



# Modeling the Impact of Online Social Marketing Campaigns on Consumers' Environmentally Friendly Behavior

Orzan G., Serban C., Iconaru C. and Macovei O.I.

Faculty of Marketing, The Bucharest University of Economic Studies, Bucharest, ROMANIA

Available online at: [www.isca.in](http://www.isca.in)

Received 7<sup>th</sup> August 2012, revised 13<sup>th</sup> September 2012, accepted 21<sup>st</sup> October 2012

## Abstract

Nowadays, consumers are becoming more and more aware of how their behavior and their use of resources can affect the environment. To a certain extent, online social marketing campaigns can be held responsible for the shift from an irresponsible behavior to an environmentally friendly behavior. Trying to explain how online social marketing campaigns can influence consumers' intention to behave in an environmentally friendly manner, we have employed the Theory of Planned Behavior (TPB) as our research framework. The basic variables of TPB were developed and adapted for the purpose of our study. Measurements' reliability and validity were assessed as the first phase of our data analysis. Further, we have conducted a PLS-based structural equation modeling for hypotheses testing. All our hypotheses were validated at  $p < 0.05$ . In order to assess the magnitude of the causal relationships between TPB's variables we used Cohen's effect sizes, which indicate a certain influence of online social campaigns on consumers' intention to behave environmentally friendly. Contrary to these results, consumers' perceived behavioral control, namely the existence of necessary financial resources, time and knowledge for engaging in ecological activities, as having a medium effect on consumers behavioral intentions. The model fit indicates that TPB is a viable research framework when trying to explain and predict consumers' environmentally friendly behavior. Conclusions and implications are further elaborated.

**Keywords:** Online social marketing campaigns, environmentally friendly behavior, theory of planned behavior.

## Introduction

Nowadays, many studies are carried out to increase awareness on the ecological issues the world is facing<sup>1,2</sup>. While some studies focus on health beliefs and perceptions of well-being<sup>3</sup>, other try to provide solutions to different environmental problems, like waste<sup>4</sup> or supply chain management<sup>5</sup>.

Social organizations have an important role in solving environmental issues<sup>6</sup>. They contribute to fulfilling complex tasks, by strengthening social cohesion and organizing specific campaigns to protect the environment. Therefore, a social organization emphasizes the satisfaction of human needs (e.g. pollution control) and increases the ability of individuals and communities to respond more quickly to environmental issues (e.g. global warming, natural disasters, genetically modified organisms, etc.). Social organizations can prove their effectiveness in changing attitudes and norms concerning countless environmental problems, such as recycling, climate change, waste collection, protection of fauna and flora or avoiding ecological accidents.

Nowadays, every organization uses the Internet for its everyday office tasks as it removes communication gap and distance. As a flexible, dynamic and interactive channel of communication, Internet has opened new possibilities for communication and social interaction<sup>7</sup>. More and more social organizations now seek to convince people to adopt a healthy behavior by using

online communication channels like email, chat, blogs, forums, bulletin boards or social networks. The increase in use of personal Internet access led to a whole new raft of social campaigns – online social campaigns. Online social campaigns have the potential to reach more people at faster rates and exert influence at different level of society development. Through Internet, social organizations can now bring positive changes to the way people work, learn and live. Issues like anti-smoking, drug abuse, nutrition, family planning, spreading AIDS awareness, blood donation and energy conservation, can be communicated online, reducing the distance between the individual consumer and the desired health-related behavior. The message is important in behavioral change that is why online social organizations must deliver through their campaigns an ideal marketing mix of product, price, promotion and place.

Moreover, social organizations must undertake market research, market segmentation and positioning strategies in order to develop successful marketing campaigns. There are many factors that can contribute to the success or failure of an online social marketing campaign. For example, a person's membership of a smoking group can represent a barrier in being able to quit smoking, as the very habit facilitates the person's integration. In this regard, social organizations should also consider activities aimed at educating people, preventing the adoption of negative behavior and questioning the utility of negative habits for personal health and happiness<sup>8</sup>.

However, in choosing the optimal strategy to support an ecological cause, it is important for a social organization to consider not only the net costs associated to the entities directly involved but also the manner in which the strategy can affect the overall behavior of consumers.

There are various theories and models of consumers' behavior that can be adapted to the study of environmentally friendly behavior. First of all, there are the rational choices models upon which are based many of the existing environmental policies. These models make the assumption that the consumer is a rational individual, who will make buying and consumption decisions based upon individual costs and benefits of his or her actions.

Individuals perceive behavior change as a cost<sup>9</sup>. When costs are low, many individuals are willing to adopt a new behavior, while, when costs are very high, only individuals with a strong environmental motivation accept a behavior change. Behavior change due to environmental morale (B) can be expressed as a function of net cost (C)<sup>9</sup>, also represented in figure 1. Thus, as C will decrease, B will increase. For example, in regions of extreme poverty, where people are preoccupied more about survival, few will be willing to stop cutting trees for fuel, in favor to protect the environment. If, however, it would be available other cheaper options for heating, the environmental protection could become possible.

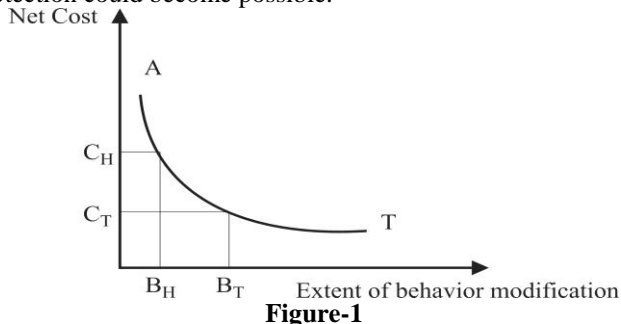


Figure-1

Changing consumer's behavior through environmental ethics

Rational choice models have been intensively criticized for emphasizing cognition alone, whereas consumers also base their buying decisions on affective responses to choice, social, moral and altruistic values of self<sup>10</sup>. As a response, various psychological theories accounted for the implicit effect of social influence. For example, Fishbein and Ajzen's Theory of Reasoned Actions<sup>11</sup>, further developed into the Theory of Planned Behavior, accounts for those particular behaviors when the individual does not have complete volitional control over his behavior<sup>12</sup>. Various aspects of morality have been studied in relation to consumers' choice of sustainable consumption. The choice of buying and consuming environmentally friendly products raises important contradicting issues like self interest versus the interest of the groups<sup>13</sup>. Moral beliefs have been also introduced in various expectancy value models. These beliefs have been operated as a special kind of norms which are formed by the individual's awareness about the consequences of his own actions and they lead to consumers' manifested willingness to assume responsibility for such actions<sup>14</sup>. Theories as TPB put a great emphasize on consumers perceptions about what their referent groups may think in regards to their behavior but also highlight the importance of consumers' personal beliefs, such as their perceived moral duty to support the environment<sup>15</sup>. Many authors have employed Theory of Planned Behavior in predicting recycling behavior, concluding that TPB provides a useful model for exploring those factors that guide behavioral intention to perform an ecological behavior<sup>16</sup>.

The Theory of Planned Behavior, also presented in figure 2, provides guidance in exploring the customer-specific internal factors, e.g. perceptions about a particular behavior, and as in the identification of external factors, e.g. social influences or resource availability. In conjunction, these factors can influence consumer s' intention to engage in a behavior<sup>17</sup>. It is known that when people increase their intention to adopt a certain behavior, they are more likely to adopt the effective behavior<sup>18</sup>.

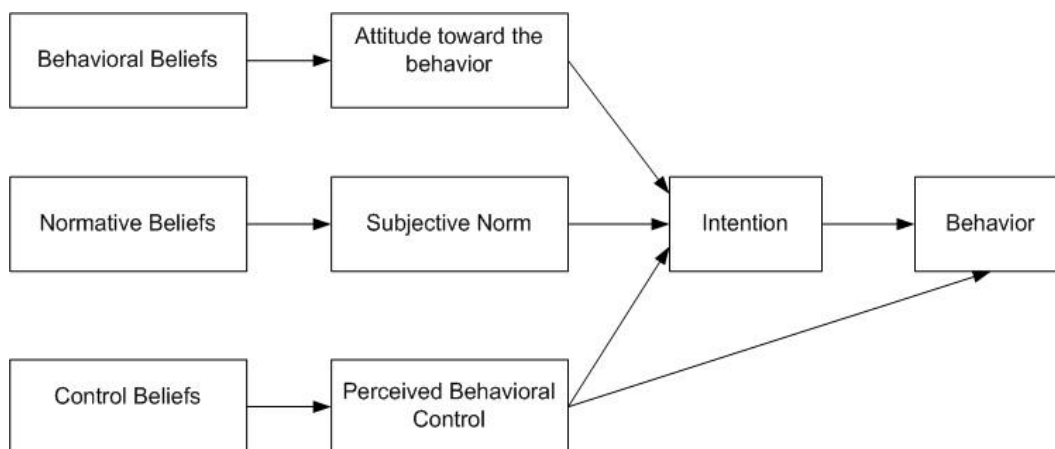


Figure-2

The Theory of Planned Behavior

Considering attitude as the main determinant of behavioral intention, the first hypothesis of this study is: *Consumers' attitude towards environmentally friendly behavior will have a direct and positive effect on consumers' intention to behave in an environmentally friendly manner.*

Attitude, as a multi-dimensional construct formed by affective and cognitive components, has been previously validated as determining behavioral intentions, which subsequent leads to effective behavior<sup>19</sup>. Following this assumption, the second hypothesis of the research is: *Consumers' salient beliefs about preserving the environment will have a direct and positive effect on consumers' attitude towards behaving in an environmentally friendly manner.*

Since adopting an environmentally friendly behavior is a moral/ethical choice, the authors have implemented the social influence coming from referent groups as a direct determinant of behavioral intentions. Therefore the third hypothesis is: *The perceived social influence will have a direct and positive effect on consumers' intention to behave in an environmentally friendly manner.*

The following variable, perceived behavioral control includes those situations when the individual is constrained by circumstances like time, money or knowledge. For adopting an environmentally friendly behavior, consumers need to hold knowledge about the consequences of a supposed irresponsible behavior. For example, previous research has validated a direct relationship between environmental knowledge and pro-environmental attitudes<sup>20</sup>. Consumers also need knowledge to distinguish between a green product and an ordinary product, whose attributes are more easily observed<sup>21</sup>. Another impediment for adopting an environmentally friendly behavior is represented by the price of green products, which represents a high barrier in consumption of green products. Finally, a responsible behavior towards the environment requires time, since not all the green products and alternatives can be found at the nearest supermarket, but rather in specialized departments or stores.

In line with TPB's assumptions, the following hypotheses were defined: i. *Consumers' perceived behavioral control will have a direct and positive influence on consumers' intention to behave in an environmentally friendly manner.* ii. *Consumers' perceived behavioral control will have a direct and positive influence on consumers' attitude towards behaving in an environmentally friendly manner.*

Finally, consumers' intentions can be influenced by external pressure coming from different organizations in forms of various marketing campaigns. Thus, the last hypothesis is: *Online social marketing campaigns will have a direct and positive influence on consumers' intention to behave in an environmentally friendly manner.*

The proposed research framework for this study is defined in figure 3.

## Methodology

**Data collection:** In order to test the hypotheses, a web-survey was employed due to the fact our target population is formed mainly by Internet users. The survey was conducted from May to June 2012 and comprised respondents of different ages and originating from several social environments. A total of 382 respondents completed the questionnaire, of which 65% women and 35% men. The average age is 24-35 years. The questionnaire was translated from English to Romanian by a certified translator.

**Measurements:** Intention to behave in an environmentally friendly manner was constructed as a formative latent variable comprising various components of sustainable behavior: consumers' intention to attend ecological activities, consumers' intention to use natural resources in a responsible manner, consumers' intentions to purchase eco-friendly products and consumers' intention to use green transportation methods. All these behaviors formed the environmentally-friendly behavior.

For measuring attitude, it was taken into consideration two components: the affective component and the cognitive component. While the affective component investigates consumers' feelings of pleasure, like or dislikes, aversion towards an object or behavior, the cognitive component investigates consumers' perceptions, knowledge and beliefs<sup>22</sup>. These two dimensions were united in a single formative latent variable.

Consumers' beliefs of environmental issues was considered a formative latent variable with three dimensions: consumers' desire to solve environment problems, consumers' desire to help preserve the environment and consumers' desire to become role models among their peers<sup>23,24</sup>.

Subjective norms associated with the environmentally friendly behavior represent the social pressure coming from referent groups augmented with pressure coming from mass-media and the government and other non-governmental organizations.

Consumers' perceived behavioral control was constructed as a 3 items formative latent variable comprising three components: knowledge, financial resources and time<sup>21</sup>.

For measuring the six latent variables of the study it was used the 5 point Likert's scale, where 1 - strongly disagree and 5 - strongly agree. Likert's scale is successfully used for many years in researches of social marketing and social responsibility<sup>25</sup>. The Likert's scale, which has the main advantage that its values should not be semantic identified<sup>26</sup>. Data analysis was conducted using two statistical softwares: IBM SPSS v. 13 for testing the reliability of measurements and WarpPLS v. 3 for testing measurements for convergent, discriminant validity and conducting the structural equation modeling.

## Results and Discussion

**Reliability and validity of measurements:** For assessing the reliability of measurements we have analyzed Cronbach Alpha coefficients, also presented in table 1. Since the values for Cronbach Alpha are above the recommended threshold of 0.7<sup>27</sup>, the reliability of the measurements is considered valid.

We have used Fornell and Larcker's approach to assess convergent validity of the measurements. Convergent validity provides the foundation for stating that the proposed indicators do reflect the particular construct they were design to reflect<sup>28</sup>. The factors' loadings and cross loadings presented in table 2, show that all factor loadings are above the recommended threshold of 0.5<sup>29</sup> at  $p < 0.001$ . Also, the cross-loadings are very low (below 0.228).

Moreover, both composite reliability (CR) indicators are above the recommending value of 0.7, indicating that measurements have strong convergent validity. This is also represented in table 3.

For assessing measurements' discriminant validity it was used Fornell and Larcker's approach of comparing the square roots of the average variance extracted (AVE) to the other correlations among latent variables. Discriminant validity assesses the extent to which constructs differ among themselves. As square roots of AVE are greater than any other bivariate correlations, it was concluded that measurements have good discriminant validity. Values are presented in table 4.

Since measurements indicate good reliability and validity, we have performed a structural equation modeling analysis for hypotheses testing, which is represented in figure 4.

Based on these results, all the initial hypotheses are supported at  $p < 0.05$ . The best predictor of consumers' intention to behave in an environmentally friendly manner is represented by consumers' attitude towards environmentally friendly behavior ( $\beta = 0.42$ ), followed by perceived behavioral control ( $\beta = 0.26$ ), social influence ( $\beta = 0.15$ ) and online social marketing campaigns ( $\beta = 0.11$ ). Consumers' attitude towards environmentally friendly behavior is determined by consumers behavioral beliefs ( $\beta = 0.45$ ) and consumers' perceived behavioral control ( $\beta = 0.32$ ).

Further, it was assessed the model fit by analyzing three indicators: average path coefficients (APC), average R squared (ARS) and average variance inflation factors (AVIF). According to Kock's model fit assumptions in table 5, the model has good fit<sup>30</sup>.

The magnitude of the relationships between our latent variables is assessed using Cohen's effect sizes as 0.02, 0.15 and 0.35 for small, medium and large effect sizes<sup>30</sup>. Results are presented in table 6.

According to Cohen's f-squared effect size coefficients, it can be stated that: i. Attitude and perceived behavioral control have a medium effect on consumers' intention to behave in an environmentally friendly manner, while online social marketing campaigns and social influence have a small effect; ii. Both beliefs about preserving the environment and perceived behavioral control have a moderate effect on consumers' attitude towards environmentally friendly behavior.

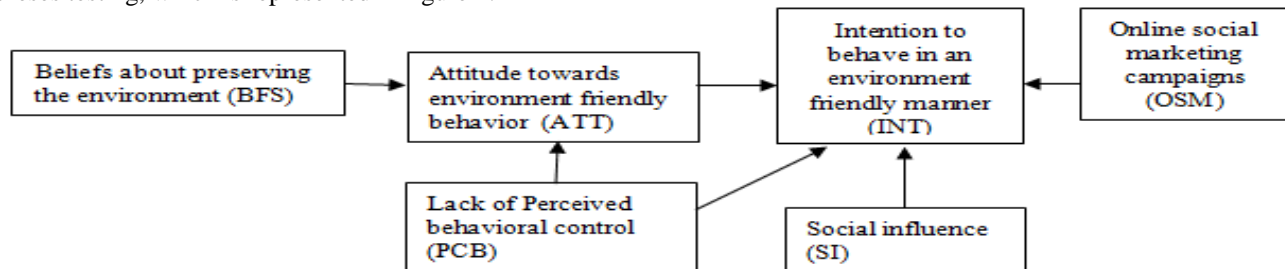


Figure-3

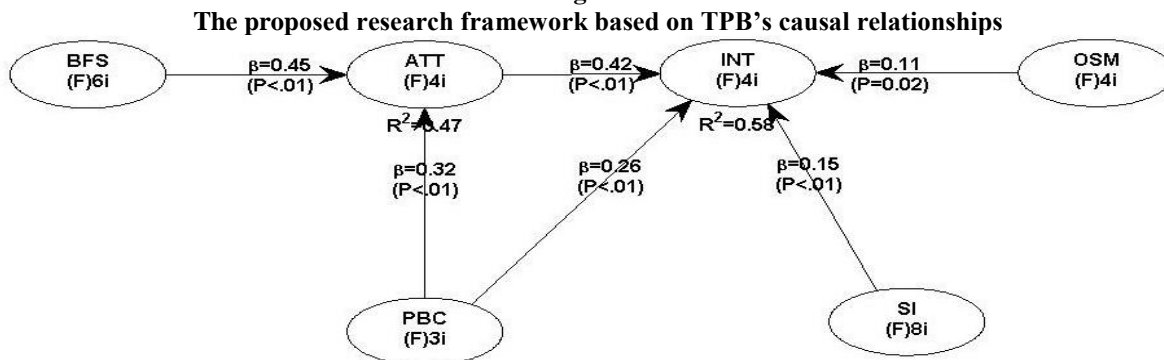


Figure-4

PLS-based structural equation modeling

**Table-1**  
**Reliability and Internal Consistency Analysis**

	Mean	SD	Alpha	Corected Item-Total Correlation	Alpha if Item Deleted
Intention to behave in an environmentally friendly manner (Formative – 4 Indicators)					
I intend to attend ecological activities.	5.61	1.28	0.925	0.773	0.921
I intend to use natural resources in a responsible manner (e.g. water, paper, heat).	5.60	1.27	0.925	0.832	0.901
I have purchased at least once organic products (e.g. energy saving light bulbs, recycled paper).	5.71	1.17	0.925	0.817	0.906
I don't drive unless it's necessary and I try to use public transportation or the bicycle.	5.56	1.27	0.925	0.887	0.882
Attitude towards environmentally friendly behavior (Formative – 4 Indicators)					
Behaving in an environmentally friendly manner is a wise idea.	5.57	1.16	0.928	0.760	0.932
Behaving in an environmentally friendly manner is a good idea.	5.75	1.10	0.928	0.851	0.900
Behaving in an environmentally friendly manner gives me pleasure.	5.75	1.04	0.928	0.865	0.897
I like to behave in an environmentally friendly manner.	5.73	1.07	0.928	0.862	0.897
Beliefs about preserving the environment (Formative – 6 Indicators)					
I believe that environmental protection should be a priority for society.	5.64	1.18	0.863	0.609	0.848
In my opinion, protected areas and disappearing plant species and animals need special attention.	5.85	1.15	0.863	0.691	0.836
I think it is important to be environmentally friendly.	5.05	1.55	0.863	0.697	0.834
I think I can preserve the environment if I behave in a responsible manner.	5.63	1.23	0.863	0.567	0.855
I think I can solve environmental issues if I behave in a responsible manner.	5.62	1.31	0.863	0.686	0.835
I believe it's my duty to be a role model for my peers in regards to environmentally friendly behavior.	5.36	1.43	0.863	0.711	0.830
Perceived behavioral control (Formative – 3 Indicators)					
I have enough environmental knowledge for discerning between responsible and harmful behavior.	5.54	1.26	0.884	0.744	0.865
I have the necessary financial resources to sustain a green consumption.	5.69	1.17	0.884	0.801	0.813
I have enough time to be involved in environmental protection activities.	5.74	1.16	0.884	0.782	0.830
Social influence (Formative – 8 Indicators)					
I frequently discuss with my colleagues about the need to protect the natural environment.	5.49	1.39	0.957	0.818	0.952
My friends agree to participate in different ecological activities (e.g. tree planting, greening an area).	5.54	1.34	0.957	0.893	0.947
Parents always taught me to respect and protect the nature.	5.53	1.28	0.957	0.885	0.948
The company where I work is sometimes engaged in recycling activities.	5.68	1.29	0.957	0.750	0.956
The educational institution where I study/studied is/was sometimes engaged in recycling activities.	5.55	1.31	0.957	0.889	0.947
In company where I work/ the educational institution where I study resources are used responsibly.	5.66	1.28	0.957	0.785	0.954
The government and other NGO are pro-active when it comes to environmental issues.	5.52	1.36	0.957	0.842	0.950
Mass-media promotes environmentally friendly behaviors.	5.51	1.35	0.957	0.824	0.951
Online social marketing campaigns (Formative – 4 Indicators)					
I think that social programs that promote a healthy and cleaner lifestyle are very important for training ecological consciousness of the consumer.	5.65	1.25	0.913	0.833	0.875
I am receptive to online social marketing campaigns.	5.63	1.27	0.913	0.800	0.887
I think online social marketing campaigns are very useful.	5.59	1.21	0.913	0.795	0.889
Online social marketing campaigns can influence the way I behave.	5.56	1.26	0.913	0.775	0.896

**Table-2**  
**Factor loadings and cross-loadings**

	BFS	ATT	INT	OSM	PBC	SI	SE	P value
BE1	0.734	0.151	0.084	-0.019	-0.002	0.01	0.049	<0.001
BE2	0.801	0.01	-0.129	0.059	0.167	-0.025	0.053	<0.001
BE3	0.8	-0.228	0.068	-0.056	-0.056	0.017	0.041	<0.001
BE4	0.696	0.177	0.038	0.029	-0.113	-0.012	0.055	<0.001
BE5	0.795	0.111	-0.164	0.05	0.024	0.008	0.052	<0.001
BE6	0.808	-0.183	0.113	-0.059	-0.036	0.001	0.041	<0.001
AT1	-0.129	0.859	0.141	-0.046	0.022	0.066	0.035	<0.001
AT2	0.052	0.921	-0.118	-0.005	-0.015	-0.014	0.038	<0.001
AT3	0.034	0.929	-0.041	0.041	-0.002	-0.022	0.035	<0.001
AT4	0.033	0.927	0.028	0.007	-0.003	-0.025	0.035	<0.001
INT1	0.023	-0.091	0.868	-0.073	-0.017	-0.06	0.056	<0.001
INT2	0.035	-0.008	0.909	0.035	-0.075	-0.022	0.044	<0.001
INT3	-0.029	0.177	0.899	0.046	0.072	0.078	0.047	<0.001
INT4	-0.027	-0.077	0.94	-0.011	0.02	0.002	0.043	<0.001
OSM1	0.024	-0.16	0.081	0.91	0.004	0.034	0.038	<0.001
OSM2	-0.051	0.07	-0.052	0.89	0.003	-0.008	0.041	<0.001
OSM3	-0.002	0.077	-0.028	0.887	-0.049	0.014	0.045	<0.001
OSM4	0.03	0.018	-0.004	0.873	0.043	-0.042	0.041	<0.001
PBC2	0.037	-0.046	0.085	0.002	0.884	-0.056	0.042	<0.001
PBC3	-0.021	0.08	-0.051	-0.025	0.916	0.039	0.047	<0.001
PBC4	-0.014	-0.036	-0.031	0.024	0.906	0.015	0.051	<0.001
SI1	0.01	-0.117	0.045	0.003	-0.076	0.861	0.042	<0.001
SI2	0.072	-0.001	-0.073	-0.035	-0.047	0.923	0.039	<0.001
SI3	0.044	-0.009	-0.051	0.038	0.031	0.918	0.038	<0.001
SI4	-0.134	0.139	0.084	-0.009	0.098	0.803	0.055	<0.001
SI5	-0.061	-0.062	0.038	0.073	0.011	0.92	0.04	<0.001
SI6	0.099	0.059	0.021	-0.025	-0.019	0.835	0.049	<0.001
SI7	0.026	-0.052	-0.031	-0.062	0.051	0.881	0.043	<0.001
SI8	-0.067	0.061	-0.02	0.011	-0.044	0.866	0.044	<0.001

**Table-3**  
**Composite reliabilities (CR)**

BFS	ATT	INT	OSM	PBC	SI
0.899	0.95	0.947	0.939	0.929	0.964

**Table-4**  
**Correlations among variables with square roots of AVE on the diagonal**

	BFS	ATT	INT	OSM	PBC	SI
BFS	0.773	0.625	0.62	0.51	0.564	0.489
ATT	0.625	0.909	0.686	0.418	0.57	0.471
INT	0.62	0.686	0.904	0.458	0.621	0.515
OSM	0.51	0.418	0.458	0.89	0.47	0.399
PBC	0.564	0.57	0.621	0.47	0.902	0.463
SI	0.489	0.471	0.515	0.399	0.463	0.877

**Table-5**  
**Model fit indicators**

APC= 0.284, P<0.001	Good if p< 0.05
ARS= 0.524, P=0.001	Good if p< 0.05
AVIF=1.574	Good if AVIF < 5

**Table-6**  
**Cohen's effect sizes**

	BFS	ATT	INT	OSM	PBC	SI
BFS	-	-	-	-	-	-
ATT	0.283	-	-	-	0.187	-
INT	-	0.286	-	0.055	0.16	0.078
OSM	-	-	-	-	-	-
PBC	-	-	-	-	-	-
SI	-	-	-	-	-	-

## Conclusion

In modeling consumers' intention to behave in an environmentally friendly manner, we began from the assumption that sustainable behavior is a moral choice of individuals. They have to choose between responsible and irresponsible actions that are governed by certain deeply held beliefs, identified in current study. A responsible behavior was constructed in our study as a 4 indicator formative latent variable, comprising several declared intentions such as: attending ecological activities, using natural resources in a responsible manner, purchasing organic products and using green transportation.

We chose to employ the Theory of Planned Behavior as a conceptual model for our research. The reasons for choosing TPB are various. First of all, TPB accounts for the social influence coming from referent groups and we have postulated that consumers' intention to behave in an environmentally friendly manner will be influenced not only by the actions and choices of close friends and family, but also by other entities such as mass-media, government and non-governmental organizations. This hypothesis was confirmed after conducting the PLS-based SEM analysis, with a path coefficient of 0.15 at  $p < 0.01$ . Moreover, analyzing Cohen's effect sizes, we can state that the effect of social influence on consumers' intention to behave in an environmentally friendly manner is small, but significant.

Second of all, we chose TPB because it accounts for those behaviors when the individuals do not have complete volitional control over their behavior. This complies with environmentally friendly behavior, which is governed by certain constraints: knowledge, financial resources and time, all analyzed under a 3 indicator formative latent variable. The path coefficient between behavioral intention and perceived behavioral control supports the hypothesis that consumers' intention to behave in an environmentally friendly manner is positively affected by the perceived lack of behavioral control, with a path coefficient of 0.26 at  $p < 0.01$ . Moreover, Cohen's effect size indicates that the magnitude of the influence of perceived behavioral control on consumers' behavioral intention is medium. This means that the existence of knowledge, financial resources and time weights higher in adopting a responsible behavior than does social influence. For example, consumers may want to buy organic food but due to higher prices and lack of sufficient financial resources, they have no choice but to buy ordinary products. A

consumer may want to use the bicycle to drive to work but due to the high distance and lack of time to engage in such behavior, he is forced to use his personal car.

We have postulated a third belief as having a direct effect on consumers' intention to behave in an environmentally friendly manner: online social marketing campaigns. Various organizations can trigger an environmentally friendly behavior by using the Internet as a marketing tool. Consumers' seem to be open to social communications from organizations and assign them a special importance. Online social marketing campaigns can shape and change behavior as consumers become more educated and their revenues increase, even though Cohen's effect size indicate a small effect of online social marketing campaigns on consumers' intention to behave in an environmentally friendly manner.

Last, we have studied if attitude towards behavior will have a direct and positive effect on consumers' intention to behave in an environmentally friendly manner, as initially postulated by TPB. Indeed, consumers with a more favorable attitude toward such behaviors are more likely to engage in environmentally friendly behaviors, as the path coefficient between attitude and intention is very high ( $\beta = 0.42$ ).

We have also identified various beliefs that would influence consumers' attitude towards behaving in an environmentally friendly manner: the importance that consumers assign to environmental issues, their belief that a responsible behavior could contribute to solving environmental issues and preserving the environment and also their belief that they can become role models for the society if behaving responsible towards the environment. These beliefs account for 45% of the variation in consumers' attitude.

Thus, an adaptation of the TPB research framework, augmented with the influence of the online social marketing campaigns is suitable for explaining consumers' intentions to behave in an environmentally friendly manner.

## Acknowledgement

This article is a result of the project POSDRU/88/1.5./S/55287 Doctoral Programme in Economics at European Knowledge Standards (DOESEC)". This project is co-funded by the European Social Fund through The Sectoral Operational Programme for Human Resources Development 2007-2013

coordinated by The Bucharest Academy of Economic Studies in partnership with West University of Timisoara.

## References

1. Rodrigues L., Artificial and Natural Regeneration of the Forests of Bombay Presidency: 1838 to 1860, *Res. J. Recent Sci.*, **1(2)**, 113-118 (2012)
2. Amanchi Nageswara Rao and Mohd. Masood Hussain, Ecophysiological and cytopathological impact of delfin insecticide (Bacillus thuringiensis) to an unicellular ciliate protozoan, Euplotes patella, *Res. J. Recent Sci.*, **1(4)**, 64-67 (2012)
3. Pebam Nganthoiba Mangang, Health Beliefs and Perception of Well-being among the Lois of Thanga in Manipur, India, *Res. J. Recent Sci.*, **1(4)**, 46-52 (2012)
4. Sharma Pramila, Fulekar M.H. and Pathak Bhawana, E-Waste-A Challenge for Tomorrow, *Res. J. Recent Sci.*, **1(3)**, 86-93 (2012)
5. Nimawat Dheeraj and Namdev Vishal, An Overview of Green Supply Chain Management in India, *Res. J. Recent Sci.*, **1(6)**, 77-82 (2012)
6. Serban C., Building the Ecological Behavior of Romanian Consumers: A Case Study of Social Organizations' Involvement in Society, *Pak. J. Life Soc. Sci.*, **9(2)**, 165-168 (2012)
7. Ranchhod A. and Marandi E., Strategic Marketing in Practice, Abingdon, OX: Routledge (2006)
8. Ranchhod A. and Gurau C., Marketing Strategies: A Contemporary Approach, Upper Saddle River, NJ: Pearson Education (2007)
9. Frey B.S., Not just for money: an economic theory of personal motivation, Cheltenham: Edward Elgar Publishing (1997)
10. Jackson T., Motivating sustainable consumption: a review of evidence on consumer behavior and behavioral change, available online at: <http://www.sbaer.uca.edu/research/acme/2005/04.pdf> (2005)
11. Fishbein M. and Ajzen I., Belief, attitude, intention, and behavior: An introduction to theory and research, Reading, MA: Addison-Wesley (1975)
12. Ajzen I. and Fishbein M., Understanding attitudes and predicting social behavior, Englewood Cliffs, NJ: Prentice-Hall (1980)
13. Wilk R., Consumption, Human Needs and Global Environmental Change, *Global Environ. Change.*, **12**, 5-13 (2002)
14. Schwartz S., Awareness of Consequences and the Influence of Moral Norms on Interpersonal Behavior, *Sociometry*, **31**, 355-369 (1986)
15. Bamberg S. and Schmidt S., Incentives, Morality or Habit? Predicting Students' Car Use for University Routes with the Models of Ajzen, Schwartz and Triandis, *Environ. Behav.*, **35(2)**, 264-285 (2003)
16. Tonglet M., Phillips P.S. and Read A.D., Using the Theory of Planned Behavior to investigate the determinants of recycling behavior: A case study from Brixworth, UK, *Resour. Conservat. Recycl.*, **41**, 191-214 (2004)
17. Lim H. and Dubinsky A.J., The theory of planned behavior in e-commerce: Making a case for interdependencies between salient beliefs, *Psychol. Market.*, **22**, 833-855 (2005)
18. Ajzen I., The theory of planned behavior, *Organ. Behav. Hum. Decis. Process.*, **50**, 179-211 (1991)
19. Bagozzi R.P. and Bumkrant R.E., Attitude measurement and behavior change: A reconsideration of attitude organization and its relationships to behavior, *Adv. Consum. Res.*, **6**, 295-302 (1979)
20. Antil J.H., Socially responsible consumers: Profile and implications for public policy, *Journal of Macromarketing*, **4(2)**, 18-39 (1984)
21. Wessells C.R., Johnston R.J. and Donath H., Assessing consumer preferences for ecolabeled seafood: The influence of species, certifier and household attributes, *Am. J. Agr. Econ.*, **81(5)**, 1084-1089 (1999)
22. Engel J.F., Blackwell R.D. and Miniard P.W., Consumer Behavior – 7th edition, Forth Worth: The Dryden Press (1993)
23. Hallin P.O., Environmental concern and environmental behaviour in Foley, a small town in Minnesota, *Environ. Behav.*, **27(4)**, 558-578 (1995)
24. McCarty J.A. and Shrum L.J., The influence of individualism, collectivism and locus of control on environmental beliefs and behaviour, *J. Publ. Pol. Market.*, **20(1)**, 93-104 (2001)
25. Bobo L., Social responsibility, individualism, and redistributive policies, *Socio. Forum*, **6 (1)**, 71-91 (1991)
26. Brace I., Questionnaire Design: How to Plan, Structure and Write Survey Material for Effective Market Research, London: Kogan Page Publishers (2008)
27. Fornell C. and Larcker D.F., Evaluating structural equation models with unobservable variables and measurement error, *J. Market. Res.*, **48**, 39–50 (1981)
28. Straub D., Boudreau M.C. and Gefen D., Validation Guidelines for IS Positivist Research, *Comm. Assoc. Inform. Syst.*, **13**, 380-427 (2004)
29. Hair J.F., Anderson R.E., Tatham R.L. and Black W.C., Multivariate Data Analysis, 5th edition, Upper Saddle River, NJ: Prentice Hall (1998)
30. Kock N., Using WarpPLS in e-Collaboration Studies: Mediating effects, control and second order variables and algorithm choices”, *International Journal of e-Collaboration*, **7(3)**, 1-13 (2011)