Marketing Research and Consumer Behaviour Department

THESIS SYNOPSIS

Melinda Majláth

Psychographic Differences between Environmentally Friendly and Non-environmentally Friendly Consumers

synopsis of Ph.D. dissertation

Supervisor:

Dr. Ágnes Hofmeister Tóth
Professor, head of department

Content

1 Research Background

The Sixth Environmental Action Programme of the EU contains the environmental tasks for the period between 2001 and 2010. Its priority areas are: mitigation of climate change, protection of nature and wildlife, the promotion of research on the relationships between environmental pollution and human health, and the improvement of the efficiency of waste management. Therefore, as the starting point of my dissertation I accept the fact that our epoch faces such serious environmental problems at both the national and global level that the solution thereof permits of no delay in order to sustain the existence of humanity as well as to improve the individual quality of life.

In addition to governments and social movements, economic actors have an important role to play in the protection of the natural environment: both companies and consumers since – through their everyday decisions – they can promote or hinder solutions to environmental problems within the framework of the developed regulatory system. Traditional marketing is also blamed for ecological problems, because

- "the consumer is king" approach leads to the overconsumption of goods;
- the system ignores environmental factors;
- the stress is on the primacy of the satisfaction of needs by material goods and social status is demonstrated by material goods;
- it is characterised by short-term profit maximisation and turnover centricity;
- product life cycles are shorter and shorter due to the resource-wasting fashion.

(Nagy, 1997, p. 143)

In developed countries, corporate social responsibility (CSR) has been active since the 1970s. Stressing this is fortunately considered as mainstream in economic sciences, so the new approach has brought changes in judging the role of marketing: in the social marketing concept, the emphasis shifts from egoism to the long-term interests of the consumer and social welfare, while profitability is expressed as a long-term objective. The wider scope of my dissertation, green marketing, can serve this objective, when the corporate approach becomes environmentally friendly.

1.1 Definition of green marketing

I use the definition of marketing in a broader sense as a starting-point, one which defines marketing as the philosophy of the company and which concentrates on the needs of consumers. (Bauer and Berács, 1992)

During the secondary research I faced the difficulty of a lack of a coherent definition of green or environmental marketing. There is still no single, widely accepted definition of green marketing, although the original definitions date back to the 70's.[1] However, we can detect significant differences in the meanings of these definitions based on their interpretation, whether green marketing is (1) a definitely new concept, which partly denies the aims and tools of traditional marketing concepts and therefore creates an entirely new construct or (2) green marketing is only a broadened view of traditional marketing with additional environmental aspects as a potential way of improving the financial performance of a company.

In my opinion, the first approach would be the real key to solving the main issues of the environmental problems caused by economy, so the goal system of the company should be rethought. In this redefined goal system, priority should be given to sustainability and the interests of the whole society. While these are in line with the long-term interests of individuals, they can however be in contradiction to the typically short-term view of firms and consumers.

From the '70s ecological green marketing had been flourishing in developed countries, concerning itself with those marketing activities, which (a) could be the cause of environmental problems or (b) could solve environmental problems - according to Henion and Kinnear (1976). In this early period attention was paid to specific environmental problems, whose solutions were searched for separately, which is why only a few products, companies and industries were affected by this new trend.

Great environmental catastrophes of the 80s, turned attention even more to the interaction between economy and nature. Instead of pipe-end solutions (the subsequent neutralization of pollutants) firms tried to use technologies to create fewer pollutants throughout the entire manufacturing

[1] We can find green marketing Peattie és Charter, 1994, sustainable marketing Fuller (2000), ecological marketing, environmental marketing [1],environmentally-friendly marketing Nagy 2004, 144. old.,ecomarketing expressions, or as a mix of them ecological green marketing Henion és Kinnear (1976), environmental green marketing and sustainble green marketing, while in some cases it is difficult to find a difference in their content.

process, called clean technologies. In this period researchers tried to identify the segment of green consumers as they thought consumers were able to distinguish competitive products based on their environmental performance. (Peattie, 2001)

However in the late 90s green developments had slowed down; the literature speaks about meeting the Green Wall. On one hand, the negative attitude of the media toward "green" companies (their trustworthiness, the problem of green "painting") and the growing scepticism of consumers toward green advertisements created a burden. On the other hand, cheap and easy green practices and solutions – especially those which caused cost-reduction - had come to an end, so new steps toward being more green needed lots of investments and sacrifices from the firms. More radical changes had lower levels of support and were therefore more difficult to realise. Moreover, doubt emerged on the market related to what kind of products were proved to be truly green and the identification and reach of the green consumer segment seemed to be very difficult in practice – similarly to the contradictory results of studies in this topic

1.2 Aim of the dissertation

Marketing experts often meet the contradiction that while consumers are increasingly demanding environmental protection, their behaviour does not really reflect this attitude: they are not aware of the environmental impact of their activities, they are not knowledgeable of green alternatives (and even if they are knowledgeable, they do not consider these green alternatives available and feasible); and they frequently think that action should be taken not by them but by other institutional actors, mainly the state and companies. Therefore, the purpose of the dissertation is to examine the possibilities for environmentally friendly marketing *within* the current economic system through a better understanding of environmentally friendly consumer behaviour.

The examination of environmentally friendly behaviour requires an investigation into a very complex system of connections with mutual correlations, where the harmonisation of social and individual interests becomes necessary. My objective is to obtain pragmatic findings during the research, so in addition to taking into account the complexity of environmentally friendly behaviour, I also put stress on environmentally aware purchase decisions, since it is likely that the companies applying environmentally friendly marketing are interested mainly in this issue.

The two basic questions are:

(1) What inherent differences in psychographic factors can most accurately indicate the propensity to environmentally friendly behaviour?; and

(2) What similarities and differences do we find when we consider environmentally friendly behaviour in its wider, full complexity and when in a narrower, single-dimension context, as in the purchase of a single environmentally friendly product?

The wider interpretation ascertains the complexity of the behaviour in a more authentic way and calculates with trade-offs between the individual behaviour dimensions, while the narrower approach can identify more efficiently those factors that are hidden in the background of a given activity. This latter, narrower behaviour dimension relates to the importance of environmentally friendly product features in a given purchasing situation.

Through testing the hypotheses we are able to identify what psychographic features it is worth trying to influence in order to develop a market for green products: the perceived individual effectiveness, the attitude towards environmentally friendly behaviour, and environmental knowledge or ecological ideology.

In order to achieve this goal, I apply an approach that is new in research of environmentally friendly consumer behaviour: I not only consider the issue based on the consumers' opinion and attitude, but I also investigate the behaviour in a concrete purchasing situation, allowing me to get a more realistic picture.

1.3 Definition of environmentally friendly behaviour

Basically two different interpretations of environmentally friendly behaviour can be found. One of these interpretations contains those definitions that examine green behaviour in its complexity, thus giving a broad picture of consumers' behaviour – not only as a consumer (for example: Ellen, Weiner and Cobb-Walgren (1991); Berger and Corbin (1992); Stern, 2000).[2]

[2] Ellen, Weiner and Cobb-Walgren (1991) examined environmentally conscious behaviour**,** which consisted of 6 different areas: buying environmentally friendly products, waste disposal (recycling), membership in green organizations, donating to green organizations, attending public hearings, and telephoning or writing to public officials. Berger and Corbin used three different scales: consumer behaviour, willingness to pay behaviours and regulatory support behaviours. Stern (2000) can differentiate four different types of environmentally significant behaviour: (a) environmental activism, (b) non-activist behaviour in the public sphere, (c) private-sphere environmentalism, and (d) other environmentally significant behaviours, such as the decisions of an employee at a workplace which can also influence the state of the environment.

In the other group we can find definitions which focus mainly on one dimension of behaviour - especially in marketing related studies – typically buying intention and willingness to pay for green products. Chan and Lau (2000) Straughan and Roberts (1999) Laroche, Bergeron and Barbaro-Forleo (2001) [3]

However, it must be emphasised that environmentally friendly behaviour can occur as a result of other motivations (such as energy and water conservation for financial reasons, or routine rooted in socialization process, and therefore practically unconscious); thus not only environmentally *conscious* behaviour can be environmentally friendly. Therefore, my further aim is to categorize consumers based on their behaviour and environmental consciousness and to explore the main characteristics of consistent and inconsistent consumer groups.

1.4 Variables Included in the Research and Their Hypothesised Relationship

Analysis of environmentally friendly behaviour requires a complex, multidimensional approach; however, the representation of reality can not be adequate, so significant simplification is needed. Stern (2000), accomplishing the classification of environmentally significant behaviours, suggested exploring the motivation behind these different behaviours separately, though the significant interaction between behaviour forms demands their joint examination. For example, if somebody believes that with his/her own purchase he/she can influence the state of the environment, he/she may also believe in the power of civil green organizations, or may support governmental green initiatives. Even within private-sphere behaviour, we can identify trade-offs: if somebody can not afford to buy bio products, he/she may still recycle, may try to save energy and so on. Therefore, in my dissertation I try to use both approaches:

- focusing on purchase behaviour, I will analyze the relative importance of environmentally friendly product attributes and their relationship with other psychographic factors in a special buying situation,

[3] Chan and Lau (2000) defined eco-friendly purchasing behaviour, which was measured on a 5-point frequency scale by two statements: "I buy the products because they are less polluting", and "I switch to other brands for ecological reasons" (p. 343.) Straughan and Roberts (1999) examined ecologically conscious consumer behaviour on a 30 statement questionnaire. Statements covered subjects on energy conservation, recycling, purchasing recycled products and preference for green products. This means that beside purchasing, behaviour after purchasing and usage also play an important role in this view In the study of Laroche, Bergeron and Barbaro-Forleo (2001), willingness to pay for environmentally friendly products was central.

- and on the other hand, I manage environmentally friendly behaviour as a multidimensional concept. Therefore I also measure the different dimensions in one variable, and I try to discover the pattern of psychographic factors which creates green behaviour. In my opinion, this complex approach results in a more stable construct of antecedents of environmentally friendly behaviour than a one-dimensional purchase-oriented view.

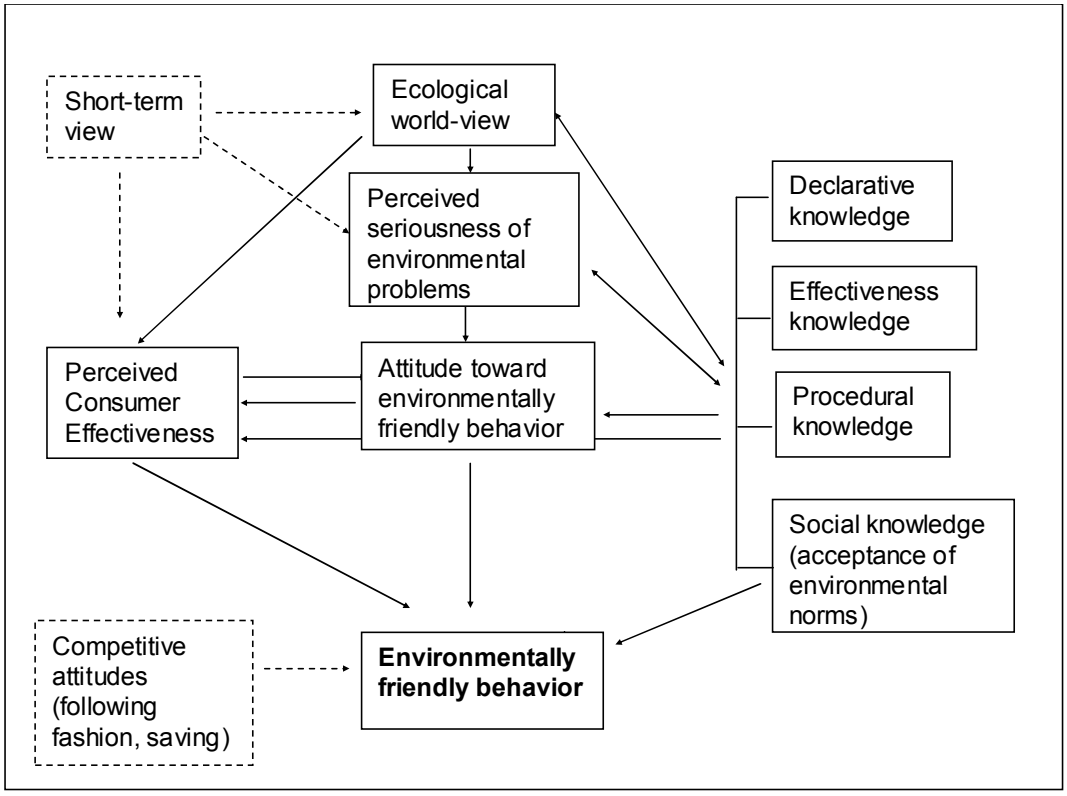
Results of international and Hungarian empirical studies proved most often the hypothesised relationships between independent variables and dependent green measurements. However, contradictory results can also be found to a not negligible extent: especially in connection with the explanatory power or segmentation ability of demographic variables. The reasons for these contradictory results may be the different model-frames, the different definitions of environmentally friendly behaviour, the different samples based on representative or convenience considerations, or the different content of explanatory variables.

Among psychographic variables having a definite reliable correlation with green I choose those which played the most unambiguous and most significant role in forming environmentally friendly behaviour. These are:

- perceived consumer effectiveness,
- attitude toward environmental friendly behaviour,
- ecological world-view as measurement of values,
- groups of environmental knowledge suggested by Kaiser and Fuhrer (2003),
- perceived importance of environmental problems.

In my previous empirical studies (Majláth 2005a, 2005b), I used these variables to examine their connection in a concrete, specific behaviour: in the case of buying and recycling disposable bottles. In line with the hypothesis, results showed that an attitude toward environmentally friendly behaviour correlates significantly higher with green behaviour than environmental concern (the general measurement of environmental attitude), and that environmental knowledge has only an indirect relationship with behaviour. To include these results and former findings, I summarize the connection between the dependent and independent variables in the figure below.

1. Figure: Variables included in the analysis and their hypothesised relationship



This model is based on some of the green behaviour models shown in earlier sections of this dissertation. Environmental values play a substantial role as they had in previous models of Stern (2000), Dembkowski and Hanmer-Lloyd (1994), and Kaiser, Wölfing and Fuhrer (1999). Ecological world-view consists of values related to nature and to the relationship of mankind and nature.

The short-term view, as lack of long-term thinking suited the character of natural processes. This view having a more general impact is the time-horizon of planning, which is how far the respondent usually thinks ahead. It is obvious that in contrast to the "seize-the-day" view, the ecological worldview asserts itself with more difficulty, measuring the effects of actions in generations and centuries. It is a generally prevailing tendency that people take action to save the environment only if the negative consequences have already effected them in short-term, within consumers' life-time.
I suppose that somebody **who generally also plans ahead for a longer period is also able to integrate the environmental aspects better into his/her way of thinking**; he/she also takes the longer-term effects of his actions into consideration, and due to this his/her behaviour, will more likely be environmentally friendly.

The rational, planned behaviour requires environmental knowledge - at this level I rely on the theory of Kaiser and Fuhrer, through, in contrast to their approach, I do not emphasise the interrelation of different kinds of knowledge. Instead, I suppose that level of knowledge is not only the function of ecological world-view but, as we gather information – partly unintentionally - during everyday life, we form our disposition toward nature, and thus new information can influence our world-view.

Contrary to the previous models reviewed in detail, in my model perceived consumer effectiveness plays a significant role. In my opinion, this variable has a stronger effect on intentional green behaviour than has previously been supposed.

In the model I do not study the behavioural intent, only the behaviour itself – in spite of the fact that the logic in most of the models (e.g. Ajzen and Fishbein 1980, Kaiser and Fuhrer, 2003) the independent variables affect behavioural intent directly and through it they determine behaviour indirectly. The reason for this is that the purpose of this research is precisely that question: to answer why a positive environmental attitude does not always translate to environmentally friendly behaviour. I examine **environmental behaviour both in a broader and in a narrower approach:** interpreting it in a complex way and in one particular purchase situation, where, in the latter case, some parts of the situational factors are specified in advance but their other parts remain hidden.

In order that the study of the behaviour's antecedents may be as complete as possible, **competing motivations** connected with environmentally friendly behaviour can be also examined, because they can also affect behaviour – sometimes just to the opposite direction, so I included two variables into the model which are of importance in terms of marketing: (1) the intent to follow fashion, (2) saving. **According to my hypothesis, the following of fashion negatively affects environmentally friendly behaviour**, since the essence of fashion is constant renewal, which makes it impossible to consume products of long lifespan, and which urges us continuously to purchase and consume newer and newer products. The consequence of this is a growth in the quantity of waste and unused products, and thus the consumer society's current practice is harmful to the environment. In contrast to this continuous following of the newest fashions, there is the lifestyle voluntary simplicity, which is being studied more frequently in literature –in Hungary

Kocsis Tamás has written about it.[4] The essence of this is an ecologic and moral foundation for consumption, or voluntarily restricting consumption through recognition of the difference between the "real" and "created" needs. It can be understood as a kind of modern Puritanism, since in these two value systems plenty of similarities can be discovered.

I felt it important to include the concept of **saving,** also based on puritan principles, because many dimensions of environmentally friendly behaviour defined as a dependent variable can be realized **without the necessity of the individual having an eco-centric view– but** simply through the habit of saving (e.g. energy-saving, water-saving) which motivates behaviour as a basic disposition. It may also be in the background through necessity generated by financial limits. The significance of this is undeniable, since **one of the main motivators of popular environmentally friendly behavioural manners is the financial advantages/savings that can be gained.**

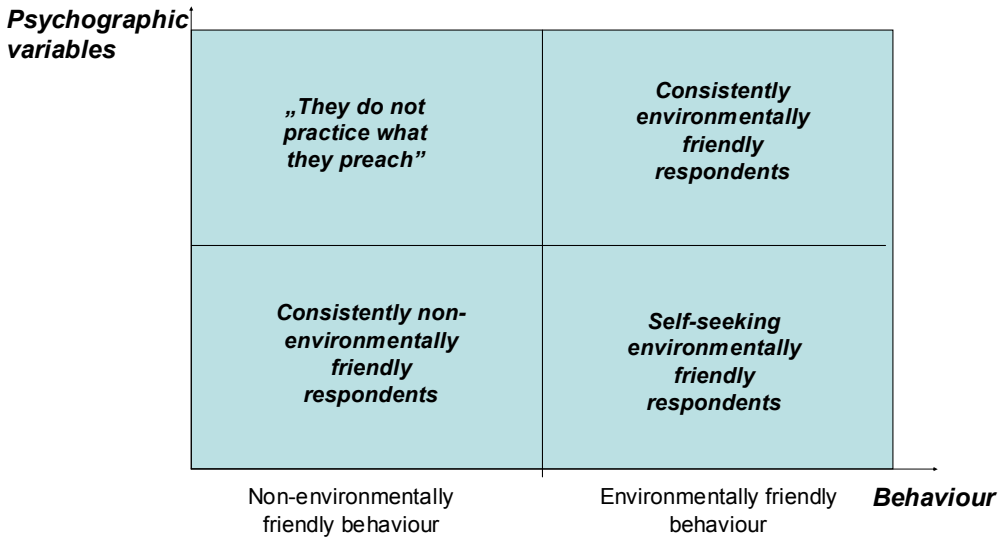
The structure of the model used as the background of the research presupposes rational and conscious environmental behaviour, since I think that **those consumers can create the basis of a later paradigm shift who take consciously environmental interests into consideration.** However, four segments can be identified along the dimensions of the current behaviour and the environmentally conscious thinking, of which only one corresponds to the above-mentioned consistent group:

1. those who profess environmentally conscious principles and also implement them in their behaviour,
2. those who profess environmentally conscious principles but do not put them into practice,
3. those who do not profess environmental conscious principles, and accordingly do not practice environmentally friendly behaviour,
4. those who do not profess environmentally conscious principles but behave in an environmentally friendly manner – as the result of other motivations (e.g. they do not like to waste, they profess puritan principles, they have low income, etc. and therefore they save water, electricity etc.). Here I use the term utilitarian, but to this group may also belong those who undertake environmentally friendly behavioural due to a process of socialization. Though they are not aware of the effects of their actions on the environment, they have nevertheless acquired this behavioural model.

[48] Kocsis Tamás (2001): Gyökereink, Kairosz Kiadó

The behaviour of the first and the third groups can be considered consistent; they are those for whom the stochastic relationship between principles, intentions and the behaviour can be verified statistically. However, for experts in green marketing, nowadays it is first of all those belonging to the second segment whose pose the greatest challenge, because there is something which prevents these individuals from putting their environmental attitude into practice: the environmental aware attitude is not realized in behaviour at all, or only to a certain extent. I will try to identify the causes of this later.

2. Figure: Quadrants of environmentally friendly behaviour and environmental consciousness



2 Research Questions and Methods

Thus in the case of the model to be tested **there are two dependent variables: the narrowly interpreted environmentally friendly behaviour,** which was measured by the usefulness attributed to the environmentally friendly product-attribute in the purchase situation (see later on as the result of conjoint analysis), **and the environmentally friendly behaviour in a broad sense**, which examined the phenomenon as a multidimensional concept. In both cases I assumed that all of the psychographic factors introduced in earlier parts of my dissertation and presented in the model I used would divert the behaviour into a socially desired direction.

2.1 Hypotheses and their testing methods

The first group of my hypotheses is aimed at the justification of the separated relationships between psychographic variables and behaviour:

The respondents implementing environmentally friendly behaviour

- have a higher level of environmental knowledge (H1),

- more readily accept environmental norms (H2),

- perceive environmental problems as more serious (H3),

- have more eco-centric ecological worldviews (H4),

- perceive as less irrelevant their individual actions (H5),

- follow fashion less, profess more economical principles and have a long-term view (H6),

- perceive the implementation of environmentally friendly behaviour as less inconvenient (H7),

than those whose behaviour is not environmentally friendly.

The H1-H5 and H7 hypotheses may support the findings of previous international and Hungarian research, and thus do not lead to new findings but rather verify the hypotheses of other researchers, which, from the scientific point of view can be an interesting result as well. In this respect the additional value of this research comes from the fact that it also measures the environmentally friendly behaviour as a dependent variable in two ways:

- as a complex variable, which makes it possible that consumer trade-offs prevail among the forms of behaviours and

- also as a one-dimensional variable – merely as the importance of the environmentally friendly product-attribute in a given purchase situation. This latter case is shown by conjoint analysis. On the basis of the purchase decisions of the consumer, the relative importance attached to the environmentally friendly product-attribute can be calculated. This kind of definition of the environmentally friendly purchase has not yet been seen in literature.

The new feature of H6 is that it presents the specific motivations which facilitate or compete with environmentally friendly attitudes. This has rarely appeared in the empirical research. (Naturally, as part of certain situational factors, other theories also deal with similar effects.)

To test the hypotheses H1-H7 first I analyzed the reliability of the scales applied to measure the explanatory and dependent variables. From now on the **t-tests,** analysing the difference between the average values of the behavioural groups, and the results of **Chi-square tests,** showing the difference of the responding proportions, give us an answer to the question of whether there is a significant difference between the behavioural groups.

Owing to the two ways of measuring the dependent variables, it becomes possible to compare their relationship's strength with the explaining variables. With respect to this I assume that the relationship between **the psychographic variables and the variable interpreting the green behaviour in a complex way will be more significant than with the aspect of the environmentally friendly behaviour in a narrow sense manifesting during the purchase (H8).** I plan to answer this hypothesis by comparing the correlation coefficients of the explanatory variables measured by the environmental behaviour.

The hypothesis H9 studies the antecedents of the behaviour in their complexity: including all the variables, I would like to identify those psychographic elements according to which the behavioural groups involved in the survey differentiate *to the greatest extent.* Contemplating the findings of the part of my dissertation which describes the psychographic factors, I believe that the main obstacle of putting environmental concern into practice is the perceived irrelevance of the individual acts, which (may) become more of an obstacle due to the perceived inconvenience of the implementation of the behaviour. This perceived inconvenience is to some extent the coincidence of situational factors (availability of alternatives, the difficulty of acquiring necessary knowledge, the financial situation) and partially formed by the "convenience-barrier" of the individual. Since these factors

are in the closest relationship with behaviour, in my hypothesis I attribute emphasized significance to these two factors.

H9: In a complex sense green respondents and non-green respondents mainly differ from each other in the perceived irrelevance of the individual acts and the perceived inconvenience of the implementation of the environmentally friendly behaviour. I will statistically examine this hypothesis with the help of **discriminant analysis** of the respondent groups created on the basis of environmentally friendly behaviour.

To be able to identify environmentally *conscious* behaviour, the respondents need to be segmented on the basis of their behaviour, which in turn is based on whether or not they have environmentally conscious views. For this I will create clusters of **environmental aware and environmental non-aware** respondents, presented in the sample, with the help of the **cluster analysis,** including only psychographic criteria. Then I will compare this categorization with the categorization of groups on the basis of the behaviour. Based on the cross-table so developed, I will create the four segmentations mentioned above:

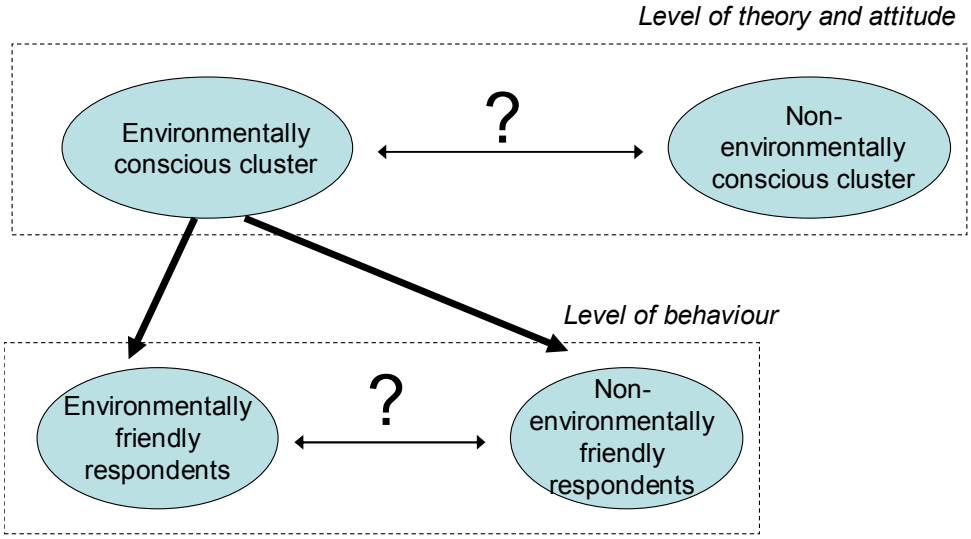
- consistently green,
- consistently non-green,
- the "not practice what they preach" segmentation,
- utilitarian green segmentation.

In the case of the first two groups we can talk about the consistency of principles and the behaviour, but with the latter two groups we can talk about the inconsistency of principles and the behaviour. These latter two groups are the ones that create questions about the traditional, logical thinking scheme and thus may set new directions for research.

In order to find out the **kind of differences within the criteria which differentiate the most the consistent groups from the groups of inconsistent principles and behaviour, I also do a discriminant analysis.**

H10: The respondents demonstrating consistently environmentally friendly behaviour and the respondents professing environmentally conscious principles but not demonstrating green behaviour differ from each other mainly in the perceived consumer effectiveness, in the perceived inconvenience of the implementation of the environmentally friendly behaviour and in the acceptance of environmental norms.

3. Figure: Questions which can be answered by cluster and discriminant analyses



Finally, last but not least, based on the majority of the results of earlier research I hypothesis in connection with the social and demographic characteristics, which alongside gender and educational qualifications there will be a significant difference in environmental behaviour. The third, relatively reliable segmentation criterion was the type of domicile, but as there are only inhabitants of Budapest in the sample, therefore it has no importance here. My hypothesis concerning the socio-demographic characteristics is the following:

H 11: Among respondents demonstrating environmentally friendly behaviour in a wider and in a narrower sense, women and the ones with higher educational qualifications are present in a greater proportion, whereas on the basis of the size and income level of the household and on the basis of age, these groups do not differ significantly.

2.2 Method of gathering data and sample description

The aims of the research needed original data as there is still no public database and there are no former studies which have the same range of variables with similar meaning. I preferred **personal interviews** because of the length of the interview and the importance of keeping the logical structure of the questionnaire. The main disadvantage of personal interviews in this topic was the perceived pressure of social desirability, which I wanted to eliminate by the self-completed method at attitudinal parts of the questionnaire. Of course, we cannot preclude entirely the possibility of such bias.

As I had no primary data on the proportion of environmentally friendly individuals in Budapest, while I wanted to provide the possibility of statistically accepted comparisons between respondents' groups, I used a **quota in sampling for environmentally friendly behaviour.**

Respondents were selected by birthday-key to the **probability sample**. **The sample size was 204**, of which:

- 102 respondents were environmentally friendly based on their behaviour,
- 102 were non-environmentally friendly,

Other screening criteria: inhabitants of Budapest, men and women, aged 18-65, neither they nor their relatives worked in the paper industry or they did not work in advertising or deal with marketing, market research or environmental protection, they had not taken part in market research in the previous 6 months.

The questionnaire consisted of three parts: Those respondents who were selected by the screening questionnaire evaluated first the conjoint cards. They then answered the questions referring to psychographic factors, some of which were answered by self-completion. At the end of the questionnaire, socio-demographic questions were asked

3 Results of the Dissertation

3.1 Measurement of the broader sense of environmental friendly behaviour

In accordance with the reasons mentioned above, during measurement of environmentally friendly behaviour, the impact-oriented approach was preferred: the screening statements of the questionnaire focused on the frequency of different green behaviours - irrespective of their motivations. Of course, when the group of psychographic variables were defined, the main aspect was to make it possible to show the motivations behind these behaviours as well. Thirdly, my intention was to measure actual behaviour instead of behavioural *intention*, because though intention is the best predictor of behaviour, it systematically overestimates the actual behaviour.

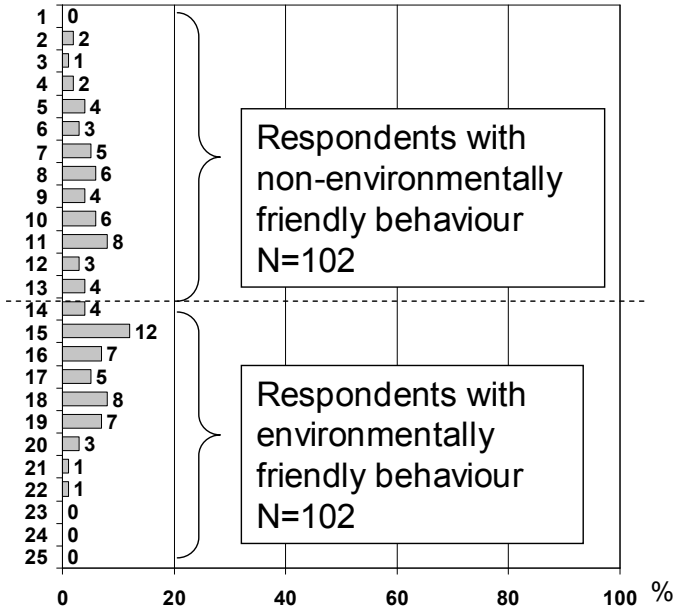
As a consequence of the aspects mentioned above, a 25-item scale referring to the frequency of different behaviours was used to identify environmentally friendly consumers (4 degrees: 1-never, 2-sometimes, 3-often, 4-always). The following different environmentally friendly behaviour forms were included in the screening questionnaire:

- Selective waste disposal (4 items),
- Reducing consumption (3 items,)
- Purchase (5 items),
- Saving energy (5 items),
- Water saving (4 items),
- Environmental citizenship[5] (4 items),
- Transportation (2 items).

For the formation of behavioural groups, the respondents' answers were transformed into dichotomous variables: high frequency (often or always answers) were coded as 1, low frequency answers (sometimes or never) were coded as 0. Then the dichotomous frequency codes were added up for the 25 items. (Cronbach's alpha=0.824)

[5] Environmental citizenship means petitioning, joining civil green organizations, or support of civil organizations.

4. Figure: Distribution of total recoded behavioural scores of broader sense of environmental friendly behaviour in the total sample



The data within this table indicate that the respondents identified as environmentally friendly show significantly higher scores at each dimension, and thus their actions are generally more pro-environmental than those of the other group (with the except of transportation, but significance level even here is very near to 0.05). This result can be an indication of the general nature of an environmentally friendly attitude.

3.2 Importance of environmentally friendly product attribute: the conjoint method and its results

The gist of the conjoint analysis is, that the consumer must evaluate a mass of product attributes at the same time, and as a result of these evaluations**, researchers are able to identify indirectly and objectively which product attributes play an important role in buying decisions and which attribute-combinations the ideal product has.**

To make the pro-environmental motivation absolutely clear, my aims were to (1) choose a product with environmentally friendly product attributes, one whose purchase would not be governed by other motivations (mainly economical reasons), and (2) to choose a method which could measure the importance of these product attributes relatively objectively.

While choosing the product used in the test, I tried to select a product which neither directly influenced the health of consumer (e.g. bio products) nor financial benefited the consumer, but rather caused definite positive change in the state of the environment, even if that product might be less pleasant or convenient to use (e.g. a notebook made of recycled paper which does not have as white paper as non-recycled ones have).

This approach helps me to avoid the typical problem of confusion of self-interest motivations (lower cost, higher level of convenience, improved health) with altruistic, pro-environmental motivations. In the same way, I took care to avoid that that financial, cost-saving motivations would take a large role in the buying decision process (e.g. the purchase of energy- and water-conserving washing-machine). Moreover, my intention was that the buying process would not require expert, special knowledge from the customers, and that the modelled situation would be familiar to the respondents

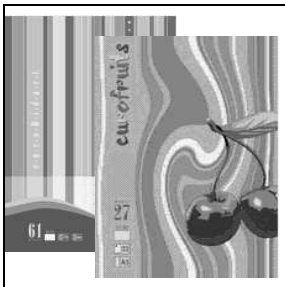
Another point of view came from Peattie's (2001) typology, in which he differentiated the win-win type of green buying decisions, which can be described as having a high level of conviction and a low level of compromise. Therefore, these are the purchase situations most likely to be realised.
On the basis of all of these, I chose the case of **purchasing an exercise notebook made of recycled paper instead of traditional paper**.

5. Figure: Product attributes and levels used in conjoint analysis

	Product attributes				
	Price (HUF)	**Covering**	**Pattern of pages**	**Environmentally friendliness**	**Type of binding and number of papers**
Level 1	180	Simple	Lined paper	Not environmental friendly	Spiral, 70 pages
Level 2	268	Environmental graphic	Graph paper	Recycled paper	Bound, 60 pages
Level 3	568	Colorful, modern graphic			

I used **full-profile, pairwise comparisons** in my study, and **CVA method**, because there were not too many product attributes in the model; however, the importance of each product attribute for each individual is a very important output as a dependent variable.

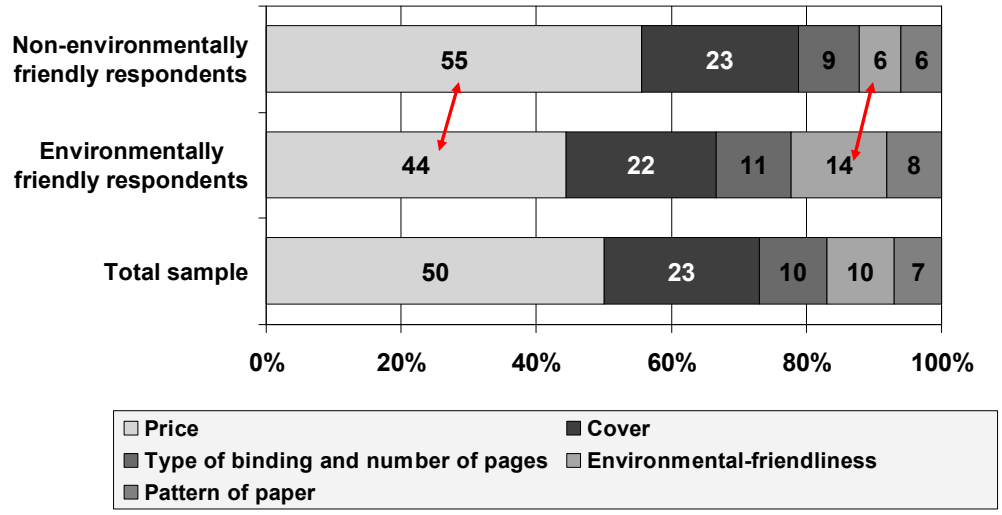
6. Figure: An example to the show card used in the analysis

	Lined pages Sprial, 70 pages 265 HUF	OR		Graph pages Bound 60 pages Made of recycled paper 568 HUF
I would surely buy the product on the left **1**	I would rather buy the product on the left **2**		I would rather buy the product on the right **3**	I would surely buy the product on the right **4**

In this study it meant that 24 comparisons were needed, which is just below the acceptable number of cards (literature suggests a maximum of 30 comparisons in the case of a full-profile method.)

The most important product attribute for each behavioural group was price: this is not surprising, especially given that the price level used in the analysis was relatively high in line with real market prices. Despite this, the environmentally friendly respondents assigned significantly less importance to price – and this lesser importance was compensated for by the higher importance of the environmentally friendly product attribute.

7. Figure: The relative importance of product attributes



Sample size: Environmentally friendly respondents: n=93, Non-environmentally friendly respondents n=92

↕ Significant difference

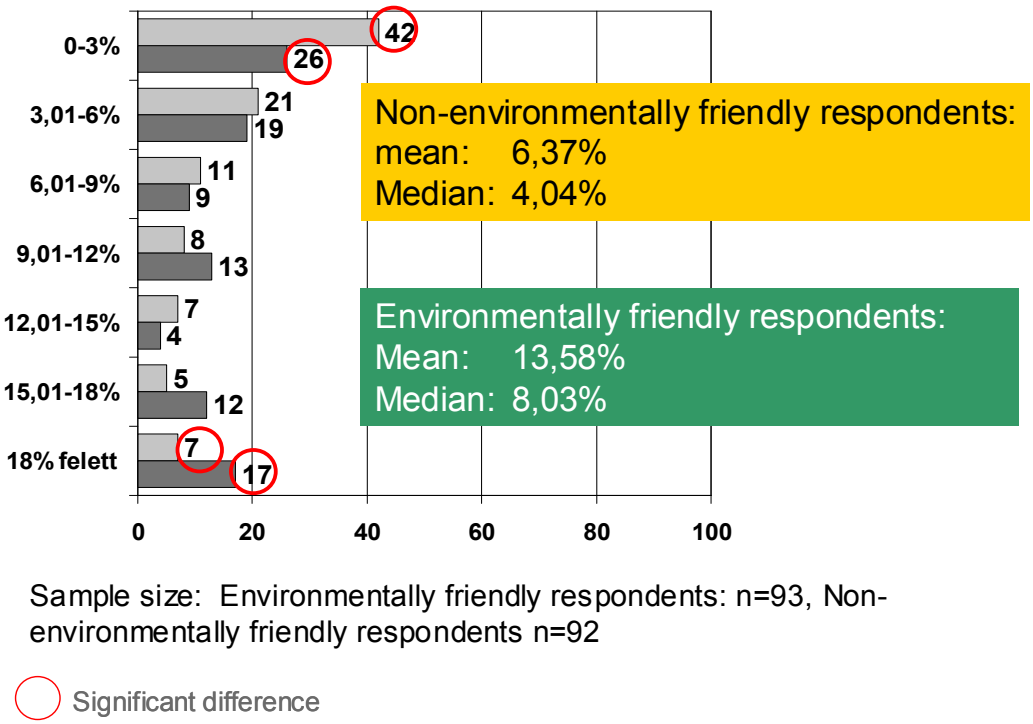
Pricing is one of the most problematic areas of the green marketing-mix because green costs are typically externalities, and therefore it is difficult for these added expenses to gain acceptance by consumers within the scope of full-cost pricing. This kind of pricing would be only successful if producers used the same method for pricing and consumers were ready to pay more for environmentally friendly products – argue some experts (Menon et al, 1999).

In the ranking of importance, price is followed by the cover of the exercise book, though the relative importance of the cover is only half that of price. The other three product attributes influenced the decisions at only 27%. The type of binding, the number of pages and the type of paper have similar values, at 10% weight in the modelled purchasing decisions. The environmentally friendly product attribute, the recycled paper, is significantly preferred by environmentally friendly respondents, and thus it is a third aspect in decisions, while for the other respondent group this attribute rated only 6%. Lined or graph paper is the least influencing factor in these buying decisions for both respondent groups.

From this part of the results of conjoint analysis, we can come to the conclusion that though the environmental friendly product attribute is relatively more important for those who behave pro-environmentally in other situations, it can compete only with secondary attributes. However, for a not negligible group of respondents, the green product feature gains importance irrespective of price; this result implies that there are individuals who are willing to pay more for environmentally friendly products.

It is worth taking a closer look at the deviation of the relative importance of the type of paper. As environmentally and non-environmentally friendly individuals were included in the sample by the same probability, the expectation was that there would be noticeable differences in the evaluation of the environmentally friendly product attribute (the detailed analysis of which can be seen later).

8. Figure: Distribution of the relative importance of environmentally friendly behaviour in the sample



Sample size: Environmentally friendly respondents: n=93, Non-environmentally friendly respondents n=92

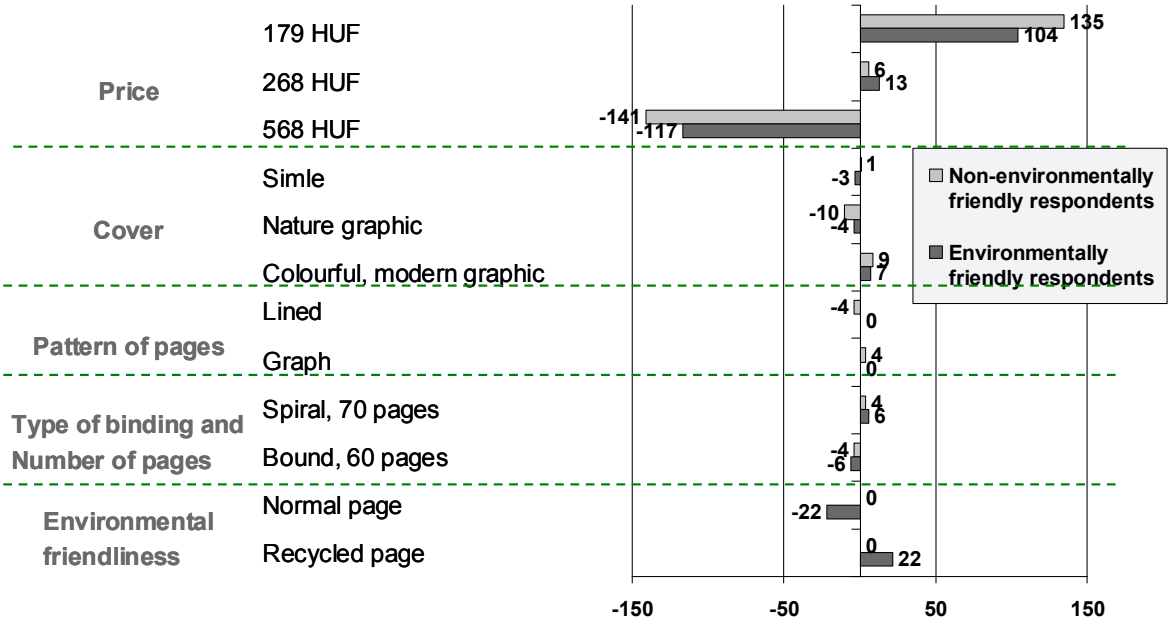
Significant difference

We cannot ignore the fact that for almost half of the respondents, the environmental friendly product attribute influences the decision by less than 6%, meaning they do not take it into consideration at above the average level.

Another important output of the analysis is the utility scores of the different levels of product attributes. The figure below shows the results: it is striking that a low price has the highest utility score, and comparing this with the most preferred levels of the other attributes, the difference is even more pronounced. In practice this means that the ideal exercise book is first of all cheap. Any other preferred product attribute-level has only one-fifth of the utility of low price. The most preferred product, therefore that with the highest utility score, is a graph paper spiral exercise book which costs 179 HUF and has modern, colourful cover – the utility of which can be increased through recycled paper, and this only for environmentally friendly respondents.

According to the results, recycled paper can contribute to the utility of the product attribute combination only secondarily for environmentally friendly respondents, but cannot increase the utility for non-environmentally friendly consumers.

9. Figure: Utility scores of product attribute levels *

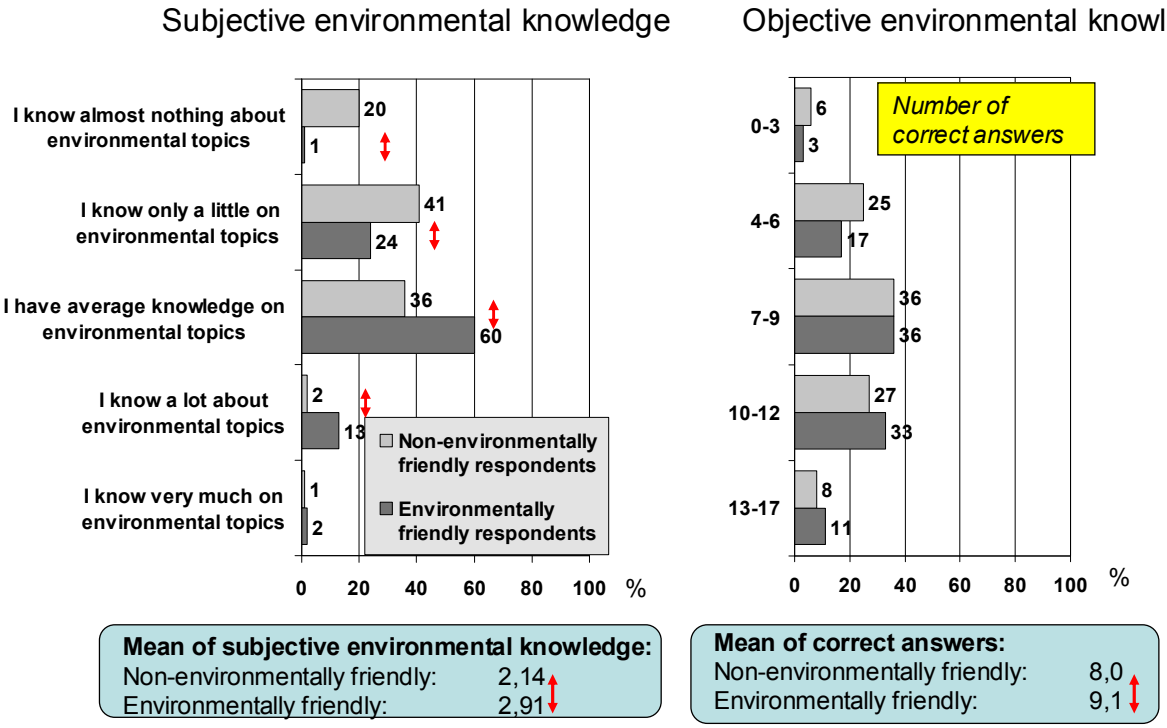


Sample size: Environmentally friendly respondents: n=93, Non-environmentally friendly respondents n=92

3.3 Difference in psychographic variables between respondent groups

Based on the four-component approach to environmental knowledge of Kaiser and Fuhrer (2003), three of these: the declarative, the effectiveness and the procedural knowledge were measured separately from social knowledge. As a part of the interviews, the interviewers read out a 17-statement list of environmental topics and the respondents had to decide whether they were true or false. Respondents were given the chance to answer "Don't know" in order that interviewers could avoid giving hints.

10. Figure: Comparing the environmental knowledge of respondent groups based on self-evaluation and objective scales



Significant difference p<0.05

Sample: Environmentally friendly respondents: n=102, Non-environmentally respondents n=102

In addition to the objective measurement of environmental knowledge, respondents were given the chance to evaluate their own knowledge subjectively on a 5-point scale (This question was asked before the environmental knowledge statement list in the questionnaire). It is very interesting to note that in the case of self-evaluation of knowledge the difference between the behavioural groups is more pronounced than in the case of the objective scale. Because of its objectivity, the variable based on the correct answers on the 17-statement list was used in the further analysis to examine the relationship between factors influencing environmental friendly behaviour.

The role of social norms in cases when personal interest coincides with social interests is not significant, but it plays a very important role if social and personal interests are the opposite of each other. The latter situation very frequently accompanies different aspects of environmentally friendly behaviour; among antecedents of environmentally friendly behaviour, social pressure must be considered very important.

To examine this hypothesis, there were statements in the questionnaire related to general imitation of norms and especially of environmental norms. The list of statements consisted of descriptive and prescriptive norms and, at the same time, specific and general topics were included.

In order to examine the acceptance of environmental norms jointly with the other variables, the mean of the six statements was calculated. The means of this derivated variable show a statistically significant difference between the respondent groups: the acceptance of environmental norms is more typical among environmentally friendly respondents than among the member of the other group. Therefore the hypothesis has been verified.

1. Table: Comparison of psychographic variables between behavioural groups (broad sense)

Psychographic variables	**Non-environmentally friendly respondents (N=102)**		**Environmentally friendly respondents (N=102)**		**Comparison of means (T test)**		
	Mean	St.d.	Mean	St.d.	t	DF	Sign.
Ecological world-view (15 statements) (Cronbach's alpha: 0,803).	3,50	0,52	3,80	0,52	-3,69	167	0,000
Short-term view *(Cronbach's alpha 0,73)	0,20	0,93	-0,19	1,03	2,809	198	0,005
Acceptance of environmental norms (6 statements) (Cronbach's alpha 0,823)	3,63	0,67	3,86	0,86	-2,20	202	0,030
Perceived seriousness of environmental problems affecting respondents directly ** (Cronbach's alpha 0,79)	8,57	2,57	8,90	2,42	-1,98	197	0,049
Perceived seriousness of environmental problems affecting respondents indirectly ** (Cronbach's alpha 0,88)	7,76	2,01	8,48	1,98	-3,46	198	0,001
Feeling of irrelevance (lack of PCE) (2 statements) * (Cronbach's alpha 0,73)	2,83	1,04	2,10	0,95	5,28	202	0,000
Following fashion* (Cronbach's alpha: 0,79)	-0,09	0,98	0,09	1,02	-1,255	198	0,211
Saving* (Cronbach's alpha 0,73)	-0,14	1,04	0,14	0,94	-1,951	198	0,053
Perceived inconvenience of environmentally friendly behaviour (3 statements) (Cronbach's alpha: 0, 802)	2,75	0,72	2,17	0,65	6,10	202	0,000

** Based on factor scores*

** * Perceived seriousness of environmental problems affecting respondents directly: Genetically modified food, Use of detrimental chemicals in products, Global warming,, Water contamination, Air pollution . All the other problems are perceived as indirect.*

In connection with ecological world-view, the non-environmentally friendly respondents have more confidence in human innovation to solve the ecological problems, which were perceived not too serious. **Additionally, they feel less strongly that people should be subordinated to the laws of nature and that nature should be respected.**

To the hypothesis and for further multi-variable analysis, I also created an artificial variable out of this scale: the average of the answers given to the 15 statements (recoding the answers framed negatively). The **ecological world-views of the two behavioural groups are significantly different**; namely the green behaviour individuals hold more ecocentric views, whereas the non-green behaviour individuals have a more anthropocentric world-view

Environmentally friendly respondents perceive each environmental problem more serious than non-environmentally friendly respondents, however this difference is not significant in connection with air pollution, water contamination, global warming, genetically modified food and lack of water.
It seemed reasonable to do an analysis of factors in the case of environmental problems, since apparently both behavioural groups feel that they are only affected by certain problems and the greater the concern perceived in connection with these problems, presumably the closer link with behaviour. **the first factor includes the environmental problems that do not affect the respondents directly, and the second factor includes those problems that the consumers assessed as affecting them directly**. It is worth mentioning that global warming belongs to the latter group – probably it is thanks to the intensive warning campaign of the recent times.

We can conclude from this that **global problems, being more distant in space and time**, **are therefore lower in the ranks of seriousness – however**, **the environmentally friendly respondents discount the seriousness of them less** than their counterparts who behaved in a non-environmentally friendly way. Thus the hypothesis of the perceived seriousness of environmental problems is verified: the environmentally friendly respondents consider as serious both those problems which directly affect them and those more distant in time and space; and this difference is more remarkable in connection with indirectly affecting environmental problems.

In Hungary **perceived consumer effectiveness** in connection with environmental research has not been examined yet. Therefore, when applying the scale measuring it as a starting point, I took previous research presented in foreign scientific literature. On the basis of this research, I measured

the perceived consumer effectiveness with 3 statements on a five-grade scale expressing agreement. The first two statements are from the scale applied by Ellen et al. (1991) and the third one is borrowed from the research of Roberts (1996). In the case of all of the three statements the **environmentally friendly respondents** show significantly lower average values, which indicates that **in solving environmental problems, they consider the contribution of the individual more important and valuable, which proves the hypothesis.**[6]

As regards decisions made in connection with the environment, it is a challenge takes into consideration both the short-term and long-term consequences of actions. In the case of long-term environmental effects, the discount can be so significant that the negative effects experienced beyond the lifespan of the doer practically play no part in the decision. Thus it is not surprising that the environmentally friendly behaviour groups showed a significant difference according to this very factor. However, the good news for the marketing experts is that **the following of fashion need not contradict green behaviour,** since along this factor the two groups did not show a substantial difference. In case of savings we must accept the nullhypothesis, however the significance level is very close to 5%, therefore this factor is needed to be examined deeper in future studies.

According to the hypothesis there is a significant difference in the perceived difficulty of environmentally friendly behaviour: the non-environmentally friendly respondents regard the implementation of the environmentally friendly behaviour as more of a sacrifice (money, energy, time) and believe that it is more difficult to realize than the environmentally friendly respondents. It is important to note that the relationship is not actually one-way: those for whom environmental protection is more important *perceive* the behaviour as less uncomfortable to undertake, because they attach more importance to it; however, they can have the same difficulty with executing it as those who consider environmental values less important. The hypothesis is proven: the green respondents feel the environmentally friendly behaviour less a sacrifice and realizable with less difficulty – this difference has mainly become distinct alongside the statements with attitudinal character.

[6] I would like to emphasize that the content of the statements underline the irrelevance and helplessness of the individual, and thus the effect of the aggregated variable achieved by merging the statements is presumably negative on the behaviour (in contrast to PCE, which formulates the individual's potential contribution to the improvement of the environment's condition positively).

3.4 The analysis of the relationship between the relative importance of the environmentally friendly product-attribute and the psychographic variables

I compared the respondents who consider the environmental friendly product-attribute important below or above the average alongside the demographic and psychographic variables as well. The results show that **those who attribute above average relative importance to the environmentally friendly product-attribute are significantly different from the members of the other group only in the perceived irrelevance of individual actions – that is, in the perceived consumer effectiveness and in the more economical attitude.** Basically an identical thinking scheme or analogy underlies the economical attitude and the perceived consumer effectiveness: little drops make an Ocean.

2.Table: Comparison of means of psychographic variables alongside groups of relative importance of EF product attribute

Psychographical variables (standardized scores)	**Relative importance of environmentally friendly product attribute**				**Comparing means (T test)**		
	Below mean (N=126)		**Above mean (N=59)**				
	Mean	St.d.	Mean	St.d.	t	DF	Sign.
Ecological worldview	-0.01	0.93	0.06	1.24	-0.413	183	0.680
Perceived inconvenience of EF behaviour	0.09	0.95	-0.16	1.15	1.580	183	0.116
Feeling of irrelevance (PCE)	0.09	0.97	-0.23	1.08	2.012	183	**0.046**
Acceptance of environmental norms	-0.04	0.95	0.14	1.13	-1.143	183	0.255
Perceived seriousness of environmental problems affecting respondents indirectly	-0.09	1.10	0.19	0.80	-1.957	149*	0.052
Perceived seriousness of environmental problems affecting respondents directly	0.09	1.07	-0.06	0.86	0.934	177	0.352
Environmental knowledge	-0.03	0.95	0.04	1.11	-0.450	183	0.653
Short-term view	-0.08	0.90	0.13	1.11	-1.230	91*	0.222
Following fashion	-0.04	0.95	0.01	1.10	-0.349	179	0.727
Saving	-0.04	1.00	0.27	0.93	-2.027	179	**0.044**

The data of correlation matrix (not shown here) indicates that in a specific purchase situation the aspects of environmental protection are pushed into the background, and so implicitly the variables measuring them also do so, and their explanatory power is weak. A very important conclusion that can be drawn from this is that **environmentally friendly behaviour can be interpreted as a**

model in its entire complexity; the current circumstances and facts influence the odd aspect selected at random to a great extent, which makes it more difficult to trace the relationships between the variables.

On the basis of the data in the table below **hypothesis H8 is: we can accept the higher explanatory power of the psychographic factors with the complex interpretation of environmentally friendly behaviour**, since the correlation coefficients are one after the other, larger and larger and/or show a significant connection with behaviour. In the case of the metrical demographic factors no improvement can be noticed, which supports the lower explanatory power of these criteria again.

3.5 Which are the variables which differentiate environmentally and non-environmentally respondents the most – the results of discriminant analysis

In this part of the dissertation, the method of separate analysis is followed by aggregated analysis; consequently the entire group of psychographic variables is brought into the focus of the analysis. I wanted to know which combination of psychographic variables reveals the gap that separates the two behavioural groups the most effectively. In order to know this, a discriminant analysis was made.

A stepwise method was used in the analysis, because its great advantage is that it includes only those variables which have considerable effect on discrimination. In order to test the validity of the model, the sample was divided into two sub-samples – taking the screening quota into consideration. 80% of the original sample became the estimation sample, and the other 20% became the validity sample, while a 50-50% proportion of environmentally friendly and non-environmentally friendly respondents remained.

The output of the analysis was a discriminant function with two variables: the perceived inconvenience of environmentally friendly behaviour and the perceived irrelevance of individual actions.

3.Table: Structural matrix of discriminant function

Independent variables	Structural matrix Function 1	Standardized coefficients of canonical discriminant function
Perceived inconvenience of environmentally friendly behaviour	0.895	0.702
Perceived irrelevance of individual actions	0.765	0.485
Short-term view	0.357	
Ecological world-view	-0.259	
Seriousness of environmental problems affected respondents directly	-0.226	
Acceptance of environmental norms	-0.186	
Seriousness of environmental problems affected respondents indirectly	-0.179	
Environmental knowledge	-0.164	

The result of discriminant analysis strengthens the former hypothesis that the individual's perceived effectiveness of the action is critical: people with more intensive feeling of irrelevance and inconvenience undertake environmentally friendly behaviour with less probability. Of course, these factors are not independent from each other: if people feel that their actions have no significant effect on the state of the environment, they will not behave an environmentally friendly manner – even if these actions will not require significant efforts on their part.

3.6 When theories and actions are consistent

To identify intentional, namely environmentally *conscious,* behaviour, I **created clusters of the respondents based on the psychographic variables** shown in detail in the previous chapter. I used the K-Means method, and variables were standardized[7]. All of those variables which showed significant difference between respondent groups were used in the cluster analysis. I would like to stress that clusters were created *only* according to psychographic factors, independently of the behaviour of the respondents.

In accordance with our expectations, the interpretation of the clusters does not cause difficulties, as the cluster centres define the profiles of a very environmentally conscious and a far less conscious respondent group. Members of the environmentally conscious cluster have a more ecological worldview, they accept environmental norms more, they perceive environmental problems as more

[7] Respondents were ranked randomly.

urgent and they know more about them, and they perceive individual actions as more effective and less inconvenient than respondents in the other cluster.

It is vital to understand which psychographic variables have the greatest role in separating clusters. Using SPSS, based on the F scores of the variance-analysis we are able to identify those factors which contributed the most to the segmentation. Differences in the perceived irrelevance of individual actions and ecological worldview played the most important part in creating the clusters. The acceptance of environmental norms and short-term view came after them in order. The perceived seriousness of environmental problems contributed only minimally to the segmentation. These results strengthen again our hypothesis that **a lack of belief in the effectiveness of individual actions prevents people from behaving in a socially desirable way.**

In line with the previous results, it is not surprising that the membership of clusters based on psychographic variables is not identical with the membership of behavioural groups. The cross-table below shows that only in the case of two-thirds of the respondents are their principles consistent with their behaviour (57 and 65 persons), while the others are inconsistent in two ways:

- Those who do not practice what they preach (36 persons),
- Those who behave in an environmentally friendly way but not for ecological reasons (29 persons), (for example using a bicycle for sport or using recycled toilet paper because it is cheaper)

4. Table: Cross-table of environmentally friendly behaviour and environmental consciousness

		Clusters based on psychographic variables		**Total**
		Non-environmentally conscious	**Environmentally conscious**	
Behavioural groups	**Non-environmentally friendly**	***57***	**36!**	93
	Environmentally friendly	29	***65***	94
	Total	86	101	187*

* missing values were excluded by listwise method

In practice, the main problem is that an ecological worldview and positive environmental attitude do not translate unambiguously into environmentally friendly behaviour. Unfortunately, the sample size is to small to examine the four groups independently; however, we can gain some indication by

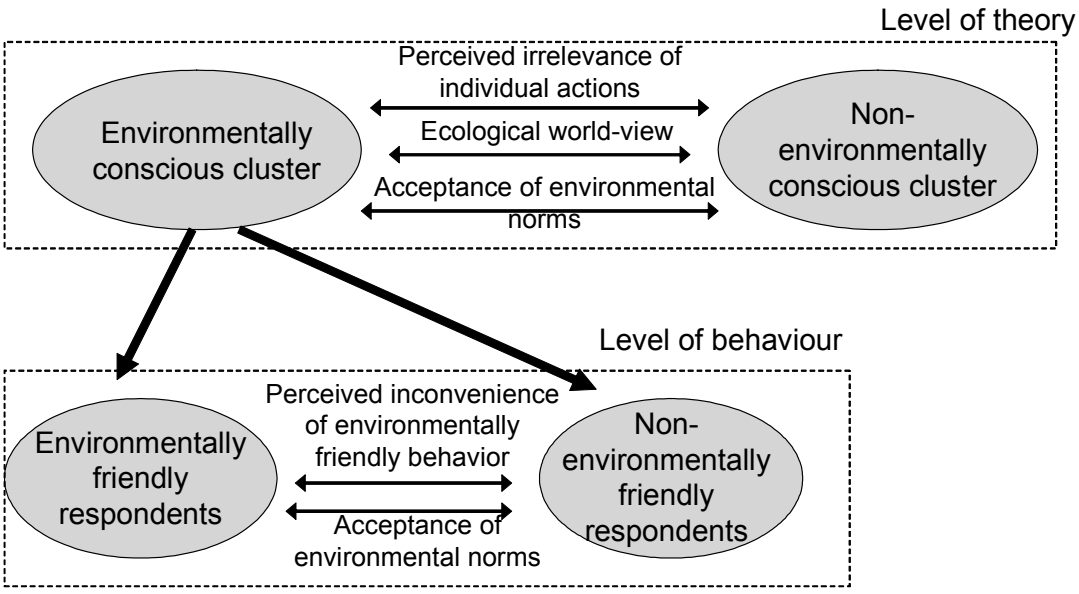
thoroughly examining the environmentally conscious cluster[8]. Therefore, I used discriminant analysis for the 101 respondents to identify which psychographic variables differ among consistent and non-consistent environmentally conscious respondents. All psychographic variables which were used for the former cluster analysis were included in the analysis.

Environmentally conscious and non-conscious respondents differ significantly in the perceived inconvenience of environmentally friendly behaviour and in the acceptance of environmental norms – the strength of the former is much higher than that of norm acceptance. The values of the structure matrix support this finding, which means that the inconvenience of behaviour can definitely overcome the pressure of norms.

To summarize the findings above, here is a figure which shows those psychographic variables which differentiate (1) the environmentally conscious respondents from non-green thinkers and (2) consistent greens from non-consistent greens. In the instance of environmental consciousness the main difference can be detected in connection with the perceived irrelevance of the consumers' actions, ecological world-view and the acceptance of environmental norms. The putting green theory into practice can be prevented by the perceived inconvenience of the environmentally friendly behaviour and by a lack of pressure from environmental norms.

.

11. Figure: Main differentiating variables of environmental consciousness and environmentally friendly behaviour



[8] Sample size is 101, it is too small to being separated to validity and estimation sample. However, proper classification is 73,3 %.

3.7 The limits of the research

- First of all, it is always a problem with questionnaires on the issue of environmental protection that distortion due to the pressures of social desirability.
- Our purpose was to be able to assess the psychographic characteristics of the environmentally friendly behavioural inhabitants as well as possible – I feel that we managed to do so. In this respect it was a definite advantage that only one town's inhabitants were in the sample because this way the conditions in connection with the surroundings were almost the same for the respondents (for example, the opportunity for selective waste collection, living conditions, environmental damage, the availability and range of products, etc.). At the same time, the disadvantage was that the results reflect this specific environmental situation.
- Due to the limits of financial funding for the fieldwork, I could only finance a 200-strong research, which made it possible to do the comparative analysis of only two behavioural groups. However, the levels of environmentally friendly behaviour can be studied more subtly, as was proven by the results of previous segmentation research: generally 4-6 segments were separated from the brown onwards to the conscious greens, which were considerably differentiated not only according to their attitudes and wolrd views but also in their behaviours.
- Probably the biggest disadvantage of the conjoint model is that it supposes perfect rationality: the respondent will purchase the product with higher utility, whereas in practice, seeking the new and "variety seeking" prevail against "loyalty".
- The results of the conjoint analysis concern a given product; therefore, while implicitly they cannot be generalized to all product ranges, they can still provide a good starting point for further research. Purchasing exercise books typically generates a low level of interest, but the example of a purchase with much higher risk or involvement (for example, an energy-saving washing machine) may result in other connections.

4 Main References

1. Abruthnot, J (1977): The roles of attitudinal and personality variables in the prediction of environmental behavior and knowledge, Environmental Behavior, Vol 9, 2, 217-232.
2. Ajzen, I. (1985): From intentions to actions: a theory of planned behaviour in Kuhl, J. és Beckmann, J. (Eds), Action-Control: From Cognition to Behaviour, Springer-Verlag, Heidelberg, 11-39.
3. Ajzen, I. és Fishbein, M. (1980): Understanding attitudes and predicting social behavior Prentice-Hall, Englewood Cliffs, NJ.
4. Alitisz Ágnes, Somogyi Ferenc (2001): Az ember- és környezetbarát termékek piacra lépésének lehetőségéről, Marketing Menedzsment, 2001/3.
5. Antil, John H. (1984): Socially Responsible Consumers: Profile and Implications for Public Policy - Journal of Macromarketing, 4 (Fall), 18-39.
6. Aoyagi-Usui, Midori; Vinken, Henk; Kuribayashi, Atsuko (2003): Pro-environmental Attitudes and Behaviors: An International Comparison, Human Ecology review, Vol. 10, No 1, 23-31.
7. Arcury, T.A.; Scollay, S.C.; Johnson, T.P. (1987): Sex differences in environmental concern and knowledge: the case of acid rain, Sex Roles, Vol 16, 9/10, 463-472.
8. Banerjee, Subhabrata Bobby (2002): Corporate environmentalism: the construct and its measurement, Journal of Business Research, Vol. 55. Issue 3, March 2002, 177-191.
9. Bauer András, Berács József (1992): Marketing, Aula Kiadó, Budapest
10. Berger, I. E., Corbin, R. M. (1992): Perceived consumer effectiveness and faith in others as moderators of environmentally responsible behaviors - Journal of Public Policy and Marketing, 11.(2), 79-89.
11. Chan, R. Y. K.; Lau, L.B.Y. (2000): Antecedents of green purchases: a survey in China - Journal of Consumer Marketing, Vol. 17. 4. 338-357. old.
12. Cialdini, Robert (2003): Crafting normative messages to protect the environment – Current Directions in Psychological Science, 12-4, 105.
13. Cordano, M.; Welcomer, S. A.; Scherer, R. F. (2003): An Analysis of the Predictive Validity of the New Ecological Paradigm Scale, The Journal of Environmental Education, 2003, Vol. 34. No. 3, 22-28.
14. Csurgó Bernadett (2002): Környezet és társadalom *A Magyar Szociológiai Társaság 2001. évi közgyűlése és konferenciája*, Szociológiai Szemle, 2002/1. 177-186.
15. Deák Barbara (2003): A környezetbarát termékjelölés gazdasági szerepe, Vezetéstudomány, 2003, 03. szám, 33-42.old
16. Dembkowski, Sabine; Hanmer-Lloyd, Stuart (1994): The environmental value-attitude-system model: a framework to guide the understanding or environmentally conscious consumer behaviour, Journal of Marketing Management, 1994
17. Crane, A.; Desmond, J.: "Societal Marketing and Morality", European Journal of Marketing, 2002, Vol.36 (5/6), pp.548-569
18. Csutora-Kerekes : A környezetbarát vállalatirányítás eszközei, KJK Kerszöv, Budapest, 2004)
19. Diamantopoulos, A; Schlegelmilch, B.B.; Sinkovics, R.R; Bohlen, G.M (2003): Can socio-demographics still play a role in profiling green consumers? A review of the evidence and an empirical investigation, Journal of Business Research, Vol 56, 465-480.
20. Dudás Katalin (2004/2005): Környezetbarát termékfejlesztés, Marketing & Menedzsment 2004/6-2005/1, 25-31.

21. Dunlap, R. E. és van Liere, K. D. (1978): The 'new environmental paradigm': a proposed measuring instrument and preliminary results - The Journal of Environmental Education, 9 (4), 10-19.
22. Dunlap, R. E., van Liere, K. D, Mertig, A. G., Jones, R. E. (2000): Measuring endorsement of the new ecological paradigm: a revised NEP scale - Journal of Social Issues, 56 (3), 425-442.
23. Ellen, P.S, Weiner, J. L.; Cobb-Walgren, C. (1991): The role of perceived consumer effectiveness in motivating environmentally conscious behaviors - Journal of Public Policy and Marketing, 10 (2), 102-117. old.
24. Fertetics Mandy (2004): A zöld irány, Figyelő, 2004. nov.11-17.
25. Fisk G.(1974)**:**. Marketing and the Ecological Crisis, New York: Harper & Row.
26. Fuller, D. A. (2000): Sustainable Marketing: Managerial-Ecological Issues, Sage, Thousand Oaks, California
27. Gardner, G. (2003): A vallás szerepe a fenntartható világ építésében, in A világ helyzete 2003, Föld Napja Alapítvány, Budapest
28. Gilg, Andrew; Barr, Stewart; Ford, Nicholas (2005): Green consumption or sustainable lifestyles? Identifying the sustainable consumer, Futures 37, 481-504.
29. Gilligan, C. (1993): In a different voice. Psychological theory and women's development Cambridge and London, Harvard University Press
30. Gulyás Emese (2002): Tudatos vásárlói döntések, Kukabúvár, 2002, VIII. évf., 4. szám
31. Hines, J. M.; Hungerford, H.R., Tomera, A.N. (1986/87): Analysis and synthesis of research on responsible environmental behavior: a meta-analysis, Journal of Environmental Education, 18, 1-8.
32. Hofmeister-Tóth Ágnes, Törőcsik Mária (1996): Fogyasztói magatartás, Nemzeti Tankönyv-kiadó RT, Budapest, 1996.
33. Hounshell, P., Liggett, L. (1973): Assessing the effectiveness of environmental education, Journal of Environmental Education, Vol. 5. No 2, 28-30.
34. Hrotko Timur (2002): Paragazdasági gondolatkísérletek, Kovász, 2002/1-4. szám
35. Inglehart, R. (1995): Public support for the environmental protection: objective problems and subjective values in 43 societies - Political Science and Politics 28. 57-72.
36. Iwata, Osamu (1999): Perceptual and behavioral correlates of voluntary simplicity lifestyles. Social Behavior and Personality, 27 (2), 183-190.
37. Kaiser, F. G.; Wölfing, S.; Fuhrer, U. (1999): Environmental attitude and ecological behavior, Journal of Environmental Psychology, Vol 19. 1-19.
38. Kaiser, F.G., Fuhrer, U. (2003): Ecological Behavior's Dependency on Different Forms of Knowledge, Applied Psychology: an International Review, 52 (4), 598-613 old.
39. Kalafatis, S. P., Pollard, M., East, R., Tsogas, M. H. (1999): Green marketing and Ajzen's theory of planned behaviour: a cross-market examination. Vol. 16. No. 5. 441-460.
40. Kilbourne, William E.; Beckmann, Suzanne C. (1998): Review and critical assessment of research on marketing and the environment, Journal of Marketing Management, 1998, 14. 513-532.
41. Kinnear, T, Taylor, J. R.; Ahmed, S. (1974): Ecologically concerned consumers: Who are they? - Journal of Marketing, 38 (April), 20-24.
42. Kleiner, J. (1991): What Does It Mean to Be Green?, Harvard Business Review, 69 July-August, 38-47. oldal
43. Kluckhohn, C. K. (1951): Values and Value Orientations in the Theory of Action. In T. Parsons and E. A. Shils (Eds.), Toward a General Theory of Action. Cambridge, MA: Harvard University Press.
44. Philip Kotler, Marketing Management: Analysis, Planning, and Control, Prentice-Hall, 1967. (Subsequent editions 1971, 1976, 1980, 1984, 1988, 1991, 1994,

45. Kovács Anna (1999): Környezeti marketing, Marketing & Menedzsment, 1999/1, 47-51.
46. La Trobe, Helen L.; Acott, Tim G. (2000): A modified NEP/DSP environmental attitudes scale, The Journal of Environmental Education, Vol. 32, No. 1. 12-20.
47. Lányi András (2002): Ökopolitika és hagyomány, Kovász, 2002/1-4. szám 5-17.
48. Ling-yee, Li (1997): Effect of collectivist orientation and ecological attitude on actual environmental commitment: the moderating role of consumer demographics and product involvement - Journal of International Consumer Marketing, New York Vol. 9. No. 4. 31-53.
49. Lord, Kenneth R.; Putrevu, Sanjay (1998): Acceptance of recycling appeals: the moderating role of perceived consumer effectiveness, Journal of Marketing Management, Vol 14, 581-590.
50. Lipi Szabolcs (2000): A 2000. év fogyasztói társadalma – egy szcenário utóélete. Marketing & Menedzsment, 2000/5. 45-49.
51. MacDonald, W. L., Hara, N. (1994): Gender differencies in environmental concern among college students, Sex Roles, Vol. 33., No. 5/6, 369-374.
52. Majláth Melinda (2005a): Antecedents of Environmental Friendly Behavior, 5th International Conference of PhD Students, Hungary, Miskolc, 2005. augusztus, 195-200.
53. Majláth Melinda (2005b): Össszefügg-e a környezetbarát magatartás a környezeti ismeretekkel? Szakoktatás, 55. évfolyam, 27-30.
54. Malhotra, N. K. (2002): Marketingkutatás, KJK-KERSZÖV, Budapest
55. McEachern, M.G., McClean, P. (2002): Organic purchasing motivations and attitudes: are they ethical?, International Journal of Consumer Studies, June 2002.
56. Meffert, Heribert, Kirchgeorg, Manfred (1992): Marktorientiertes Umweltmanagement, Stuttgart: Poeschel
57. Mendelson, N., Polonsky, M.J.:Using strategic alliances to develop credible green marketing, Journal of Consumer Marketing, 1995, Vol. 12 No.2, pp.4-18.
58. Menon, Anil; Menon, Ajay; Chowdhury, J.; Jankovich, J. (1999): Evolving paradigm for environmental sensitivity in marketing programs: A synthesis of theory and practice, Journal of Marketing Theory and Practice, 1999
59. Nagy Szabolcs (1997): Új termékek fejlesztése az ökológiai marketingben Magyar Marketing Mûhelyek Harmadik Kerekasztal Konferenciája, Keszthely, 141-157.
60. Nagy Szabolcs (2004/2005): A környezetbarát termékek marketingje, Marketing & Menedzsment, 2004/6-2005/1. 17-24. old.
61. Náray-Szabó Gábor (1999): Fenntartható fejlődés-fenntartható fogyasztás, Természet Világa, 130. évf. 12. szám. 1999 dec, 531-534. old.
62. Németh Patrícia (1999, a): Ökomarketing a 21. század küszöbén (I. rész), Marketing & Menedzsment, 1999/1. 41-45. oldal
63. Norlund, A. M és Garvill, J. (2002): Value structures behind proenvironmental behavior - Environment and Behavior, Vol. 34. No. 6. November, 740-756.
64. Obermiller, Carl (1995): The baby is sick/The baby is well: a test of environmental communication appeals, Journal of Advertising, Vol. 24. No. 2. 55-70.
65. Peattie, K. (2001): Towards Sustainability: The Third Age of Green Marketing,The Marketing Review, 2, 129-146.
66. Peattie, K.: Green marketing, 1992, Longman, London
67. Raudsepp, M. (2001): Some socio-demographic and socio-psychological predictors of environmentalism, Trames, 5(55/50), 3, 355-367.
68. Roberts, J. A. (1996): Green consumers in the 1990s: profile and implications for advertising - Journal of Business Research, Vol. 36 No 3. 217-31.

69. Roper Organization (1990): The environment: public attitudes and individual behavior, Rand-McNally, New York, NY.
70. Rokeach, M. (1973): The nature of human values. New York, The Free Press.
71. Román Balázs: Zöldre festve – környezettudatos marketingstratégiák, Kreatív, XI. évf. 6. szám, 2002.
72. Samdahl, D. M; Robertson, R. (1989): Social determinants of environmental concern: specification and test of the model, Environmental Behavior, Vol 21, 1, 57-81.
73. Scipione, P. A. (1994): A piackutatás gyakorlata, Budapest, Springer Hungarica
74. Schahn, J.; Holczer, E. (1990): Studies of individual environmental concern: the role of knowledge, gender, and background variables, Environmental Behavior, Vol 22., 6, 767-786.
75. Schwartz, S. H. (1992): Universals in the content of and structure of values: Theoretical advances and empirical tests in 20 countries, Advances in Experimental Social Psychology, 10, 221-279.
76. Stern, P. C. (2000): Toward a coherent theory of environmentally significant behavior - Journal of Social Issues, 56. 407-424.
77. Stern, P.C; Dietz, T; Kalof, L. (1993): Value orientations, gender, and environmental concern, Environment and Behavior, Vol 25, No 3 322-348.
78. Stern, P. C., Dietz, T., Kalof, L. és Guagnano, G. A. (1995): Values, beliefs and pro-environmental action: attitude formation toward emergent attitude objects" - Journal of Applied Psychlogy, 25, 1611-1636. old.
79. Straughan R. D; Roberts, J. A. (1999): Environmental segmentation alternatives: a look at green consumer behaviour in the new millennium, Journal of Consumer Marketing, 1999, Vol. 16. 6. 558-575.
80. Székely Mózes (2002): A globális problémák és a környezet, Szociológiai szemle 2002/3. 116-134. old.
81. Szilágyi László (1996): Életfa vagy Zöldfa vagy Cédrus – interjú Frigyer Attilával, a Környezetbarát Termék Minősítő Bizottság elnökével, Kukabúvár, II. évf. 1. szám, 1996 tavasz.
82. Szőllősi Erzsébet (2005): Környezetvédelem és társadalom, www.kornyezetunk.hu 2005.10.03., Új pedagógiai szemle
83. Tognacci, L.N.; Weigel, R.H., Wideen, M. F.; Vernon, D.T. (1972): Environmental quality: how universal is public concern? Environmental Behavior, Vol. 4, 1., 73-86.
84. Tóth Gergely (2003): A vállalatok környezeti érdemrendje – A vállalati fenntarthatóság minősítéséről és ennek nehézségeiről, Kovász, 2003. tavasz- nyár, 5-26. old.
85. Van Liere, Kent D. and Riley E. Dunlap. (1981): "Environmental Concern: Does it Make a. Difference How It's Measured?" Environment and Behavior, 13: 651-676.
86. Vay Márton (2004): Az ökológiai tudatosság és világnézeti vetületei, Szakdolgozat, témavezető: Demeter Katalin, ELTE Tanító és Óvóképző Főiskolai Kar
87. Valkó László (2003): Fenntartható/környezetbarát fogyasztás és a magyar lakosság környezeti tudata, A Budapesti Közgazdaságtudományi és Államigazgatási Egyetem Környezettudományi Intézetének tanulmányai, Kerekes Sándor és Kiss Károly (szerk), Budapest, 2003. április 18. szám
88. Vágási Mária (2000): A fenntartható fogyasztás és a környezettudatos fogyasztói magatartás, Marketing & Menedzsment 2000/6. 39-44.
89. Vining, J.; Ebreo, A. (1990): What makes a recycler? A comparison of recyclers and non-recyclers. Environmental Behavior, Vol. 22, 1, 55-73.
90. Zsolnai László (2002): Ökológia, gazdaság, etika; Helikon Kiadó, 2002, Budapest

5 Publications of the Author

Articles (in Hungarian):

1. Majláth Melinda (2009): A környezetbarát terméktulajdonság fontossága a fogyasztói döntésekben – egy empirikus kutatás eredményei, Vezetéstudomány, (lektorált, elfogadott cikk) várható megjelenés: 2009. február
2. Majláth Melinda (2005): A környezettudatos fogyasztói magatartással összefüggő változók, Szakoktatás, 55. évfolyam, 5. szám, 31-34. old.
3. Majláth Melinda (2005): Összefügg-e a környezetbarát magatartás a környezeti ismeretekkel? Szakoktatás, 55. évfolyam, 27-30. old.

Conference proceedings (in English):

4. Melinda Majláth: Environmentally Friendly Behaviour: Consistent of Not? Sustainable Consumption Conference 2008, 8th, October, Academic Conference Proceedings Edited by Edina Vadovics and Emese Gulyás http://www.greendependent.org/konferencia/SC_2008_Proceedings_final.pdf, 118-133.
5. Melinda Majláth (2008): Challenges in Marketing: Reasons for the Existence of Green Marketing, FIKUSZ 2008, Proceedings of Business Sciences- Symposium for Young Researchers, 7th November, 2008, Budapest, 137-147.
6. Melinda Majláth (2008): What are the Main Psychographic Differences between Persons Behave in an Environmentally Friendly Way and Those Who Do Not? 6th Proceedings of International Conference on Management, Enterprise and Benchmarking, May 30-31, 2008 Budapest. 217-226.
7. Majláth Melinda (2005): Antecedents of Environmental Friendly Behavior, 5th International Conference of PhD Students, Hungary, Miskolc, 2005. augusztus, 195-200.

Conference proceedings (in Hungarian):

8. Majláth Melinda (2004): A környezeti tudás és a környezetbarát fogyasztás kapcsolata, Tudástranszfer és információs társadalom – Budapesti Gazdasági Főiskola, Tudományos Évkönyv 2004, 84-95.

Working paper:

9. Majláth, Melinda (2002): Bemutató modell a piacosítható szennyezési jogok kereskedelmének költségekre, termelésre és szennyezőanyag-kibocsátásra gyakorolt hatásáról - Its title in English: Introductory model in the effect of the commerce of marketable pollution rights on costs, production and pollution material emission. 20. sz. Műhelytanulmány (working paper). Vállalatgazdaságtan Tanszék, BKÁE, Budapest. HU ISSN 1786-3031. 2002. június

Other publications:

10. Majláth Melinda (1999): Nemzetközi gazdaságtan példatár, oktatási segédanyag, Lektorálta: Dr. Bock Gyula, Budapesti Gazdasági Főiskola Pénzügyi és Számviteli Kar, http://www.anteus.hu/pszf-elmgazd/PtarNKG.doc 61 pages.
11. Bódi Erzsébet – Kazimír Ildikó – Majláth Melinda (2003): Nemzetközi gazdaságtan oktatási segédanyag – távoktatás részére, Budapesti Gazdasági Főiskola Pénzügyi és Számviteli Kar
12. Majláth Melinda (2001): Kvalitatív módszerek – konferencia előadás, BGF Tudomány Napja 2001, Budapest