure of the scales. The convergent validity and the reliability of each scale were therefore assessed and summarised in Table 1.

Table 1. Validity and reliability tests

Constructs	Items	Factor loadings	Mean (Std. Dev)	CA	CR	AVE
GPI	GPI1	0.85	3.91 (0.86)	0.90	0.9	0.71
	GPI2	0.87				
	GPI3	0.82				
	GPI4	0.83				
PA	PA1	0.87	3.02 (1.11)	0.93	0.94	0.79
	PA2	0.87				
	PA3	0.93				
	PA4	0.88				
FV	FV1	0.83	4.09 (0.75)	0.89	0.89	0.69

	FV2	0.87				
	FV3	0.81				
	FV4	0.80				
	SV1	0.79				
SV	SV2	0.90	3.29 (1.13)	0.94	0.94	0.81
	SV3	0.96				
	SV4	0.93				
	EmV1	0.82				
EmV	EmV2	0.88	3.94 (0.84)	0.87	0.88	0.7
	EmV3	0.82				
	EcV1	0.83				
EcV	EcV2	0.74	3.95 (0.75)	0.86	0.86	0.62
	EcV3	0.76				
	EcV4	0.81				
	EV1	0.84				
EV	EV2	0.84	3.54 (0.96)	0.89	0.88	0.71
	EV3	0.85				

GPI: Green Purchase Intention; PA: Paying attention; FV: Functional Value; SV: Social Value; EmV: Emotional Value; EcV: Economic Value; EV: Environmental Value

AVE: Average Variance Extracted; CA: Cronbach's Alpha; CR: Composite Reliability

Each construct in this study has a Cronbach's Alpha and composite reliability above the common cut-off of 0.7 suggesting that they are all reliable (Hair et al., 2014). The factor loadings all above 0.7 and AVE 0.5 indicates that there is a convergent validity within each construct. Therefore, each construct is valid and reliable.

Cluster analysis for segmentation

A two-step clustering approach was used, combining the hierarchical and *k*-means methods (Park & Lee, 2014; Hair et al., 2014). Using the centroid clustering method with the squared Euclidean distance measure, the initial hierarchical cluster analysis found a three-cluster solution to be the most theoretically sound and with a rational level of membership stability and equilibrium. This result was confirmed by *k*-means cluster analysis where the convergent was achieved at the eighth iteration. The two-step cluster analysis identified three groups of energy-efficient product buyers depicted in Figure 1.

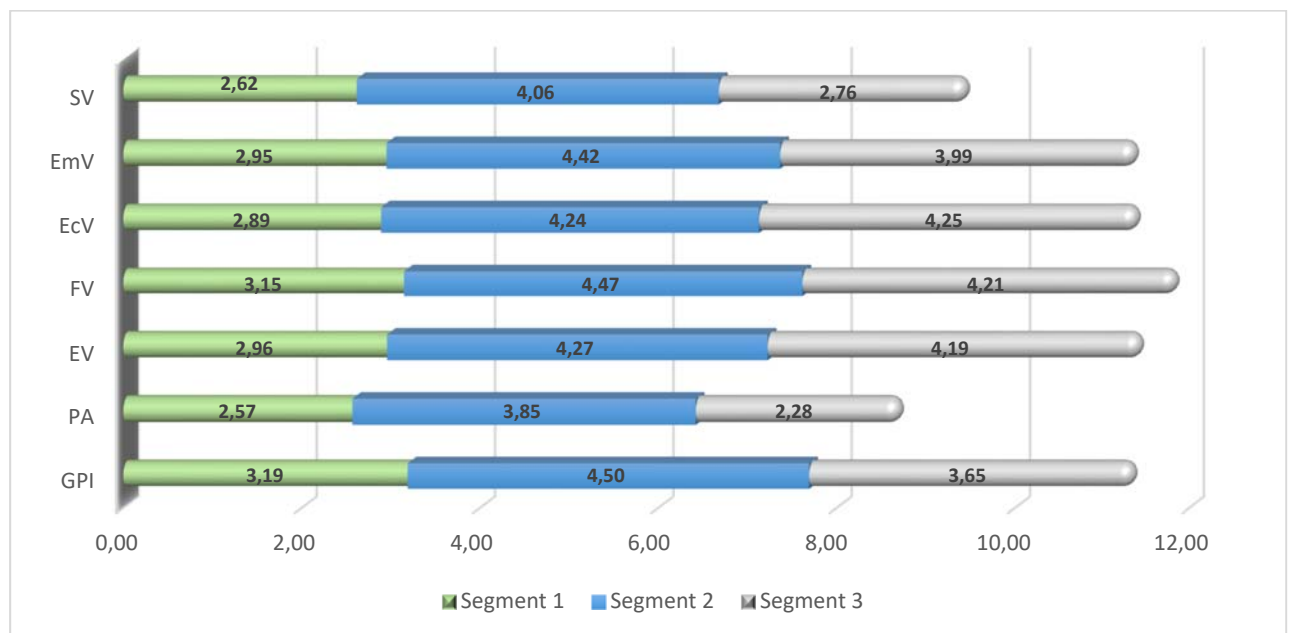
According to the ANOVA results provided in Table 2, all the five consumption values, green purchase intention and paying attention to energy-efficiency labels differ across the three clusters ($p < 0.05$). Therefore, the hypothesis H1 is supported. There are distinctive subgroups for energy-efficient product customers that differ across their consumption values and green purchase intention. The final cluster centres displayed in Table 2 represent the clustering variable means for the cases in the final cluster (Malhotra, Birks & Wills, 2012). Given that all the constructs were measured by a five-point scale, the mid-point has the value 3. Thus,

variable means below 3 indicates that the consumer perception is negative and those above 3 are deemed positive.

Table 2. Final cluster centres and ANOVA results

	Sample Mean	Final cluster centre			ANOVA	
		Segment 1 (22%)	Segment 2 (43%)	Segment 3 (35%)	F	p-value
GPI	3.91 (0.86)	3.19	4.50	3.65	160.397	.000
PA	3,02 (1,11)	2.57	3.85	2.28	190.554	.000
EV	3.54 (0.96)	2.96	4.27	4.19	239.098	.000
FV	4.09 (0.75)	3.15	4.47	4.21	221.812	.000
EcV	3.95 (0.75)	2.89	4.24	4.25	253.717	.000
EmV	3.94 (0.84)	2.95	4.42	3.99	201.363	.000
SV	3.29 (1.13)	2.62	4.06	2.76	137.168	.000
Sample Total	550	112	217	176		

Figure 1. Graphic representation of segments



To further examine the profile of segments according to the demographic characteristics, a Chi-square test of association was conducted between the respondents' cluster membership

and demographic variables. The results revealed that the three segments significantly vary across their age groups ($\chi^2 = 22.84$; $\varphi=0.22$; $p < 0.05$), education ($\chi^2 = 21.19$; $\varphi=0.21$; $p < 0.05$) and ethnicity ($\chi^2 = 19,38$; $\varphi=0.20$; $p < 0.05$). Surprisingly, the segments do not differ in terms of their gender ($\chi^2 = 0.95$; $\varphi=0.04$; $p > 0.05$), education level ($\chi^2 = 17.38$; $\varphi=0.18$ $p > 0.05$); and income level ($\chi^2 = 17.73$, $p > 0.05$). Table 3 describes the cross-tabulation between segments and the demographic variables.

Description of segments and discussion

Segment 1 has 112 members representing 22% of the population studied and is most distinguished by a relatively low mean for the variables environmental values, economic value, emotional value and social value, and paying attention, which is all below the mid-point 3 of the five-point scale. Although this segment has a mean above 3 for the variables functional value and green purchase intention, they are the lowest among the three segments. This cluster represents a market segment characterised by a low interest in the economic, emotional and social values when purchasing green products. Moreover, consumers in this segment pay no attention to energy-efficiency labels and do not integrate the environmental values of the product in their purchase decision. Compared to other segments, this segment has a lower mean in terms of green purchase intention and functional value, indicating that consumers in this segment are less likely to purchase green products and have somehow a lower interest in the functional value attached to green products. The demographic profile of this segment summarised in Table 3, shows that this segment consists of female in majority (58.6%), the highest proportion within the age groups being between 26 – 35 (36.1%), holding a diploma (31.2%), mostly black (50%) and earning between R 5001 and R 10 000 (21.7%).

Table 3. Demographic Profiles of the three segments

		Percentages			
		Segment 1	Segment 2	Segment 3	Sample total
Gender	Male	41,44%	43,52%	38,64%	41,40%
	Female	58,6%	56,5%	61,4%	58,60%
Age	18 – 25	15,74%	10,33%	16,48%	13,70%
	26 – 35	36,11%	23,47%	32,39%	29,40%
	36 – 45	25,00%	29,11%	20,45%	25,20%
	46 – 55	10,19%	22,54%	17,05%	17,90%
	56 – 65	7,41%	13,15%	11,36%	11,30%
	Above 65	5,56%	1,41%	2,27%	2,60%
Education	None	0,00%	0,47%	0,00%	0,20%
	Primary School	0,92%	0,00%	1,74%	0,80%
	High School	26,61%	20,09%	29,07%	24,60%
	Diploma	31,19%	18,69%	17,44%	21,00%
	Degree	22,94%	38,32%	31,40%	32,50%
	Postgraduate	18,35%	22,43%	20,35%	20,80%
Ethnicity	Black	50,00%	37,38%	52,57%	45,50%

	White	17,59%	36,92%	26,29%	29,00%
	Coloured	18,52%	13,08%	10,29%	13,30%
	Indian	13,89%	12,62%	10,86%	12,30%
Income	Less than 5	14,15%	7,48%	8,14%	9,10%
	5001 - 10 000	21,70%	12,62%	15,70%	15,70%
	10 001 - 20 000	20,75%	20,56%	20,93%	20,70%
	20 001 - 30 000	17,92%	15,42%	20,93%	17,90%
	30 001 - 50 000	11,32%	21,96%	19,77%	18,90%
	Above 50 000	14,15%	21,96%	14,53%	17,70%

Segment 2 is considered as a mirror image of Segment 1 in the sense that Segment 2 shows higher means for all the clustering variables. This segment represents customers who take into consideration the emotional, environmental, economic and social values. They regard the functional value of a product to be of higher importance and are willing to purchase green products. Customers in this segment tend to pay attention to environmental labels compared to other segments. With 217 members, this segment is the largest and represent 43% of the total sample. Compared to other segments, segment 2 has the highest number of consumers earning above R30000 a month. The segment consists of female consumers in majority (56.5%), with most of them having a degree (31.4%), with an almost equal proportion of blacks (37,4%) and whites (36.9%). The highest age group is between of between 36 – 45 years old (29.11%).

Segment 3 represents consumers that are committed to eco-friendly purchase but to a lesser extent than Segment 2. Consumers in this segment to some extents intend to purchase energy-efficiency labels but pay no attention to energy-efficiency labels. They place great importance on the environmental, economic and emotional values of the product. But they consider functional value as the priority and have no regards for social value conveyed by the product. This segment represents 35% (n=176) of the selected sample, which consists of women in the majority (61.4%). Consumers in this segment are typically between 26 and 35 years old (32.4%), black (52.6%) and hold a degree (31.4%). All the income groups are somehow well represented but the largest is those earning between R10 001 and R20 000 as well as those earning between R20 001 and R30 000 which represents 20.9% of the sample studied respectively.

DISCUSSION AND MANAGERIAL IMPLICATIONS

The three distinct segments found in this study are testimonials to the fact that there are nuances in the consumption values, intention to purchase energy-efficient products and attention to energy-efficiency labels. Amongst the three consumer segments found in this

study, consumers in segment 2 seem to be the most prone to adopt energy-efficient products. This is explained by their consideration for the environmental value of appliances, their high intention to purchase green products and their higher level of attention to energy-efficiency labels affixed to electronic products compared to the other segments. However, these products should convey the functional, emotional, social and economic values, which are dear to consumers in this segment. Segment 3 is an important segment given its size, the consumers' high interest in environmental value and their willingness to purchase energy-efficient products. Efforts however need to be undertaken to draw their attention to energy-efficiency labels affixed to electronic products. Interestingly, consumers in this segment are not influenced by the social value of energy-efficient products. Thus, interventions that involved the social norms as a lever for the adoption of energy-efficient products might not work for this segment. Segment 1 is the smallest segment and the most problematic because although they seem to be willing to purchase energy-efficient products, consumers in this segment have no interest in the environmental value conveyed by energy-efficient products, nor do they pay attention to energy-efficiency labels. Their low interest in other consumption values suggests that the decision to purchase energy-efficient appliances might be motivated by other factors such as the brand of the appliance, the availability of the product or the advertisement around the product not included in this study.

Marketers, retailers and policy makers therefore need to devise proper strategies for each of these segments based on their demographic profiles and the consumer values driving their decision to purchase energy-efficient products. As a key antecedent of the consumer decision to purchase energy-efficient products, the extent to which consumers pay attention to energy-efficiency label appears to be low in segments 1 and 3 and medium in segment 2. Improving consumers' attention to the energy-efficiency rating of an electronic product might be achieved through making the energy-efficiency labels more visible and encouraging retailers and particularly sale representatives in stores to communicate on the benefits of environmental credentials of the product (Klockner, 2012). Given the importance that consumers in segment 2 and 3 attach to functional, economic and emotional values of electronic products, it is important for marketers to reposition energy-efficient products as products of good quality, that enables the user to save money in the long-term and that convey an emotional gratification for protecting the environment through lower energy consumption (Khan & Moshin, 2017; Biswas & Roy, 2015b).

CONCLUSIONS

The purpose of this study was to classify users of energy-efficiency rated appliances according to their consumption values, intention to purchase energy-efficient products, and their attention to the energy-efficiency rating of products in a purchase situation. Using a quantitative approach, a cluster analysis revealed that there are three heterogeneous segments that significantly differ across their purchase intention, attention to energy-efficiency labels and five consumption values namely functional, economic, emotional, social and environmental values.

This study however has some limitations in the sense that the sample studied was restricted to the Gauteng province. Moreover, more demographic characteristics such as marital status or household size and other information specific to the appliances such as the type of appliances or usage frequency could have provided more insights into the profile of each segment. Future studies must investigate consumers across South Africa and include in the questionnaire the maximum of information relating to the products usage and the socio-demographic background of the respondents.

Reference list