

AN INQUIRY INTO THE ECOLOGICAL OPINIONS AND ATTITUDES ADOPTED BY MANAGERS AND EMPLOYEES HIRED IN THE INDUSTRIAL SECTOR

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ABSTRACT. In recent decades the issue of environmental strategies and behaviour of employees from industrial enterprises for environmental protection, based on proper understanding of the concept of sustainable development was addressed by many international organizations and many researchers. Our investigations have shown the usefulness of the exploratory correlative research in order to highlight the factors involved in forming and expressing ecological opinions and attitudes and their implementation the protection of the environment. Based on these factors, we also are underlining, among other things, the importance of corporate social responsibility.

Starting from the investigated socio-professional categories we believe that it is possible a future community-wide expansion of the influence, especially drawing on the educational roles performed by the specialists and the models they provide to the community members, in general.

Key Words: *social representations, social ecological representation, opinions, attitudes, pro-environmental attitudes, ecological behaviour, the new ecological paradigm, social responsibility of enterprises, sustainable development, sustainability*

1. Theoretical premises

Many researchers have pointed out that discrepancy between ecological attitudes and behaviours represents one of the main issues which research in the area of ecology is facing. Structurally, ecological attitudes, as any attitude, constitute a unity comprising three types of components: cognitive, affective and behavioural ones (Abrie, 1994; Hwang, Kim, Jeng, 2000; Vaske, Kobrin, 2001).

It has been found that at present the opinion according to which there are *several ecological attitudes* is commonly shared since a person can have a negative attitude towards a certain ecological issue and a positive one towards other issues (Moser, 2009).

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Attitudes concerning different ecological problems, as revealed by the measurements performed by Dunlap and Van Liere (1978), i.e. population, pollution, natural resources, and regulations adopted for environmental protection, have proved not to be strongly correlated.

Marguerat's and Cestre's (2002) analysis of research concerning ecological attitudes reveals that some research works have identified feeble correlations between ecological consciousness and the action of supporting environmental reforms (F.H. Buttell and W.L. Flinn, 1976, quoted by D. Marguerat and G. Cestre) (02). On the other hand, J. W. Lounsbury and L. G. Tornatzky (quoted by Gray, 1985) have analysed 78 ecological attitudes, which illustrate three main dimensions: *environmental degradation, overpopulation and pro-environmental actions*.

If some authors supported the idea of a general attitude towards ecology, others stated that such an attitude cannot have a single dimension and added that opinions about the complex domain of ecology are not simple, but rather complex and multi-dimensional (Gray, 1985; Steg, Sievers, 2000), a thesis which is valid today, too.

During the last decades, the issue regarding ecological strategies and the behaviour adopted by employees hired in industrial enterprises in order to protect the environment, issue which implies an adequate understanding of sustainable development, has been approached by a large number of international organizations (UNO, European Commission, UNESCO etc.) and researchers (Kals, Montada, Schumacher, 1999; Hwang, Kim, Jeng, 2000; Capron, Quairel-Lanoizelle, 2007; Caillaud, 2010).

The study belongs to the research works performed with a view to demonstrating the necessity of analysing ecological attitudes and behaviours for increasing social responsibility of enterprises.

2. The objectives, hypotheses and instruments of the inquiry

The objective of this inquiry is to bring into evidence the economic and ecological opinions, attitudes, strategies and policies that are specific for managers and employees hired in industrial enterprises regarding environmental protection.

The hypothesis we took as a starting point in this inquiry is the following one: it is supposed that currently there is a medium level of awareness as regards the necessity to put into practice economic and ecological opinions, attitudes, strategies and policies, as they were identified in the domain of industrial enterprises regarding environmental protection.

Surveyed subjects: 30 professionally active persons, coming from different branches of economy and aged between 20 and 67; the highest percentage was recorded for the following ages: 35, 37 and 51.

The instruments used in this inquiry were: *ECO-Balance Questionnaire regarding the Ecological Opinions and Attitudes Adopted by the Personnel Hired in Enterprises*, elaborated by us, and the *NEP (New Ecological Paradigm) Scale* – elaborated by Dunlap, R.E., Van Liere, K.D., Merling, A.G., Jones, R.E. (2000).

- **The Eco-Balance Questionnaire** approaches the following aspects: actions meant to raise ecological awareness, encourage environmental education and opinions regarding the impact of environmental measures over enterprise development within the present competitive environment, the opinion concerning the impact of an “ecological charter” of the enterprise, the attitude towards financing ecological policies and measures that are adopted in the enterprise, the opinion regarding environmental objectives and actions compatible with enterprise development, adequate environmental behaviour adopted by the management of the enterprise and the employees.

- **NEP Scale** facilitates a quantitative and qualitative analysis of the results obtained in consideration of the attitudes deriving from the new ecological paradigm, which is based on the main principles of sustainable development, through environmental individual and group behaviours and by putting into practice social responsibility of industrial enterprises and, in general, of economic institutions. NEP Scale hints at the following ecological aspects: *Anti-exceptionality* (the presumption that people reject the idea of human exceptionality, which assumes that human beings are above nature’s laws), *Anti-anthropocentrism* (which rejects the idea that nature would simply exist for serving and satisfying human interests and needs and the idea that nature lacks an inherent value of its own), *Limitation of growth* (the concern for the issues related to the ethical aspects implied by the exploitation and development of natural resources, the limitation of human interference in nature and the limitation of demographic growth in order not to surpass the sustainable capacity of the Earth), *Natural balance* (the idea of a natural balance endangered by inopportune human interference), *The ecological crisis* (the acute dependence of human beings on natural resources and the disastrous consequences of man’s interference in nature).

3. The results of the research

The hypothesis we adopted when starting this inquiry was confirmed. *The level of ecological awareness and values specific for the investigated employees who pursue their activity in industrial enterprises is a medium one, as confirmed by medium percentages (50-57%) calculated for evaluating the level of ecological opinions and attitudes which employees in the enterprise sector share and manifest. The same medium or relatively low percentage (40-47%) was obtained as to the strategies and policies promoted by the management of enterprises, boards of directors and environmental trade unions through allotting financial resources for ecological and anti-pollution measures.*

We consider relevant the fact that 26.7% of the surveyed employees regard ecological measures to be *significantly* helpful for the future competitive and economic environment, while 43.3% of them consider that these measures are *of great* help for the future competitive and economic environment.

The application of environmental protection measures in companies is a competitive advantage in the future competitive and economic environment.

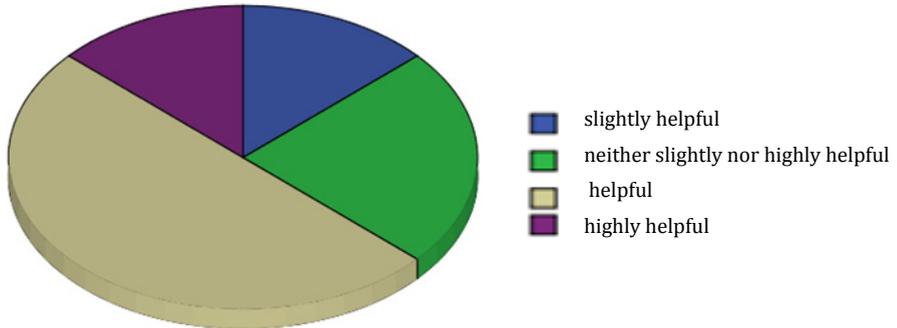


Fig. 1. The percentage calculated for subjects who consider that the application of ecological measures in enterprises constitutes an advantage for the future competitive and economic environment.

However, it is of significant importance the fact that 53.3% of the surveyed subjects consider that *signing an ecological charter within the enterprise where they are hired is the ideal method whereby the entire personnel is bound to respect and protect the environment.*

The signing of an “internal ecological charter” in the enterprise would be helpful for protecting the environment.

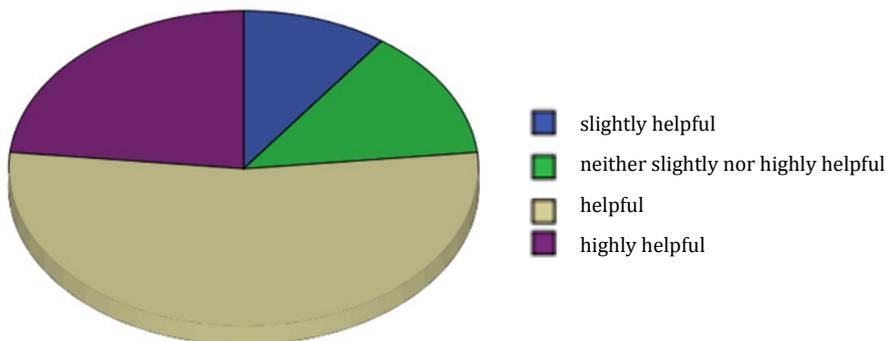


Fig. 2. The percentage calculated for subjects who consider that signing “an internal ecological charter” in their enterprise would be helpful for environmental protection.

The answers given by the surveyed subjects on the basis of the NEP questionnaire suggest that for one in the fifteen interrogated items *most of the surveyed subjects support positive convictions and attitudes towards nature and the environment* (Table 1).

Table 1. Percentages of the answers given to the NEP (New Environmental Paradigm) Questionnaire items

	Totally agree	Agree	Do not know	Disagree	Totally disagree
1. We come close to a limit as to the number of human beings which the Earth can sustain.	45.5%	30.5%	10%	5%	
2. Man is entitled to modify the environment according to one's needs.		10.5%	9.5%	48.5%	31.5%
3. Human interference in nature often has disastrous consequences.	68.5%	24.5%	7%		
4. Human skill is a guarantee of the fact that the situation in which the Earth would become unfit for living is not plausible.	55.5%	20.5%	24%		
5. Man seriously abuses the environment.	71.5%	28.5%			
6. The Earth has enough natural resources; we only have to learn how to exploit them.	24%	25.5%	15.5%	20%	15%
7. Plants and animals have the same rights to life as human beings.	39.5%	35.5%	10%	15%	
8. Natural balance is strong enough to face the impact caused by industrialized countries.		10%	10.5%	65%	14.5
9. In spite of our special abilities, we - as human beings - are subject to nature's laws, as well.	80.5%	15%	4.5%		
10. The so-called "ecological crisis" which mankind would be facing is far-fetched.		10%	5%	50%	35%
11. The Earth is like a spaceship which has a little space and little resources.	45%	34.5%	5.5%	15%	
12. Man is meant to rule nature.	4.5%	5.5%	10%	49.5%	30.5%
13. Natural balance is extremely fragile and can be easily broken.	55%	35.5%	9.5%		
14. Eventually man will have so much knowledge regarding the way in which nature functions that he will be able to control it.		8.5	11 %	45.5%	35%
15. If things continue to evolve as they have done so far we are soon going to face a disastrous ecological calamity.	25.5%	34.5%	5.5%	24.5	10%

On the whole the results of the present study agree with different Western research activities performed in the area of ecological attitudes and behaviours characteristic of employees hired in industrial enterprises and other economic organizations (Berger-Douce, 2006; Cabagnols, A., Le Bas, C., 2006). Thus, it

has been found that opinions, attitudes and behaviours adopted by employees in relation to the environment are determined to a great extent by the interaction of three categories of factors: *psycho-social, economic and ecological ones*.

4. Results interpretation

Employees hired in the industrial sector consider that future enterprise competition and development, related to a sustainable and long-term economic growth, requires the adoption of environmental measures. However, these measures depend to a great extent on allotted financial investments, which unfortunately are insufficient at present, as well as on a form of management that encourages the use of ecological technologies and also on the involvement of all employees, managers and trade unions in ecological actions.

The analysis of results obtained through the application of *NEP Scale* and *The Eco-Balance questionnaire* confirms that employees hired in the industrial sector *reject the "anthropocentric" perspective of the world*, according to which man rules nature and the environment is important only as long as it satisfies human needs by any means.

On the contrary, surveyed subjects predominantly have an *"eco-centric" perspective*, are aware of the limited natural resources and the possible emergence of an ecological crisis, considering that ecological attitudes and behaviours must be encouraged. It can be concluded that as to the surveyed subjects one can notice a link between, on the one hand, their personal opinions, values and norms regarding ecological behaviour in industrial processes and, on the other hand, the perspective they have as to environmental protection. According to the *"eco-centric" perspective* measured through *NEP Scale*, the representation of the world is based on the idea that the environment is a complex system within which flora and fauna interact, as natural resources, and their use by human beings are closely linked. Thus, one can consider that *"eco-centric" opinions and beliefs* may predict ecological attitudes and behaviours, as well as the adoption thereof within the long-term and sustainable development paradigm.

5. Conclusions

The present study demonstrates the usefulness of the research work performed in the field of environmental psychology, which we regard as a border discipline between social psychology and organizational psychology. So far, in our country, *social, societal and ecological* components – characteristic of *social responsibility manifested by industrial enterprises* – have not been properly emphasised. That is why we suggest that at enterprise managerial level it is necessary to apply the principles of *Environmental psychology* and *Organizational*

psychology offering, thus, more opportunities for employees to participate in environmental activities and to influence decision-making processes in the field of ecology; the result would be a positive pro-environmental influence on the *economic, industrial and competitive field of activity*.

Prudent exploitation and use of the natural patrimony values, the proper settlement of the vital ecological problem requires the creation of a new – coherent and active – ethics that would regulate the relation between humans and the environment with a view to preserving ecological values; in other words, it is necessary to adopt attitudes and behaviours which are in favour of a prudent exploitation of natural resources.

We consider that the analysis of social representations, ecological opinions and attitudes constitutes a starting point and a valuable source of information for supporting decision-making factors and promoting, as well as evaluating the efficient initial and continuous training programmes which are offered to different categories of specialists who provide ecological education to citizens.

Starting from the investigated socio-professional categories we believe that it is possible a future community-wide expansion of the influence, especially drawing on the educational roles performed by the specialists and the models they provide to children, young people and, in general, to community members.

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