



# Can Individuals do anything for the Environment? - The Role of Perceived Consumer Effectiveness

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*Abstract: The article tries to find explanation for the question that although green products and services are more easily available than in the past and people are more and more informed on the environmental problems; however there are still consumers who do not show green behavior. The reason behind that can be the lack of belief in the effectiveness of the actions of the individual. How can we measure perceived consumer effectiveness and are environmentally and non-environmentally friendly consumers different in this term? These questions have been answered in this article based on a sample of 204 Hungarian consumers.*

*Keyword: environmentally friendly behavior; perceived consumer effectiveness*

## 1 Aim of the Research

Experts, who deal with environmentally friendly consumer behavior, must face the question: why people who have positive attitude toward the environment don't behave according to their attitude? There are several potential answers: here I quote the short summary of Nagy, as a list of reasons for not realizing this attitude in practice.

Szabolcs Nagy (2004-2005) examined why consumers do not purchase environmentally friendly products. Having studied the literature, seven reasons were ranked as follows:

- the higher prices of environmentally friendly products,
- the moderate supply of environmentally friendly products,
- the force of the consumers' habit,
- the lower efficiency and quality of environmentally friendly products,
- the limited impact of individual consumption on the state of the environment,
- the poorer, artless appearance of environmentally friendly products,
- the limited amount of information available on environmentally friendly products . (Nagy 2004-2005, p. 22).

As it can be seen, the lack of belief in the effectiveness of individual actions is one of the reasons what can prevent consumers to behave on a green way. As media makes growing effort on informing people on environmental problems and as companies being more

greens via offering environmentally friendly products, the importance of belief in the role of consumer actions is getting more important in this process.

Therefore in this article perceived consumer effectiveness is in the focus, and I am trying to verify that it has a significant role in green behavior.

## 2 Definition of Perceived Consumer Effectiveness

Beside the responsibility of companies in environmental problems, recent studies turn our attention to a very important element of this phenomenon: the relative role of the individuals and their consumption. This concept cannot be ignored, because "30-40 % of recent environmental problems can be traced back directly or indirectly to predominant consumption patterns and routines." (Valkó, 2003, p.43.)

According to a representative American study carried out in 2003, 64% of the respondents feel that they can contribute to a better world by buying environmentally friendly products and recycling; however 17 % of them do not trust in the effectiveness of their own actions at all. (Gardyn, 2003) Hungarian research examined the reasons behind the slow spread of environmentally friendly products, in which only 16% of the respondents assigned as highly, and another 6% as fundamentally important the effect of individual actions on the state of the environment. (Nagy, 2004-2005)

51.9 % of the persons involved in the research of Valkó (2003) thought that the consumption (buying) behaviour of consumers, i.e. individual decisions, played a significant role in pollution, while for those who belonged to a control group taking part in environmental education, this proportion was 77%. In a study carried out by Székely (2002) among others, two open-ended questions were put: What can an individual do to solve global problems? and What have you done for this? One quarter of the sample and 40% of those who believed in individual actions thought that environmental protection was an area where individual action had a perceptible effect. Gilg and his colleagues (2005) found that a majority of the respondents agreed that their own behaviour could have a positive effect on the environment – though they found significant differences in the levels of perceived consumer effectiveness between clusters created along environmentally friendly behaviour.

Several studies (e.g.. Antil, 1978; Berger és Corbin, 1992; Kinnear et al, 1974; Roberts 1996) show that consumer attitudes and their reaction to messages from their surroundings are a function of their belief in their ability to influence positively the solution to the problems.

Among the psycho-graphic variables examined as an antecedent to environmentally friendly behaviour, perceived consumer effectiveness has the highest explanatory power in many studies. (Kinnear, 1974; Roberts, 1996; Straughan és Roberts, 1999; Raudsepp, 2001).

Perceived consumer effectiveness was first examined by Kinnear, Taylor and Ahmed (1974) as the measurement of one's belief in the results of his/her own actions. The

intention and behaviour of a person is the function of his/her conviction that the occurrence or stopping of an event depends on his/her activity (Thompson, 1981).

Author(s)	Statements of the lists
Ellen et al. (1991)	(1) There is not much that any one individual can do about the environment. (2) The conservation efforts of one person are useless as long as other people refuse to conserve.
Berger and Corbin (1992); Lord and Putrevu (1998)	(1) I feel personally helpless to have much of an impact on a problem as large as the environment. (2) I don't feel I have enough knowledge to make well-informed decisions on environmental issues. (3) I expect the environment to continue to deteriorate until it is almost unliveable before enough attention is paid to improve it.
Obermiller (1995)	(1) There is not much that any one individual can do about the environment. (2) The conservation efforts of one person are useless as long as other people refuse to conserve. (3) I feel I have personal control over the solution to the water(energy) problem.
Roberts (1996)	(1) It is worthless of the big industries should be controlled by the federal government. (2) When I buy products, I try to consider how my use of them will affect the environment and other consumers. (3) Since one person cannot have any effect upon pollution and natural resource problems, it doesn't make any difference what I do. (4) Each consumer's behaviour can have a positive effect on society by purchasing products sold by socially responsible companies.

Table 1

Scales for measurement of perceived consumer effectiveness

In Antil's view (1978) perceived consumer effectiveness is the judgement of the person about the way and the extent of the environmental effects of his/her behaviour. If somebody feels that (s)he can only control the consequences and performance of his/her own behaviour, the intention toward behaviour is going to be lower in spite of the social desirability of it.

Ellen and her colleagues (1991) hypothesized that environmental concern (attitude) and perceived consumer effectiveness are different concepts, that "... an attitude represents a summary evaluation of an individual's beliefs or feelings about an issue, while PCE represents an evaluation of the self in the context of the issue" (Berger and Corbin, 2001, p. 80). Though the discriminant-validity of it has not unambiguously been proven, the extent of the effects of these variables on environmental friendly behaviour are different: while environmental concern played a significant role in predicting of all types of environmentally friendly actions, perceived consumer effectiveness affected buying

behaviour, recycling and support of civic green organizations. If somebody believes that the given environmental problem can be solved by a specific action this belief will strongly influence his/her commitment to this activity, though it can not predict other types of behaviours (Ellen et al, 1991).

In general, perceived consumer effectiveness was measured by statements on Likert-scales. Table 1 shows several application of PCE. As can be seen, PCE is typically measured as a general concept, not in connection with specific environmental problems and their solutions.

Berger and Corbin (1992) analyzed faith in others in addition to PCE, which means an alternative for changing the behaviour of consumers. An individual can help the activities of others, such as the government, scientists or the problem-solving capabilities of future generations, and thus can have an indirect impact on the state of the environment. The bigger the faith in others, the bigger the correlation between environmental attitude and the support of others, so the direct actions of individuals are more pushed into the background. Ellen and her colleagues (1991) obtained similar results in connection with beliefs in the behaviour of others: when PCE is high, persons feel it less likely that others will make their own contribution to the solution to the problem.

The table below shows the measurement of PCE and the findings of studies on its relationship with different constructs of behaviour.

Authors	PCE operationalization	Dependent variable(s)	Findings
Kinnear, Taylor and Ahmed (1974)	Original PCE (as defined by these authors)	Ecological concern	PCE was significant predictor of index of two behavioural (type of detergent and degree of shopping for low pollutant products) and 6 attitudinal statements.
Webster (1975)	Original PCE and perceived change in consumption (PCC)	Socially conscious consumer index, use/non-use of recycling service	PCE was significant predictor of index of 8 behavioural items (use of low-phosphate detergent; use of returnable bottles; boycott products in labor dispute) as well as use/nonuse of recycling service
Henion and Wilson (1976)	Original PCE construct	Internal/external locus of control	PCE was positively correlated with internal locus of control
Good (1979)	Original PCE construct	Group differences	PCE was higher for persons requesting energy saving booklet
Seligman et al. (1979)	PCE and responsibility	Actual energy usage	More energy was used by those households which perceived that individuals were not responsible for the energy crisis and could not alleviate crisis.
Allen and Dillon (1979)	Two factors: Original PCE and concern, perceived change in consumption	Evaluation of energy efficiency labeling program EELP	Factor analysis revealed two dimensions: PCE-concern factor and perceived change in consumption factor. Using canonical, most receptive group to EELP was higher on PCE-concern; two negative groups expressed either negative PCC or low PCE concern
Allen (1982)	Same as above	Importance of energy eff., relative eval. of eff. model, choice of model in lottery	PCE-concern and PCC were positively related to importance of energy use attribute. Only PCC was related to higher evaluation of energy efficient model and choice of that model lottery
Allen, Calantone and Schewe (1982)	Same as above	Cross-cultural differences	Swedes were least likely to feel personal effectiveness and least likely to feel they have to change their consumption
Antil (1984)	Original PCE and perceived change in consumption	Socially responsible consumption behaviour	PCE was positively related to index of 40 attitudinal items reflecting a range of environmental issues.

Source: Ellen, P.S, Weiner, J. L és Cobb-Walgren, C. (1991) The role of perceived consumer effectiveness in motivating environmentally conscious behaviours - Journal of Public Policy and Marketing, 10 (2), 104.

Table 2

Review of the operationalization of perceived consumer effectiveness and findings

### 3 Empirical Study on PCE

#### 3.1 Sample Description

In order to make the statistical comparison practicable 102 environmentally friendly and 102 non-environmentally friendly persons has been chosen based on a 25 item scale. These persons were 18-65 years old budapest-dwellers and were selected randomly by the interviewers<sup>1</sup> - as we had no a priori information of the demographic profile of environmentally friendly consumers. The same location of them means by and large similar external facilities to carry out environmentally friendly actions. Face-to-face in-home interviews had been conducted in 2007.<sup>2</sup>

#### 3.2 Measurement of Environmentally Friendly Behavior

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 here I manage environmentally friendly behaviour as a multidimensional concept. 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.

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 consisting selective waste disposal, consumption reduction, purchasing behavior, energy and water saving, environmental citizenship and transportation.

During the pilot interviews the limit between environmentally and non-environmentally friendly behavior was set at 14 points: those respondents who had a maximum of 13 points were identified as non-environmentally friendly respondents based on their behaviour, and those who had at least 14 points were defined as environmental friendly.

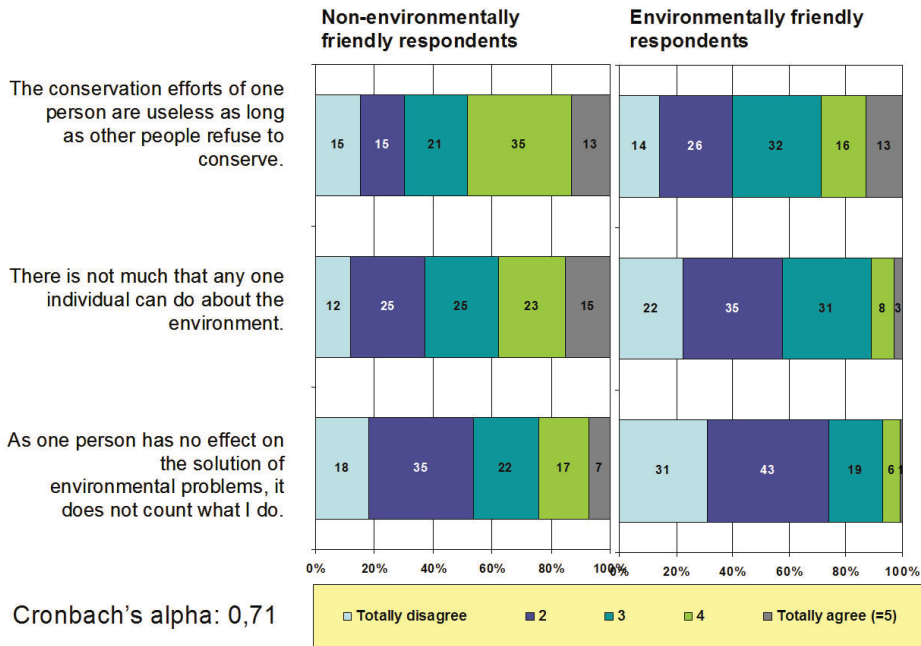
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1 With birthday key. Interviewers made the recriution from 20 different starting-points of the town and they chose every 15th flat.

2 Originally the questionnaire consisted of more parts than what are analyzed in this article.

### 3.2 PCE of Environmentally Friendly Consumers

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.



Environmentally friendly respondents N=102, non-environmentally friendly respondents N=102

Figure 1

Distribution of answers of PCE statements

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 Straughan-Roberts (1999). The reason why I consider all of these three statements important is that they seize various aspects of the relative role of the individual in causing and solving environmental problems: the first one refers to incapacity – that is one person cannot do anything in the environment's interest; the second one emphasizes that only acts in combination can have any effect, and the third one draws attention to the irrelevance problem.

Statements	Non-environmentally friendly respondents (N=102)		Environmentally friendly respondents (N=102)		Comparing means (T test)		
	Mean	St.d.	Mean	St.d.	t	Df	sign.
1 There is not much that any one individual can do about the environment.	3,09	1,24	2,25	1,09	5,14	202	0,000
2. The conservation efforts of one person are useless as long as other people refuse to conserve.	3,15	1,29	2,77	1,30	2,05	202	0,042
3. As one person has no effect on the solution of environmental problems, it does not count what I do.	2,58	1,20	1,95	0,99	4,08	195	0,000
<i>Lack of perceived consumer effectiveness (feeling of irrelevance) (Mean of statements 1 and 3)</i>	2,83	1,04	2,10	0,95	5,28	202	0,000

Table 3

Comparison of means of feeling of irrelevance (lack of perceived consumer effectiveness)

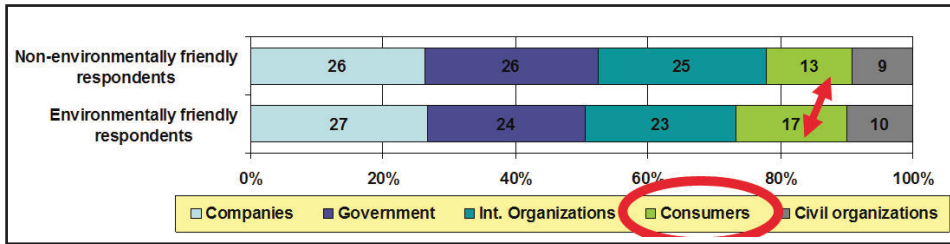
I would like to emphasize here, that statements were negatively formulated, therefore lower scores mean higher perceived consumer effectiveness. On the basis of the table, it can be ascertained that in the case of all of the three statements the environmentally friendly respondents show significantly lower average values, which indicates that in solving environmental problems, they consider the contribution of the individual more important and valuable.

## Conclusion

The statistically significant results of the empirical study verified our hypothesis that green consumers do feel that they can contribute not only to the formation of environmental problems but to the solution of them with their own actions.

Of course the feeling of effectiveness of actions influences the perceived responsibility in solving these environmental problems. The respondents were asked to share 100 points among different actors based on their responsibility in solving environmental problems. The distribution of answers supports additionally our former statement, that environmentally friendly respondents feel they role a little bit more significant in the greening process than the non-environmentally friendly ones.





Environmentally friendly respondents N=102, non-environmentally friendly respondents N=102;

Red arrow shows significant difference

Figure 2

Distribution of responsibility scores in solving environmental problems

The significant difference in perceived consumer effectiveness indicates that marketing communication should emphasise the amount of harm, what the consumption of one individual can cause and/or the savings or advantages of pro-environmental activities of one person.

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