

THE ECOLOGICAL CONSUMER BEHAVIOURS IN GREECE: TEN YEARS OF RESEARCH

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Abstract

This paper focuses on the examination of the Ecologically Conscious Consumer Behaviour (ECCB) in Greece. Following a combinatorial topology approach, the data of ten years of persistent research studies are further analysed and discussed upon.

In overall the findings indicated that the three types of the ECCB, namely the Pro-environmental Purchasing Behaviour (PPB), the Pro-environmental Post-purchasing (PPostPB) Behaviour and the Pro-environmental Activities (PA) are inter-related. Thus, it was concluded that the same people are more or less simultaneously engaged in all pro-environmental behaviours. Pro-environmental purchasers are at the same time recyclers and activists to an extent.

It was also found that these behaviours (PPB, PPostPB, PA) are influenced by certain demographical, cognitive, attitudinal and psychographic factors.

Greek Ecologically Conscious Consumers (ECCs) were found to be well educated people, who hold relatively high incomes. Evidence has been found too that general environmental knowledge - containing difficult scientific expressions - is not able to describe ECCs, while on the contrary specific environmental knowledge - that focuses on every-day consumers' activities - is. Also, it has been indicated that general positive environmental attitudes is not a very valid factor to describe pro-environmental behaviours, while a more accurate path to follow is to concentrate upon which negative attitudes formulate the consumers' environmental unconcern and inhibit their pro-environmental behavioural changes.

Further psychographic evidence revealed that Greek ECCs are people with strong social values, who are not that bound with material possessions, who are interested in politics and feel capable of shaping social circumstances rather than being shaped by them.

The overall so far picture and the limitations of our ten years of research are also discussed in this paper, while future research directions and implications to the public policy and business are suggested.

Keywords

Ecological marketing, consumer behaviour, green buying, recycling.

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Introduction

The ecologically related research has never been in the mainstream of the marketing academic community (Schlegelmilch *et al.* 1996). Also, certain marketing activities have been blamed as hostile to the environment due to the fact that they force consumers to over-consumption. Indeed, there is some evidence that 30 to 40 percent of the environmental degradation has been brought about by the consumption activities of private households (Grunert and Grunert 1993). There are certain suggestions that the overall consumption should be reduced in order to reduce the overall environmental damages (Kilbourne *et al.* 1997).

There is no doubt that the environmental protection goals require multi-disciplinary cooperation. Within the marketing community, during the last three decades, a number of academics argued that both public policy and business should become more environmentally sensitive and socially responsible to respond to the people's increasing environmental concerns (Kinnear *et al.* 1974; Antil and Bennett 1979; Balderjahn 1988; Pickett *et al.* 1993; Schultz *et al.* 1995; Schlegelmilch *et al.* 1996; Roberts and Bacon 1997). Among other socio-economic sciences the Ecological Marketing "needs and wants" (in marketing terminology) to offer its own contribution to the environmental protection. Marketing might become a part of the solution instead of a part of the problem (Peattie, 1995, p. 24).

Indeed, the ecological marketing research has produced fruitful knowledge mainly with reference to the investigation of the factors that might be able to influence pro-environmental behavioural changes (Jackson, 2005, p.133). This knowledge aims to be useful both to the public policy makers and to the firms, which are interested in adopting ecological strategies of any type. However, key-questions remain unanswered. It is common knowledge that the green markets remain marginal, while the tendency to over-consumption is the rule in all developed countries of both North America and Europe.

The ecological marketing research was introduced in Greece in middle nineties, rather late in comparison to the other western communities. Our primary aim was to overcome the somehow fragmentary type of the previous research and thus we developed (Tilikidou, 2001) the integrated concept and structure of the Ecologically Conscious Consumer Behaviour (ECCB).

In this paper the results of ten years persistent studies in Greece will be presented and discussed. Parts of them have been published elsewhere. The aim of this study is to analyse the data further by the utilization of a combinatorial topology approach in order to summarize what we managed to understand about the Ecologically Conscious Greek Consumers (ECCs) so far and also to reveal what insights about them remain still in shadow.

Theory

Ten years ago our research was based on the following – simple only reasonable – assumption that no firm would undertake the risk and the trouble to adopt and implement an ecological strategy unless it is forced by regulations or convinced that there is a relevant profitable segment in the market. At the same time, no matter how much ecologically concerned the consumers might be, it is questionable if anyone is going to engage in ecological consumer behaviour of any type, unless satisfying alternative choices are being offered in the market (Litvan, 1995).

So, our concern was to understand as deeply as possible what might influence Greeks to change their behavioural habits towards friendlier to the environment behaviours. The Ecologically Conscious Consumer Behaviour (ECCB) was conceptualized to be consisted of three types, namely the Pro-environmental Purchasing Behaviour, the Pro-environmental Post-Purchasing Behaviour and the Pro-environmental Activities. It was also hypothesized that ECCB might be influenced by demographical, cognitive, attitudinal and psychographic factors.

Taking these theoretical assumptions in consideration, a number of research studies have been designed and implemented. In the following section the main findings of these studies are reviewed.

Review

The presentation structure is based on each one of the ECCB types separately. It has to be noted that for the examination of each of the behavioural variables original multi-item constructs have been developed, tested, amended, re-tested and so on. It is also noted that the behavioural constructs are measured on a 7-point frequency scale, with the exception of the recycling behaviour for which we have been the first to propose a percentage scale in order to achieve quantitatively better measurement accuracy. The attitudinal and the psychographic constructs are measured on a 7-point Likert scale, while knowledge on a ratio 'right-wrong' basis.

The Pro-environmental Purchasing Behaviour

A general Pro-environmental Purchasing Behaviour multi-item measure was firstly developed in late nineties, containing 11 items; this construct was improved in 2005 to contain 23 items. The measure provided exemplary estimates of reliability and covered the choices of, as many as possible, eco-friendly products: detergents, clothing, organics, toiletry, eco-labelled products and conservation of energy, water and overall household consumption.

Three large-scale research studies have been conducted in the urban area of Thessaloniki Greece. In all our surveys the sample sizes have been large enough to secure statistical significance less than 0.05 and a combination of probability sampling methods (two-stage area sampling and the systematic method) were followed to collect data by the utilization of structured questionnaires (see: Tilikidou, 2001; Tilikidou and Delistavrou, 2005a; Tilikidou, ---).

In overall the results indicate:

With regards to *demographics* it has been found in all our studies that the level of Education and Income provided positive relationships with purchasing behaviour.

Knowledge was firstly examined by the utilization of the Leeming's *et al.* (1995) 29- item, Children Environmental Knowledge Scale. Surprisingly, this scale did not indicate any impact on behaviour (Tilikidou, 2001). Later, we thought that we should construct a consumers' oriented scale to measure what people actually know about the every-day protection measures. Indeed in 2006, our scale of Consumers' Environmental Knowledge (CEK) did provide evidence of a positive, moderate impact upon pro-environmental purchasing behaviour (Tilikidou, ---).

With regard to *attitudes*, we firstly examined Pro-environmental Attitudes, which are the consumers' positive feelings about the necessity of environmental protection. Extremely high scores of attitudes were obtained and these results raised the suspicion of social desirability (Tilikidou, 2001). This was the reason why we created the scale of Environmental Unconcern in 2005 to capture people's indifference about the environmental problems. Indeed, the results have been more realistic, while the impact of environmental unconcern upon purchasing behaviour was estimated to be higher (above one decimal point) in comparison to the relevant impact of pro-environmental attitudes. In any case, the strength of the relationship between attitudes and behaviour seems to be moderate (Tilikidou, 2001 and ---; Tilikidou and Delistavrou, 2005a).

In addition to the conventional path of consumer research (that is to examine demographics and attitudes) we also incorporated selected *personality variables* to illuminate more deeply the profile of pro-environmental buyers. Statistically significant moderate relationships were found between pro-environmental purchasing behaviour and both Locus of control over politics (positive) and Materialistic Values (negative) (Tilikidou and Delistavrou, 2005a).

Very few studies were found in the literature that examined a specific eco-friendly product or product category. In 2005 we presented a separate study about the purchase of the recycled paper products, both stationary and home products. The relevant results indicated that very few people might be considered as frequent purchasers of these products. The behavioural variables provided relationships with the specific Attitudes towards recycled paper (positive, moderate), Locus of control over politics (positive, weak) and Doubt about self determination (negative, weak).

The Pro-environmental Post-Purchasing Behaviour

In this type of behaviour we incorporated a set of 4 Recycling Behaviours (one item for each recyclable material) and a set of 5 Post-purchasing Behaviours, which concern “what consumers might do with the already used products”, such as re-use, maintenance, donation etc. In overall 6 studies have been implemented and the results indicated the following.

With reference to *demographics* we have found that middle aged employees, who hold a degree and relatively high incomes, are those who are mostly used to recycling and other pro-environmental post-purchasing habits.

A scale of Attitudes towards Recycling - purposively constructed and amended a number of times - served us very well as it provided exemplary evidence of reliability and a clear ability to correlate moderately with sets of post-purchasing behaviours.

Psychographics also provided fruitful results as the whole set of pro-environmental post-purchasing behaviours was found (in overall) to be influenced positively by Attitudes towards complaining, Motivation, Locus of control over politics and Collectivism; negatively by Materialism and Doubt about self determination. (see: Sarmaniotis, Tilikidou and Petridis, 1999; Tilikidou, 2001; Tilikidou and Delistavrou, 2004, 2005 and ---; Delistavrou, Tilikidou and Sarmaniotis, 2005).

It is noted that in one case, the motivation variable (Delistavrou, Tilikidou and Sarmaniotis, 2005) and in another study the materialism variable (Tilikidou and Delistavrou, 2004) provided stronger evidence of influence upon recycling than specific recycling attitudes did.

The Pro-environmental Activities

This type of behaviour incorporated (in the beginning) 11 items in two sub measures, namely the Participative Activities and the Individual Activities (Tilikidou, 2001). Later on, the scale was improved to contain 13 items. The relevant behaviours concern non-purchasing activities that citizens may undertake to protect the environment such as ‘do not throw rubbish on the ground’ or ‘make noise’, ‘use public transportation’, ‘voluntary contribution of money and work to ecological groups’ etc (Tilikidou and Delistavrou, 2006 and ---). In overall 3 studies have been implemented and the results indicated:

With relevance to *demographics* it was found that rather older people enhance more this type of behaviour than the other pro-environmental behaviours. These people hold a degree and earn relatively high incomes.

With reference to *attitudes*, these activities provided, through time, positive and moderate relationships with each one of Pro-environmental Attitudes, Environmental Unconcern and specific Recycling Attitudes. With regard to *psychographics* it seems that Materialism affects these behaviours negatively and moderately, while Locus of control was found to impact upon these activities positively and more strongly than it does upon purchasing or post-purchasing behaviours.

Inter-dependences among the ECCB types

From the middle nineties, we thought we should focus on the query “whether the same consumers are simultaneously engaged in all pro-environmental behaviours or not”. In the English written literature there had been a few claims that there was no general behaviour pattern and that consumers who enhance one type of pro-environmental behaviour are not the same people, who enhance another type as well (Balderjahn, 1988; Pickett *et al.*, 1993; Roberts, 1996). In contrast, in several efforts of ours the findings indicated that considerable inter-relationships exist between and among the ECCB types. Indeed, the pro-environmental purchasing behaviour has been found to correlate positively and moderately with recycling behaviour and with individual activities, while strongly with participative activities (Tilikidou, 2001). Buying of recycled paper products was found to correlate positively and strongly with recycling behaviour (Tilikidou and Delistavrou, ---). Recycling behaviour was found to correlate positively and moderately with pro-environmental purchasing behaviour (Tilikidou, 2001); also with pro-environmental activities (Tilikidou and Delistavrou, ---), strongly with participative activities, weakly with individual activities (Tilikidou, 2001) and moderately

with post-purchasing behaviours (Tilikidou and Delistavrou, ---). Post-purchasing behaviours were found to correlate strongly with pro-environmental activities (Tilikidou and Delistavrou, ---).

It is to be noted that the R squares of the multiple regression analyses (in all our studies) indicated that, each type of behaviour can be better predicted by the other types of behaviours than by each and every other combination of independent factors, either demographical, attitudinal or personality variables.

Further analysis

In all studies of ours we also employed selected non-parametric, qualitative techniques in order to obtain a deeper understanding of our data. For example, we several times adopted the cluster analyses, both K-means and hierarchical clustering. For the purposes of this paper a combinatorial topology was followed to summarize only the K-means findings of all the above mentioned studies.

With reference to the Pro-environmental Purchasing Behaviour the results indicated that a considerably large proportion of the consumers (around 40%) never adopt environmental criteria when making a purchasing choice (Tilikidou and Delistavrou, 2005a; Tilikidou, ---).

A proportion of about 30-40% of the consumers buys ecological products occasionally, while there is a segment of 20-30% of consumers, who might be characterized as relatively frequent pro-environmental purchasers. The most favourable eco-friendly choices of the more frequent purchasers refer to buying an eco-friendly product when no significant price difference exists, conservation of energy and water, choice of re-usable and/or recyclable products if easily located. Consumers also choose to buy eco-friendly detergents and paper products if these are competitive in terms of price and efficacy. They seem less involved in buying organics, more often fruits and vegetables than pasta, wine, toiletry and clothing. It is underlined that consumers only occasionally try to reduce their overall consumption. (Tilikidou and Delistavrou, 2005a; Tilikidou, ---).

With reference to the Recycling Behaviour, paper is of course the most recycled material. There are 30% of the consumers who never recycle. There is a 30% who recycle occasionally about the 30% of their used paper and there are 40% of the consumers who declare that they recycle more than 50% of their used paper. As to aluminum, plastic bottles and glass the 50% of the consumers recycles rather randomly (less than 15% of the used materials), the 40% less than the 25% of the used material and there is a small percentage of at most 10% who recycle more often these materials (Tilikidou and Delistavrou, ---).

With regard to the Pro-environmental Post-purchasing Behaviour the consumers were found to re-use quite often a product or packaging waste instead of throwing it to the litter; to donate old clothing and shoes and to maintain used products instead of replacing them with new products (i.e. clothes, furniture, electrical equipment, linen). However, consumers were found to drive at less speed to reduce exhaust rather rarely and even more rarely, almost never they are used to selling second-hand old products (i.e. clothing, books, furniture, CDs) (Tilikidou and Delistavrou, 2004 and ---).

With relevance to the Pro-environmental Activities the consumers are very often used to reading and watching on the TV environmentally related issues; they also very often avoid throwing rubbish on the ground. They occasionally try to make less noise and offer money to ecological groups and organizations, while they rarely offer voluntary work in favour of the environment and they almost never choose to use public transportation instead of their cars (Tilikidou and Delistavrou, 2006 and ---).

Discussion

The first issue to be discussed concerns the content and the insights of the most adopted pro-environmental behaviours of all types. With regard to the purchasing behaviours the results so far revealed that the most adopted types are those that concern conservation and re-use of products. The results also clearly indicate that Greeks are more willing to choose eco-friendly products (detergents, recycled paper products, organics etc) if they are not significantly different in price and efficacy. With regard to the non-purchasing behaviours the results revealed that the most adopted activities are those that concern avoidance of throwing rubbish on the ground and making noise as well as donation and maintenance of used products. The most energetic activities like contribution of work and/or money to

ecological groups and organizations or planting trees are almost never adopted by Greeks. Also, the post-purchasing behaviours that concern mainly the re-use and donation of already used products could be somehow characterized as rather traditional, conservative habits. Last, with regard to recycling it seems that consumers are more engaged in the recycling of paper than in the recycling of the other materials. This is because the paper-recycling program is more widely available. The recycling of glass, that was also reported to be at a moderate level, incorporates the traditional return of glass bottles, an action that involves monetary motives. Therefore, it can not be interpreted as a conscious pro-environmental action. In overall, we would not be positive that these behaviours are driven by a set of conscious decisions to help the environmental protection or they are motivated by financial motives or by traditional conservatism or as Jackson (2005, p. 66) claimed by habitual behavioural patterns.

A second point of discussion concerns the factors that have been able to describe and predict or influence to an extent the ECCB. With reference to education it was only natural to expect that people holding higher level of degrees might be more knowledgeable and thus more concerned about environmental issues. It is to be noted though, that according to the literature (Maloney and Ward, 1973; Arcury, 1990; Leeming *et al.*, 1995; Laroche *et al.*, 1996; Tilikidou, 2001) the scales of objective, scientific environmental knowledge have indicated very weak or non significant relationships with behaviours so far. Our own effort to construct a contemporary consumer oriented scale provided better results than previous efforts.

The Consumers' Environmental Knowledge (CEK) scale was found to be positively and moderately correlated with purchasing behaviour (PPB). The relevant findings may be attributed to the fact that both CEK and PPB have been purposively developed for Greek consumers and they aim to focus on the every-day consumption activities. However, the total level of CEK (although somewhat higher than in the past) was found to be again rather low. The total low level of environmental knowledge may be attributed to deficient education, rare promotion of environmental information by the Greek media and time lag national pro-environmental policies in comparison to some other EU countries. However, the considerably lower scores in certain items may be attributed to the difficulty of the relevant questions. Indeed, in these items consumers were asked to choose the right percentage of energy or water consumption or recycling goals. In future research re-editing of selected items might be considered.

With regard to income, although the statistical procedure indicates that consumers with higher incomes are those, who enhance pro-environmental behaviours, there are some certain points to be put under discussion. Firstly, it has to be noted that the variable measurement concerns the family income. Secondly, the reported level of income should never be taken as accurate; it is common knowledge in Greece that the really high incomes never appear in the tax returns. Thirdly, it has to be noted that the actual consumption level of each household (e.g. size of house, cars, monthly expenses etc) have been never put under examination. On the other hand, a family that makes up to 30 th. Euros should - by no means - be considered as 'rich people', who constantly over-consume, live in luxurious house, travel a lot, drive expensive cars etc. They are most probably hard working people, who are well educated and concerned enough to seek for an environmentally friendly product, if it is not considerably more expensive than the conventional alternative. It might be reasonably argued that this is not the consumer group that in total consumes less and thus pollutes less; this is true at least in comparison to other groups, for example retired people with a pension of 600 Euros. Unfortunately though, these indeed less consuming groups would never be able to formulate a target group for businesses interested in ecological strategies; it would be a utopia to expect from people that are not able to fulfil their basic needs to buy less and incorporate environmentally friendly criteria in their purchasing choices.

With regard to attitudes, it has been many times found that attitudes are a rather moderate predictive factor of the pro-environmental behaviours. The results, especially those provided by multiple regressions, confirmed Ajzen's and Fisbein's (1977) suggestion that attitude – behaviour link should be investigated at the same level of specificity, as only pro-environmental attitudes have been found able to predict purchasing behaviours and only recycling attitudes have been found able to predict recycling behaviour. The results also indicated that the Environmental Unconcern scale seems to provide better evidence of correlation with behaviours than positive attitudes did in the past (e.g. Tilikidou, 2001). This approach provided – to an extent – insights with relevance to which attitudes

make people rather indifferent to ecological problems and environmental protection. People seem to be concerned more with other problems of their lives than the physical environment; they are very reluctant to pay from their own pocket, and they believe that the governments should hold the responsibility of the environmental protection; however, they do not take into much consideration environmental criteria when choosing a party to vote for.

With regard to the personality variables it has to be discussed that our efforts confirm previous claims such as those by Ebreo and Vinning (2001) who, among others, claimed that, although individual-based variables have not received much attention recently, the possibility exists that such variables might influence behaviour. Also, McCarty and Shrum (2001) suggested that very fundamental beliefs, e.g. value orientations, influence people's both pro-environmental attitudes and behaviours. Values, being enduring beliefs, abstract in nature and not object or situation specific (Rokeach 1973, p. 5) differ from attitudes and may impact behaviour incrementally beyond the influence accounted for by specific attitudes.

Indeed, it has been indicated that there are certain personality variables that influence pro-environmental choices. All of them are socially oriented in nature, meaning and measurement structure. The results indicated that consumers with low materialistic values were found to buy less, to consume less, to choose environmentally less harmful products, to produce less waste, to participate in recycling etc. On the contrary, people who share materialistic values feel happiness when they possess things so they buy more and more to maintain and increase feelings of happiness. Thus, they are constantly motivated to over-consume. Over-consumption is given as one of the reasons for the environmental degradation (Peatie 1995, p. 24). So, materialism is by nature hostile to the sustainable development and inhibits pro-environmental behavioural changes.

In addition, it has been also indicated that there is a significant political dimension involved in the sustainable consumption process; as Kilbourne *et al.* (1997) and McCarty and Shrum (2001) have also claimed with relevance to the Americans. Our research indicated that consumers' obtaining high scores about their own "ability to affect and control the national and global socio-political evolutions" (Robinson *et al.* 1991, p. 428) and consumers who do not doubt their personal capability of shaping the social environment (Robinson *et al.*, 1991, p. 306) are more likely to enhance pro-environmental behaviours.

Conclusions and Implications

The main conclusion of our ten years research is that the same people are more or less simultaneously engaged in all pro-environmental behaviours. Pro-environmental purchasers are at the same time recyclers and from a certain point of view activists.

They are well educated people who hold relatively high incomes. They are people with strong social values, who are not that bound with material possessions, who are interested in politics and also feel capable of shaping social circumstances rather than being shaped by them.

Evidence has been also found that general environmental knowledge - containing difficult scientific expressions - is not able to describe ecologically conscious consumers, while on the contrary specific environmental knowledge - that focuses on every-day consumers' activities - is. Also, general positive environmental attitudes is not a very valid factor to describe pro-environmental behaviour, while a more accurate path to follow is to concentrate upon what negative attitudes inhibit consumers to act pro-environmentally.

It is well understood, that ecologically conscious consumers are a minority in the Greek society, which like every other Western European community is characterized by the tendency to over-consume (final consumption expenditure was almost doubled between 1995 and 2003 according to N.S.S.G 2004). Eco-friendly products alone cannot formulate a dependable solution. The crucial prerequisites for the green markets growth are price, distribution and quality. The green market segment is not going to get larger if the eco-friendly offerings keep being more expensive, less appealing and difficult to find.

Greek business interested in alternative ecological offerings may find, in the results of our efforts, valuable implications regarding an optimum marketing mix of their products and services. Strategies should incorporate creative campaigns to target the highly concerned consumers taking into consideration their characteristics and preferences. Communication should focus on minimizing consumers' unconcern that inhibits behavioural change towards pro-environmental consumption. Emphasis should be also placed upon educating the public of what is the right thing to do or avoid in favour of the environmental protection in our every-day consumption activities.

Local authorities, in charge of the recycling programmes and ecological organizations aiming to expand ecological activities, should realize that consumers are most likely to adopt any type of pro-environmental behaviour, where cost and/or inconvenience are minimized. Thus, they should focus on making it easier and friendlier for a consumer to participate in their plans.

Besides expanding the green market and the participation in recycling, responsible national and European policies should acknowledge the need to reduce the overall over-consumption in the society. Governmental, non-governmental and non-profit organizations should aim at increasing not only consumers' attitudes but their non-materialistic and anti-materialistic values too.

Little did we know so far, there is much to be added in our understanding about the cognitive, affective and psychological links to the pro-environmental behaviours. Our guess is that primarily, future qualitative research is needed in order to understand more deeply how materialistic values inhibit pro-environmental behaviours and what exact insights motivate people to over-consume.

Although clear our findings so far, it has to be noted that a certain limitation in our research direction is the social desirability effect, which is evident in every self-reported survey in ecologically related research. Also, although considerable effort has been taken in the improvement of the scales through time, the development of a reliable, valid and stable measure never ends. Thus all our constructs need further amendments.

The overall picture, of our ten years of research in Greece, verifies Jackson's (2005, p. 18) argument about the difficulty and complexity of the change towards pro-environmental behaviours. However, our claim is that even if these behaviours are driven by other than pro-environmental factors, such as health concerns or financial motives, in practice they contribute to the environmental protection and should be encouraged.

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