

THE DETERMINANTS OF GREEN CONSUMPTION IN GREECE

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Abstract

The purpose of the present paper is to outline the green consumer's profile in Greece, during a period in which the country faces economic difficulties due to crisis. It is attempted a further investigation of the respondents' attitude towards environment. Finally, is analysed the role of several socio-demographic characteristics, along with the environmental principles in green consuming behaviour. Primary data were collected through door to door interviews of 250 residents in the metropolitan area of Athens by using a structured questionnaire. Statistical analysis was performed using SPSS 20.0 and qualitative analysis through NVivo 11. The present study confirms that although consumers became more price-sensitive after crisis, they maintain their environmental values. High environmental principles lead to green purchases and several socio-demographic characteristics are closely related to green consumption. Research limitations: The sample is strictly originated in the metropolitan area of Athens. Several variables as a measure of behavioral intention might be questionable. The empirical findings could have significant implications in green government policies and in relevant campaigns. The study provides important evidence towards consumers' participation in certain green habits and also confirms that the environmental values, along with several socio- characteristics, are a consistent predictor of the green consuming attitude. The above findings could contribute to the redefinition of green campaigns and policies, in order to improve the penetration of green products in the markets.

Keywords: *green consumption, socio-demographic, environmental consciousness, green products, willingness to pay*

Introduction

In the recent years, the consciousness towards environment has been a primary issue (de Moura et al., 2012). The overconsumption of natural resources, the global warming, the ozone depletion and the air pollution that seriously threaten human life are among the main environmental problems (Tanner et al., 2004). The outcomes of this new lifestyle lead daily to the degradation of natural and urban landscapes, the worsening of the quality of life, as well as to adverse effects on human health. Population and consumption are the major causes of

today's ecological and environmental crisis (Kates, 2000). If the population of the planet keeps consuming at the current rate, the quality of human life will continue to decline steadily, endangering not only future of the present generation, but also the future of the next ones (Bhate and Lawler, 1997, Roberts, 1996).

This increasing attention to environmental problems has led to a remarkable growth in the global market of the environmentally friendly products or green products (Hunt & Dorfman, 2009). People seem to be aware of their consuming behavior e.g. they try to purchase environmentally friendly products for the future generation's benefit (Kilbourne et al., 2009). More and more people all over the world are willing to adopt a "green", healthier lifestyle, spending time and money to that direction.

Understanding the determinants of green consumption, could contribute to the creation of new marketing tools, in order to lead more and more consumers to green products. Although there is available a wide variety of a studies approaching the green consumer's profile, the present paper tries to explore the determinants of green consumption in Greece, during a period in which the country has been hit hardly by financial crisis. In the light of such difficulties for the Greek economy, the provided evidence indicates that although, Greeks became more price-sensitive after the outbreak of crisis, they maintain their environmental values and beliefs, they make an effort to live "green" and they have adopted many green habits (Theodoropoulou & Zavali, 2012). The results show that there is a positive interaction between environmental values and green purchases. Furthermore, several socio-demographic characteristics seem to be related with green consuming behavior e.g. elder and more educated women are more dedicated to green products and to green life style than men.

The rest of the paper is structured as follows. The next section reviews the green consumer's profile and the determinants of green consumption based on an extent literature research. The following part describes the current situation in Greece after the outbreak of crisis and introduces the emerging challenges, including Corporate Social Responsibility (CSR). Next, we outline the methodological issues in terms of research design and sample identification. They are following the empirical findings which are discussed at the corresponding part of the paper. Finally, the last section presents the limitations along with suggestions for further research.

Background

Defining the green consumer and the determinants of green consumption

Green Product (GP) is considered as a product striving to protect or to enhance the natural environment by conserving energy and/or resources and by reducing or eliminating the use of toxic agents, pollution, and waste (Dangelico & Pontrandolfo, 2010). The increasing demand for green products globally has created a new type of consumer, the "green" consumer. The term "green" is alternatively called eco-friendly, environmentally responsible or environmentally friendly (Kalafatis, Pollard, East, & Tsogas, 1999; Laroche, Bergeron, & Barbaro-Forleo, 2001; Manaktola. & Jauhari., 2007; Roberts, 1996). Even though, there is a variety of definitions with fine restrictions in classifying different types of greenness (McIntosh, 1994), a broader definition was selected for the purposes of this paper. Hence, it was considered as green consumer anyone whose purchase behavior is influenced by environmental concerns and values. Consumers who translate these concerns into action

and consume environmentally friendly products are identified as “green consumers” (Henion, 1976; Mainieri, Barnett, Valdero, Unipan, & Oskamp, 1997).

Green consumer’s behavior has recently captured the attention of academic research (Chan & Lau, 2000; D’Souza, Taghian, Lamb, & Peretiatko, 2007; Rowlands, Daniel, & Parker, 2003). It is obvious that if we want to understand consumer’s response to green marketing communications, we have to understand the nature of their green consumption value (Ainsworth, Aditya, & Mojisola, 2016). Positive attitudes, quality of life and environmental consciousness are frequently mentioned by green consumers as the main reason of their purchases (Jacob, Jovic, & Brinkerhoff, 2009; Sheth, Sethia, & Srinivas, 2011). The researchers tend to explore various demographics, psychographics, attitudes and life style that are expected to align with environmentally favorable behavior, but often produce conflicting results (Do Paço & Raposo, 2010). Actually, is usually mentioned a gap between consumer’s value and action (Kollmuss & Agyeman, 2002), also called the attitude-behavior gap (Ajzen, 2001). Regarding the green consumption, later studies argue that the “green” gap exists due to several reasons of which price is most commonly noted, followed by poor perceptions of quality (Gleim & Lawson, 2014). Indeed, there are many barriers which hinder the purchase such as cost, trust, and certification (Narula, 2016).

Environmental consciousness

Environmental consciousness (EC) has been mostly examined for its impact on green consumption. EC refers to the ability to reshape habits, to minimize environmental effects and is affected by cognitive, attitudinal and behavior components (Schlegelmilch, Bohlen, & Diamantopoulos, 1996). A large part of the literature argues that consumers purchase GPs because of their environmental concerns and values (Kim, 2011; Pam, 1999; Smith, 1990) and are willing to pay a higher price for these products (Cherian & Jacob, 2012; Hume, 1991; Justin & Jyoti, 2012; Moser, 2015; Zavali & Theodoropoulou, 2018), showing greater readiness to choose them (Lin & Huang, 2012). Contrary, other studies support that although environmental values may play a role, other motivations and structural factors often play a greater role (Jackson, 2005; Kollmuss & Agyeman, 2002; Schuitema & Judith, 2015; Schultz, Oskamp, & Mainieri, 1995); the knowledge of environmental issues and pro-environmental attitudes do not directly lead to adoption of eco-behavior (Castaneda, Martinez, Marte, & Roxas, 2015). On the same side, many researchers argue that there are consumers with high EC who do not necessarily purchase environmentally friendly products (Pickett-Baker & Ozaki, 2008), as behavioral intention and green consumption are correlated rather, than causally related (Sumesh & Little, 2016).

Socio-Demographic Characteristics

Demographics have been mostly used as the basis for market segmentation and green consumer profiling (Jain & Kaur, 2006). The ability to identify trends between demographic variables and pro-environmental purchase behavior could therefore greatly assist various businesses and could help producers, marketers and policy makers to promote consumer habits that are less harmful towards the environment (Lin & Huang, 2012; Ritter, Borchardt, Vaccaro, Pereira, & Almeida, 2015). In the past, numerous surveys have attempted to identify the characteristics of typical green consumers, with the results being rather conflicting.

Gender is one of the major demographical factors used to outline the green consumer's profile. According many studies, women tend to be more ecologically conscious, take more eco-friendly purchasing decisions than men (Banerjee & McKeage, 1994; Lee, 2009; McIntyre, Meloche, & Lewis, 1993) and are willing to pay more for GPs (Laroche et al., 2001). This tendency could be explained by women's social role, since females tend to be more responsible and obedient and males tend to be more self-reliant and aggressive (Saad & Gill, 2000). Although researchers (Davidson & Freudenburg, 1996) argue that females have been found to exhibit both higher concern and participate more frequently in various types of green behavior (e.g. energy conservation, recycling, etc), Diamantopoulos et al. concluded that gender don't have any impact on environmental knowledge (Diamantopoulos, Schlegelmich, Sinkovicks, & Bohlen., 2003).

The results regarding age tend to be more consistent. Many studies support that there is a positive relation among age, environmental sensitivity, and behavior (Do Paço & Raposo, 2010; Roberts, 1996; Samdahl, Robertson., & Robert, 1989) and customers who frequently engage in environmentally friendly purchasing behaviors are older than average (Do Paço & Raposo, 2010; Samdahl et al., 1989; Vining & Ebreo, 1990). Furthermore, middle aged consumers are more likely to have knowledge of the environmental impact of what they buy and to appreciate the importance of the environmental consequences of their purchases (Morrison & Beer, 2017). Contrary, there are fewer studies which found no significant correlation between age and green orientation (Finisterra do Paco, BarataRaposo, & Leal Filho, 2009).

In an attempt to explore the effect of education on green consumption, elder studies supported that green consumers are persons who could act in an ecologically compatible manner, due to their higher levels of education (Henion. & Karl, 1972) or are expected to be more educated than average ones (Mintel, 2009; Shim, 1995). Indeed, more recent researches confirmed that exists a significant association between education and willingness to pay more for a GP (Patel & Chugan, 2016; Schwartz & Miller, 1991). Fewer researchers argued that people with high levels of education do not exhibit greater willingness to green purchasing behavior (Diamantopoulos et al., 2003).

Regarding the number of children, Grunert supported that larger families have more environmental knowledge and more positive attitudes towards environmental quality (Grunert, 1991).

Results are not more consistent in terms of income. Consumers with different incomes seem to have different abilities to pay for GBs (Arora & Gangopadhyay, 1995) and consequently, green consumers are expected to be wealthier than the average ones (Mintel, 2009; Shim, 1995). Indeed, Awad supports that income has a positive relation with green consumption (Awad, 2011). Contrary, more recent researches argue that consumers' household income does not influence their willingness to pay for environmentally friendly products (Laroche et al., 2001) and income is not the main factor determining the green purchase behavior (Liobikienè, Mandravickaitè, & Bernatonienè, 2016).

Finally, due to the GPs' higher prices than traditional ones (Moser, 2015; Zhao & Zhong, 2015), price is expected to influence purchasing decisions (M. R. Gleim, Smith, Andrews, Jr., & J.J., 2013). Indeed, there are consumers who are willing to pay more for GPs (Cherian & Jacob, 2012; Laroche et al., 2001) and other who would pay a higher price only if GPs had higher quality than the conventional ones (Kaufman, 2014).

The financial crisis in Greece and the emerging challenges

Greece has been going through a long and deep financial crisis for many consecutive years which seems has smashed its citizens. The annual growth rate for the household disposal income was reduced from 0.8% (2008) to -10.6% (2011) and -1.6% (2014). As a result of these fiscal policies, Greece has experienced unprecedented levels of unemployment (was increased from 9.6%, 2009 to 24.9%, 2015). The data are rather spectacular since the percentage of the youth unemployment has raised from 25.7% (2009) to 58.3% (2013) and the long term unemployment from 40.4% (2009) to 73,1% (2015). Younger Greeks seem to be at the heart of economic crisis, facing serious problems. At the same time Total Tax revenue increased from 31,0% of GDP (2009) to 35,9% (2014).

In the recent years, many studies have focused on exit-crisis practices with Green Economy and Corporate Social Responsibility (CSR) being frequently mentioned as innovative solutions. Some researchers argue that “Green economy is nothing less than a wide-scale attempt to turn ecological obstacles to capital accumulation into mere barriers that can open the door for new economic opportunities”. The fact that consumers spend 25\$ billion per year on green products in the US alone, can't be ignored (Ferrell & Hartline, 2011). Indeed, in green markets, the competition is intense and there are more possibilities for new technologies to arise and get economy out of the crisis.

Corporate Social Responsibility (CSR) is also playing a significant role in business today, since it was concluded that market compensates those firms that care for their environment (Wahba, 2008). For the purposes of the present paper, we define CSR as "a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis" (definition of European's Commission Green Paper) (Wahba, 2008).

Today, environment seems to be the most important concern for stakeholders in a company's CSR efforts (Welford, Chan, & Man, 2008). In Greece there are several barriers which made it difficult for the CSR to emerge earlier (Metaxas & Tsavdaridou, 2012). Although the governance mechanisms are scarce (Skouloudis, Evangelinos, & Nikolaou, 2011), the number of Greek companies proclaiming their social responsibility credentials has notably increased over the past decade and many large companies operate CSR practices (Skouloudis & Evangelinos, 2014). Based to a recent research (2016) of the Centre for Sustainability and Excellence, the Greek firms which engage with CSR practices have more than 140,000 employees and their turnover exceeds the 42.5 billion €. Furthermore, these companies are estimated to spend about 40 million € annually on CSR, with positive effects for the economy, the society and the environment. In addition, despite the current financial crisis, there was an increase of 5% in the companies issued a CSR report in 2016. Such Greek firms which have been awarded for their CSR practices in 2016 are: Piraeus Bank, Wind, Depa, etc. For instance, Depa has contributed to the promotion of the sustainable development in Greece and also to the protection of environment. Through the use of natural gas for car motoring, were reported huge economic and environmental benefits.

Methods

Purpose

Through the present survey, is made an effort to explore the sample's environmental principles as well as the respondents' purchase behavior towards GPs. We aim to discover the possible environmental values and habits behind green purchases and to understand better the underlying determinants of green consumption. In addition, the study will analyze the role of several demographic characteristics, along with environmental principles in green consuming behaviour.

Data collection

The survey is based on a random sample of 250 Greek consumers. The data of this primary research were collected using the method of questionnaire formulation, collection and elaboration. The questionnaire was developed from a thorough literature review and consisted of 35 questions grouped in 3 categories. The first group of questions refers to the socio-demographic data of the sample, followed by the second group including 15 questions regarding sample's general environmental values and also about the way they view GPs. The last section contains 13 five-scale questions, asking the sample how often they engage in particular friendly/unfriendly behaviors.

Primary data were collected through a door to door survey of residents in the metropolitan area of Athens (October 2013 to December 2013, January 2014 to September 2014, August 2015 to December 2015). Residents at least 18 years old, who agreed to participate in the study, were interviewed. To avoid misunderstanding in the completion of the questionnaires the interviews were administered by the investigators face-to-face with the residents.

Data analysis

Data elaboration and statistical analysis were performed using SPSS 20.0 for Windows (Statistical Package for Social Sciences), cross-tabulations were made between related responses and the Chi Square (χ^2) test of independence was used for statistical comparisons among them. All significant dependencies where $p < 0.05$ were reported. In addition, a logistic regression model was used to explain the factors that influence Willingness To Pay.

In order to categorize and to better organize the verbal context, it was also conducted a qualitative analysis through the qualitative software analysis package NVivo11. Specifically, it was made use of the Word Frequency Query, in order to analyze the answers to an open-ended question and then it was selected the Word Cloud display.

Results

Sample profile

After removing the unusable responses, a total of 250 usable surveys was kept. From the sample of 250 consumers, the majority is women (59.3%) and single (57.7%).The distribution

of respondents' age is: 34.4% below 30 years old, 36.7% 31 to 40 years, 17.7% 41 to 50 years and 11.2% above 51 years. The majority (55.3%) has a Bachelor Degree and/or a Master Degree (21.9%), 11.6% has attended High School and 7% has completed only the Primary education. The average household size consist of two individuals (no children, 69.8%), while 17.6% declared to have over 2 children and 12.6% only 1 child. Most of the respondents reported that they work as private employees (28.4%) or at the public sector (25.1%). A significant proportion (7%) argued that is unemployed. The average annual income ranges from 10.000€ to 5.000€ (44.1%).

Attitude towards environment and green habits

Through the first section of questions, is made an effort to explore the general attitude of the respondents towards the environment. The vast majority (83,5%) believes that environmental problems could definitely/probably have a serious impact on daily life, with much fewer those who consider this impact as non significant. On the same side, 74% is also definitely/probably willing to change lifestyle in order to contribute to the environmental protection and 75.3% definitely/probably support green technologies investments', even during the current economic crisis in Greece.

Through a five scaled question it was attempted a further investigation of the consumers' environmental consciousness (EC). As Table 2 shows, the question which refers to EC is "Are you conscious about your consuming impact on environment?" Based on the results, most of the consumers (67.4%) are very conscious/conscious about their consuming impact on environment and only 16,3% declare to be slightly/non conscious. The respondents also reported that during the last years, they have installed several energy saving systems at home. Table 3 shows the energy saving systems which preferred the majority of the sample. Autonomous heating (61.3%), double glazing (59.3%), tents (56.7%) and solar boiler (55.3%) are at the top priorities with automatic lights (10%) and photovoltaic (2%) being less important.

Table 1 Attitude towards environment

	Definitely	Probably	Possibly	Probably not	Definitely not
Do you believe that environmental problems can affect your daily life?	31.3	52.2	10	3.5	3
Are you willing to change your life style in order to contribute to the environmental protection?	30	44	18	4	4
During the economic crisis, is it positive insist on investing at green technologies?	35	40,3	14	7.1	3..6
Are you conscious about your consuming impact on environment?	Very conscious	Conscious	Moderate conscious	Slightly conscious	Not conscious
	37.3	30.2	16.2	14	2.3

Table 2 Energy saving systems

Energy saving system	Percentage %
Autonomous heating	61.3
Double glazing	59.3
Tents	56.7
Solar boiler	55.3
Wall thermal insulation	26
Fans	22.7
Automatic lights	10
Photovoltaic	2
None	3.3

In order to understand the causes behind the energy saving systems' installation, it was made an effort to evaluate the respondents' answers to the open-ended (unstructured) question "Why you decided to install an energy saving system during the last years?" Through the Qualitative Data Analysis Package "NVivo 11", it was drawn a Word Cloud in order to visualize the answers (Figure 1). Based on the sample's interviews, it was clear that Athenians decided to install an energy saving system not strictly for environmental reasons. Indeed, the majority argued that energy saving systems offered both environmental and economic benefits and at the same time, contributed to the improvement of their life quality. Many of them, managed to fund the installation through a European program. The word 'save' is the most common among the 20 most common words, and corresponds to both "energy" and "economic savings". The next most common word is the word "protection" which corresponds to the "protection of environment", along with the word "crisis" which seems to be a major concern for Athenians. It is clear that after the outbreak of financial crisis Athenians became more price-sensitive and it is difficult to concern the economic consciousness for the environmental consciousness.

During the last years, Greek consumers' declared to have adopted many green habits. So, 82.3% switch off the lights when they leave a room at home, 43.7% always/often use rechargeable batteries and 57.6% always/often throw old home appliance in recycle bins. Almost half of the sample (44.7%) always/often recycles on daily basis and 44.6% always/often try to recycle despite the lack of recycling collection points in their neighborhood. After the outbreak of crisis, Greek state has reduced the recycling programs due to the increased cost. It is obvious that some of the reported habits (e.g. use of rechargeable batteries, switch-off the lights etc) also reveal the respondents' economic consciousness, since they are closely related to economic savings. The economic incentives behind several green habits don't cancel the coexistent environmental incentives, since the sample makes a serious effort to live in a green way, non -strictly- for financial reasons. Indeed, the respondents choose to make their life more difficult, when they try to recycle despite the lack of recycling bins or when they use reusable bags (27.9%), given that the offered bags at the Greek supermarkets are free. Finally, most of the respondents (66.5%) always/often donate their old clothes. This habit could be explained by the climate of extreme solidarity that prevails in Greece after crisis and made people more active in favor of those who live at the poverty line.

Table 3 Green Habits

	Always	Often	Sometimes	Random	Never
I use rechargeable batteries	16.7	27	22.3	19.1	13
I recycle daily	24.2	20.5	25.1	14	10.7
I recycle weekly	19.5	11.2	12.6	9.8	4.7
I try to recycle but there aren't recycling collection points in my neighborhood	18.6	26	31.6	12.1	6.5
I throw my old home appliance in the recycle bins	36.7	20.9	16.3	11.6	12.1
I leave the tap water running when I wash my teeth/shaving	13	13	16.7	20.9	34
I switch off the lights when I leave a room of my house	58.1	24.2	10.7	4.2	2.3
I donate my old clothes	37.2	29.3	21.9	6.5	3.7
I use the washing machine only when is full.	47	26	16.7	5.6	2.8
I reuse the office paper	18.1	23.7	21.9	17.7	15.3
I use reusable bags at supermarket	13	14.9	20.5	22.8	26
The greek green legislation towards green labeling is rather chaotic	17	36.4	34	8.3	4.4



Figure 3 Work Cloud

Green products

Regarding the overall view of GPs, the vast majority declares to have knowledge of those products (92.6%), but also complains about the lack of adequate information in Greece (93%). Most of the respondents tend to purchase GPs (74%) and are also willing to pay more (WTP) for a more expensive GP (58.1%). Athenians consider GPs as more qualitative than conventional ones (71.6%), but also as rather expensive (83.7%) with much fewer answering that GPs are not as healthy and “pure” as they are presented (27.2%). This negative view of GPs could be explained by the wave of cautiousness that exists in Greek public towards the weak green controls and by the confused certification system. Indeed, more than half of the sample considers the Greek legislation towards green labeling as rather chaotic (53.4%).

Table 4 View of green products

Do you know what are green products are?	92.6	7.4
Do you believe that there is lack of public information in Greece on GPs	7	93
Do you purchase green products?	74	26
Are you willing to purchase a green product that is more expensive than the same conventional one?	58.1	41.9
Are green products more qualitative than conventional ones?	71.6	28.4
Are green products more expensive than conventional ones?	83.7	16.3
Green products are not so “innocent” and healthy as they claimed to be	27.2	72.8

During the last years, in Greek trade have appeared several products (with green package or fake labels), which claim to be green without being so in reality. The majority faced serious difficulties in recognizing the given official green labels (European Ecological Label, Energy European Label) and finally proved to consume imitations of green products (31.2%). These products are much cheaper than original GPs, and they usually have either a misleading label, either a green package, without any other label of the official certification bodies. So, even though there are many consumers who claim to purchase GPs, in reality they don't, since they can't recognize the official labels.

Table 5 Ability to recognize the official green label

	%
Official Certification label	25.6
Label: “organic/green product” (Wrong label)	31,2
Label: product of organic agriculture/organically produced (Right label)	24,2
Going to organic farmers' markets	11,6
I don't buy these products	5.1
I don't know	2,3

Regarding the question “Prioritize the five more important factors that determine your purchases”, the vast majority had to select from seven given answers. Based on answers, the most significant factor turns to be high quality (48.4%), followed by human health (18.1%) and price (17.2%). Among the less important factors is found the environmental protection (2.8%), which seems to be contrary to some of the previous results supporting that EC has a key role in green purchases. Given that it was a close-ended question, it seems rational to set higher at purchasing priorities the products' high quality and the human health protection, compared to the environmental protection. It is obvious that consumers have linked GPs most with human health and high quality and less with the protection of environment.

Table 6 Prioritization of fact ors that determine the purchases

High quality	48.4
Human health protection	18.1
Low Price	17.2
Country of origin (Greece)	6.5
Environmental protection	2.8
Publicity/Advertising	2.3
Package	2.3

Another paradox is that only a low percentage (6.5%) of the respondents cares about the products' country of origin, since it was expected that during crisis Greeks would support more the domestic products. This finding could be explained by the rather high prices of most Greek products compared to the same imported ones. It is noticeable that in many cases, Greek products are sold in Greek trade at higher prices than abroad. In addition, only during the last –after crisis- years have appeared some campaigns explaining at the consuming public which are the financial effects and the qualitative benefits of an increased Greek products' consumption.

The determinants of green consumption

Chi square tests

Based to the previous literature, it was observed an interaction between the environmental values and the green consumption. So, through the conducted Chi Square tests (p value <0.01), it was revealed that consumers with high EC, tend to purchase more green products. It was also proved that consumers, who are willing to change their life-style in order to contribute to the environmental preservation, are more probably to purchase GPs.

According to the literature, the consumption of GPs is expected to have a close relationship with green habits. So, Chi Square tests also confirm that those who purchase GPs are persons who recycle daily, use rechargeable batteries, recycle old home appliance, donate old clothes and recycle office paper. The same applies and for those who consume organic products since they are persons who recycle daily, recycle old home appliances and use multi-bags. On the same side, the Willingness to Pay More (WTP) for a GP is closely related to green habits as the daily recycle.

Demographics are proved to play an important role in green issues. Indeed, gender interacts positively with green consumption and females purchase more GPs than men, with high preference in green detergents. Furthermore, females are better informed of green labeling in Greece and have adopted more green habits than men (e.g. old clothes' donation, use of the washing machine only if it's full). Regarding education is found that the more educated persons have better knowledge of GPs and green labels. In addition, the more educated persons tend to be more positive towards green technologies investments and also declare to recycle on daily/weekly basis.

The regression analysis

The relationship of Willingness To Pay more for a GP (WTP) with gender (G), old home appliance's recycle (R), number of children (C), positivity towards green technologies (GT), Environmental copiousness (EC) end age (A) was measured through a binary logistic regression. The Willingness to pay more for a more expensive GP (WTP) is the dependent variable. All the independent variables used are statistically significant (p -value <0.05). The hypothesis is that consumers' WTP interacts positively with all the above independent variables.

Table 7 Independent variables

Independent variables	B	S.E.	Sig.	Exp(B)
Gender	1,039	0,413	0,012	2,827
Old home appliance recycle	0,356	0,147	0,016	1,428
Number of children	-0,506	0,240	0,035	0,603
Positivity towards green technologies	1,888	0,652	0,004	6,607
EC	1,360	0,527	0,010	3,897
Age	0,457	0,222	0,039	1,580
Constant	-4,061	0,894	1	0,000

The equation for WTP is as follows:

$$WTP = -4.061 + 1.039 * G + 0.356 * R - 0.506C + 1.888GT + 1.360 EC + 0.457^a$$

The value of the R² index indicates that the 35.9% of the variation of the dependent variable is interpreted from the three independent variables. The Hosmer and Lemeshow test agrees with the good fit of the model since 0.363 > 0.05.

Table 8 Model summary

	-2Log likelihood	Cox&Snell R Square	Nagelkerke R Square
1	149,276 ^a	0,267	0,359
Hosmer and Lemeshow Test	Chi-square	df	Sig.
1	8,760	8	0,363

Based on the logistic regression model, it is obvious that there is an interaction among WTP and the independent variables. Elder women are willing to pay more for a GP's purchase. Furthermore, those who are more conscious about the environment and more positive towards green technologies' investments are more likely to consume GPs. The same applies to consumers who have adopted more green habits as old home appliance's recycle. Contrary, the high number of children seems to discourage consumers from green purchases. So, the initial hypothesis is partially confirmed.

Discussion

The present paper made an effort to investigate the background of green consuming behavior in Greece after the outbreak of financial crisis. Based on the previous literature's findings, we aimed to explore the influence of environmental values, along with several socio-demographic characteristics on green consumption.

Despite the current crisis, most of the respondents are willing to adopt an environmentally oriented lifestyle, do care about their consuming impact on environment and are positive towards green technologies. The majority has installed several energy saving systems at home and has also adopted a variety of environmental habits. It was proved that behind the energy saving systems' installation and behind several green habits, there are both environmental and economic incentives.

Athenians declare to know what GPs are and also consider those as more qualitative than conventional ones. Although the vast majority tends to purchase GPs and is willing to pay even a premium, it was proved that many of the respondents consumed GPs' imitations, since were unable to recognize the official green labels. Indeed, the sample complains about the lack of adequate information towards green labels and the corresponding legislation. The factors: price, high quality and human health protection were set at the top purchasing priorities. Consumers have linked GPs more to human health protection and less to environmental protection and became also more price-sensitive after crisis. This result confirms the previous findings supporting that price is expected to influence purchasing decisions (M. R. Gleim et al., 2013).

EC was proved to lead to green consumption. Committed environmentalists, who have adopted many green habits, turned to be stronger green consumers and are willing to pay a premium for those products. The present evidence supports the previous studies' work which argued that environmental concerns and values lead to green purchases (Kim, 2011; Pam, 1999; Smith, 1990) and green consumers are also willing to pay a higher price for these products (Cherian & Jacob, 2012; Hume, 1991; Justin & Jyoti, 2012; Moser, 2015). It was also confirmed that the environmental principles have been very helpful in green consumer's profiling (Bhate & Lawler, 1997; Diamantopoulos et al., 2003; Gilg & Barr., 2006; Mintel, 1991; Roberts, 1996; Schultz et al., 1995; Tilikidou 2007).

The present study argues that demographics play an important role in green issues. Indeed, women are stronger green consumers and have adopted more green habits than men. This conclusion confirms the previous literature which supported that women are more concerned about environment and are willing to pay more for GPs (Laroche et al., 2001). The present study also proves that age and education are good predictors of the environmental attitude and the green consuming behavior. The results are in agreement with the researchers who argued that age has a positive impact on green consumption (Roberts, 1996) and also exists a significant association between education and WTP more for a GP (Patel & Chugan, 2016; Schwartz & Miller, 1991). Children's existence is negatively related to WTP more for a GP and also seems to discourage consumers from green purchases. The finding is contrary to Grunert's evidence (Grunert, 1991) who supported that larger families have more environmental knowledge and more positive attitudes towards environmental quality.

The above results could seem very helpful in the creation of new strategies, achieving a better penetration of GPs in the markets. In the light of the present financial difficulties, the redefinition of business models is -more than never- necessary, in order to close up the gap between environmental concerns and weak engagement on sustainable behaviors (Skouloudis, Chymis, Allan, & Evangelinos, 2014). CSR could play a crucial role in the penetration of green products in the market chains. A Nielsen's global survey (2011) confirms that more than half of global respondents (55%) are willing to pay extra for products and services from companies that are committed to positive and environment impact. Furthermore, today there is a tendency in businesses for promotion of their 'conscious' or 'responsible' background. Consumers choose eco-friendly products/services by selecting firms that favor environmental practices (Kalafatis et al., 1999; Laroche et al., 2001; Roberts, 1996).

Greek enterprises should explore the underlying options for the increase of productivity which can be influenced by CSR practices (Skouloudis et al., 2014). Proliferating strategic CSR in the domestic business sector and to economies with similar idiosyncrasies to the Greek case could be a well-aimed component for an exit strategy from the crisis, because it

can be meaningfully used to enhance trustworthiness, competitiveness and extroversion. Promoting CSR could yield win-win opportunities for Greek firms and have a positive effect on the regeneration of the national economy's dynamics (Skouloudis et al., 2014). CSR can be much more than a cost, a constraint, or a charitable deed – it can be a source of opportunity, innovation, and competitive advantage (Porter and Kramer 2006).

Conclusions

The present study provides important evidence towards green consuming behavior in Greece, which has been going through a long and deep financial crisis. It also studies the overall environmental attitude and behavior of Athenians in various contexts. It was confirmed the coexistence of both economic and environmental consciousness after crisis, since consumers became more price-sensitive. The results also indicate that environmental principles along with several demographic factors are a consistent predictor of their green behavior.

This paper is only a first step towards the investigation of green consuming behavior and its determinants in Greece. Furthermore, there are certain limitations which can provide directions for future research. Firstly, the sample is strictly originated in the metropolitan area of Athens. Future studies could explore the variation of green consuming behavior in other regions with different features, for further analysis and comparison. Secondly, the WTP more for a GP as a measure of behavioral intention might be questionable. The WTP along with the GPs' purchases were both measured by the sample's responses to the corresponding questions regarding their purchase intentions. We were not able to measure the real green purchases in the super market shelves, with the last being a motivation for further research.

The empirical findings confirm a significant part of the previous literature and raise several important implications. Indeed, the present research indicates that using several socio-demographic characteristics or specific variables as EC, could help green campaigns to comprise more tangible details in order to improve the penetration of green products in the Greek market. Moreover, considering that the lack of adequate green policies is among the main Greek weaknesses, we hope that our findings will be able to contribute to the redefinition of the relevant initiatives and have significant implications in the corresponding government's policies.

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