THE YEARBOOK OF THE „GH.ZANE" INSTITUTE OF ECONOMIC RESEARCH
VOL. 20, ISSUE 2, 95-102, 2011

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QUALITATIVE ASSESSMENTS AND OPTIMAL DECISION UNDER UNCERTAINTY USING RECTANGULAR FUZZY NUMBERS[1]

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Abstract :

In crisis situations, uncertainty emerges as a distinct phenomenon, in which case we face both the ineffectiveness of most theoretical models of decision-making and the inaccuracy and incompleteness of available information. It is therefore necessary to intensify theoretical efforts and to apply interdisciplinary approaches and transfers of methods in order to construct a set of procedures and techniques that should contribute to curbing this phenomenon in decision-making processes. The transition from the state of crisis to the state of opportunity becomes the ground on which technocratic, structural, cultural and political approaches make a difference in managing. The qualitative analysis of the level of uncertainty provides an optimal insight into the best management techniques and methods that may contribute to achieving development objectives under crisis conditions. To conduct such an assessment process, we propose the use of rectangular fuzzy numbers. In this paper, first we develop a personal analysis of the notion of rectangular fuzzy numbers with an associated variable center of gravity and specific mathematical operations. Our research continues by the theoretical and applicable development of the "optimistic method (max-max)". *Acknowledgement This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/89/1.5/S/56815.*

Keywords: *qualitative assessment, rectangular fuzzy numbers , "optimistic method (max-max)".*

1. Introduction

The analysis of uncertainty in the business environment represents a constant priority for management. The current socio-economic context has prompted the development of research efforts in various fields on the dysfunctions generated by crises, with particular emphasis on their causes, emergence and manifestation and on their immediate and future consequences.

There is no "standard" method used as a panaceum to reduce decision-making uncertainty[2]. The technocratic approach on management is only valid on a free-competition market, with equal chances for everyone. In practice, this is a utopia. Knowledge-based economy changes the exogenous environment of decision, where the dominant aspects are, for example: data amount sometimes exceeds data-processing capacity, main competitors have the same information sources. A knowledge-based economy has also disadvantages, i.e. lower predictability[3].

The ongoing crisis is a particularly obvious symptom, which has brought about an open conflict between economic, political and social actors. It is therefore vital to properly recognise and assess uncertainties from the contingency perspective of the context of their

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An. Inst.Cerc.Ec.„Gh. Zane", t. 20, i.II, Iaşi, 2011, p. 95-102

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occurrence, to comprehend their dynamic and the threats they pose to the history, culture and available resources of society, and to factor in the capacity for flexibility and adaptability, the technological potential, etc.

The need for customised analysis based on the specifics of a particular field involves the identification and prediction of those situations or sets of specific particular circumstances, which directly influence activities as they unfold. They can be the result of actions and regulations at the micro and macroeconomic, social, and legal level, of technical and technological transformations, or of doctrines, theoretical and cultural concepts embraced at a particular moment and in a particular territorial space.

The interaction of these factors leads to the emergence of decision consequences that are difficult to anticipate and even harder to control, creating uncertainties that are difficult to absorb. The features which underlie the assessment of uncertainty differ from one field to another (i.e. economic, social, political, etc.), each featuring a panel of specific qualitative and quantitative indicators expressing the particular context and each resorting to different models of assessment and representation.

2. Qualitative assessment of the level of uncertainty *using rectangular fuzzy numbers*

In the most widely accepted points of view, decision-making under uncertainty conditions (e.g. I.Verboncu, O. Nicolescu, O. Snack, G. Aluja) are defined as situations in which the probability of achieving the objectives is high, yet there exist serious doubts as to the course of action to be taken. The emphasis is thus placed on factoring in a large number of variables, some of which are insufficiently controllable and whose evolution is difficult to forecast.

A different point of view from those outlined above deals with uncertainty as a key characteristic of life and as a source of progress, without distancing itself from the psychological view. Thus, in a progressive approach, Orio Giarini stated that "uncertainty may be described as the sum of all potential hazards around us, perceived or not". Life's uncertainties must be accepted as a reality, as the raw material for development and as an opportunity for maturity and real growth[4].

We propose the following as the main stages in the qualitative assessment of the level of uncertainty based on fuzzy numbers[5]:

I. problem statement (analysis of the input data/of information)
II. formulating the main lines of assessment
III. defining the groups of experts carrying out assessment in the various specialist fields
IV. qualitative assessment performed by experts (define the qualitative model; establish the qualitative assessment criteria for each specialist field; define indicators and scale items; complete the assessment scale – establish the actual measurement tool; uniform implementation of the assessment scales, assessment.
V. formalizing the process of fuzzy number-based strategy assessment (choose the best fuzzy-based method to formalise information; formalise information uncertainty – the absorption matrix; determine the logical assessment criteria)
VI. ranking the strategies (identify the optimal method of ranking the outcomes expressed as fuzzy numbers -regular ordering, distance from the optimum, etc. ; rank the solutions.)
VII. determine the optimal option;

[4] Orio Giarini, Walter R. Stahel, *Limitele certitudinii* [Original EN title: The Limits to Certainty], Editura Edimpres-Camro, Bucharest, 1996, p. 318, 327

[5] C. Alecu (2011) , *Epistemic analysis of methods using elementary triangular fuzzy numbers with associated indicators*, "The Yearbook of the „Gh.Zane„ Institute Of Economic Research-Iassy", Bucuresti: Editura Academiei Române, Volumul 20, http://ideas.repec.org/a/zan/ygzier/v20y2011i1p5-12.html

VIII.6 feedback provided to experts.

There are many questions regarding the way in which an enterprise can become involved with logically grounded arguments in this management game[6].

Thus, the transition from the state of crisis to the state of opportunity becomes the ground on which technocratic, structural, cultural and political approaches make a difference in managing an organisation. In the knowledge management process, uncertainties emerge on the path from collecting data to gaining knowledge within the organisation and are dependent on technological constraints, accessibility, processing methods, theoretical models employed, and, last but not least, the human input[7].

3. Elementary rectangular fuzzy numbers with associated weight centers

A elementary rectangular fuzzy numbers[8] is $A=(a_m , a_M)\in I_{dr}$ defined by $\mu_A: R\rightarrow[0,1]$,

$\mu_A = \begin{cases} 1, daca & x \in [a_m, a_M] \\ 0, daca & x \notin [a_m, a_M] \end{cases}$, where $-\infty < a_m < a_M < +\infty$

We define the variables associated weight center: $G_\alpha(A) = a_N + (\alpha - 1)\cdot S_L(A) + \alpha \cdot S_R(A)$

where:

$\alpha \in R, \alpha \in [0,1]$ - uncertainty absorption indicator

Middle nucleus: $a_N(A) = \frac{a_m + a_M}{2} \in R$

Left and right aria: $S_L(A) = a_N(A) - a_m = \frac{a_M - a_m}{2} \in R \quad S_R(A) = a_M - a_N(A) = \frac{a_M - a_m}{2} \in R$

Using two elementary rectangular fuzzy numbers with variables associated weight centers: $A_\alpha = (a_1; a_2)_\alpha$, $B_\beta = (b_1; b_2)_\beta \in F_{dr}$, and $\alpha, \beta \in [0,1]$ the two levels of assumed uncertainty. We define these operations[9]:

Addition: $A_\alpha(+)B_\beta = C_\gamma = (c_1, c_2)_\gamma = \begin{cases} c_1 = a_1 + b_1 \\ c_2 = a_2 + b_2 \\ \gamma L_{sp}(C) = \alpha L_{sp}(A) + \beta L_{sp}(B) \end{cases}$

.***Substraction :*** $A_\alpha(-)B_\beta = C_\gamma = (c_1, c_2)_\gamma = \begin{cases} c_1 = a_1 - b_2 \\ c_2 = a_2 - b_1 \\ \gamma L_{sp}(C) = \alpha L_{sp}(A) + (1-\beta) L_{sp}(B) \end{cases}$

Multiplication by a scalar $t \in R$***:*** $C_\gamma = tA_\alpha = \begin{cases} (t * a_1, t * a_2), \gamma = \alpha & t \geq 0 \\ (t * a_2, t * a_1), \gamma = 1 - \alpha & t < 0 \end{cases}$

Multiplication : $A_\alpha * B_\beta = C_\gamma = (c_1, c_2)_\gamma = \begin{cases} c_1 = \frac{a_1 * G(B) + G(A) * b_1}{2} \\ c_2 = \frac{a_2 * G(B) + G(A) * b_2}{2} \\ \gamma = \alpha\beta \end{cases}$

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[6] C. Alecu (2008), *The use of fuzzy numbers in evaluating human resources in uncertain circumstances*, ,,The Yearbook of the ,,Gh.Zane,, Institute Of Economic Research-Iassy", Bucuresti: Editura Academiei Române, Volumul 17

[7] C. Alecu , (2011), *Error analysis in management processes using fuzzy numbers* , Knowledge and Action within the Knowledge Based Society , Nr 11., Iasi, Editura Institutul European

[8] Gherasim O. (2005), *Matematica numerelor fuzzy triunghiulare*, Iasi: Editura Performantica

[9] Ciprian Alecu, *Laplace method development using basic rectangular fuzzy numbers*, "Economics, Management and Financial Markets", Addleton Academic Publisher, Volume 6, 2011, pp. 475

Division $A_\alpha * B_\beta = C_\gamma = (c_1, c_2)_\gamma = \begin{cases} c_1 = \dfrac{a_1 * G(B) + G(A) * b_1}{2 * G(B)^2} \\ c_2 = \dfrac{a_2 * G(B) + G(A) * b_2}{2 * G(B)^2} \\ \gamma = \alpha(1-\beta) \end{cases}$

Ranking criteria

Ranking fuzzy numbers rectangular with associated weight centers shall be based on several successive criteria:

-Weight ranking criteria: $\begin{cases} G(A_\alpha) > G(B_\beta) \Rightarrow A_\alpha > B_\beta \\ G(A_\alpha) < G(B_\beta) \Rightarrow A_\alpha < B_\beta \end{cases}$

-Middle nucleus ranking criteria (if $(G(A_\alpha) = G(B_\beta)$ *:* $\begin{cases} N(A_\alpha) > N(B_\beta) \Rightarrow A_\alpha > B_\beta \\ N(A_\alpha) < N(B_\beta) \Rightarrow A_\alpha < B_\beta \end{cases}$

-Ranking criteria based on nucleus length and the sign:

$$\left.\begin{matrix} G(A_\alpha) = G(B_\beta) \\ N(A_\alpha) = N(B_\beta) \end{matrix}\right\} \rightarrow \begin{cases} sign(A_\alpha) L_{sp}(A_\alpha) < sign(B_\beta) L_{sp}(B_\beta) \Rightarrow A_\alpha > B_\beta \\ sign(A_\alpha) L_{sp}(A_\alpha) > sign(B_\beta) L_{sp}(B_\beta) \Rightarrow A_\alpha < B_\beta \end{cases}$$

The optimistic method (maxmax)

The method starts from the idea that the optimum is given by the variant that has maximum advantages when the objective conditions have most favourable trends.

The principles of this method thus take the form of an ***optimistic criterion*** because it starts from the premise of a favourable, ascending evolution of the events (the hypothesis is risky and seldom occurs in practice). Therefore, rationally the optimum means the preference for the variant that will maximize the best possible results.

Be considered as optima that decision which satisfies the condition:

$$D^* = \max_i \max_j \{[I_{\alpha_{ij}}]_{ij}\}$$

where :

- $[I_{\alpha_{ij}}]_{ij}$ - consequences of decision taken by the manager for decision Di evaluated by Cj.
- I_α- elementary rectangural fyzzy nembers with associated weight centers
- - D* is the optim decision by optimistic criterion.

In the following case study we use a single indicator for absorbing uncertainty.

So the optimistic criterion ensures the selection of the variant with the highest yield potential but usually there are considerable risks when doing that.

The matrix of decision consequences obtained, the method needs the following steps to be taken: 1. - obtain a maximum for every line of the results that are the most certain and can be obtain in this way $D_i^* = \max_j \{[R_{\alpha_{ij}}]_{ij}\}$;2.- obtain a maximum for these partial results; $D^* = \max_i \{D_i^*\}$;3.- identify the optimum variant (variant D_i corresponding to D*).

Notes:

-6 *the courses of action considered are feasible based on the available resources;*

-6 *the assessed characteristics are specific to the field of activity and structured according to the experts' areas of competence;*

-6 *these characteristics are jointly determined by the groups of experts in order to enable a unified qualitative overview of courses of actions;*

-6 *a unified assessment system is defined, to ensure comparability of outcomes;*

-6 *qualitative assessment will yield a set of standardised values which will be applied to a unified system of decision-making techniques*

-6 *a matrix of outcomes is derived; the elements of the matrix are rectangular fuzzy numbers*

-6 *by mapping only the mode of defining the indicators of fuzzy numbers, a matrix of centres of gravity will result.*

Case study:

Suppose a decision problem that has more valued course of actions (activities, relationships, products, services) through a Linkert scale by multiple knowledge workers. Linkert scale allows us to assess the quality characteristics and special assignment of numerical levels of preference.

We propose to issue a decision problem consists of three courses of action ($i = \overline{1,3}$) evaluated on the basis of four consequences / conditions of nature ($j = \overline{1;4}$).

Suppose that through the implemented management strategies a high degree of uncertainty absorption is obtained, , so it satisfies the condition of assuming a single α.

$$\alpha_{ij} = \alpha, \qquad \forall D_i \quad or\, C_j, i = \overline{1;4} \quad si \quad j = \overline{1;4}$$

We analyze the optimal solution for $\alpha \in [0;1]$, as an expression of uncertainty absorbed.

For our problems, consequence matrix for each course of action will have the following form:

Consequences matrix (single α)

D_i / S_j	C_1	C_2	C_3	C_4
D_1	$[2;4]_\alpha$	$[1;4]_\alpha$	$[2;3]_\alpha$	$[1;6]_\alpha$
D_2	$[1;5]_\alpha$	$[1;7]_\alpha$	$[2;4]_\alpha$	$[2;3]_\alpha$
D_3	$[3;4]_\alpha$	$[2;4]_\alpha$	$[2;6]_\alpha$	$[1;5]_\alpha$

1.6 To obtain a maximum for every line means to hierarchize the four rectangular fuzzy numbers. So the hierarchization criteria will be applied one by one if needed.

Thus we will first determine the centres of weight associated to every fuzzy number, and so a new matrix is obtained:

Centres of weight associated *matrix (single α)*

D_i / S_j	C_1	C_2	C_3	C_4
D_1	$G_{11} = 2 + \alpha * (4-2)$	$G_{12} = 1+ \alpha * (4-1)$	$G_{13} = 2+ \alpha * (3-2)$	$G_{14} = 1+ \alpha * (6-1)$
D_2	$G_{21} = 1 + \alpha * (5-1)$	$G_{21} = 1+ \alpha * (7-1)$	$G_{23} = 2+ \alpha * (4-2)$	$G_{24} = 2+ \alpha * (3-2)$
D_3	$G_{31} = 3 + \alpha * (4-3)$	$G_{32} = 2+ \alpha * (4-2)$	$G_{33} = 2+ \alpha * (6-2)$	$G_{34} = 1+ \alpha * (5-1)$

This hierarchization, as seen in the matrix, depends on the variation of α on the interval [0;1] and therefore several inequations are to be solved:

$$G_{11} = 2 + \alpha * 2$$
$$G_{12} = 1+ \alpha * 3$$
$$G_{13} = 2 + \alpha$$
$$G_{14} = 1+ \alpha * 5$$

Depending on $\alpha \in [0;1]$ we see that $G_i^* = \max_j \{G_{ij}\}$ differs from case to case:

- if $\alpha \in [0;\frac{1}{4})$, then $G_{12} < G_{14} < G_{13} < G_{11} \Rightarrow I_{12} < I_{14} < I_{13} < I_{11}$

-if $\alpha \in (\frac{1}{4};\frac{1}{3})$, then $I_{12} < I_{13} < I_{14} < I_{11}$

- if $\alpha \in (\frac{1}{3};\frac{1}{2})$, then $I_{12} < I_{13} < I_{11} < I_{14}$

-if $\alpha \in (\frac{1}{2};1)$, then $I_{13} < I_{12} < I_{11} < I_{14}$

The additional application of the second hierarchization criteria is needed when the centres of weight are equal, for $\alpha \in \{\frac{1}{4};\frac{1}{3};\frac{1}{2};1\}$.

- For $\alpha = \frac{1}{4}(G_{13} = G_{14})$, then will use second ranking criteria $N(I_{13}) < N(I_{14}) \Rightarrow I_{13} < I_{14}$ - in this conditions: $I_{12} < I_{13} < I_{14} < I_{11}$
- For $\alpha = \frac{1}{3}(G_{11} = G_{14})$, we compare $N(I_{11}) < N(I_{14}) \Rightarrow I_{11} < I_{14}$ - , then $I_{12} < I_{13} < I_{11} < I_{14}$
- For $\alpha = \frac{1}{2}(G_{12} = G_{13})$, we observe $N(I_{12}) = N(I_{13}) \Rightarrow$ - inconclusive – then will use third ranking criteria: $\left.\begin{matrix} sign(I_{32}) * L_{sp}(I_{32}) = 1*3 \\ sign(I_{34}) * L_{sp}(I_{34}) = 1*1 \end{matrix}\right\} \Rightarrow I_{12} < I_{13}$, and, in this conditions $I_{12} < I_{13} < I_{11} < I_{14}$
- For $\alpha = 1 \quad (G_{11} = G_{12})$, inconclusive, but $N(I_{31}) > N(I_{34}) \Rightarrow I_{31} > I_{34}$ - then $I_{34} < I_{31} < I_{32} < I_{33}$

After all $\begin{cases} \max\limits_{j}\{I_{1j}\} = I_{11}, & \alpha \in [0;\frac{1}{3}) \\ \max\limits_{j}\{I_{1j}\} = i_{14}, & \alpha \in [\frac{1}{3};1] \end{cases}$

On second ***line ,*** the first criterion involves centers of gravity associated with the following hierarchy:

- $\alpha \in [0;\frac{1}{5})$ - $G_{21} < G_{22} < G_{24} < G_{23}$
- $\alpha \in (\frac{1}{5};\frac{1}{4})$ - $G_{21} < G_{24} < G_{22} < G_{23}$
- $\alpha \in (\frac{1}{4};\frac{1}{3})$ - $G_{21} < G_{24} < G_{23} < G_{22}$
- $\alpha \in (\frac{1}{3};\frac{1}{2})$ - $G_{24} < G_{21} < G_{23} < G_{22}$
- $\alpha \in (\frac{1}{2};1]$ - $G_{24} < G_{23} < G_{21} < G_{22}$

The additional application of the second and third hierarchization criteria is needed when the centres of weight are equal, for $\alpha \in \left\{0;\frac{1}{5};\frac{1}{4};\frac{1}{3};\frac{1}{2};1\right\}$.

After all $\begin{cases} \max\limits_{j}\{I_{2j}\} = I_{23}, & for \quad \alpha \in [0;\frac{1}{4}) \\ \max\limits_{j}\{I_{1j}\} = I_{22}, & for \quad \alpha \in [\frac{1}{4};1] \end{cases}$

On third line :

- $\alpha \in [0;\frac{1}{3})$ - $I_{34} < I_{32} < I_{33} < I_{31}$
- $\alpha \in [\frac{1}{3};\frac{1}{2}]$ - $I_{34} < I_{32} < I_{31} < I_{33}$
- $\alpha \in (\frac{1}{2};\frac{2}{3}]$ - $I_{32} < I_{34} < I_{31} < I_{33}$

-6 $\alpha \in (\frac{2}{3};1]$ - $I_{32} < I_{31} < I_{34} < I_{33}$

We analize the special situations for $\alpha \in \left\{\frac{1}{3};\frac{1}{2};\frac{2}{3};1\right\}$.

2.6 The second stage involves determining the optimum: $D^* = \max_i\{D_i^*\}$.

Determination of the optimum for *single* α

	Caz I	Caz II	Caz III	Caz IV
D_i /α	$\alpha \in [0;\frac{1}{4})$	$\alpha \in [\frac{1}{4};\frac{1}{3})$	$\alpha = \frac{1}{3}$	$\alpha \in (\frac{1}{3},1]$
D_1	V^*_1=[2,4]	V^*_1=[2,4]	V^*_1=[1,6]	V^*_1=[1,6]
D_2	V^*_2=[2,4]	V^*_2=[1,7]	V^*_2=[1,7]	V^*_2=[1,7]
D_3	V^*_3=[3,4]	V^*_3=[3,4]	V^*_3=[3,4]	V^*_3=[2,6]

Caz I $\alpha \in [0;\frac{1}{4})$***:*** in this case $\max(D_i^*) = D_3^*$.

Caz II $\alpha \in [\frac{1}{4};\frac{1}{3})$***:*** To obtain $\max_i(D_i^*)$ we rank the following centers of gravity:

$2+\alpha;$

$1+\alpha*7;$

$3+\alpha$

Then $\max_i(D_i^*) = D_3^*$;

Caz III $\alpha = \frac{1}{3}$***:*** in this case $\max(D_i^*) = D_3^*$.

Caz IV $\alpha \in (\frac{1}{3},1]$: For different value of α :

- $\alpha \in [\frac{1}{3};\frac{2}{5})$, then $\max_i(V_i^*) = V_3^*$

- $\alpha \in [\frac{2}{5};1)$, then $\max_i(V_i^*) = V_2^*$

3.6 The third stage involves identifying optimal variant

Depending on the evolution of the α, the optimal variant would be::

- for $\alpha \in [0;\frac{2}{5})$**, D*=D3 ;**

- for $\alpha \in [\frac{2}{5};1)$**, D*=$D_2$.**

Conclusions

As we shall observe, multidisciplinarity is the hallmark of these management approach, as it integrates a series of sociological, psychological, statistical, mathematical, legal, etc. methods into an approach that is tailored to a particular activity.

As we can see, true this development of traditional methods with rectangular fuzzy numbers represents a technocratic answer to a call of interdisciplinary approach of decision-making under uncertainty. Through this demonstration, we see that it is possible to combine several different strategies and indicators, qualitative and quantitative.

By methods using rectangular fuzzy number with associated indicators to evaluate the quality of various relationships within and outside the organization the knowledge workers can generate solutions based on logical criteria in conditions of high uncertainty.

Acknowledgement

This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/89/1.5/S/56815.

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THE YEARBOOK OF THE „GH.ZANE" INSTITUTE OF ECONOMIC RESEARCH
VOL. 20, ISSUE 2, 103-112, 2011

DEMOGRAPHIC TRANSITION AND ECONOMIC GROWTH IN ROMANIA

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Abstract

In Romania, the phenomenon of demographic transition has been present since the second half of the last century, having certain features also met in the developed countries: the drop in fertility, the increase in life expectancy, the decrease in infant mortality. After 1990, the phenomenon of demographic transition has been emphasized by the effects of society's transition from the communist model to the market one. Besides the two coordinates which are specific for the demographic transition, the drop of fertility and infant mortality, the demographic behaviour of Romania also presents features encountered only in the countries from the former communist bloc: the increase in mortality and decrease in natality, which have led to a negative natural growth, the registration of a negative migration increment, the decrease in nuptiality. All these have triggered the continuous population decline from one year to another and the accentuation of the phenomenon of demographic ageing. The crisis of demographic transition in Romania has important economic and social consequences, both in the present and in the future. The goal of this paper is to highlight the determinants of demographic transition in Romania and to assess its effects on economic development by means of an econometric model.

Keywords: *Demographic transition, fertility, infant mortality, economic growth, econometric model*

1. Introduction

The economists and specialists from the social sciences have long debated over the demographic changes and economic development (N. Birdsall, C.A. Kelley, and S.W. Sinding, eds., 2001). Three possible scenarios have been preferred in this respect: demographic migrations promote, restrict or are independent from economic growth. Demographic changes particularly aim at the structure and size of population as well as at the evolution of basic demographic phenomena: birth rate, mortality, migration etc. According to the three possible scenarios, three theories were developed regarding the relationship between demography and economy: the pessimistic theory (firstly formulated by Malthus in 1798), the optimistic theory (S. Kuznets, 1976, J. Simon, 1981, E. Boserup 1981) and the neutral theory.

As a general rule, the results of the research on fertility and mortality conducted both by economists and demographers highlighted the existence of a relationship between these demographic phenomena and economic development. The fundamental hypothesis which could be inferred from these studies is that the total birth rate and the infant mortality rate are negatively correlated with economic growth, while the population growth rate is positively correlated, still without much impact on economic growth.

An important direction of research of the relationship between demography and economy is represented by the design of growth models that take into consideration the demographic transformations at the level of a country or a region. The specialty literature contains such models which rely on the economic growth models (a synthesis about these models can be met in Baro 1995): exogenous (Solow, 1956), endogenous (Romer, 1990), semi-endogenous (Jones, 1995).

Starting from these models, it was attempted to build models of population and of economic growth, meaning growth models where the demographic component appears as an exogenous, endogenous or semi-endogenous factor (L. Weber, 2010). As a rule, these are

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theoretical models which have not been empirically tested for their most part. In literature, there are also cases when these models were applied to real economic and demographic situations (Altăr 2008, Barlow 1994, Savaş 2008).

The most significant dynamics of population at European and global level occurred in the second half of the XXth century, a phenomenon which is called by specialists the demographic transition (Notestein 1945). This phenomenon can be noticed in the change of population growth rates, of the structure by age groups of the population and in the dynamics of main demographic phenomena. The demographic transition has two major components: an initial decline in infant mortality and a subsequent significant drop in fertility. In Romania, this phenomenon has made its debut since the communist period, despite the pro-birth policies of the respective regime.

Certain empirical studies on demographic transition and economic growth show that for the industrialized economies with reduced mortality rates, a long-term decrease in infant mortality is accompanied by a decrease in fertility, having as a consequence the economic growth, under certain conditions of economic performance and of the labour market. The studies also show that an increase in the real wages determines economic growth, concurrently with a decrease in nuptiality and fertility (Hondroyiannis and Papapetrou 2002, 2003).

In the Central and Eastern European countries, demographic transition entered a crisis stage, disregarding the theoretical models established for this phenomenon in the developed countries or in the countries with emergent economies (Cornia and Paniccià). Moreover, in these countries, as it is also the case for Romania, aside from the decrease in fertility and infant mortality, an important increase in mortality and a decrease in nuptiality are registered. In these countries the economic growth is also fluctuant, circumstantial, with irregular, difficult to anticipate variations.

In this paper we analyse the main determinants of demographic transition phenomena and the correlations between demographic variables and economic growth in Romania for the period 1990-2010, using descriptive statistics and econometric modelling method. The main idea of the paper is to test empirically a few assumptions of the demographic transition theory. We expect that for Romania should not be met the hypotheses of demographic transition theory and of economic growth, as they were developed in the literature, especially in relation to the developed countries. We would also like to analyze whether within the demographic transition phenomenon the evolution of mortality is important as well as its effect on economic growth. At the same time, we consider that the understanding of the demographic transition mechanism under these crisis circumstances is very important in the decision making process for the future social and economic development strategies.

After a short literature review presented in this section, the next one deals with a brief statistical analysis of demographic transition and economic growth in Romania. In the next section are presented some methodological issues. The presentation of results of econometric modelling process comes next, exploring the correlations between demographic variables and economic growth in Romania. The paper ends with concluding remarks and references.

2. Demographic transition coordinates and economic development in Romania

In compliance with the specialty literature, the phenomenon of demographic transition has two significant coordinates: a decline in infant mortality and an important reduction of fertility. We will analyze these elements for Romania, using the official statistical data starting with the year 1975 in order to better underline the evolution trends of demographic phenomena. Moreover, in our analysis we will consider the evolution of population and mortality growth rate. The dynamics of economic growth is rendered by means of the GDP growth rate. In the analysis we will also take into account the evolution of the labour force growth rate, the real wage index and the net investment rate during 1990-2010.

a. The evolution of infant mortality

Infant mortality is not only an indicator of the demographic situation of a country, but also of its level of economic and social development. The decreasing trend of this indicator in EU is correlated with economic growth and improvement of life conditions, with the increase in medical and social care and technological progress. The reduction of this indicator is also correlated with the birth rate evolution, the risk of deaths under the age of 1 year being lower and the number of live births registers a general downward trend.

In Romania, infant mortality has registered a continuous decreasing trend while in the last 35 years there has been an almost linear downward trend, with certain fluctuations towards the end of the '80s (Figure 1.). This process is correlated with a higher level of urbanization and industrial development.

The rate of 10 deaths for children under 1 of age per one hundred live births represents the lowest infant mortality rate in Romania, but it is the highest rate in the European Union in 2010, being two times higher than the EU average. This decreasing trend meets the basic hypothesis of the demographic transition phenomenon, but in Romania it is caused by the specific conditions of a former communist society.

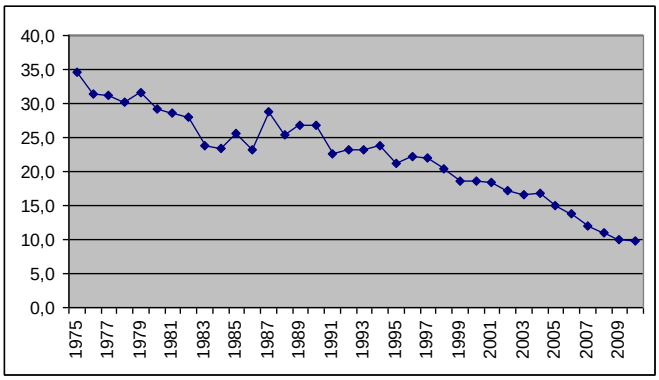

Figure 1. The infant mortality rate in Romania between 1975 and 2010
Source: Done by the authors according to the data provided by EUROSTAT, 2011

Romania registered the highest infant mortality rate in the EU throughout the period 1990-2010, with Bulgaria having values closer to our country. This situation is obviously correlated with the economic and social evolution of Romania in the last 20 years and particularly with the strong natality downfall. Since 1992, Romania has registered a negative natural growth while the crude birth rate has continuously decreased and after 2000, it has registered slight fluctuations around the value of 10 births per 1000 inhabitants.

b. The evolution of total fertility rate

As it can be noticed from Figure 2., after 1990 Romania has reached the negative demographic situation when the old generations cannot be replaced by the new ones anymore, having a total fertility rate of below 2.1 children born by a woman.

The crude birth rate has decreased from 13.9 in 1990 to approximately 10 newborns per one thousand inhabitants in 2010. It is important to underline that comparatively with 1990, in 2010 the newborn generation is one third smaller, decreasing from 310 thousand to approximately 210 thousand live newborns.

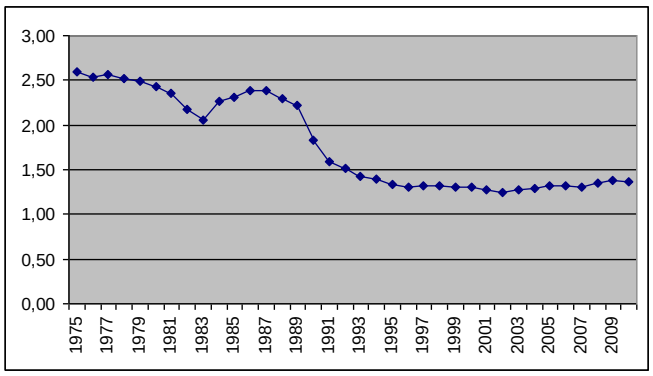

Figure 2. Total fertility rate in Romania between 1975 and 2010
Source: Done by the authors according to the data provided by EUROSTAT, 2011

In line with the decreasing trend of fertility rate after 1990, in Romania there is an increasing trend of crude mortality rate. This will exceed the crude birth rate starting with the year 1992 (this year the birth rate decreased to 11.4 while the mortality rate increased to 11.6 deaths per one thousand inhabitants), leading to a negative natural growth that will be preserved until the present. This mortality increase is explained in the specialty literature by means of some risk factors specific to the post-communist societies, especially factors that increase the risk of diseases and deaths in middle-aged persons.

c. The evolution of population growth rate and occupation rate

In 2007, the year of adherence to the EU, Romania was a country with 21.5 mil inhabitants and ranked 7th by effective population size, of the total of the 27 countries that compose the EU. If the current decreasing trend of population and the negative natural growth continues, Romania will lose this advantage and in the next 30 years the estimated average population will be of 16 mil inhabitants.

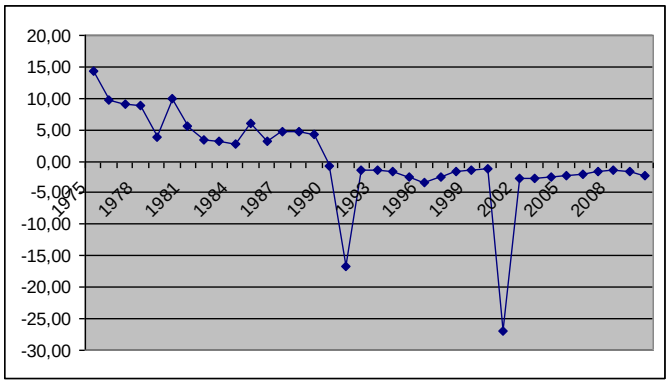

Figure 3. The growth rate of the population in Romania between 1975 and 2010
Source: Done by the authors according to the data provided by EUROSTAT, 2011

On a whole, since 1975 until the present, the population growth rate in Romania is decreasing, which represents a sign of the demographic transition started during the communist period. Besides the natality shock caused by the abortion law enacted in 1966, Romania's natality goes through a continuous downward trend since the beginning of the XXth century. This trend is noticeable in the continuous decrease in the population growth rate until it stops and reverses its direction.

The population growth rate is negative starting with the year 1990 from at least two reasons: the migration increment is negative and the natural growth is also negative. Romania's demographic decline admits features specific to other countries belonging to the former communist bloc. In these countries, the transition period of the entire society accelerated the process of demographic transition and accentuated the negative development

of certain demographic phenomena such as migration, natality, mortality and nuptiality. The effects of population decrease have in the first stage an economic impact through the increase in the degree of demographic and economic dependence.

d. The evolution of economic growth rate and activity rate

In Figure 4 it can be observed that after 1990 the economic development in Romania is fluctuant, with rapid changes from negative growth rates to positive ones and the other way round.

A relatively stable period was during the years 2000-2008, but it is well known that these high rates of GDP increase were not strongly determined by a real growth of the Romanian economy. The global economic crisis dramatically affected Romania as well, with a strong variation of growth rate in 2009 and a slight rebound in 2010 as a consequence of anti-crisis measures.

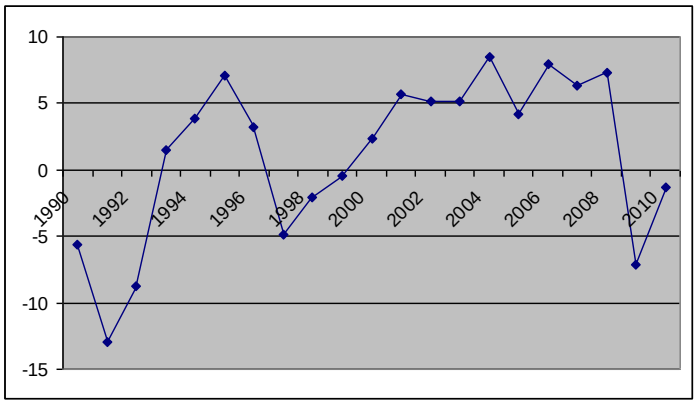

Figure 4. The GDP growth rate in Romania between 1990 and 2010
Source: Done by the authors according to the data provided by EUROSTAT, 2011

As it can be noticed in Figure 5, the active population growth rate does not register a trend, but fluctuations reflecting the social and economic situation of Romania during certain shorter periods of time. The positive values of the rate are registered at the beginning and the end of the period under analysis, and during 1994-2005 the rate has negative values. Between 1992 and 1996 we witness a strong decrease in the occupied population growth rate, due to migration and economic changes caused by the transition process Romania has gone through after the fall of the communist regime.

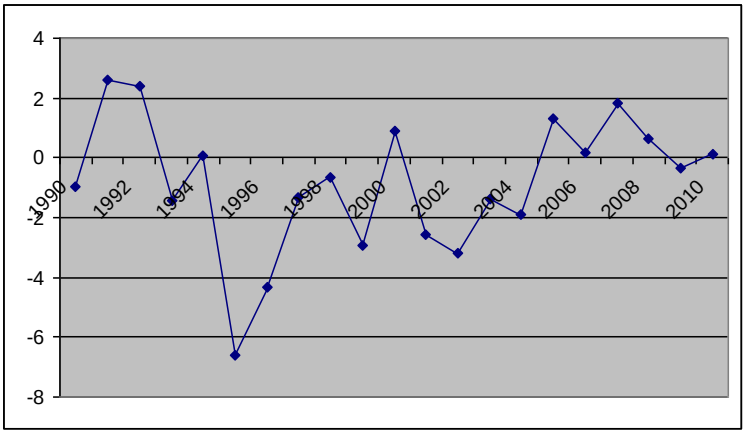

Figure 5 The active population growth rate in Romania between 1990 and 2010
Source: Done by the authors according to the data provided by INS, 2011

As a rule, the basic hypothesis for this variable is that the increase in the active population rate does not lead to economic growth unless it is absorbed on the labour market.

For the transition countries, this can be difficult and a significant increase in the active population growth rate could have a negative impact on economic growth.

3. Statistical variables and methodological issues

In order to analyze the impact of demographic transition on economic growth, we use an econometric model where the dependent variable is economic growth rate, and the independent variables are: the total fertility rate, the infant mortality rate, total population growth rate, active population growth rate, mortality rate, real wage index and net investment growth rate. The model is estimated by means of official statistical data provided by the National Institute of Statistics and by Eurostat for the period 1990-2010.

As the modelling is conducted by means of time series, the first step of the analysis is to test the stationarity of data series. To this purpose, we use the Dickey-Fuller test that offers us the following results:

For the independent variables:

- the total fertility rate (fertility_rate, X_1) is stationary;
- the infant mortality rate (infant_rate, X_2) is non-stationary;
- the total population growth rate (pop_rate, X_3) is stationary;
- the active population growth rate (activ_pop, X_4) is non-stationary;
- the mortality rate (mort_rate, X_5) is non-stationary;
- the real wage index (wage_rate, X_6) is non-stationary;
- the net investment growth rate (inv_rate, X_7) is stationary.

For the dependent variable (gdp_rate, Y) the result of the unit root test indicates that the series is stationary and should not be transformed in order to be used in the regression model.

The change of non-stationary series is performed by means of the difference operator of first order and the process of stationary testing is restarted. By applying the Dickey-Fuller test for the non-stationary variables the following results were obtained:

- the variables Y, X_1, X_3, X_7 are stationary;
- the variables X_2, X_4, X_5 şi X_6 are non-stationary.

Using the difference operator, the non-stationary variables are transformed and the results from table 2.1 are obtained, confirming that:

- the variables X_2, X_6 are integrated of order 2;
- the variables X_4, X_5 are integrated of order 1.

Table 1

Augmented Dickey-Fuller Unit Root Test

Variable	Test	Risk	t-Statistic	Prob.
DIFF(infant_rate,2)	Augmented Dickey-Fuller test statistic		-8.201531	0.0000
	Test critical values:	1% level	-4.667883	
DIFF(wage_rate,2)	Augmented Dickey-Fuller test statistic		-5.641	0.0014
	Test critical values:	1% level	-4.57	
DIFF(activ_pop,1)	Augmented Dickey-Fuller test statistic		-6.46	0.0003
	Test critical values:	1% level	-4.53	
DIFF(mort_rate,1)	Augmented Dickey-Fuller test statistic		-4.12	0.022
	Test critical values:	5% level	-3.69	

Source: Done by the authors using E-Views 7

4. Results

To test the hypothesis that demographic transition has effect on economic growth a multiple linear regression model was built in which the non-stationary variables are changed by means of the difference operator of first and second order. The model has the equation:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 \Delta^2 X_2 + \beta_3 X_3 + \beta_4 \Delta X_4 + \beta_5 \Delta X_5 + \beta_6 \Delta^2 X_6 + \beta_7 X_7 + \varepsilon .$$

The modelling results, obtained by means of the SPSS program, are presented in the table below.

Table 2

Regression model results

Coefficients[a]

						D
G		NKBF N	GKBOKK		KB I F	BFFF
	_ BG	GBOKL	B NN	GB OO	CB K	BFFM
	_ BG	GGB GF	GBMOF	GBFNN	GBL ML	BKG
	_ B	BOL	B F	B KG	BGNM	BFKG
	_ B	BFF	BFM	BFFI	BF	BONG
		BG M	BGGO	BGK	GBGK	B M
		BGMG	BF I L	BLN	BM	BFFG
		C BNLF	GGBNNO	GBMLM	GKB NM	BFFF
		NKBFL G	GKB LM		KBKM	BFFF
	_ BG	GBOKM	B MF	GB OO	CBK N	BFF
	_ BG	GGB GK	GBMF	GBFNN	GBMG	B OF
	_ B	BOLK	B FM	B K	B M	BFI K
		BG M	BGG	BGK	GB GF	B O
		BGMG	BF O	BLNK	KBON	BFFF
		C BNM	GGB M	GBMLM	GKBK N	BFFF
I		NKBLMF	G BOK		KBM F	BFFF
	_ BG	GBOFK	B KK	GB M	CBKK	BFF
	_ B	BNLN	B ML	B GM	B GF	BFI N
		BG	BGGG	BGLG	GB O	B GN
		BGMF	BF N	BLNG	LBFM	BFFF
		C I B	GGBG M	GBMM	GKBLNN	BFFF
		MVBG	G BM N		KBLG	BFFF
	_ BG	GBMLO	B I M	GB FG	CB I N	BFFL
	_ B	BM M	B M	B M	BFF	BFLK
		BGLN	BF O	BLMG	KBNLG	BFFF
		GKMB KL	GFB I K	GBLON	GKBK F	BFFF

6

Source: Done by the authors using SPSS

Using the method of successive exclusion from the model of the statistically non-significant variables, the following aspects were considered:

- the variable population growth rate does not have a significant influence on the economic growth rate. This result is also confirmed by other studies, and in Romania the variations of the population growth rate are not so much important during the analysed period.
- the mortality rate, even if it registered an increase between 1990 and 2010, the irregular fluctuations between 10 and 12 deaths per one thousand inhabitants do not have a significant influence on economic growth. Thus, the hypothesis of certain implications of demographic transition crisis through the increase and variation of crude mortality rate is not confirmed.
- the variation of the real wage index has not had a significant impact on the economic growth rate in Romania in the last 20 years;
- lastly, the variation of infant mortality rate, for a risk of 5% is not significantly correlated with economic growth, and a possible positive influence for a 10% risk is not consistent with the theory of demographic transition.

In order to validate the model 4 in Table 2, an analysis of the residual component was conducted. The results in Table 3 confirm the lack of error autocorrelation. The Kolmogorov test also confirms their normality hypothesis.

Table 3

Correlogram of the residuals

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
. |* . |	. |* . |	1	0.161	0.161	0.5263	0.468
. |***. |	. |***. |	2	0.378	0.361	3.5955	0.166
. | . |	. *| . |	3	-0.059	-0.184	3.6753	0.299
. |** . |	. |* . |	4	0.277	0.212	5.5833	0.233
. | . |	. | . |	5	-0.038	-0.037	5.6212	0.345
. *| . |	.***| . |	6	-0.146	-0.395	6.2494	0.396
. *| . |	. | . |	7	-0.197	-0.011	7.4980	0.379
. **| . |	. **| . |	8	-0.287	-0.216	10.449	0.235
. *| . |	. | . |	9	-0.122	-0.042	11.050	0.272
. **| . |	. |* . |	10	-0.213	0.118	13.142	0.216
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

The significant influences on economic growth are offered by only three of the variables used in the model:

- the total fertility rate has a significant negative impact on economic growth, in compliance with the theory of demographic transition. A future decrease in fertility rate might favour economic growth..

- the active population growth rate also has a significant negative impact on the economic growth rate. This situation could be partially explained by the transition of the Romanian economy and by the incapacity to absorb the entire labour force.

- the net investment growth rate has a significant positive impact on economic growth. This aspect is not surprising and meets both the hypotheses formulated in economic theory and those of demographic transition.

5. Conclusions

The analysis of demographic transition determinants and their impact on economic growth enables the shaping of several conclusions.

Firstly, the analysis of the main demographic phenomena which characterize the demographic transition suggests that during 1990-2010 in Romania there are concrete signs regarding the manifestation of this type of demographic behaviour. The infant mortality is in a continuous process of decrease while the total fertility rate has a similar trend, still during the entire period the variations are not very important. On a long run, this decrease placed Romania, after 1990, below the rate of generation replacement. Concurrently with these two demographic trends, Romania registers a negative population growth rate, with a slight decreasing trend, while the crude mortality rate also registers a long-term downward trend, with values above the crude natality rate. When these results are considered together, we obtain a demographic picture specific to the countries from the former communist bloc, space where demographic transition takes a peculiar form, different from that of the developed countries.

The economic analysis focused on testing some hypotheses from the specialty literature, as well as some specific ones pertaining to the Romanian circumstances. Mainly, the hypothesis stating that the decrease in fertility has a positive impact on economic growth is verified. This aspect should be also correlated to the fact that in Romania the demographic behaviour entered a crisis period and the trend of fertility decrease might not have a positive impact on economic growth in the future. If for the period under analysis the mortality's

evolution does not have a significant impact on economic growth, as we might have expected, in the future, it may contribute to the negative effect of the crisis of demographic transition on economic and social development of Romania. It is fairly obvious that for the economic growth the investment rate must increase, while the active population variation might be transformed into an ally of economic growth, provided new jobs and a higher absorption on the labour market are ensured. In the future, taking into account the present demographic trend, Romania will face problems regarding its active population due to demographic ageing. The decrease in infant mortality is a sign of social and economic progress, but for the analyzed period we cannot speak about a significant correlation with economic growth in Romania. This decrease is not sufficiently significant, considering Romania has the highest rate in the EU.

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THE YEARBOOK OF THE „GH.ZANE" INSTITUTE OF ECONOMIC RESEARCH
VOL. 20, ISSUE 2, 113-123, 2011

CLASSIFICATIONS OF FORESIGHT METHODS

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Abstract

Foresight exercises and programs are a formal process of applying a sequence of methods.

Classification of these methods is useful to specialists, academics and practitioners, in choosing an appropriate mix of methods used in foresight process.

In this article we take a brief review of the main classifications of methods of foresight.

In the first part of the article are presented information on stages and generation of foresight processes. The author proposes a new definition of foresight and a new classification of foresight exercises according to a given goal.

In second part are summarized the main simple classifications of the foresight methods used in literature.

In the third part of the paper we will be presented three complex classifications of methods foresight.

The article will conclude with a cluster grouping of the foresight methods based on their role in each stage of foresight and on the type of technique used.

Key words: *Foresight definitions, foresight phases, foresight generations, foresight methods typologies*

1. Introduction

Foresight exercises have known a dynamic trend over the past half-century both because of the assimilated methods and of their application.

According to (Georghiou L., 2001; Georghiou L. et. al., 2008) we can distinguish 4 generations of foresight depending on the applicability of the foresight process on different environments:

> *- First Generation: Foresight is here emerging from what are mainly technology forecasting activities, with the analysis driven mainly by the internal dynamics of technology. […]*
>
> *- Second Generation: Foresight projects seek to grapple with technology and markets simultaneously. […]*
>
> *- Third Generation: Foresight's market perspective is enhanced by inclusion of a broader social dimension, involving the concerns and inputs of a broad range of social actors. […]*
>
> *- Fourth Generation: Foresight programmes have a distributed role in the science and innovation system, rather than being "owned" by a single policy sponsor. […]*
>
> *- Fifth Generation: A mix of foresight programmes and exercises, also distributed across many sites but in combination with other elements of strategic decision-making. […]*
>
> *Most foresight programmes at one time have contained elements from more than one generations […].*

There is no need for countries to gradually go through the five generations of foresight.

As shown, the grouping in generations gives us the following trends in the evolution of foresight exercises:

- the tendency to increase complexity and abstraction level of foresight exercises, through the transition from technological to social environment;

- the tendency to increase involvement in decision making and control process, particularly the strategic aspect, in order to correctly implement the acquired results.

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Based on these observations we can define *foresight* as the discipline dealing with the *management and marketing of the future*, in all aspects, from the *generation* process to its *implementation*.

We can safely assume that with the increasing complexity, the extent of abstraction and the degree of involvement of foresight exercises, the number of methods used have increased also.

Voros, J. (2005) classifies prospective foresight exercises[2], in function of their impact on technology, into:

1. *Evolutionary* methods – seek to develop or evolve forward in time relatively continuously from a distinct starting point o configuration (usually in the present);

2. *Revolutionary* methods – seek to project or jump forward largely discontinuously into some distinctly different (future) state being, without necessarily a clear connection to the prior state.

In function of aims of prospective foresight exercises we can distinguish three types of exercises (Turturean C., 2011 SPODE).

1. *Replicator Foresight exercises*-their function is to find ways to reach the level of the leader economy / society/ technology. Therefore the function of these exercises is to replicate Foresight existing models.

2. *Innovative Foresight exercises*-their function is to create new and desirable futures. Therefore, Foresight function is to create desirable futures pioneering certain areas.

3. *Alternative Foresight exercises* - their function is to control and stabilize the routes to desirable futures already made by a previous replicator or innovative Foresight exercise.

Alternative and replicator foresight exercises have a evolutionary nature, while the innovative foresight exercises can be both revolutionary and evolutionary according to their innovative character.

In practice, it has been noted a correlation between foresight methods and the stages of foresight exercises in which they are used (R. Popper, 2008).

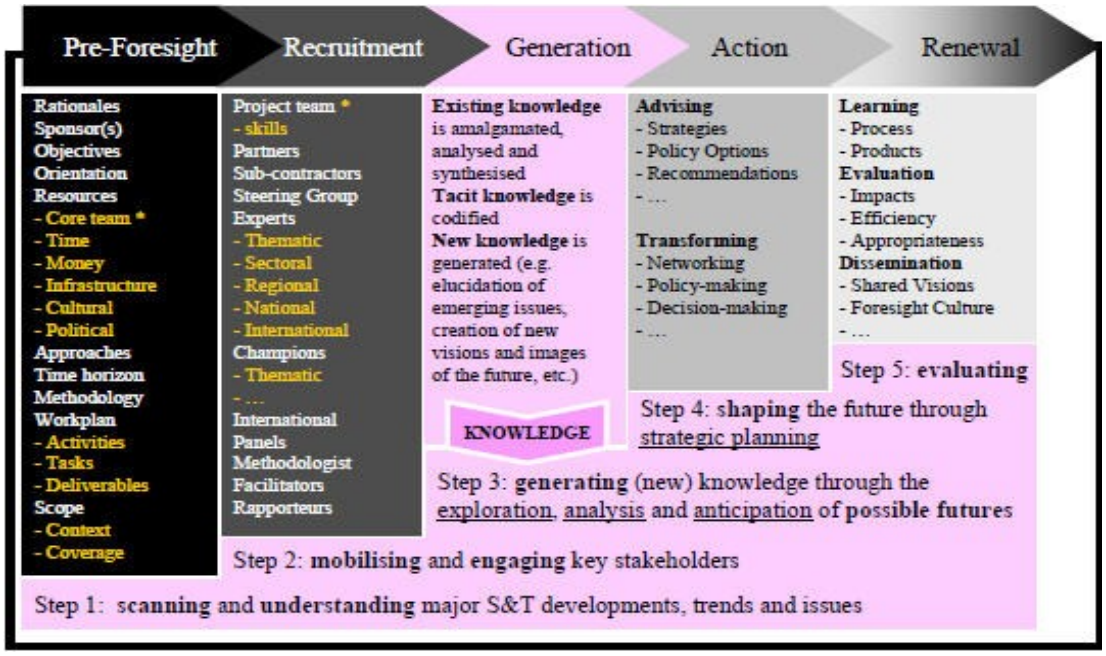


Figure 1. Stages of the Foresight process
Source: I. Miles, 2002; R. Popper, 2008

The stages of foresight exercises according to I. Milles (2002) and R. Popper (2008) are:

[2] Original classification relates to methods of foresight but in terms of classification approach, corresponds to foresight exercises and not to foresight methods because the latter can not ensure the evolutionary or revolutionary feature. This feature is provided by the objectives of foresight exercises.

1. ***Pre-foresight*** *or the* ***Scoping*** *phase is the design's foresight phase in which the organizers along with sponsors established, by mutual agreement, the objectives and arguments of the exercise of foresight, form the working team and establish research methodology.*
2. ***Recruitment*** *phase added to the core team (scientific/ administrative coordinators and main thematic/ methodological experts), built in scoping phase, new members (e.g. process facilitators, rapporteurs and expert panel members, among others) which are also important for the foresight process .*
3. ***Generation*** *is the most important stage of the process in which the existing knowledge is combined, analyzed and synthesized resulting new information and visions about the future. Generation phase consists of three stages characteristic: the exploration phase, the analysis phase and the anticipation of the future phase.*
4. ***Action stage*** *is the stage when the results of foresight should be disseminated so that it affects the decision makers. Stage action may affect prioritization, decision making, innovation and change.*
5. ***Renewal*** *is the phase of continuous monitoring and evaluation of the effects of foresight process and can provide some valuable information for pre-foresight stage corresponding to a future foresight exercise.*

2. Necesitatea grupării metodelor de foresight

In the literature are frequently used 31 foresight methods (Theodore J. Gordon and Jerome C. Glenn, (2009)), or 33 foresight methods (Luke Georghiou et al. (2008)) and their numbers continue to grow.

The classification of foresight methods is an important tool for practitioners in their attempt to choose the most appropriate method in accordance with:

- The objectives of foresight exercises;
- The environment in which the exercise of foresight is applied ;
- The stages of foresight;
- The type of expected results from the application of the foresight exercise.

3. Foresight methods classifications

3.1. One-criterion classification of foresight methods

In this section we present classifications that are based on a single for classification criteria.

3.1.2 Classification of foresight methods by their nature

Simple Taxonomy of Futures research methods make by Theodore J. Gordon, Jerome C. Glenn, (2009) groups foresight methods in two clusters: *Quantitative and Qualitative methods*

Table 1

Classification methods by their nature

Qualitative	Quantitative	Semi-quantitative
Methods providing meaning to events and perceptions. Such interpretations tend to be based on subjectivity or creativity often difficult to corroborate (e.g. brainstorming, interviews)	Methods measuring variables and apply statistical analyses, using or generating (hopefully) reliable and valid data (e.g. economic indicators)	Methods which apply mathematical principles to quantify subjectivity, rational judgements and viewpoints of experts and commentators (i.e. weighting opinions)
1. Backcasting 2. Brainstorming 3. Citizens panels 4. Conferences/workshops 5. Essays /Scenario writing 6. Expert panels 7. Genius forecasting 8. Interviews 9. Literature review 10. Morphological analysis 11. Relevance trees /logic charts 12. Role play / Acting 13. Scanning 14. Scenario /Scenario workshops 15. Science fictioning (SF) 16. Simulation gaming 17. Surveys 18. SWOT analysis 19. Weak signals /Wildcards	20. Benchmarking 21. Bibliometrics 22. Indicators / time series analysis 23. Modelling 24. Patent analysis 25. Trend extrapolation / impact analysis	26. Cross-impact / structural analysis 27. Delphi 28. Key / Critical technologies 29. Multi-criteria analysis 30. Polling / Voting 31. Quantitative scenarios / SMIC 32. Roadmapping 33. Stakeholder analysis Source: R. Popper (2008)

Source: Popper R. (2008)

Luke Georghiou et all. (2008) added a new cluster to the two, the *Semi-qualitative methods* cluster, in their Classification on Methods by the *type of technique*: *Quantitative, Qualitative and Semi-quantitative methods.*

If the distinction between *quantitative* and *qualitative* methods is frequently used and maintained in all socio-economic sciences, the *semi-quantitative methods*

is the methods that apply mathematical principles to quantify subjectivity, rational judgments mathematical and viewpoints of experts of experts and commentators (i.e. weighting opinion or probabilities)" **(**Luke Georghiou et al., 2008).

3.1.3. Classification on methods by the type of approach

A typology of foresight methods is presented in the paper of Luke Georghiou et al. (2008) based on how the relationship with the future is established (Fig. 3):

- Exploratory - if based on what known today, it examines what are the various possible futures;

- Normative – if based on how the future is expected or desired, it examines how a particular scenario could be reached or avoided.

According to Michel Keenan (2006) the exploratory methods:

- begin from the present, and see where events and trends might take us;

- begin with the present as the starting point, and move forward to the future, either on the basis of extrapolating past trends or causal dynamics, or else by asking "what if?" questions about the implications of possible developments or events that may lie outside of these familiar trends.

- frequently use tools like: Trend, impact, and cross-impact analyses, conventional Delphi, and some applications of models.

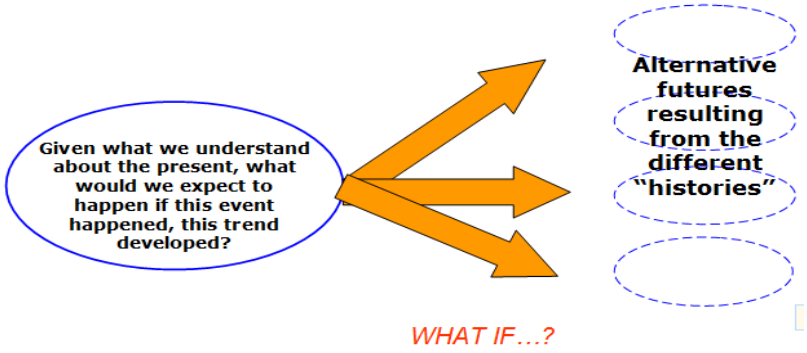


Figure 2. Schematic presentations of Exploratory Methods
Source: Michel Keenan

According to Michel Keenan (2006) the normative methods:

- ask what trends and events would take us to a particular future or futures.

- start with a preliminary view of a possible (often a desirable) future or set of futures that are of particular interest.

- then work backwards to see if and how these futures might or might not grow out of the present – how they might be achieved, or avoided, given available constraints, resource and technologies.

- frequently use tools like various techniques developed in planning and related activities, such as relevance trees and morphological analyses

- use ,a fairly recent development, of "success scenarios" and "aspirational scenario workshops", where participants try to establish a shared vision of a future that is both desirable and credible, and to identify the ways in which this might be achieved.

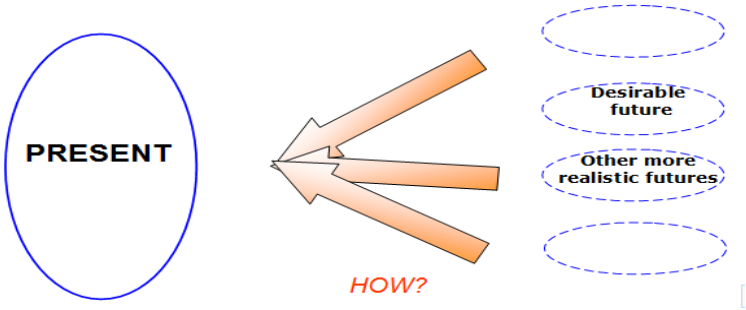


Figure 3. Schematic presentation of Normative Methods
Source: Michel Keenan

3.1.4. Classify of the foresight methods by frequency

Popper K. (2008), based on the analysis of 886 foresight exercises, establishes the foresight methods frequency of use. Thus he sorts the Foresight methods, depending on the frequency of their use:

- *widely used methods;*
- *commonly used methods;*
- *less frequently methods.*

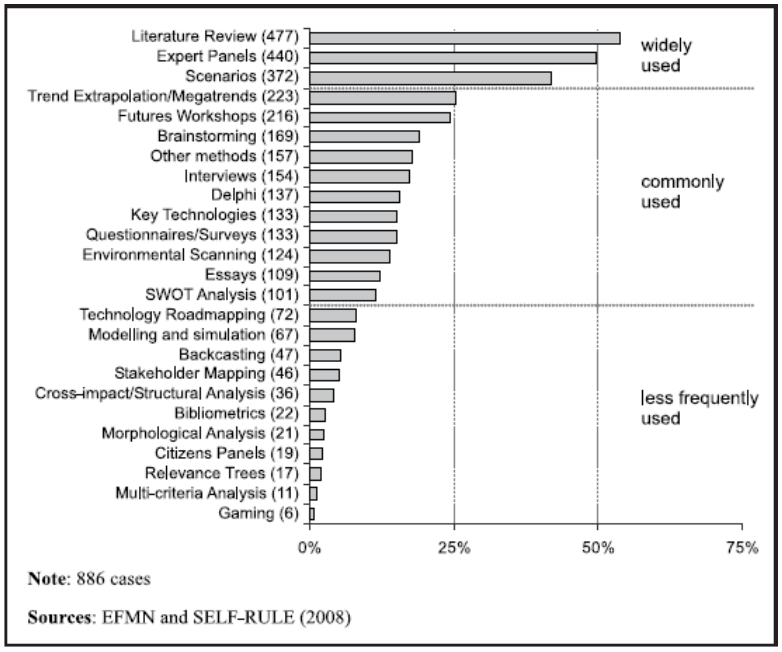


Figure 4. Classify of the foresight methods by frequency

3.1.5. Grouping methods by potential contributions on foresight phases

Depending on their potential contribution of foresight stages, R. Popper proposed a classification method based on foresight presented in Table 2.

The classification of the 33 methods of foresight, figure 5, represents the methods of foresight on the principal axes resulting from a factorial analysis of potential contribution on foresight process stages'.

Methods that are located inside the square are methods which contribute approximately uniform in all stages of foresight.

Diametrically opposed methods, located outside the square (eg.: *Pooling Voting, Brainstorming, SWOT Analysis, Expert Panels, Citizen Panel vs. Bibliometrics and Patent Analysis*; *Forecast Genius, Sci Fi and Quantitative Scenarios* vs. *Stakeholders Analysis, Roadmapping and Citizen Panels*) are methods which can be found only exceptionally in the same level of foresight.

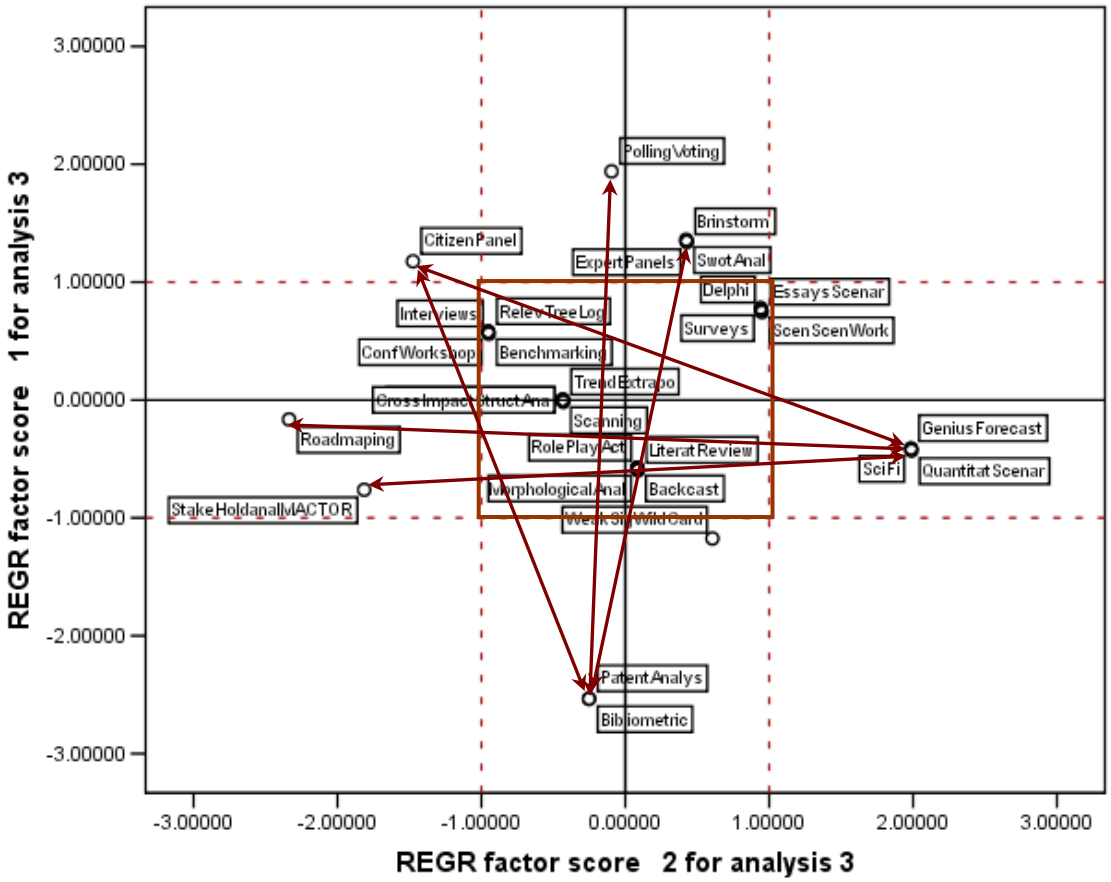


Figure 5. Classify of the foresight methods by potential contributions on foresight phases
Sources: *R. Popper (2008) and Self-Analysis*

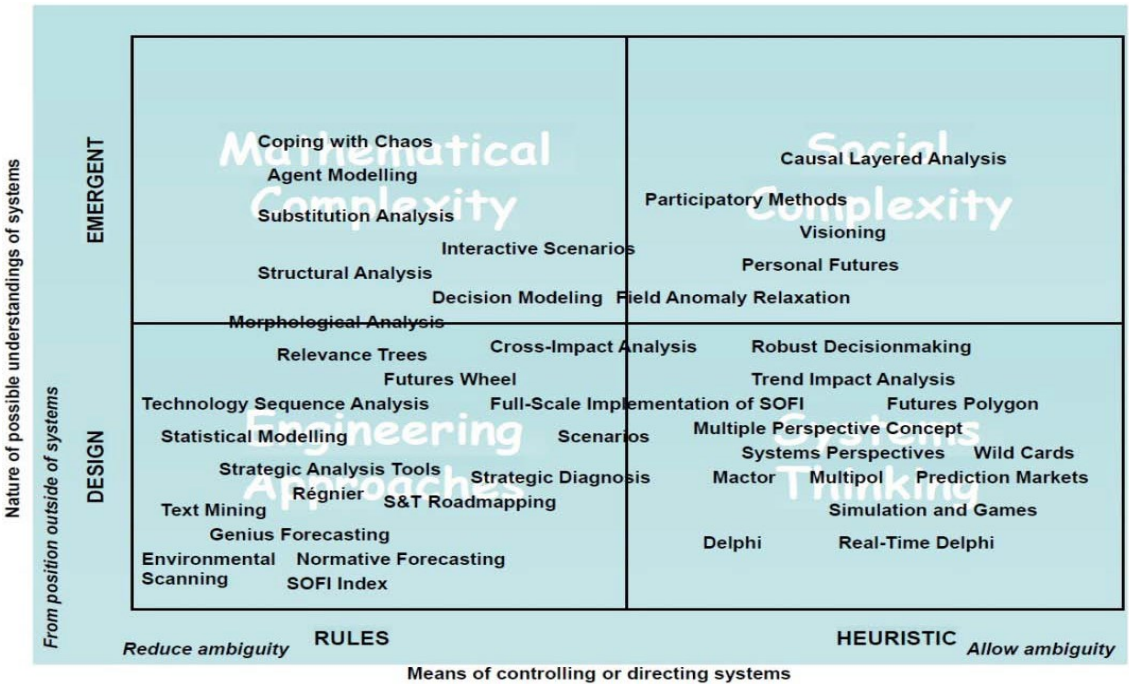
3.2. Multi-criteria classification of foresight methods

In this section we present classifications that are based on multiple classification criteria.

3.2.1. Classification by the means of controlling and system understanding

In his book, Evaluation and Organization of futures research methodology v3.0, Mika Aaltonen (2009) makes a classification of the foresight methods, identifying four groups of methods, derived from their structuring after four criteria:

1. Mathematical complexity
2. Social complexity
3. Engineering Approaches
4. Systems thinking



Mika Aaltonen (2009)

Figure 6. Classification by the means of controlling and system understanding

The differences between the four approaches are makes combining horizontal dimension with vertical dimension (Mika Aaltonen, (2009)):

- *In the **vertical dimension**, named **Nature of possible understanding of understanding of the system,** by **design**, we mean the ability of a manager, leadership group, expert or researcher to stand outside the system and design the system as a whole; with **emergent systems**, the system cannot be understood or managed as a whole by a manager, leadership group, expert, and researcher or by anyone at all, because the system emerges through the interaction of the agents (people, processes, technology, government etc.) that act on local knowledge and their own principles.*
- *In the **horizontal dimension,** named **Means of controlling or directing that system**, we contrast **rules** (which could be restated as "process") which remove ambiguity, with **heuristics** (which could be restated as "values") that provide direction with a degree of ambiguity that can adapt to different and changing contexts. There is a design element to emergent systems, but not in the same way as earlier, because there are various ways to influence the evolution of such systems, but they cannot be led by any agent.*

3.2.2. Classification by the type of knowledge source and nature of foresight methods

Another taxonomy of foresight methods, known as the diamond of foresight made by R. Popper (2008), groups them depending on their nature and on the sources of knowledge (R. Popper (2008)):

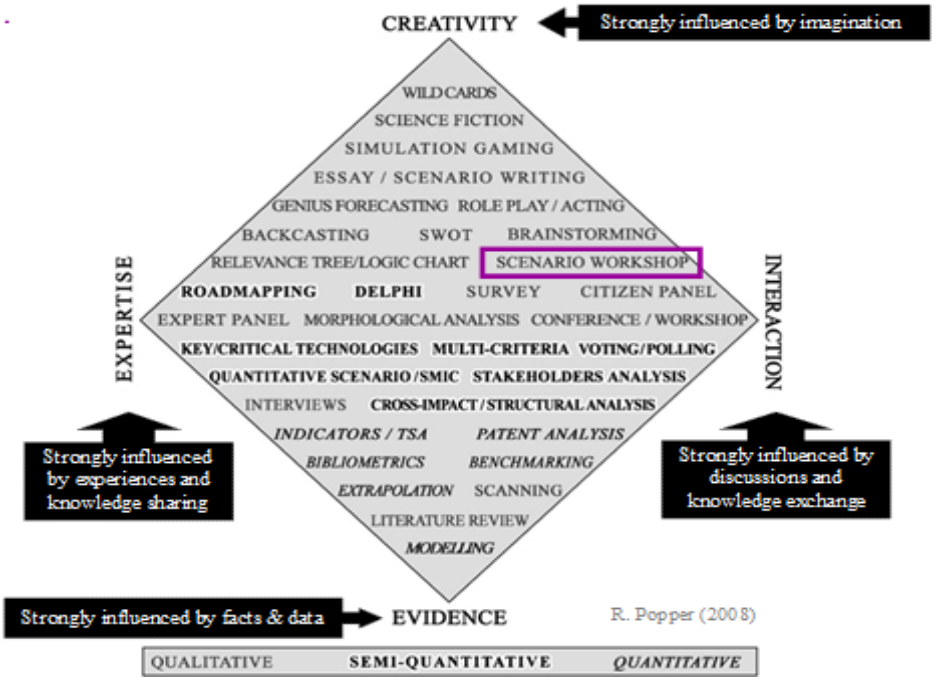
1. *Type of knowledge source*:

   - ***Creativity** – methods relying heavily on the inventiveness and ingenuity of very skilled individuals* vs. ***Evidence** - methods relying heavily on codified information, data, indicators;*

   - ***Expertise** - methods relying heavily on the tacit knowledge of people with privileged access to relevant or with accumulated knowledge* vs. ***Interaction** - methods relying heavily on the participations and shared views of experts and non-experts.*

2. *Nature of foresight methods*:

- *Quantitative, Qualitative and Semi-quantitative*.



Sources: *R. Popper (2008)*

Figure 7. Classification by the type of knowledge source and types of methods

3.2.3. Classification by potential contributions on foresight phases and nature of methods

A very useful classification for practitioners, resulting from the empirical analysis is presented by R. Popper (2008). This groups the methods according to their nature and their potential contribution on each of the foresight stages, Table 2.

From the information provided in Table 2 we obtain the potential contributions from the methods' groups by the nature of methods, in the foresight stages.

Table 2

Classification by potential contributions on foresight phases and nature of methods

	Methods / Activities	Foresight Phases					Type of method
		Pre-Foresight	Recruitment	Generation	Action	Renewal	
1	Backcasting	•	•	•••	•••	•	Qualitative
2	Brainstorming	•••	••	••••	•••	•••	
3	Citizens Panels	••	•	•••	••••	•••	
4	Conferences/Workshops	••	••	•••	•••	•••	
5	Essays/Scenario Writing	••	•	••••	••	•••	
6	Expert Panels	•••	••	••••	•••	•••	
7	Genius Forecasting	••	•	••••	••	•	
8	Interviews	••	••	•••	••	••••	
9	Literature Review (LR)	••••	••	•••	••	••	
10	Morphological Analysis	•	•	•••	•••	•	
11	Relevance Trees/Logic Charts	••	•	•••	•••	•••	
12	Role play/Acting	•	••	•••	•••	•	
13	Scanning	••••	••	•••	•••	••	
14	Scenarios/Scenario Workshops	•	•	••••	•••	••	
15	Science Fictioning (SF)	•	•	••••	•	•	
16	Simulation Gaming	•	•	•••	•••	•	
17	Surveys	•••	•••	••••	••••	•	
18	SWOT Analysis	••	•	••••	••••	••	
19	Weak Signals/Wild Cards	••	•	•••	••	•	
20	Benchmarking	•••	••	•••	•••	•••	Quantitative
21	Bibliometrics	•••	•••	••	•	•	
22	Indicators/Time Series Analysis (TSA)	•••	•	•••	••	••	
23	Modelling	•	•	•••	•••	•	
24	Patent Analysis	•••	•••	••	•	•	
25	Trend Extrapolation/Impact Analysis	•••	•	•••	••	•••	
26	Cross-impact/Structural Analysis (SA)	••	•	•••	•••	••	Semi-Quantitative
27	Delphi	•	••	••••	•••	••	
28	Key/Critical Technologies	••	•	•••	•••	••	
29	Multi-criteria Analysis	••	•	•••	•••	••	
30	Polling/Voting	••	••	••••	••••	•••	
31	Quantitative Scenarios/SMIC	•	•	••••	•	••	
32	Roadmapping	••	•	••	••••	••	
33	Stakeholders Analysis/MACTOR	••	•••	••	•••	••	

Legend of symbols: little/no contribution [•], some contribution [••], significant contribution [•••], major contribution [••••]

Note: the tables (above) provide an impressionistic view of the contribution that 33 methods might make to each phase of the foresight process. The "potential contribution" is represented with bullets. For example: *Backcasting* may have little/no contribution [•] in the *Pre-Foresight*, *Recruitment* and *Renewal* Phases, whereas significant contribution [•••] in the *Generation* and *Action* Phases

In Table 3 we note only the contributions in phases for which we obtained an average rating of more than two points and a coefficient of variation less than 35%, which shows that the mean is representative. Based on the results of Table 3 we can formulate the following conclusions:

1. qualitative methods are specialized for the generating and action stage;
2. quantitative methods are specialized for the generating and pre-foresight stage;
3. semi-quantitative methods are specialized for the generating , action and renewal stage.

Unfortunately we can see that we have no methods that are specialized in the recruitment stage.

Table 3

Contribuțiile potențială medii, cele mai importante și representative, a grupelor de metode după natural în etapele procesului de foresight

Method Type *by their nature*	**Foresight Phase**	**Mean**	**Std. Dev.**	**Var. coeff.**
Qualitative Methods *(19- methods)*	*Generation phase*	3.42	0.51	14.8%
	Action phase	2.84	0.69	24.2%
Quantiative Methods *(6- methods)*	*Generation phase*	2.67	0.52	19.4%
	Pre-foresight phase	2.67	0.82	30.6%
Semi-Quantitative Methods	*Generation phase*	3.13	0.83	26.7%

(8 - methods)	*Action phase*	3.00	0.93	30.9%
	Renewal phase	2.13	0.35	16.6%

3.2.4. Classification by the frequency and nature of methods

R. Popper (2008), based on analysis of a number of 886 foresight exercises, manages to make a classification of the most frequently used methods in foresight exercises depending on their nature.

In Figure 8 the results of this analysis are shown. It can be seen that the first three places are occupied by qualitative methods. They are very well represented in foresight processes.

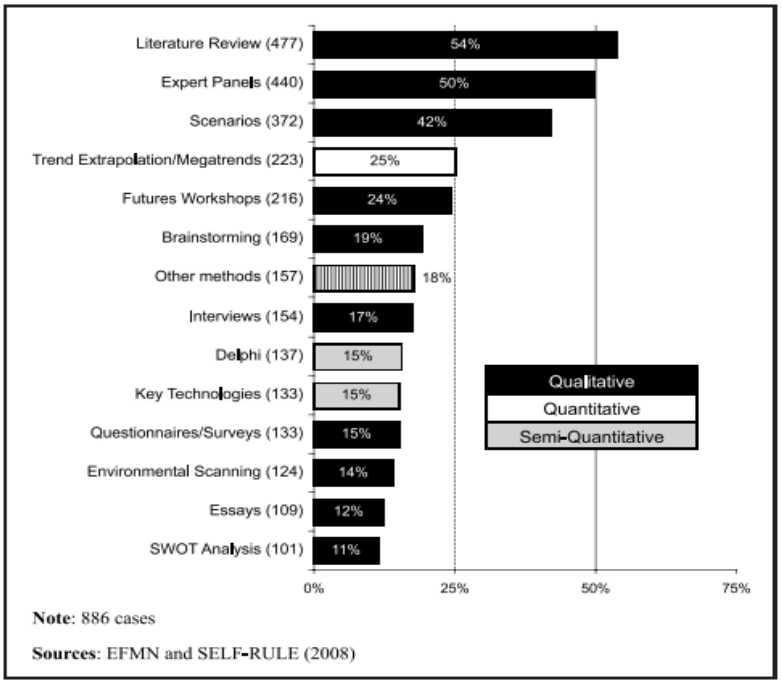


Figure 8 Classification by the frequency and nature of methods

Acknowledgements

This work was financed by the project "Post-Doctoral Studies in Economics: training program for elite researchers - SPODE", co-funded from the European Social Fund through the Development of Human Resources Operational Programme 2007-2013, contract no. POSDRU/89/1.5/S/61755.

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THE YEARBOOK OF THE „GH.ZANE" INSTITUTE OF ECONOMIC RESEARCH
VOL. 20, ISSUE 2, 125-131, 2011

CĂTĂLINA LACHE [1] Present-day topics

COMPETENCE MANAGEMENT

CĂTĂLINA LACHE[1]

Abstract

Competence management represents the main component of human resource planning in the contemporary age, and is viewed as integral to employment relations (Parlier, M., Masson A., 2004). It constitutes a relatively novel approach in human resource management and is simultaneously ambitious and demanding. The issue of competence must be tackled both from the standpoint of the organisation and also individually, at employee level (Merle, V., 2003). Competence is a dynamic notion, which must be approached at three levels: individual, collective and organisational (Dejoux, C.,2001). The article outlines the results and conclusions of a survey aimed at assessing competence-based approaches in 30 Romanian firms (based in the North East region), employing 11575 persons. The research was conducted during the period 1 March – 15 April 2010.

Keywords: *human resources, competences, careers.*

JEL classification: 14 c

1. Introduction

Competence management, a dimension that has been incorporated in human resource management, represents the foremost component of human resource planning in the contemporary age, being also integral to employment relations (Parlier, M., Masson A., 2004). The issue of competence must be tackled both from the standpoint of the organisation and also individually, at employee level (Merle, V., 2003).

The range of competences available on labour market and the training level of prospective employees have undergone major qualitative shifts, as the number of university graduates has reached unprecedented levels. Key developments include the diversification of specialisations, the increase in individual adaptability and in the capacity to become integrated in various organisations. As a counterweight to these developments, employees' demands to employers have grown, related both to work conditions, remuneration and additional awards linked to performance levels and to the ways in which the organisation, by continuous training, seeks to maintain and secure the development of personal skills and consequently to ensure an ascending career path and long-term attractiveness on the job market.

As regards competence demand, the firm is faced with the exigencies and reactivity of employees to the long-term attractiveness of the organisation, the higher quality of services and increased competitiveness. Nowadays, the employer may opt to integrate the potential employees in the organisation or to conclude fixed-term labour and service contracts, depending on competition on the labour market.

Although competence-based management is pursued in a relatively informal manner, it has come to replace, in social management, the notion of qualification, as it evolves in close connection with training and career management.

2. Theoretical considerations

Competence has been broadly defined as "the set of knowledge, technical and professional abilities and skills that may characterise an employee, a group of employees or an organisation" (Thierry, D.,1990).

Competence derives from the mix and actual use of personal resources, practical

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experience, social abilities and from the way in which employees (teams of employees) leverage the resources allocated to them, i.e.: work equipment and tools, technical sheets, information, relation networks. Individuals must be able to research and select within their work environment and to deploy appropriate means to complete any tasks assigned to them. In this respect, competence reveals the practical capacity of a person or a group of employees to develop, mix and integrate a whole range of heterogeneous knowledge and abilities to fulfil their assigned tasks.

Professional competence represents a person's capacity to apply diverse practical knowledge and abilities, to exhibit the appropriate attitudes demanded by the practice of their particular occupation and to ensure that all these abilities are blended and transposed in different work situations and environments, in order to perform the activities demanded at the workplace at the level specified in the relevant occupational standard.

A competent person has the ability to communicate effectively, work effectively as part of a team, demonstrates critical and decision-making skills, can adjust to the specific work environment and also cope with unforeseen situations, is creative, resilient to stress, applies specialist knowledge and proves the capacity to perform the activities specific to a particular occupation.

Professional and organisational competence, value-creating production performance, innovation, employee involvement, and incentive schemes lead to high-performance activities and to efficiency and effectiveness in the firm's operations.

Competence is a dynamic notion, which involves taking action, adjusting to the environment and altering the firm's internal and external environment.

Dejoux highlighted three level of competence: individual, collective and organisational (Dejoux, C.,38).

Individual competence constitutes the basic element of competence management, matching individuals with concrete work situations.

Collective competence is an aggregate of individual competences, of the capacity to leverage individual competences by enhancing cooperation, information exchange, value-creation and performance.

Organisational competence represents the foundation of professionalization, defining the level of "competent organisation", an organisation that can learn to combine economic efficiency with social performance. The ratio of available resources and their effective use by the firm defines the level of organisational competence.

The simultaneous deployment of the three levels of competence enables the inclusion of competence management in the firm's strategy.

Table 1 outlines the various uses of the notion of competence.

Table 1

The use of the notion of competence

Area	The notion of competence	Operational level	Specific instruments	Goals
Human resource management	Individual	Professional	Employee competence references	Enhance human resource management
Individual	Individual	Counselling	Review of competences	Identify and develop personal potential
Organisational	Collective	Hierarchy	Professionalisation targets	Combine economic efficiency and social performance
Resource allocation	Individual Collective	Hierarchy	Database of competences	Staff deployment
Strategy	Organisational	Management	Human resources assessment based on the competence portfolio	Identify and promote competences that generate performance
Quality	Organisational	Management	Quality standards, procedures	Certify competences

Source:Dejoux, C. – *Les competences au coeur de l`entreprise*, Les editions d'organizations, Paris 2001. Processed and adapted by autor

Competence management concerns mainly the evolving, specialised and decentralised organisations, with high levels of employee initiative and autonomy and major focus on cooperation and mobilisation on specific projects.

Viewed from this perspective, labour no longer appears a mere cost, but rather as a driver of performance. The competence-based approach therefore is geared towards the constant increase in the firm's efficiency and effectiveness, by correlating the following demands:

- Increasing performance and the quality of products/services;
- Constantly adjusting competences to the technological and organisational changes;
- Greater demands related to employees' capacity to interpret and assess information, entrepreneurship, and their capacity to respond and solve in real time any work-related issues, autonomy and adaptability;
- Leveraging knowledge and technical proficiency in order to solve work-related issues and being fully invested in the production process. All this also generates to changes in employment relations.

H. Bertrand argues that „*the competence-based approach is part of a vast array of innovative management means, method and principles, which have prompted changes in employment relations in order to meet current quality and performance demands"* (Bertrand, H., 2002). Consequently, competence shapes and clarifies what the employer expects of employees. By establishing a sound competence management, employees occupying similar roles can be differentiated and their abilities can be utilised more effectively. As there are no laws governing these choices, they are made in a discrete and informal manner in human resource management.

The identification of competences is a challenge for the operation of human resources within the firm, especially in cases of radical overhauls of the organisation of work, because competence demand is not standardised, contrary to qualification lists and salary rankings, types of studies, seniority, experience in other positions, etc., which define a standard profile for each occupation or position. From this perspective, human resource management does not target only the management of the diverse professions and positions in a firm, but represents a more thorough development in the classification of occupations and of the skills required for new activities in relation to the existing competences of a job holder, highlighting key strengths and shortcomings, due to the particular work context, stress, novelty or uniqueness of situations, reaction time etc.

Table 2 proposes a grid that can serve in defining the competences necessary to a firm and the roles associated to each of them.

Table 2

Competences and related roles

Components of competence	Related roles
Theoretical knowledge	Capacity to understand
	Capacity to interpret
Knowledge of the firm's environment	Capacity to adapt
	Sense of moderation, no abuse, etc.
Procedural knowledge	Capacity to act
	Capacity to respond rapidly
Social and networking skills	Being cooperative
	Knowledge of proper behaviour, of information assessment, etc.
Cognitive resources	Reasoning, knowing precisely how to act
	Learning
Emotional resources	Instinct
	Responses
Physical resources	Managing one's energy
	Capacity to act under pressure
	Resilience to stress

Source: Bertrand, M. – *La gestion des compétences, Acteurs et pratiques,* Ed. Economica, Paris, 2002.

The practical deployment of the competence-based approach entails the leveraging, development and recognition of competences.

The **leveraging of competences** refers to the increased demands on employees and is manifested at several levels:

- **polyvalence**, which aims to improve the organisation's capacity to respond optimally to the most diverse and particular demands of customers;
- **behavioural competence**, which refers to the involvement and motivation of employees, communication and interaction coupled with stimulating entrepreneurship and optimal solutions to unforeseen situations;
- **the dynamics of competence**, which is linked to the constant evolution of products and services delivered to customers and to the capacity to constantly advance.

The development of competences begins with the training process, induction and integration, the acquisition of professional experience and cooperative skills, but must be accomplished through continuous learning. The learning organisation constantly expands and improves its professional knowledge.

The recognition of competences refers to their classification and setting up an evaluation and rewards system.

Competence management can be carried out by resorting to a broad array of tools, generally covering four stages:

- highlighting the conditions required for attaining global performance and ways to organise work in order to achieve performance, setting responsibilities, product and service quality levels and labour productivity targets;
- setting clear benchmarks, specifying and classifying the competences expected by general management. This can be undertaken by job descriptions, establishing procedures, creating patterns, etc.;
- describing the competences of each of the members of the organisation and comparing to the established benchmarks or models;
- deploying employees based on projected activities, improving competences through various learning methods, developing the career path, acquiring competences outside the firm's environment, appropriate compensation.

The assessment of individual competences, by comparison the firm's requirements, is conducted regularly, depending on the projects under way. The assessment can be undertaken individually or globally, at the level of the whole staff.

Gilbert and Parlier have highlighted the following three principles for putting into practice the competence-based approach (Gilbert, P., Parlier, M., 2008):

- competence alone cannot act as the driver of the firm's ambitious projects; a strategic vision is needed to address customers' evolving demands, effecting organisational changes based on enhanced quality, more comprehensive labour organisation and high-performance management;
- sharing responsibilities and benefits, by achieving a viable compromise between the interests of the various employee categories and by cooperating with unions and trade associations; harmonising economic efficiency with the social one;
- mobilising all stakeholders to become engaged in the competence-based approach, so as to prevent counterproductive actions and subsequent disruptions in the implementation of a project.

The recognition of competences remains a highly controversial issue. Assessment grids are based on the requirements for a particular position. The methods used to determine the level of competence of various persons holding quasi-similar positions include: assessments, professional examinations, interviews and reviews of actions taken to solve specific work-

related situations. The level of subjectivity of such procedures must not be underestimated and the subsequent translation of the recognised level of competence into individual financial incentives can prove to be highly counterproductive.

Competence management remains a relatively novel approach in human resource management, at once ambitious and demanding.

The development of competences is frequently understood as being synonymous with professional training. While it is true that training practices are essential in this process, nevertheless they do not act alone, as the organisation has the opportunity to act in order to improve information and communication practices, which can also often contribute to expanding the range of competences.

This approach does not address the goal of cost reduction, as it focuses primarily on increasing quality, meeting customer needs and complaints at the optimal level, securing customer loyalty and assuring a long-term added value to the organisation by achieving competitiveness in its operations. For these reasons, human resource management must be incorporated in the firm's strategy as it assesses added efficiency which gives the firm an edge over its competitors.

3. Objectives, methodology and results of the research

The objective of the article is to present the results and conclusions of a research aimed at assessing competence-based approaches, conducted using the questionnaire-based method, in 30 Romanian firms (from the North East region), which employ 11575 persons. The research was conducted during the period 1 March – 15 April 2010.

The sample is composed with two categories:

- 95 managers, conducting the operations of 30 firms in the North East region, with a total of 11575 employees;
- 180 employees, randomly selected from the 30 firms.

The sample is appropriate to ensure quantitative representation and the reliability of the findings is also optimal.

Table 3 presents a classification of enterprises into four categories, by number of employees, according to European classifications. The fields of economic activity they represent are: transports, textile industry, vehicle services, post and telecommunications, retail and tourism.

Table 3

Classification of firms by number of employees

Employees	**Micro-enterprises**	**Small enterprises**	**Medium enterprises**	**Large enterprises**
Total number	**3**	**15**	**7**	**5**
In % terms	**10**	**50**	**23.33**	**16.66**

Table 4 illustrates the views of the managers of the surveyed firms on their employees' proficiency and on the competence-based approach in the organisations they lead.

Table 4

Managers' opinions on the competence-based approach

Opinions/ Qualitative level	Very good 5	Good 4	Average 3	Satisfactory 2	Unsatisfactory 1
Professional training:					
-information					
-knowledge					
Total number	5	75	15	0	0
In % terms	5	79	16	0	0
Leveraging of competences					

Total number	5	15	21	22	32
In % terms	5	16	22	23	34
Development of competences					
Total number	7	18	21	25	24
In % terms	8	19	22	26	25
Recognition of competences					
Total number	0	20	26	22	27
In % terms	0	21	27	23	29

The majority of the surveyed managers (84%) stated that employees are well or very well prepared professionally and that 16% have average qualification.

- 34% estimated that the leveraging of competences was unsatisfactory, 22% viewed it as satisfactory, 22% as average, while 21% rated it as good or very good
- 25% considered that the development of competences was unsatisfactory, 26% rated it as satisfactory, 22% average, 19% good, while 8% declared that its level was very good;
- as regards the recognition of competencies, 29% estimated that the level of recognition was unsatisfactory, 23% graded it as satisfactory, 27% average, 21% good, while no manager rated it as very good.

The same questionnaire was administered to the 180 employees, high school or university graduates, employed in the surveyed firms, and yielded the following results:

- 77% declared that the level of professional training is good and very good, while 23% rated it as average;
- 47% estimated that the leveraging of competences is unsatisfactory, 40% viewed it as satisfactory, 12% declared it was average and 1% good; no person interviewed rated it as very good;
- 31% stated that the development of competences was unsatisfactory, 20% rated it as satisfactory, 22% average, while 21% declared it to be good; none of the interviewees rated it as being very good;
- with respect to the recognition of competences, 30% estimated that the level of recognition is unsatisfactory, 21% rated it as satisfactory and 29% average, 20% declared it was good, while none of the surveyed employees rated it very good.

The findings of the investigation illustrate the convergence of the perceptions of the surveyed samples regarding the issue of the competence-based approach in the firms in which they operate.

4. Conclusions and proposals

In the analysed Romanian firms, the competence-based approach is relatively new and is manifested primarily in the processes of staff training, integration in the organisation and knowledge preservation by means of continuous learning. The recognition of competence is sporadic and not necessarily reflected in employee promotion or compensation. In Romanian firms, politically-motivated management appointments and nepotism are still prevalent, and the consideration of competence as a promotion criterion remains a significant goal.

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THE YEARBOOK OF THE „GH.ZANE" INSTITUTE OF ECONOMIC RESEARCH
VOL. 20, ISSUE 2, 133-139, 2011

CHINA'S RARE EARTH TRADE ANALYSIS

OANA MARIA STĂNCULESCU[1]

Abstract

In current times, eco trend is promoted in all areas, therefore finding alternative energy sources is required. Most modern technology that does not harm the environment is based on different amounts of Dysprosium, Terbium, Neodymium, and so on. Solar panels, wind turbines, hybrid cars and many other electronics such as televisions are using such elements. Respecting the principles of free trade, countries such as Japan or the U.S. imported from China large quantities of rare earth to pursue technological progress.

However, quantitative restrictions as export quotas imposed by this country stirred panic in the world, determining Chinese rare earths dependent countries to find other sources of supply, difficult to detect and at higher prices.

China's actions are viewed with suspicion globally, because are hiding the true goals that China would like to achieve, among which is to be the main exporter of technology, or to "tempt" largest companies specializing in technology on Chinese territory to be closer of the source of raw material. But is China's trade with rare earths effective and profitable? Will China become in the next 15 years the greatest technological power?

Keywords: *rare earth, power, technology, trade efficiency, cost effectiveness, terms of trade, quantitative restrictions*

1. Introduction

In any book on economics the problem of resources is discussed , regardless of their nature, closely related to that of Needs. Even from the law of scarcity we know that the volume, the quality and structure of resources changes more slowly than the volume, structure and intensity of needs, therefore, efficient and rational use of these resources is an imperative of any economy.

The needs evolve, becoming increasingly difficult to satisfy and in order to satisfy, progress is required. Global thirst for power is so high that countries are willing to sacrifice anything just to be one step ahead of others. What other industry provides a safe and fast growing if not technology? What other elements bring a country's uniqueness if not natural resources? We have Saudi Arabia, we have oil. We have China, we have rare earths. And yet, we have a new world order.

Rare earths are non-toxic elements, with magnetic and phosphorescent properties, being among the most popular materials for high tech industries and modern technology: terbium and neodymium are used for wind turbines generators, neodymium and dysprosium are used for hybrid cars engines, and so on. However, scientific studies show that, basically, rare earth elements are abundant in the subsoil of the Earth, but extremely high costs of extracting and processing determine that only truly affluent regions in such elements deserve to be exploited. China is the biggest (and for some types of rare earth, the only) manufacturer of rare earth, and the biggest exporter and the dependence on the imports form China of the countries is highly visible. This paper aims to examine China's rare earth trade, not only in terms of efficiency, but also in terms of the main players on this market.

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2. Rare Earths Imports and Exports

The main importers of rare earth compounds in 2008 were the United States, Europe and Japan. Imported quantities of rare earth estimated by the national statistical offices are listed in the following table:

Table 1

Imports of rare earth compounds of Europe, United States and Japan in 2008

	Imports	Share of imports from China	Data source	Compounds included in the statistic
EU 27	23.013 t	90 %	Eurostat 2010	Metals, intermixtures or interalloys of rare-earths, Sc and Y
USA	20.663 t	91 %	U.S. Geological Survey 2010	Rare-earth and Y compounds, Rare-earth metals, Mixtures of rare-earth chlorides
Japan	34.330 t	91 %	Trade Statistics Japan 2010	Cerium-, Lanthanum- and Yttrium Oxide, other cerium compounds

Source: „Study on Rare Earths and Their Recycling", Darmstadt, Ianuarie 2011 [2]

According to this table, Europe, USA and Japan imported a total of 78.006 tonnes of rare earth compounds. Of this total, around 71.000 tonnes were imported from China.

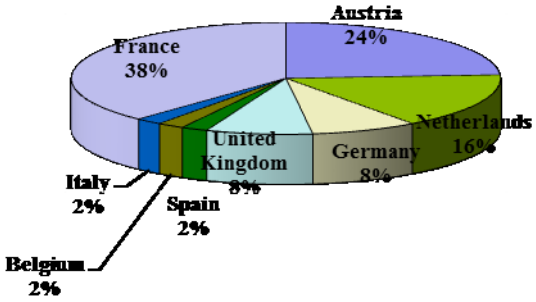

Chart 1. Share of different EU countries in the total rare earth compounds imported by the EU-27 (Eurostat 2010)

In the diagram above, we can see some countries from Europe, in percentage, and their imports of rare earth compounds. So, France's imports are the biggest, a quantity of 8.745 tonnes, followed by Austria with 5.523 tonnes and the Netherlands, with 3.682 tonnes. According to the "Innovation Union Competitiveness Report 2011", for 2008, France's technology exports represented 16.4% of total exports, a higher share than in Austria, which exported only 10.8% and the Netherlands, with 16.2%. Thus, France's imports of rare earths are explainable because it exports a significant amount of technology products, manufactured using these items. [3]

Regarding the China's exports of rare earth situation, this country is trying to implement measures to protect its resources to ensure sustainable development, rapid and healthy rare earth industry in China. The State Development Planning Commission of China has decided that foreign companies are not allowed to invest in mining and extraction of rare earth

[2] http://reinhardbuetikofer.eu/wp-content/uploads/2011/01/Rare-earths-study_Oeko-Institut_Jan-2011.pdf, accessed on 13/03/2011

[3] http://ec.europa.eu/research/innovationunion/pdf/competitivenessreport/2011/chapters/part_iii_chapter_4.pdf, p.405

minerals in China. Foreign capital is necessary for the processing intensive applications, but also in the advanced materials made from rare earths.

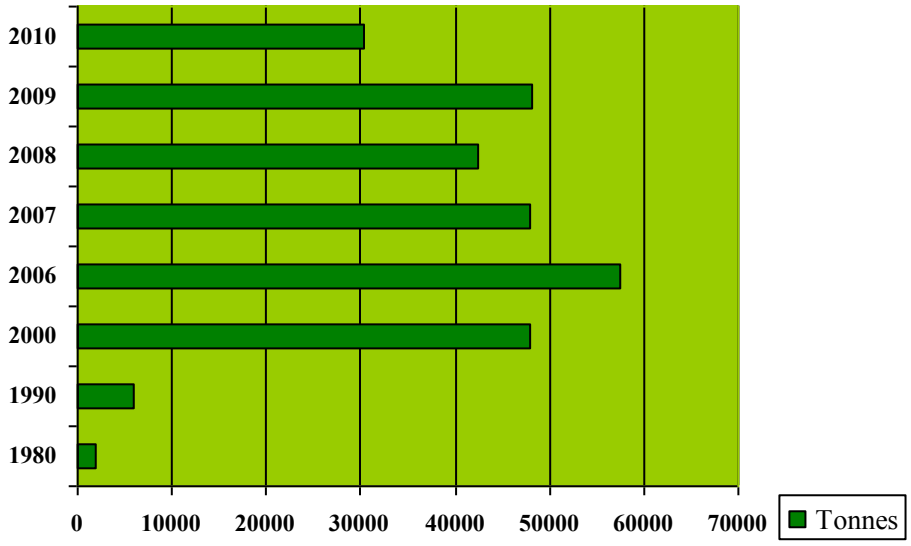

Chart 2. Gross volume of Chinese exports of rare earth from 1980 to 2010
Source: Adapted from „Study on Rare Earths and Their Recycling", Darmstadt, Ianuarie 2011

It can be seen that rare earths exports grew gradually during this period of analysis, the maximum point was in 2006 when exports were 57.400 tonnes, followed by the year 2007 that marked a decline in the export of these items. Also in 2000 the situation was favourable, and in 2001 it fell sharply, a understandable phenomenon, given the problems in the United States on 11 September 2001 that have contributed to weakening the U.S. – China trade relations. To protect domestic production and consumption, in addition to non-quantitative restrictions or quotas to limit imports of rare earth, China decided to implement other measures to protect the resources. Thus from 1 April 2011 it was decided to apply a tax rate of 60 yuan (9.1 dollars) per tonne for light rare earths (Light Rare Earth Elements), whose demand is higgher and one of 30 yuan per tonne for heavy rare earths (Heavy Rare Earth Elements).[4]

Table 2

Chinese rare earths exports of state and foreign-invested enterprises from 2008 - 2010

	2008	**2009**	**2010 (Approved exports)**
Chinese-invested enterprises (tonnes)	34.156	31.310	
Foreign-invested enterprises (tonnes)	8.210	16.845	30.258
Total (Tonnes)	42.366	48.155	30.258
Reduction in % compared to 2008	0%	14%	-29%

Source: „Study on Rare Earths and Their Recycling", Darmstadt, Ianuarie 2011

We notice a decrease by 29% in 2010 compared to 2008. From 2009 to 2015, export quotas imposed by the rare earths China's Ministry of Commerce would be 35.000 tonnes according to the "Rare Earths Industry Development Plans 2009-2015". The objectives of control of rare earth exports are to regulate the current situation of non-transparent rare earth industry, to protect resources and environment and to

[4] http://news.xinhuanet.com/english2010/china/2011-03/24/c_13796465.htm, accessed on 28/04/2011

ensure domestic demand growing. In recent years, China is interested in renewable energy and "green technology" and in these conditions, domestic demand for rare earths will increase rapidly as rare earths are related to the green industries like wind turbines or electric cars.

The data presented above do not include illegal exports from China. According to the China Security Journal from 9 October 2010, in 2009 around 20.000 tonnes have been sold illegally in foreign countries, apart from legal exports. Compared to the illegal quantity from 2008, in 2009 we can observe an increase of 10 %. However, the amount of illegal exports is 60.500 tonnes in 2008 and 68.000 tonnes in 2009. Comparing the Chinese exports with the data of the main importers it can be seen that imports from China to Europe, U.S.A. and Japan were 71.000 tonnes in 2008. The main exporters of semi-products from rare earths outside China are Japan, USA and Europe. They import from China mainly primary material and export semi-product. The following table shows the situation of exports in 2008.

Table 3

Exports of semi-products of rare earths of Japan, USA and Europe in 2008

	Exports of rare earth compounds in 2008	**Data source**	**Compounds included in the statistic**
EU 27	4.704 t	Eurostat 2010	Metals, intermixtures or interalloys of rare-earths, Sc and Y
USA	8.253 t	U.S. Geological Survey	Rare-earth and Y compounds
Japonia	8.997 t	Trade Statistics Japan 2010	Cerium-, lanthanum- and yttrium oxide

source: „Study on Rare Earths and Their Recycling", Darmstadt, Ianuarie 2011, p. 39

Destination countries of Japanese exports of rare earths are South Korea (33%), China (17%), Taiwan (14%) and U.S.A. (9%). The author Robert Bryce, in his book published in 2010, "Power Hungry: The Myths of "Green" Energy and the Real Fuels of the Future" refers to the importance of the lanthanides or rare earth in the context of green energy. He argues that China has a "de facto" monopoly in international trade with lanthanides. We live in a global economy, especially when it comes to energy trade. Due to globalization, the market role is to ensure the price understanding between buyers and sellers. China takes advantage of these resources, so that has more than 1.000 doctoral students specializing in the technology industry working in the extraction and processing of rare earth, turning them into marketable products. As I mentioned above, as China develops its knowledge in this field, it has decided to reduce its exports of these items. Also, it has increased export taxes, prohibiting foreign companies to invest in the extraction and processing of rare earth. Companies that need a constant supply with these elements are required to move their production facilities in China. General Motors has decided to transfer the direction of international operations from Detroit to Shanghai, and, also, Chevrolet has already begun making the required batteries for automobiles in China. Besides Japan, who officially declared it's addiction on imports of rare earths from China to support its technological development, there are other countries that are worried about China's decision. In May 2009, a member of Japan's Ministry of Economy, Trade and Industry declared for the "Times" newspaper that all technologies depend on the rare earths and all the rare earths world trade depends on China.

Nothing new, though. Neodymium is the most important type of rare earth and is used for the Toyota Prius, which is the largest consumer of rare earths, each model use about 1 kilogram of lanthanum and 10 of neodymium. In September 2010, it manufactured and sold over two million units meaning 40 million dollars (in 2010, a kilogram of neodymium costs 20 dollars) just to buy the required amount of neodymium for the production of the models. China has supplied Japan with 2.000 tonnes of neodymium of the total production, between 110.000 and 130.000.

In addition to Toyota Prius, there are other hybrid models that require large amounts of rare earth: Honda Insight or Ford Fusion. David Trueman, a Canadian geologist, has shown the importance of rare earth in one phrase: "without rare earths, you do not have a colour TV[...], Chinese are the oldest capitalists in the world. They would rather build the entire TV than to sell just a piece of rare metals." The protection of these resources comes at a strategic moment in which China advances in terms of technology, globally.

Between 1985 and 2005, Chinese exports of technology reached 450 billion dollars. Cheap labour, lax environmental policy and abundance of the rare earth allowed upgrading the United States and Japan in terms of technology exports. Apart from all the rare earths mentioned in my paper content, there are other rare items that are not part of the lanthanides group but are essential in solar energy. For example, Arizona-based First Solar, one of the largest photovoltaic cells manufacturers in the United States of America, is based on cadmium t=elluride compounds. The first business of this company is based on telluride. In the 2009 annual report, First Solar said that if the suppliers could not supply the company wit telluride, prices of this item may raise or the company will be unable to honour its contracts.

If the deficit will occur, First Solar would have lost because the prices of customers contracts do not change depending on raw material price increases, resulting in a reduction in production. In this context, China has an advantage. According to experts, China is the only country that holds tellurium mines. The Chinese are using the access to raw materials, manufacturing large quantities of solar panels. Many factories of solar panels from China have stimulated the production, resulting in a fall in prices of solar panels in the United States by 40% in 2009 compared to 2008. This is a critical issue of competitiveness of the U.S.: if decision-makers in this country decide to support indigenous businesses of rare earth as a way to hedge Chinese suppliers, China could simply decrease the prices of rare earth, making all U.S. start-ups in the industry to become unprofitable.

The United States only hope to supply itself is Molycorp Minerals, which holds only one operable rare earth mine, located in California. The availability of rare earth is not just a matter of trade balance, but also a U.S. national security. The U.S. military is dependent on cutting-edge weapons, guidance systems or computers, all of them call for these items. Assuming that the U.S. imposed sanctions on Chinese trade, because of the litigations related to carbon emissions, what could China do instead? Well, first of all exports of rare earth would stop to the U.S., the Defense Department of this country being unable to get the latest equipment needed. The monopoly position of China on these elements enables the technology to be first created by them, rather by the United States. Here it is important to emphasize the idea relating to role reversal in terms of the technological gap between the U.S. and China, the first would suffer, medium and long term, from China's technological advances.

Chinese companies said they are willing to lose money on manufacturing solar panels, in exchange for a larger market share. The government subsidizes this area, enabling Chinese companies to lower prices, a phenomenon that will occur around the world.[5]

3. The efficiency and profitability analysis of China's trade with rare earths

I think it is useful to review China's trade with rare earths, which is the largest exporter of rare earth and the largest importer, Japan. In 2009, China's exports were 1.2 trillion dollars and imports were 1.01 trillion dollars, making China's trade balance for 2009 to be in surplus. In September 2010, exports were worth 130.7 billion dollars and imports reached 112.3 billion dollars, which again results in a trade surplus. In March 2011, China's trade surplus is increasing, with an imports value of 152.06 billion dollars and exports of 152.2 billion dollars,

[5] adaptation from: http://books.google.ro/books?id=OJmtn3rOxH0C&pg=PA133&dq=rare+earths+china+trade&hl=ro&ei=bO6FTbqF4eS4Qazu6DECA&sa=X&oi=book_result&ct=result&resnum=10&ved=0CGAQ6AEwCQ#v=onepage&q=rare%20earths%20china%20trade&f=false, pp. 132-138

resulting in a surplus of 140 million dollars.[6] To express the efficiency of foreign trade we used the indicator known as the exchange ratio or terms of trade. Exchange ratio refers to the quantity and price conditions at which the international trade in goods is performed, showing how physical or monetary units must be exported to cover a unit of import. Given that China does not import rare earths, gross exchange report indices and net can not be calculated.

To characterize the efficiency of international trade, the exchange ratio or Terms of Trade must be calculated since it expresses in value terms the results that each country obtains from its entire foreign trade. Since we have no reliable data regarding Chinese imports, to ease our calculation, we note that the country imports insignificant amounts of rare earths. Thus, we get: *In value terms*[7]:

- TTV > 1 when the Exports Value > Imports Value - condition fulfilled by China because exports are above imports;
- China achieved a trade surplus, one that devalues the yuan currency. In these circumstances, China should boost imports and discourage exports, which it has already begun to do, being convicted of violating the principles of international trade.

Therefore, we conclude according to the theory that China has an efficient trade.

In quantitative terms:

- TTQ = Exported Quantity / Imported Quantity.
- From the theoretical point of view, regarding China, the following condition is valid: TTQ > 1, where the Exported Quantity > Imported Quantity, hence unprofitable trade, because the amount exported is greater than the imported.

After verifying the conditions, we found that China's rare earths trade is effective but not profitable. Thus, immediate monetary effects are not very big (profitability), the Chinese receive only 2.503.477 dollars per year in taxes which it chose to apply differentiated in April 2011 on the types of rare earths. Because of this, the theory could apply in practice, but in terms of efficiency, this characterizes the Chinese trade with rare earths, because the elements that are the focus of this paper have contributed to higher growth of the country, being valued correctly.

4. Conclusions

In recent years, the rare earth issue captured the press attention, raising public interest and, therefore, my attention, with regard to a crucial importance of China in this context, surprising with the protectionism it exhibits. Obviously, the refusal has sparked panic among the dependent countries on the imports of rare earths from China, which not coincidentally are among the major exporters of technology: the United States and Japan. Non-tariff instruments as quotas determine the states to find alternatives, or by replacing some components with substitutes, or by using other sources of constant supply, not to stand still in terms of innovation. As I said above, Americans are in a bad situation depending on imports from China. The U.S. imports of rare earths worth over a billion dollars. Imposing quantitative restrictions under the pretext of protecting the environment by stopping or suspending delivery of goods in port, represents nothing but a tactic safe ascent, at least in the short terms, China's relying on these elements. The reduction of exports from 28.000 to 7.800 for the second half of 2010 represents a clear indication of China's plans to attract more foreign investment in its territory, as soon as possible until the other mines in California and Australia will not become functional.

[6] http://www.tradingeconomics.com/china/balance-of-trade, accessed on 27/04/2011
[7] Gheorghe Popescu, *Modele de comerţ internaţional,* Deva, editura Corvinus, 2001, p. 83

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THE YEARBOOK OF THE „GH.ZANE" INSTITUTE OF ECONOMIC RESEARCH
VOL. 20, ISSUE 2, 141-149, 2011

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VOLUNTEER LANDMARKS AMONG COLLEGE STUDENTS FLORICA STEFANESCU[1] CLAUDIA OSVAT[2]

Abstract

The study addresses the issue of volunteering from the perspective of student participation in volunteer activities and the outcomes of such activities, in a faculty of social and human sciences. The paper is based on research literature and substantiates a research study among students of the aforementioned faculty. The conclusions summarize the results of the research and reflect the characteristics of student participation in volunteer activities, as well as the provisions necessary for the promotion of volunteer work among the youth.

Key words: volunteering, students, activities, outcomes, provisions.

Volunteering, concept, setting; a culture of volunteering

Initially associated with religious traditions, charitable activities, predominantly in the social field, volunteering is found nowadays among diverse lay traditions and activities ranging from the social to the medium, from underprivileged to profitable environments. Areas with large numbers of volunteers are: culture, sports and leisure, education and research, health, social action, defending rights, interests, or conventions etc. From an organizational perspective, volunteer work is closely linked to the activity of NGOs. One could say that the "maximalist, welfare state" and volunteering are inversely correlated, in the sense that volunteering develops on the basis of a residual intervention by the state in social problems, this background favouring the development of NGOs. Edith Archambaut (2002)[3] explained that the ratio between the numbers of volunteers and employees across different fields of activity also depends on the interest and involvement displayed by the state in meeting needs of general interest to the population. Therefore, in fields such as education and education, the ratio between the number of volunteers and employees is lower, not due to the volunteers' lack of interest in these areas, but because on the one hand, the state has a major role, and on the other hand, because these fields require highly trained human resources.

Volunteering has an important social-economic component, the range, structure and quality of volunteer actions varying according to the economic, social, cultural and political setting. There are differences between countries regarding the ratio of volunteers and employees, relating to both the range of the activities undertaken, and the distribution of such activities across fields. In developed countries such as the Scandic, the Anglo-Saxon or the Nordic countries, volunteer work is a widely spread activity, with around half of the population serving as volunteers[4].

In socialist countries, volunteering was affected by the communist ideology, taking on the shape of patriotic voluntary activities, mandatory for that matter and thus perceived as a

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An. Inst.Cerc.Ec.„Gh. Zane", t. 20, i.II, Iaşi, 2011, p.141-149

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nuisance by those involved. This is probably the reason why, after the changes in 1989, the culture of volunteering established itself more slowly in these countries, the collective memory holding on to former, so-called voluntary, displays. In addition, low thresholds of median-income turned the population towards second-income generating activities and away from volunteering.

However, in the context of a stabilised economy, deepened relationships with developed countries, efforts to diversify and enhance volunteer activities, to promote and boost the image of volunteer work, as well as the emergence and development of organizations promoting volunteering, paved the way to a growing interest for this kind of activities.

Overall, however, there is a decrease in the number of volunteers, as well as the issue of volunteer teams aging, which raises the question of renewal of volunteers, along with an increase in the number of organizations operating solely on the work of volunteers, rendering them vulnerable under the aspect of sustainability.

A study conducted in Belgium in 2007 highlighted that for both volunteers and non-volunteers, volunteering holds a series of virtues and shortcomings. It was associated with values such as: commitment, solidarity, availability, altruism, self-sacrifice, but also with non-values as: amateurism, lack of transparency, exploitation, naïveté[5]. In order to encourage volunteer participation, one must target these negative values that hinder potential commitment in volunteering[6].

In his endeavour to identify volunteer motives, Pascal Dreyer (2006)[7] conceptualised two major groups of motivation: the first centres on self-centredness, defined as self-interest and personal wellbeing, while the second focuses on altruism, defined as interest for others, for the public space. The first group includes motives as: meeting people with similar interests, making friends, spending leisure time, learning and practising sports and cultural activities, gaining access to information or services of a specific nature, developing or practising skills, getting a job more easily, even in the organization where he or she previously served as a volunteer. The second group accounts for reasons such as: being useful to society, doing something for others, standing up for a cause, furthering the protection of his/her own rights and others people's, protecting children's interests. Often these motivations intertwine and are present in the same person.

Some studies[8] have made up a volunteer profile. Thus, a typical volunteer is a highly educated person, between the ages of 35 and 55, in good health, with time off following the children's departure from home, a practising believer, raised in a family with many children and having a family history of volunteering.

College students and volunteering

a). *Opinions about volunteering expressed by students from the Faculty of Social and Human Sciences*

Our study aimed to identify the knowledge, opinions and attitudes towards volunteering among students from the Faculty of Social and Human Sciences, applying to this effect a 5-item questionnaire:

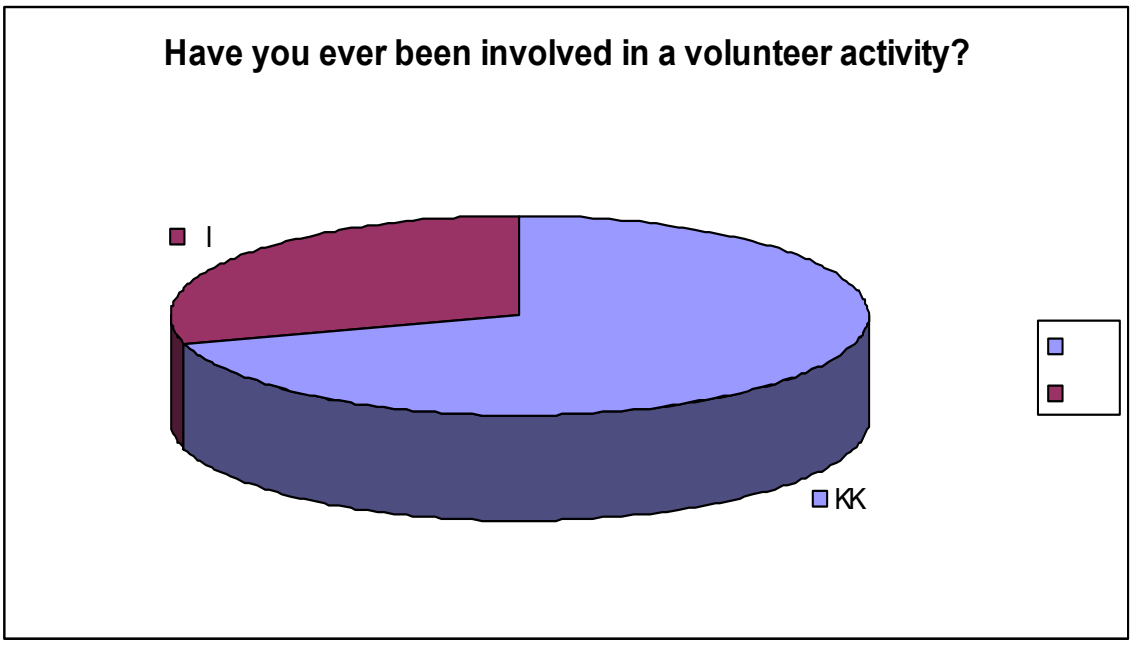
- Have you ever been involved in a volunteer activity?
- What is volunteering?
- What is your opinion on volunteers?
- What are the advantages of volunteer work?
- What do you make of the shortcomings in volunteering?

[5] Les Belges et le Bénévolat, 2007

[6] Malet (2005), La France bénévole, Publication du Centre d'Etude et de Recherche sur la Philanthropie et Dreyer, (2006), Etre bénévole aujourd'hui, Editions Marabout

[7] Dreyer, (2006), op.cit.

[8] Malet (2005), op.cit.



Graph no. 1. Student involvement in volunteer activities

If more than half of the students responded affirmatively to an involvement in volunteer activities, it is because there is an interest among the faculty members in the growing familiarity and involvement of students in such activities, and on the other hand, because the university curriculum has been enriched with a course on volunteering, implying several practical activities as well. And this, in spite of a volunteer culture less valued worldwide, not because people are more selfish, but because they'd rather commit to volunteering if they feel an internal need for it, not at the advice of religious, political and non-political organizations or of political and religious ideologies.

Asked to define volunteering, most of the students recalled the content and importance of such activities (54 persons) and only 24 tried to capture its characteristics: unpaid activity, optional, voluntary.

On the item concerning their opinion on volunteers, responses centre on the idea of appreciation for volunteer work, being more likely a reflection of the volunteering course than a personal input of the students who seemed to model their responses according to what they believed to be expected of them, rather than express their real thoughts on the matter. We assume this relying on the research accounting for both strengths and weaknesses such as: in many fields of activity, volunteering is undervalued, even criticized based on the lack of professionalism and competence of volunteers, which might be detrimental for the institution or even cause tension between employees and volunteers; there is suspicion surrounding certain institutions on matters such as activity, use of funds, legitimacy etc, determined by a lack of transparency and an inability to disclose to the public information on activities, objectives and outcomes[9].

In the students' opinion, the most important three advantages of volunteering are:

- first: gaining experience and knowledge, developing interpersonal relationships, a better knowledge of institutions
- second: experience, interpersonal relationships, developing skills, team work
- third: skills, support, experience.

Even if only sporadically, there are responses such as: personal satisfaction, the possibility to help others, to be of service to less privileged people, a different outlook on

[9] Salomon L et Sokolowski W. (2001), Volunteering in Cross-National Perspective: Evidence from 24 countries, Working Papers of the John Hopkins Comparative Non Profit Sector Project, Baltimore, John Hopkins University

life, developing the ability to adjust, social gain, noble work, such answers point to a variety of intuitive or perhaps experienced aspects of volunteering.

These advantages can easily turn into disadvantages for volunteer organizations, since many volunteers, especially young ones, motivated by the prospects of a job and of gaining experience, quit or give up on volunteering altogether, when they find a job[10].

Finally, concerning shortcoming, the responses are as follows:

- first: the lack of material and financial resources, the small number of volunteers
- second: the lack of appreciation by the community, the lack of experience, the carelessness of volunteers.

There are also some sporadic, yet extremely interesting examples in relation to shortcomings: lack of supervision, lack of well-established programs facilitating communication between staff and volunteers, a deficient management, lacking time, the undefined status of the volunteer, stress, the reluctance of organization towards volunteers. Without a doubt, in a social-economic setting marked by crises, tension and uncertainty, time is a rare resource for all family members, parents being involved in professional activities, elders being responsible of household chores, so that the number of persons and the amount of time assigned for volunteer activities are lower.

Volunteering is also in a fierce competition in our contemporary society with multiple and diverse possibilities of employment and leisure. Even the large number of associations and organizations that rely completely or partially on the work of volunteers, generates a competitions not always beneficial, given the difficulty in recruiting certain types of human resources, along with the gradual loss of "traditional volunteers", for instance women involved in acts of charity[11], following the almost exclusive focus and appreciation for skills and outcomes. Other shortcomings impeding on volunteering are mistaking volunteering for a form of exploitation or a tedious activity, failure to understand the utility and purpose of volunteer work, a greater concern for studies among the youth, lack of promotion and support from the state, central and local establishments.

b). The involvement of Social Work students in volunteer work

Lately, the central focus has been on the benefits of volunteer work for participants. An encouraging aspect in this regard is a growing interest among students in volunteering, with remarkable outcomes. Organizations that effectively involve student volunteers in their activities recognize the special contribution made by these students who are passionate, energetic, enthusiastic and diligent in their work, also supporting the work of employees.

During the year of university 2008-2009, a number of 18 (2nd and 3rd year) Social Work students took part in volunteer activities in the following institutions partners with the Faculty of Social and Human Sciences, department of Sociology and Social Work:

- The Social Community Administration of Oradea – The Joint Centre for Volunteering
- The Romanian Foundation for Children, Community and Family
- Ruhama Foundation
- People to People Foundation
- The Caritas Catolica Association
- The Emanuel Hospice Foundation
- SOS Autism Association Bihor
- Society for Multiple Sclerosis in Romania

Students were involved in the activity of the aforementioned institutions, working in collaboration with the social worker in order to organize different events (e.g. Volunteer

[10] European Volunteer Centre (2005), Le bénévolat en Europe et au niveau européen – réalités et défis dans l'Union des 25

[11] Dreyer, 2006, op.cit., p. 19

Caravan, festivities etc), to carry out leisure activities for children beneficiaries of the services, to solve administrative problems, fund raising campaigns, etc.

Our students participated as well in volunteer activities within the Faculty of Social and Human Sciences, being involved as organizers in the National Conference with International Participation "Education and social change" and helping to organize different other activities: events during the holidays (fund raising for disadvantaged groups, distributing food and hygiene products), the Social Work Circle etc.

Professors were as well involved in the activities of partner institutions and organizations and in organizing the Social Work Circle.

During the year of university 2009-2010, a number of 50 (1st, 2nd and 3rd year) Social Work students took part in volunteer activities in the following institutions partners with the

OUTCOMES

As a result of activities carried out during the two years of volunteer work, one of our students was nominated by the host institution of Volunteer in 2009, her activity being described in the newsletter "Portrait of a Volunteer" edited by Pro Vobis – The National Volunteer Centre – link (19 May 2010… the Pro Vobis newsletter – National Centre for Volunteer Resources, Dec. 2… PORTRAIT OF A VOLUNTEER 2010 54 *..issuu.com/pro_vobis/.../portret_voluntar2009* –p.3).

Faculty of Social and Human Sciences, department of Sociology and Social Work:

- 6 The Social Community Administration of Oradea – The Joint Centre for Volunteering
- 6 The Romanian Foundation for Children, Community and Family
- 6 Ruhama Foundation
- 6 People to People Foundation
- 6 The Caritas Catolica Association
- 6 The Emanuel Hospice Foundation
- 6 SOS Autism Association Bihor
- 6 Society for Multiple Sclerosis in Romania
- 6 Multiple Sclerosis Foundation
- 6 Association for the Mentally Disabled

Students were involved in the activity of the aforementioned institutions, working in collaboration with the social worker in order to organize different events (e.g. conferences, festivities etc), to carry out leisure activities for children beneficiaries of the services, to solve administrative problems, fund raising campaigns, etc.

Our students participated as well in volunteer activities within the Faculty of Social and Human Sciences, being involved as organizers in the National Conference with International Participation "Research and Social Policies" and helping to organize different other activities: events during the holidays (fund raising for disadvantaged groups, distributing food and hygiene products), the Social Work Circle etc.

Professors were as well involved in the activities of partner institutions and organizations and in organizing the Social Work Circle.

OUTCOMES

Note: a number of 6, 3r year Social Work students attending the optional course called "Volunteering in Social Work" wrote a financing proposal for activities to be carried out during the "National Week of Volunteering". The project received funding from the Safir Humanitarian Association in Oradea.

Activities in the project "Get involved in community life!" - period 21.04.-24.04.2010

The project lasted a period of three days (21.04.-24.04.2010) during the "National Week of Volunteering".

Under the guidance of two professors, 43 Social Work students from the Faculty of Social and Human Sciences participated in the project.

*Most of the students were involved in two or even three project activities.

Objectives and activities:

Objective no. 1:

Informing members of the community about the possibility of volunyeer work during the week devoted to volunteering.

Main project activities:

a). flyer distribution (received from the Joint Centre for Volunteering) to students and other community members;

b). promoting volunteering options by 1st and 2nd year Social Work and Sociology volunteer students.

23 students were involved in activities a, b. They distributed flyers and advocated for volunteer work to their fellow students and other community members interested in the matter. The activities took place on the 22 April in the building assigned to the Faculty of Social and Human Sciences and on the Republicii str. 200 flyers were distributed and 15 posters were displayed. Informative materials were provided by the Joint Centre for Volunteering of the Social Community Administration of Oradea and the Pro Vobis National Volunteer Centre in Cluj-Napoca.

Objective no. 2:

Raising public awareness regarding the importance of reading during the week devoted to volunteering.

a). launching a call for reading by volunteer students to passers-by, on the Republicii str.;

b). handing out books to passers-by participating in the organized event.

26 students were involved in activities a, b. 86 books were purchased (13 copies of Maitreyi by Mircea Eliade, 4 copies of The Old Court Libertines by Mateiu Caragiale, 7 copies of Marriage in heaven by Mircea Eliade, 12 copies of The last night of love, the first night of war by Camil Petrescu, 10 copies of The novel of a near-sighted teenager by Mircea Eliade, 12 copies of Lead by Mircea Bacovia, 4 copies of Waltz invitation by Mihail Drumes, 13 copies of The mill of good fortune by Ioan Slavici, 11 copies of Otilia's secret by George Calinescu) from the publishing house Intact SRL. These were given to people who joined the action aimed to promote reading in the course of two days (22.04.2010- 23.04.2010, in the timeframe between 1 and 4 p.m.).

*Persons willing to participate were asked to record in writing what reading meant to them.

Objective no. 3:

Integration for a day in community life of children with disabilities during the week of volunteering.

a). accompanying children of the special class from the no. 52 Kindergarten to see a play at the Arcadia Theatre;

b). organizing games with the six children of the special class by 3rd year Social Work students;

c). accompanying the children to a pastry shop and serving a dessert.

6 children accompanied by 3 teachers and 7 volunteer students watched the play "The Little Golden Key" at the Arcadia Theatre in April 21, during 10.30-11.30.

After the show, the children alongside the students and teachers had to possibility to play for 2 hours in the Park 1 December.

Objective no. 4:

Providing an example of active citizenship and responsability towards the city's natural resources by the students of the Faculty of Social and Human Sciences, in the week devoted to volunteering.

a). setting up a green patch in Oradea

32 students took part at the two activities under the objective no. 3 on the course of two days (21.04-22.04, timeframe 12 to 4 p.m.). One of the project activities implied cleaning up the University street (colecting garbage). The second one aimed at setting up a green patch in the courtyard of the Faculty of Social and Human Sciences (cutting the grass, removing stones, digging and levelling the ground and planting 4 trees and lots of flowers).

During the year of university 2010-2011, a number of 50 (1st, 2nd and 3rd year) Social Work students participated in volunteer activities in the following institutions partners with the Faculty of Social and Human Sciences, department of Sociology and Social Work:

- The Social Community Administration of Oradea – The Joint Centre for Volunteering
- The Romanian Foundation for Children, Community and Family
- Ruhama Foundation
- People to People Foundation
- The Caritas Catolica Association
- The Emanuel Hospice Foundation

- 6 SOS Autism Association Bihor
- 6 Society for Multiple Sclerosis in Romania
- 6 Association for the Mentally Disabled
- 6 Association for the Locomotor Deficient

Students were involved in the activity of the aforementioned institutions, working in collaboration with the social worker in order to organize different events (e.g. conferences, festivities etc), to carry out leisure activities for children beneficiaries of the services, to solve administrative problems, fund raising campaigns, etc.

Our students participated as well in volunteer activities within the Faculty of Social and Human Sciences and Partium University, being involved as organizers in the National Conference with International Participation "European, National and Regional Identity" and helping to organize different other activities: events during the holidays (fund raising for disadvantaged groups, distributing food and hygiene products), the Social Work Circle etc.

Professors were as well involved in the activities of partner institutions and organizations and in organizing the Social Work Circle.

OUTCOMES

Note: 2nd and 3rd year Social Work students attending the optional course of "Volunteering in Social Work" carried out a series of activities in the Program "Volunteering in 2010".

Activities in the program "Volunteering in 2010" – period october-december 2010

Under the guidance of a professor, a number of 50 Social Work students from the Faculty of Social and Human Sciences were involved in the program.

Program activities were as follows:

- leisure activities for looked after children from the Family-type home for children "Primavara" Bratca (under the supervision of the General Department for Social Work and Child Protection – DGASPC Bihor) – for a day, the students played hosts to children, who spent a day in Oradea (University, Children's Town, the Zoo etc); the students covered the cost of transportation, lunch and packages for the children;
- the "Landfill" activity – students provided a number of 30 families with packages consisting of food and hygiene products;
- the performance of children from the Family-type home for children "Casa minunata" (DGASPC) – the students prepared the children for the festive Christmas program organized at the Arcadia Theatre;
- The International Day of Volunteering – over 100 persons signed up for the event: faculty members, representatives of partner institutions and of the financing agency (for the activities organized in the year 2009-2010), volunteer students and fellow students.

Conclusions and discussion

In Romania and in other former socialist countries volunteer traditions, cut short by their substitute called "patriotic labour", have led to a much needed reconstruction of the volunteer culture. This represents one of the differences between our national approach of volunteer work and that of developed countries where potential volunteers can make such a commitment freely, not necessarily at the advice of religious, political and non-political organizations.

A source of knowledge and value base for the promotion of volunteering is the school, and students in humanistic faculties who benefit from an adequate curriculum in this respect, could become themselves channels for the promotion of volunteer work among the youth.

Reviewing the shortcomings facing volunteers and volunteer organizations and, comparing them to the benefits, far more numerous, as well as demystifying volunteer work, eliminating prejudice, mentalities and negative values associated with volunteering, we

believe to be key actions, resulting in a growing number of people to become involved in volunteer work and in a public image boost of this activity in the coming years.

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THE YEARBOOK OF THE „GH.ZANE" INSTITUTE OF ECONOMIC RESEARCH
VOL. 20, ISSUE 2, 151-154, 2011

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Present-day topics

FEATURS ON PACIENT SATISFACTION

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Abstract

Satisfaction depends on the perceived performance of the product and the buyer's expectations. Patients' satisfaction is the trust built between doctor and patient and is perceived by the patient as a demonstration of skills in the field of health care provider. The concept of patients' satisfaction involves a series of limitations, especially in that the patients' satisfaction is subjective, taking less than concrete results. Thus appear the concept of patient dissatisfaction and dissatisfaction sources differ on the national and global levels.

Keywords: *Patients' satisfaction, patient dissatisfaction, limitations.*

1. Introduction

In any organization the most important principle of marketing is the customer satisfaction. The relationship with customers has become a central concern of the marketing activities since the time of marketing optics development (Pricop, 2011).

Customer satisfaction is a consequence of purchasing activities, consumption or use of goods and services and represents both an emotional response and a cognitive response, whose intensity varies according to situation (Lache, 2010).

To some extent, all the firms aimed the satisfaction of the customers needs, but not all are focused on the customer satisfaction and does not place the customer at the centre of its concerns. Satisfaction is the feeling of a person, resulting from the comparison performance (results) of a product with the person's expectations (Kotler, 1997).

The concept of customer satisfaction is characterized by (Wilson, 2007):

- can change over time;
- can be both complex, but also the result of a combination of experience, before, during and after the point at which they are measured;
-can occur in different social context that may be invisible or inexprimabile for the user of the services;
- the reasons for satisfaction may be hard to express, especially when they are considered less tangible aspects of the services,
- the reasons for dissatisfaction may be more easily expressed than those of satisfaction.

In the case of goods or products, the satisfaction can be quantified by means of clear characteristic, a special problem raises the customer satisfaction for services.

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2. The patients' satisfaction

The patients' satisfaction is the trust built between doctor and patient and is perceived by the patient as a demonstration of skills in the field of services provider. This demonstration is to show the ability, compassion, friendship, sincere communication and courtesy.

The patients present two forms of satisfaction (Ciurea, Cooper, Avram, 2010):

- satisfaction as a customer;
- satisfaction as a patient.

Brodeur and Kehansky (2001) have determined 10 values of quality and 16 quality characteristics in the patients' satisfaction.

Table 1

The values and characteristics of the quality of patient satisfaction

Values of the quality	Characteristics of quality
1. Quality	1A. Subject Matter Expert
	1B. General Systems Knowledge
	1C. Right the First Time
2. Value	
3. Efficiency	
4. Aspects of time	4A. Timely delivery
	4B. Strictly to the time it takes
	4C. Total necessary time
5. Access	
6. Own administration	6A. Professional Appearance.
	6B. The Organization of its own
	6C. Helpful behavior
7. Environment	7A. Protective environment
	7B. Support systems
	7C. Administration support
8. Team work	
	9A. Interpersonal relations
	9B. Information and involvement
	9C. Notification
	9D. Responsibility
10. Innovation	

According to this conception the values and quality of the characteristics are the premises for creating a linked set of indicators which measures the total range of consumer-provider relationship of health services. So the satisfaction of patients can be measured, quantified and examined by detailed analysis and mathematical formulas

Synthesizing the above elements, the concept of patient satisfaction includes a number of factors which have a particularly great importance in influencing perceptions of the service: access to the service, the patient-physician communication, medical competence, courtesy of the office staff, reliability, service credibility, prompt response, financial and physical safety, the aspect of material goods, understanding the client needs.

The main factors of satisfaction were divided into four main categories (Ware, Snyder, Wright, Davies, 1983):

- **dissatisfaction factors** – these can be designed as existing on two levels: inadequate and adequate. If these factors appear as adequate, then the results are dissatisfaction, but any increase in quality over the appropriate limit has little effect on perceptions;
- **satisfaction factors** - those factors which, when are improved, have a positive effect on perceptions. However, when these factors are not well presented, does not diminish the impression of the customer's satisfaction;
- **critical factors** - these are factors which can produce both satisfaction and dissatisfaction;
- **neutral factors** - these factors are least sensitive to changes in performance.

In a more tangible way, Rakel (1977) has summarized some of the variables that influence the degree of patients satisfaction:

- the existence of a good relationship with the doctor;
- possession by the customer of a knowledge about the pathology of affection/suffering;
- the patient accuracy regarding the severity of his illness;
- past experience with the same disease;
- the availability of medical advice;
- simple and accurate communication;
- the exposure of a realistic model of the expected results after treatment;
- the existence of a continuous involvement of the doctor in the patient quality of life.

3. The patient dissatisfaction

The concept of patient's satisfaction involves a number of limitations (Crow, Gage, Hampson, Hart, Kimber, Storey, Thomas, 2002):

- this concept is not static, but change over time;
- can be complex and a combination of experiences, before, during and after the point at which they are measured;
- takes place in different social contexts that can be invisible or ineffable for service users;
- the reasons for satisfaction may be hard to express, especially when they are considered less tangible aspects of the services (such as medical or dental services);
- the reasons for the dissatisfaction may be more easily expressed, especially if the state is exceptional.

Some studies show that patient satisfaction is subjective, taking less than concrete results. Patients want to recover, and by this desire they tend to expect their doctors to be the best. Most of the patients rank the physicians according to their tariffs and not by training, skills or experience.

Another factor influencing the patients' opinion about physicians is linked to time, both the waiting time for an appointment with the doctor and the time that the doctor spends with the patient during consultation (Brodeur, Kehansky, 2001).

Worldwide the main sources of patient dissatisfaction are (Ciurea, Cooper, Abram, 2010): pessimism, inconvenience, discomfort, the power of selection.

Pessimism - some patients know that staff who have to do is often distant from those who take decisions that can make the difference. These patients do not believe in their own ability to have an impact and do not think the doctor is especially motivated to know their needs.

Inconvenience - some patients are rushed most of the time and feel they have better things to do than worry about how a health provider conducts its business. Make time and energy consuming complaints, they usually do when a patient is really irritated by a particular experience that included bad service. Making complaints consumes much time and energy, usually when a patient is really irritated by a particular experience that included bad service.

Discomfort - with the role to complain - sharing a supplier deficit can cause a defensive reaction that develops a conflict. Sometimes patients are not so clear in saying their dissatisfaction and may be contradicted by the suppliers (a disappointing experience for patients).

The power of selection - customers have power of selection and often make use of it rather than share their dissatisfaction with the supplier and enter into a potentially uncomfortable situation, patients simply go to another doctor. Although the choice is a commendable work in this mode, the provider does not receive information about what is wrong and thus does not have the opportunity to correct a bad situation.

At national level the sources of patients' dissatisfaction are more concrete and refer, generally to (Armean, 2002):

- striking inequality of opportunity for patients according to their respective resources;
- limited access or lack of access to drugs, small quantities or the appearance of the tails (or "waiting lists") for the chronically ill;
- overworked hospitals which has led to some units that schedules for interventions to reach a few years after the diagnosis;
- informal payments in the public health system.

4. Conclusions

The patients' dissatisfaction come from, especially, by the lack of medical facilities, lack of medical knowledge from medical misinformation and by the increased level of expectations compared to what is offered in the health system. The lack of equity in health is a major one of the main gripes of patients: there is a huge discrepancy between the health status, access to health services and health care use, dictated mainly by the economic situation of each individual patient and the economic situation is worse this discrepancy is even greater.

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THE YEARBOOK OF THE „GH.ZANE" INSTITUTE OF ECONOMIC RESEARCH
VOL. 20, ISSUE 2, 155-164, 2011

INTEGRATED SUSTAINABLE DEVELOPMENT AND ENERGY RESOURCE PLANNING

VIRGILIU NICULA[1]

Abstract: *Integrated sustainable development of a country cannot be conceived and begun without considering in an intricate tandem environmental protection and economic development. No one can exist without a natural material support of the life he or she enjoys. All economic development plans must include environmental and human civilization's protection implicitly. Integrated resource planning must be done in an absolutely judicious manner, so we can all leave as a legacy for future generations both a clean environment, as well as a healthy and prosperous human civilization.*

Key words: *sustainable development, environmental protection, integrated resource planning, energy types, energy quality.*

JEL classification: O13, O21, O33, P21, Q56.

1. Integrated Sustainable Development

When it comes to the issue of sustainable development, many specialists make the serious confusion of economic development or environmental protection. The essential fact that economic development cannot exist without environmental protection must be understood. This intricate fact derives from the specific character of life, which dictates that nothing can develop under any form, if it has no natural basis. Or, if we do not protect the environment, nature, the planet in the end, no economic development can be stimulated anymore. The tendency of turning Human Civilization into a technological one is not an option.

If things were observed from another angle, the fact that, economic development based on environmental protection can lead to nothing else but one thing only, meaning human development, must be understood. This needs in return a healthy education, a civilized behavior towards our fellow citizens and nature, a high intellectual level from all points of view (ethical, scientific, spiritual). If a definition of sustainable development regarding energy sector were to be adopted, a version could be this: "**Sustainable development is a process in a continual evolution, which demands economy, society and environmental conditions for the benefit of present and future generations to be perfected.**".[2] Plain and simple, from this definition comes the explanation of the delay and observable mistakes in any field, not only in energy field. In an intricate meaning of sustainable development we could take the idea up to a point of stating that people's existence itself is a result of people's relations success with the environment.[3] We must not generalize, and things must be kept under control. It can happen that various persons enjoy the "surf" state on the wave crest created by these ideas, but we must all look around and notice the wreckage, ecological disaster on a global level, human and animal population's suffering due to illnesses caused and let to

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An. Inst.Cerc.Ec.„Gh. Zane", t. 20, i.II, Iaşi, 2011, p.155-164

[2] "Managementul energiei. Principii, concepte, politici, instrumente", Second edition, Leca Aureliu, Muşatescu Virgil coordinators.
[3] Ibidem.

spread by the very community, and then we must all see if there is anyone who wants such a state of mind any more.

For tens of thousands of years man keeps taking from nature, processing, using, consuming and in the end throwing it all back in nature. At some point nature got fed up with recycling what man threw all over it, and it responded in great upheavals. Thus, a natural or caused cataclysm through pollution comes into view, people and animals get fewer and fewer. The idea is one of complementarity. That is people and animals should all complement each other in nature, to ensure their life's support, the one that they cannot live without, for generations on a row. When man begins producing through industrial processes a series of primary, secondary, tertiary and adjacent products, and the remains that he does not want to recycle he throws them back in nature, it is obvious that he eliminates even his last chance of salvation without thinking long enough, and it hurts. When someone breaks something off, someone else needs to repair it and that costs a lot, and the community cannot leave it to someone else and trust like kindergarten pupils that "the polluter will pay the caused damage", because there are many cases in which fines were paid, but the Romanian environment,[4] on a local level, still remained polluted. Essentially it should not concern us who came up with this kindergarten idea, but rather who will clean up the environment and who will admonish the polluter in such a manner, that the second time he will not do it again, because man is destroying himself.

Alternative clean solutions for an integrated and integrating sustainable development are known and plenty can be found, but for some industrialists it is cheaper to spill and disperse in nature, than to invest in ultra high costly technologies and be appreciated by future generations. Situations alike are found on a world level, European Union's level, as well as national level, scattered over one or more regions of Romania from sporadic cores. Here lies the problem, not somewhere else. Laudable situations were a few, but with one swallow it does not make spring. It is a matter of will after all, but it seems that people must reincarnate for hundreds of times to realize such a simple, yet so high and great thing. Everything is perhaps more than chained and it is very easy to notice. A high technological level applied in all industries will ensure a clean and healthy environment, which can then sustain life at its full and a high level of an evolutionary intellect from all points of view, which gets to research and discover new and new technologies, more efficient and effective, both for environmental protection, as well as man's towards a natural evolution in a symbiotic, synergistic sphere, which after all is all our planet. Protecting the planet we protect ourselves, the people, future generations, the human civilization, our own clean healthy way of life, civilized and life of Earth.

Integrated and integrating sustainable development in the concept of environmental protection cannot be perceived and understood intricately, unless it is judiciously based on integrated resource planning, of any type, nature, belonging and/or obedience, be it human, natural or technological. Through this integral concept, of integrated resource planning, integrated and integrating sustainable economic development of Human Civilization and Society can really be stimulated, supported and started on the whole, as a means for conservation of nature and support for technical, technological and eco-economic[5] progress of future generations. Therefore, integrated sustainable development should comprise in the conception of producing any product, on the basis of integrated resource planning, the following natural sequence:

1. The raise of need/demand for a product of any type, utility and size, be it old, current or new, in an individual, household and/or industrial system.

[4] Over the decades and up to the present there are plenty cases of pollution caused by Romanian extractive and energy industries, great polluters and resource consumers, and lack of interest of authorities in charge to ecologically rebuild the damaged areas.

[5] "Carpatica Romanian Mountain Development Foundation" – multiple eco-economic ideologic aspects.

2. The raise of multiple offer to create, fabricate that product to satisfy the demand.

3. The raise of technical, technological and eco-economic progress on the basis of multiple offer, to stimulate the facile, clean and planned satisfaction of need for a product.

All these clearly plead for integrated resource planning.

2. The Process and Steps of Integrated Energy Resource Planning

According to integrated energy resource planning there are two known resource categories. In the first category of resources are the "consumer" and "supplier" types. It is a known fact that, on an industrial level, one type of industry can be both supplier, as well as consumer depending on the type of energy it produces and supplies and the one that it consumes regularly and/or occasionally.[6] There are various situations of some industries which supply heat (thermal energy) and electric energy to a certain voltage into the national system, but at the same time, either regularly, or occasionally, need electric energy at another voltage for their own installations and equipment to work. These differences, both of production and processing into the National Energy System (NES) are performed at a certain cost due to the need of transforming the voltage to the one proper and necessary to Electric Transport Network (ETN). Beside industrial consumers and suppliers, almost any domestic consumer and supplier of energy, who respects certain parameters specified by the National Energy Regulation Authority (NERA), can supply energy into the National Energy System (NES).[7] The more, the better some specialists would be tempted to say, but not in the current case of Romania, not just yet. Not only that all these energy resources must be taken into consideration for their current administration, but this kind of resources and others must be specified before any integrated resource planning (IRP) is started, otherwise we perpetuate the present situation of a vicious circle of the NES and what is going on is not a pleasant sight at all.

In the second category are all energy resources determined by the economy of energy at final users and the "supplier" type that must be evaluated simultaneously, so we can have an overview before integrated energy resource planning (IERP) and their correct current administration. All this data and information need an impressive volum of technical, economic, law etc. measures and all must be collected and sorted previous to their whole processing and introduced in complex calculation programs. Processing this kind of data demads meeting the specificity of all types of data and information in various energy fields based on diverse energy resources (hydro energy, nuclear energy, coal, natural gases, fuel oil, solar, aeolian (wind), geothermal energy, biomass with biogas, gases from non-dangerous waste landfills, gases from domestic and agro-zootechnic waste water treatment plants, hydrogen obtained through electrolysis (hydrolysis) of water etc.), the quantities produced and the energy that resulted after production processes have completed.[8] Also, integrated energy resource planning has numerous reiterations, analysises, in detail evaluations and optimization steps of all aspects, and the basis for planning is the prognosis of demanded energy services and not the one of consumption.[9] All these aspects lead to integrated sustainable development of NES and need one master brain or more to think things in their integrality, otherwise we are witnesses to very unpleasant things that happen in NES. As **steps**, as succinctly as possible some of the aspects worthy of consideration for a zone's and/or a region's energy development are enumerated below.

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[6] "Managementul energiei. Principii, concepte, politici, instrumente", Second edition, Leca Aureliu, Muşatescu Virgil coordinators.

[7] "Ordin nr. 1" and "Ordin nr. 2 din 04/08/2000", published in Monitorul Oficial nr. 369 din 09/08/2000".

[8] "Managementul energiei. Principii, concepte, politici, instrumente", Second edition, Leca Aureliu, Muşatescu Virgil coordinators.

[9] Ibidem.

1. Beginning with a small area as a surface, around 100 km^2, the approximate surface of a small hydrographic basin, the existing and potential catching and using conditions of energy resources, the theoretical and technical capacities of producing different types of energy based on these resources, as well as the connection, transport, distribution and utilization way at and by the consumers must be researched (prospected, studied and determined).

2. Once the potentially existent energy resources in a small area are determined, there must be, by case, applied all known methods in the technical field to convert these types of energy into other types of energy also, that are necessary to the consumers in that area. For example:

a) Hydraulic energy can be transformed, converted into:

- Mechanical energy;
- Electric energy;
- Thermal energy;
- Through the electrolysis (hydrolysis) of water, electric energy obtained also this way can be used for separately obtaining hydrogen and oxygen, for both commercial energy purposes, as well as chemical, technical etc. purposes.

b) Solar energy can be transformed into:

- Electric energy;
- Thermal energy, which can both be used and converted into other types of energy for other purposes like hydraulic energy.

c) Aeolian (wind) energy can be transformed into:

- Mechanical energy;
- Electric energy and like hydraulic and solar energies;
- Thermal energy.

d) Biomass with biogas can be transformed into:

- Thermal energy;
- Electric energy and like hydraulic, solar and aeolian energies;
- Mechanical energy;
- Biomass can further on also be used as raw material for compost platforms, where compost of different degrees of quality can be obtained, as natural fertilizer for agriculture, silviculture, horticulture, dendrology.

e) Geothermal energy can be utilized as:

- Natural thermal energy;
- Basis for treatment with thermal waters;
- Source of salts (sulphates) for different industries.

f) Gases collected from non-dangerous waste landfills and from domestic and agro-zootechnical waste water treatment plants can be transformed into:

- Thermal energy;
- Electric energy and like hydraulic, solar and aeolian energies;
- Mechanical energy.

3. After determining all parameters specified above all settlements (layouts) for catchment installations both in an industrial, as well as in a domestic system depending on the capacities of the source, the catchment possibilities, the connection and transport to consumers and not lastly the financial capabilities must established. Also, tasks as maintenance, reparations, modernizations and eventually possible extensions of all installations and equipment, constructions and instruments specified for exploitation must be fulfilled. Known being the fact that nature, as man, has an evolutionary character, environmental conditions must be according to executed projects, so that the anthropic part developed in diverse settlements will work under optimal conditions, in symbiosis with nature, otherwise wreckage and bankruptcy will install. History is anyway full of such fatal cases.

4. Economic exploitation of the executed projects must be performed in such a manner, that from it will benefit as much population in that respective area as possible, and not only, under the conditions of environmental protection and raising the beneficiary population's living condition. All these must be fulfilled such that the economy will really prosper, not just in a small area, but on a national, international level, because such cases are similar around the world.

5. Once the economy of the zone is based on such energy resources and technical projects masterfully executed, the respective area can develop incredibly much, both vertically, and horizontally. Thus, anyone can invest by case and possibilities in all energy resources mentioned above, available in that respective area, and it can develop economically up to something like:

a) Social and study centers:

- nursing schools, kindergartens, schools, high schools;
- universities, academies;
- libraries, museums, art galleries, cultural centers.

b) Medical and recuperation centers:

- dispensaries, policlinics, hospitals, sanatoriums, health resorts.

c) Institutes and study and research, creation and industrial exploitation centers:

- Institutes and centers:

- of study and research: environmental, technical, social, economic, medical;
- of design, construction and assembly;
- of exploitation, maintenance, reparations and modernization.
- Factories for diverse industrial installations, equipment, installation assemblies and instruments.

d) Social, relaxation and financial services:

- theaters, cinemas, audio-visual (mass-media);
- turism, agroturism, ecoturism and ecumenical turism;
- banks, consultance and investment firms.

e) Industries, farms and plantations:

- Industries:
- energy;
- transport;
- machine and installation constructions;
- mining;
- raw materials and matters processing;
- technico-medical, pharmaceutical, natural therapeutic etc.;
- food, agro-zootechnical.

- Farms:

- agro-zootechnical, horticultural, avicultural, apicultural.

- Plantations:

- agricultural, silvicultural, horticultural, dendrological.

6. Once the zone's economy is developed to such a level and even less, an authority to ensure the actions' management in all that area must be created, so things will not take a fatal turn. Thus, for each and every action category a sub-authority must be created and all of them must answer to only one ruling authority, which will coordinate them all in such a manner that all of them will join, work optimally with all of them and in everything, synergistically and symbiotically with nature and that respective community, for which they were created in the first place, so that a sustainable economic development will take place in the context of environmental and human society's protection, to leave something further on to future generations.

It is a known fact that small capacity distribution sources, usually based on hydrocarbons or renewable resources, have the advantage of benefitting from smooth adaptation on demand and exploitation conditions, unlike large and very large capacity sources.[10] Besides, it can be noticed how the technological "progress" has brought to our attention's and utilization's prime view these energy resources (turbine and thermal engines with cogeneration, aeolian, photoelectric, geothermal installations, combustion cells, heat pumps, atomic rods etc.) and even that of competitivity, thanks to "green house" gases emission reduction down to an insignificant level.[11] The moment human civilization and society gave up once and for all the obsessive idea of profit[12] and adopted a legislation, which it would obey, of supporting the systems based on renewable energy resources (solar, aeolian, geothermal, biomass with biogas etc.), these could be placed on superior positions of merit order, in the concept of environmental protection, by applying advanced technologies into such equipments.[13] At least through the interface of mass-media, the European Union recommends every member country the gradual raise of systems based on renewable resources ratio into the structure of ensuring the need for energy consumption both on national level industrially, as well as individually, domestically or family based.[14]

According to some authors, at least for the moment, externalities are those costs of the energy supply system that are not reflected in the cost of energy and these expenses are a consequence of negatively affecting the surrounding environment and people's and animals' health, through secondary effects on water, air, soil, reproduction, archeological, historical and aesthetic resources' quality, meaning the direct or indirect impact due to production and/or consumption of a good or service, over another entity, for which the responsible part is not imputed costs equal with the caused damage and thus the consumed energy has still a price unaffected by these factors.[15]

There are also some industries that have a positive aspect of the impact upon the environment, for example hydroenergetical assemblies disturb animals' and fishes' habitat, but at the same time they confer people's recreation and protection against flooding.[16] It is a known fact that all technologies of producing one or more types of energy, both conventional, as well as alternative, currently used in energy supply systems, no matter the size of used installation assemblies and equipments, mainly generate the following externalities:

-6 Nuclear power plants: emissions during routine operations, accidents, long term wastes, nuclear proliferation.[17]

-6 Thermal power plants: thermal pollution of waters, air, water and soil pollution, negative effects upon climat and people's and animals' health.[18]

-6 Aeolian installations: noise, affect the landscape, disturb the air currents, kill birds.[19]

-6 Geothermal installations: pollute the air with hydrogen sulphates.[20]

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[10] "Managementul energiei. Principii, concepte, politici, instrumente", Second edition, Leca Aureliu, Muşatescu Virgil coordinators.
[11] Ibidem.
[12] "Zeitgeist Addendum", www.thezeitgeistmovie.com.
[13] "Managementul energiei. Principii, concepte, politici, instrumente", Second edition, Leca Aureliu, Muşatescu Virgil coordinators.
[14] Ibidem.
[15] "Managementul energiei. Principii, concepte, politici, instrumente", Second edition, Leca Aureliu, Muşatescu Virgil coordinators.
[16] "Hidroenergetică", Popa Bogdan, on-line course, Universitatea Politehnică, Facultatea de Energetică, www.hydrop.ro.
[17] "Managementul energiei. Principii, concepte, politici, instrumente", Second edition, Leca Aureliu, Muşatescu Virgil coordinators.
[18] Ibidem.
[19] Ibidem.
[20] Ibidem.

-6 Electric lines: electromagnetic fields, cause difficulty in administrating herbicides, disturb the soil during construction, reduce the property value due to passing lanes, which can cause diseases like cancer and tumors etc..[21]

The main problem is the conversion of all these externalities of environmental and technical order, because their perpetuation brings absolutely nothing good, neither from an environmental, technical, nor from an economic point of view. Therefore, new clean, reliable, efficient and very useful technologies to society must be adopted. These technologies exist, they just need to be applied at first cheaply on the market and then freely. This means that all thermal power plants and pertaining industries must be transferred to the metal grinder, with a pretty high initial cost, but, again through high technologies, many raw matters for other industries can be recovered.

Maybe to some specialists these remarks would seem monstrous, but nonetheless the community should think that it is possible to transform the energy industry from a big consumer of resources, large polluter, large and slow one, into a small, efficient, reliable one and a great producer of clean energy in the concept of environmental protection. Transforming installations, equipment and old precincts into grinded metal for recovering raw matters necessary to other industries, depolluting the environment and ecologically reconstructing the old settlements (layouts) would never be conceived that they could be done over the night, but we should realize the fact that only in a decade, no more, if we want to, it can be done.

Perhaps to some esteemed emeriti this would seem an absurdity, but they should know that man has the technology to extract air from a glass of 0.5 l, obtain void in its interior and from that void to extract the necessary energy to light up 100 light bulbs, each of 100 Watts, for approximately one hour. This is called “zero point” technology, through which energy from Terra’s lightnings and superior atmosphere can also be extracted, much like the savant Nikola Tesla, who stated: “The present is theirs, the future is mine!”. When the savant made that statement he referred to the high technology that man owns and to his lack of will to change for his own and the planet’s good. There is one more very important component along this path, population’s education on this matter, which we cannot witness an edifying transformation of the human society on the path of evolution without. The population must be correctly and in a healthy manner educated this way, otherwise destruction knocks on the door.

The sole purpose of planning anything in the world is to get an efficient result out of a system for man to benefit. That is for man to enjoy himself, his way of life and the planet. And enjoyment of anything is only possible after achieving a high degree of quality of man’s creation, be it physical, intellectual and/or spiritual. Since everything in life comes after some hardship to survive, learn and evolve, so is with at least integrated energy resource planning (IERP), which demands that every measure is properly taken, so man can leave something to future generations, and thus make sure they enjoy a good life as well.

Good life and self enjoyment presumes that quality is attained, and since life to exist needs energy, be it in solid, liquid, gaseous or plasmatic state, it all comes down to energy resources. There are plenty energy resources on the planet nowadays, for man to use both industrially, and domestically, but only three are mainly used, either directly or through conversion: electric, mechanical and thermal. Since electric energy is the most familiar and used outcome of energy systems, until other new types of energy are discovered, it should be the one to take most of our time to produce it to higher and higher degrees of quality. If electric energy power plants were shut down, human society as we know it would cease to function. It is as simple as that, and it all depends on one seemingly insignificant aspect, the quality of electric energy.

[21] Ibidem.

If the demanded quality level of electric energy is attained, than mankind has a society to run, otherwise nothing can function properly, and even worse, things get from a penal to a deadly turn. Therefore, integrated energy resource planning (IERP), the basis of sustainable energy production systems development, has as one of its pure outcomes the quality of electric energy.

The Quality of Electric Energy

The efficiency of activities in industry, services and domestic sector, that use electric energy, depends largely on its quality.[22] Being a characteristic of electric energy, from an electric system's point of view, evaluated through a set of specific indicators, the quality of electric energy can be affected by electromagnetic perturbations that are specific to electroenergetical system's functioning in normal or perturbed conditions.[23] Beside, it is a known fact that "permitted" slips from quality indicators are more or less established depending on determined damages in production, transport, distribution, supply and consumption of electric energy systems. [24] Perturbations that affect electric energy's quality can emerge in all components of the energy system, in the supply process, but also in final user's processes.[25] It is a known fact that limiting the perturbations into an acceptable and tolerable interval for the appliances through which we use the electricity is an important preoccupation of the specialists in Romanian energy sector.[26]

From a practical point of view, it can be stated the fact that part of the hydroinstallation assemblies built by Romanian cooperations, like CENTROCOOP, for the rural zone ramified by hydrographical networks, could ensure under various conditions the parameters specified on the electric domestic appliances' prospectuses, meaning the normal parameters of the electric current (voltage of 220 V, frequency of 50 Hz), not as it happens too many times to be on Romanian ETN (voltage between 210 and 230 V, frequency between 47 and 52 Hz), which unfortunately are not according to electric equipment's and domestic, commercial and industrial appliances' utilization prospectuses and therefore we many times witness their temporary or total malfunction, with pretty high financial damages.[27]

Of course, we must remember the scarce and sluggish conditions under which electric current is being produced in Romania, to realize what we need to do on this chapter. However, the problem does not lie in this category alone, but in more, meaning: the supply voltage's and frequency's quality, the supply service's quality, the commercial quality etc.. Things are covered in many aspects, to describe them shortly, but this does not mean that they should be left to chance. However, not long ago Romania has celebrated NES's and ETN's connexion to Energy Transport Coordination Union (ETCU) through EMS-SCADA[28] type of networks, but this is a small step on the path of solving problems, compared to what it should have been accomplished on a national level, but for now it is better than nothing.

For a while it could be noticed the fact that, under scarce and crisis conditions both the suppliers and final users blame each other for electric current's quality and the damage it caused. Since the truth is always somewhere in the middle, the following must be presented:

$\Rightarrow$ On one side the suppliers cannot always respect 100 % the normal conditions to supply the electric current and so different fluctuations, frequent interruptions and some of them of long periods of time appear, either because of the wearing out of the network both

[22] "Managementul energiei. Principii, concepte, politici, instrumente", Second edition, Leca Aureliu, Muşatescu Virgil coordinators.
[23] Ibidem.
[24] Ibidem.
[25] Ibidem.
[26] Ibidem.
[27] "Carpatica Romanian Mountain Development Foundation" – project of microhydrocentrals.
[28] "Managementul energiei. Principii, concepte, politici, instrumente", Second edition, Leca Aureliu, Muşatescu Virgil coordinators.

physically and morally, or because of the excessive consumption by the final users and the suppliers' incapacity to produce the necessary quantity of electric energy according to hourly task graphic.[29]

⇒ On the other side there are at present very precise conditions of the sophisticated equipment that developers of new technologies provide on the market, and the suppliers cannot satisfy and compete with them totally. Also, there are really serious cases in which installations and equipment in energy system that suddenly break and cause much and even repeated damage, fires due to different parameters of the electric current, total unrecoverable malfunctions etc., things that lead to diverse litigations totally unwanted by any of the sides.[30]

All these inconvenients can be solved by adopting the path of high technology both by one side, as well as the other, but all come at a significant cost and not everyone can match up with such expenses, especially people in the Romania rural environment. In these kind of situations the state should intervene, but since the state has privatized on and on, and thus separated itself from all problems, for the reason it sold all its stock market shares, and along them the population's problems. Therefore, for now a middle way to mediate the current problems must be found, and that seems to be bearing the costs of damages by those who caused them in the first place. But this is not the optimal solution, only a temporary one.

As it can be noticed we are going round in a vicious circle, that is not pleasant at all and from which we must get out as soon as possible. To all that the lack of common sense, respect and education during the dialogue between suppliers and consumers can be added, when both sides get overwhelmingly recalcitrant and things get a penal turn, when offered commercial services' and relations' quality suddenly drops.

All these could be easily avoided if we stood and thought what needs to be done, planned and executed everything according to that respective plan, at all its afferent costs, which we cannot work without, but… However, the energy suppliers in both private and state, national energy system should be preoccupied with the sustainability, competitivity and electric energy supply's security for the national energy system (NES). Following, all these three aspects are shortly described.

⇒ **Sustainable development** is the development of competitive renewable energy resources and that of other sources and carriers of energy with low carbon emissions, especially alternative fuels for transport; the reduction in energy demand in Romani; channeling the national efforts for fighting climate changes and locally raising air's quality.[31]

⇒ **Competitivity** is ensuring that energy market openness brings advantages to consumers and to economy on the whole, by stimulating at the same time the investments for clean energy production and energetical efficiency; diminishing the impact of international energy prices' raise over economy and the citizens of Romania; bringing Romania to a proper level regarding high energetical technologies.[32]

⇒ **Energy supply's security** is managing the growing dependency of Romania and that of the European Union towards imports by: integrated approach, through reduction of demand, energy sources diversification with a broader use of local and competitive renewable energy and diversification of sources and supply routes of imported energy; creation of a stimulating frame for proper investments to meet the growing demand of energy; enhancement of Romania's means to manage emergency situations; creation of better

[29] Ibidem.
[30] "Managementul energiei. Principii, concepte, politici, instrumente", Second edition, Leca Aureliu, Muşatescu Virgil coordinators.
[31] "Managementul energiei. Principii, concepte, politici, instrumente", Second edition, Leca Aureliu, Muşatescu Virgil coordinators.
[32] Ibidem.

conditions for Romanian firms who want access to global resources; guaranteeing access for all citizens and firms to energy.[33]

To all these chapters and many others should Romania work for a long while from now on, but we will live and we will see what exactly will happen in the future.

4. Conclusions

As any other systems imply the fact that man is in symbiotic connection with nature around him, energy production systems too demand that they are sustainably developed up to a point, where they seem to fuse with the environment and function optimally, so man can achieve his purpose to ensure his entire life's support in a synergistic sphere. This implies that sustainable development of at least energy production systems is more than necessary, it is a vital function of man's creation to support himself, his way of life and the planet. One might think that sustainable development of energy production systems too many times demands integrated energy resource planning (IERP). One should not forget that integrated energy resource planning (IERP) is the basis of sustainable development of energy production systems, which in return offers a high degree of quality of energy systems' function, for man to enjoy.

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[33] Ibidem.

THE YEARBOOK OF THE „GH.ZANE" INSTITUTE OF ECONOMIC RESEARCH
VOL. 20, ISSUE 2, 165-170, 2011

THE SIGNIFICANCE OF INSTITUTIONS: CONCEPTUAL DELIMITATIONS AND TYPOLOGY

POPESCU IOAN[1]

Abstract

The specific achievements of recent economic theory in the analysis of institutions and alternative institutional structures implications on economic performance have created the possibility of building a core of institutional aspects for the economic research.

Integrating research institutions in general economic horizon creates the possibility of reassessing disciplinary boundaries between social sciences. Also, we can expect reconciliation of the economic theory "imperialism" with the same trends, no less important, from other disciplines and fields of social analysis. Ultimately, social science analytical concern has its source, in fact, in the same framework of human action analysis and social phenomena resulting from its manifestation.

Understanding human behavior and institutions mutuality, the economic and political implications of this interdependence, increased the importance of institutions and institutional analysis in economic theory

Key words: *economic theory, analysis of institutions, economic performance, social analysis.*

When asked "What institutions are?" , literature does not provide a widely recognized view, much less a uniform analytical technique and the most appropriate response depends primarily on how the notion of institution is used.

North shows that "institutions reduce uncertainty by providing a stable daily life."[2] In this sense, institutions serve as a guiding role to human interaction, an approach convergent with austrian meaning of institutions as „orientation point" for coordination of individual plans and improvement of the cognitive limits of human nature.

Convergence strengthens on the belief that institutions arise and evolve through human action and the theory that explains this process must be based necessarily on the principle of methodological individualism. However, common elements of these approaches seem to have a weak foundation because of different views[3] in the application and validation "criterion of efficiency."

In terms of subjective perceptions of reality, people develop institutions or "rules of the game" to reduce uncertainty arising from repetitive human interactions.[4]

It is widely recognized that, especially in the Austrian approach, institutions have a role in explaining the market process, as a distinct class of phenomena described by Adam Ferguson (which become defining for the Hayek paradigm): *human action, but not human designed.*

Moreover, this definition of social institution has his roots in the tradition of Austrian economics, where institutions represent the social crystallization of human behavior in accordance with the rules.

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An. Inst.Cerc.Ec.„Gh. Zane", t. 20, i.II, Iaşi, 2011, p.165-170

[2]Douglass North, Institutions, Institutional Change and Economic Performance, Cambridge University Press, 1990, pag.3

[3] Svetozar Pejovich, *Economic Analysis of Institutions and Systems*, Kluwer Academic Publishers, 1995, p. 29.

[4] Ibidem

A criterion for the classification of institutions proposed by O. Williamson[5], is hierarchical one presented in Table 1.:

Table 1

Hierarchical classification of institutions

Hierarchical level	Examples	Efects	Frequency of change
Level 1 institutions associated with the social structure of society	Mostly informal institutions - traditions, habits.	Define the way in which society self-regulates.	Resistance over time (changes in over 100-1000 years, although rapid changes can occur in conditions of profound shocks and crises))
Level 2 institutions associated with the "rules of the game"	Most formal institutions which define property rights and legal system.	Defining all the institutional environment	Relatively long horizon of action (10-100 years)
Level 3 behavior associated institutions needed for the "game"	Rules that define the governance and contractual relationships	Contribuie la formarea organizațiilor	Medium term action (1-10 years)
Level 4 institutions associated to the resource allocation mechanism	Rules that control of the capital flows, trade regimes, social security etc..	Helping to regulate the prices and production.	Short and very short-horizon of action

Source : Williamson, O.E. The New Institutional Economics: Taking Stock, Looking Ahead, The Journal of Economic Literature, Vol. 38, No. 3, 2000. pp. 595-613.

The groups of institutions listed in the table are not fixed. Depending on the institutional framework, they can pass from one group to another.

Being relatively stable as structure of statuses and roles, formal and informal institutions are meant to lead to the satisfaction of certain needs of people in society.

The diversity of needs or social functions is associated with the diversity of institutions. The history of human society is a history of diversifying institutions, T. Parsons naming this process *institutional differentiation.*

In addition to institutional differentiation based on functional specialization, occurs a process of institutional sectoralisation, the ordering of institutions specialized in performing certain functions in various areas of social life. A particular area or social sector, for example, the productive sector, is not associated with one institution, but with a set of related institutions. Productive sector requires institutions aimed at producing goods and services, organization of work and labor relations, the introduction of innovations etc..

Furthermore the manufacturing sector is and must be correlated with the distribution and consumption, which correspond to other institutions, all together constituting economic institutions of society.

Thus, another criterion for the classification of institutions proposed by J. Jutting[6], is taking into account the area of specialization or analysis. According to this criterion, we distinguish the following institutions (Table 2.)

Table 2

Classification of institutions as area of analysis

	Formal	Informal
Economic institutions	Rules that govern the allocation of economic resources, production and distribution of economic goods and services	Traditions in the consumption of certain goods (The interdiction in the Muslim consumption of pork and beef to Hindus), predilection for certain economic activities (trade for Hebrew, banking for Swiss, design for Italians)
Political institutions	Constitutional, legislative political and administrative rules operating and changing the political system	Habits characterized by bureaucracy favoritism, nepotism, etc.

[5] Williamson, O.E. *The New Institutional Economics: Taking Stock, Looking Ahead*, în "The Journal of Economic Literature", Vol. 38, No. 3, pp. 595-613,2000.

[6] Jütting, J. *Institutions and development: a critical review*, Working Paper No. 210, OECD Development Center, 2003, pag. 11

Legal institutions	Legal system, the definition and exert of property rights	Anglo-saxon natural law
Social institutions	Rules that ensure social protection and human development	Individualistic or collectivist tradition, obedience or self-development.

Source : Jütting, J. *Institutions and development: a critical review*, Working Paper No. 210, OECD Development Center, 2003, p. 11.

However, for defining institutions probably the first question would be "How well and quickly they can adapt to the requirements of economic institutions of society."

More relevant in the present discussion would be how Acemoglu, Johnson and Robinson (2005) distinguish between different views of the institutions[7]:

•6 **The opinion efficient institutions**: institutions matter for economic performance, and companies will choose only the institutions that maximize surplus. This opinion converges with the North and Demetz's theory of institutions. Both say that in a world where institutions matter, businesses can negotiate the possible internalization of externalities. Eg. a farmer who suffer from pollution created by a close factory will pay the manager to reduce pollution. The same reasoning can be applied to political institutions. If current laws favoring one group creating a disproportionate cost for the other, these two groups will negotiate to change institutions. The opinion of efficient institutions also suggests that institutions are different because countries have certain characteristics that make economically efficient institutions. Eg. We have insecure property rights in Mali, but because much of this country is in the Sahara and the promulgation and implementation costs better laws will result in higher costs than benefits.

•6 **The opinion of social conflicts** - according to this view institutions are not elected by the whole society (and not the benefit of society), but by groups of interests that control the power at a time. These groups will choose institutions that maximize results and not always maximize the overall society results. North also adheres to this idea, arguing that in all societies there is "a permanent tension between governing bodies seeking to achieve their own interests and an effective system that reduces transaction costs and encourage economic growth."

•6 **The opinion of beliefs and ideologies** - according to this school of thought institutions differ because we have different beliefs and views on what is good for society. Some companies may implement correct institutions others do not, hence the difference in prosperity. It is certainly possible for those who want a society organized on non-economic criteria, but will have to be prepared to sacrifice the results to have a better set of institutions.

•6 **The opinion of incidental institutions** - contrary to economic approach this view minimizes economic choices and emphasizes the development of institutions as a product of social interaction. Economic and political institutions does not appear that the choice of economic agents, but they are incidental consequences of other social activities. An interesting example in this area is the work of Richard Tilly[8] according to which institutions from modern states: such as tax systems, bureaucracy parliaments, are closely related to the idea of gathering as many resources to wage war, and this occurs in places with a continue interstate competition (eg Africa, where we deal with countries that cannot provide public goods and the internal order).

The first two views are closer to economic research in general and therefore I will address in more detail in this work. According to **social conflicts opinion**, the conflict between social groups is essential for institutions and the differences in the nature of this conflict will lead to

[7] Daron Acemoglu,Simon Johnson, James Robinson, *Institutions as the Fundamental Cause of Long-Run Growth* , , in Handbook of Economic Growth, Edited by Philippe Aghion and Stephen Durlauf, Elsevier, North Holland, 2005, pag. 35-39

[8] Richard Sylla, Richard Tilly, and Gabriel Tortella, editors. *The State, the Financial System and Economic Modernization*. New York: Cambridge University Press. 1999.

a different set of institutions. By contrast, in the **opinion of efficient institutions**, the conflict between groups or agents is not important, and institutional differences are due to differences in the economic environment or the costs of creating institutions.

According to of social conflict approach can distinguish between the following types of institutions:

•6 Economic institutions - or economic determinants of game rules - in particular, private property, contracts, commercial law, laws on patents etc.

•6 Political institutions - or political determinants of the game rules - they help to establish the limits of political power and change it. Common examples are the, electoral rules, the number of actors with veto power.

Another criterion for the classification of institutions (how they are created and imposed on the community by a third party with coercive power or a certain political authority) allows their separation of domestic institutions and external institutions.

Another view for the classification of institutions, sensitively close to the former, takes into consideration the degree of formalization (encoding) of behavioral rules (social), which allows distinguishing between informal and formal institutions.

The common elements of these typologies come from external institutions that, necessarily, have a formal component, while domestic institutions are not necessarily informal institutions which mean that distinctions internal / external and informal institutions / formats do not always coincide. The determining factor in this distinction is the binding nature of constraints that institutions have on human action.

Domestic institutions, whose existence is crucial for successful human interaction at a higher level of integration, are not imposed by an external authority and, in general, not necessarily the result of human will. They evolve from human experience and incorporate those institutional arrangements (solutions) have served to their best the purposes of community members.

Adequate examples of domestic institutions are customs, language, the ethical norms and good manners, business conventions. Violation of domestic institutions is sanctioned informally by possible hostile attitude from the other members of the community.

External institutions always involve a hierarchical structure, unlike the internal rules whose expression is horizontal, between equals. The sanctions for violation of external institutions are always formal and are often implemented through the use of force. Examples of external institutions, depending on the content and their purpose may be the prohibitive list of behavior rules that are codified and incorporated into civil, commercial, criminal codes etc.. For Pejovich[9], the formal external rules are legislative / constitutional arrangements that structure the political system (hierarchical structure of power, civil rights) and economic system (property rights, contracts) and other government regulations.

The institutional arrangement prevailing in any society is a mix of internal and external rules, informal and formal institutions. The modern economic thinking view the economic life as ordered by the laws of formal and property rights, but these, even in the most developed market systems, form only a part of all constraints and incentives that shape the actual choices of individuals. The nature of external / formal and the internal / informal must be considered both in itself and in some relationships with each other, as an indication of compatibility and complementarities. In any society, internal constraints / informal are important in themselves, and formal rules are not just an attribute of informal institutions.

North[10] shows that the adoption by the various societies of the same institutional arrangements / formal constitutional produced significantly different effects in relation to the more or less favorable internal institutional arrangements / informal.

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[9] Svetozar Pejovich *Economic Analysis of Institutions and Systems*, Kluwer Academic Publishers, 1995, p. 31.
[10] Douglass North, *Institutions, Institutional Change and Economic Performance*, Cambridge University Press, 1990, pag.36

According to the Austrian school perspective of defining institutions, we emphasize the need for a critical distinction between designed institutions (pragmatic, in Menger's terms) that are intentionally designed and implemented by authorized actors (governments, parliaments, spiritual leaders or heads of the church) and organic institutions.

The latter arise spontaneously and evolve over time as a result of human action but not of human intention, as Hayek argues.

This definition of institutions does not mean necessarily that all institutions are accompanied by appropriate sanctions for ignoring them, on the contrary. But the existence of penalties increases predictability of human behavior, creating coordination of individual actions and social order. In consequence-institutions incorporates and structure the incentives of human exchanges, whether political, social or economic. Establishment and functioning of institutions mean the shift from anarchy to order through the introduction and compliance with the rules or norms that guide economic and social life. Institutions are thus the prerequisite and product of the economic order and social life.

Any institutional analysis starts from the recognition of certain fundamental properties of the institutions.

The first criterion for assessing the quality of certain social rules is the degree of universality. Universality of an institution reflects the general and abstract nature of a social rule (Hayek, 1980)[11] and also openness, for the purposes of applying the same rules to large a number of cases.

The rules that are not universal are intended for specific purposes, which draw their failure in meeting their normative and coordinating function because, by their nature, the necessary precondition of non-conflicting social order is eliminated.

The second criterion derives from the very major function of the "rules of the game", that of human interactions to reduce costs by increasing the predictability of actors behavior. In this regard, institutions should be characterized through *credibility, stability, to be transparent and easily cognitive.*

Thirdly, we emphasize the need for universal *ethical criterion* to assess the quality of institutional arrangements. Richard Epstein shows that simple rules tend to be more easily known and understood than the complex, which attracts greater possibilities to fulfill the functions associated with them.

The advantages of a set of fair, stable and reliable rules are giving individuals incentives to exploit available opportunities to win regardless of their temporal horizon. A comparison to a football game is sufficiently relevant in this case. Players know the rules and the audience appreciates the game because its rules are respected. If the coach of a team is able to obtain an unjustified advantage from the referee in the short term, this discretionary change of rules may influence the further evolution of matches. Spectators will not appreciate the game as before and the clubs will look for coaches more skilled in the change of rules instead of player’s training.

Following this example, analysis of institutions supposes a clear conceptual delimitation between "institution" and the "organization". In everyday language, the meaning of the concept of "institution" has deviated strongly from its original meaning, explained in this approach.

In everyday use, the term "institution" is applied in almost all cases as a synonym of 'organization', whether economic or political.

For example, in the terms of institutional economy, European Central Bank is an organization, while the Maastricht Treaty or antitrust laws are institutions. Also, the term "institutionalized" is not the attribute of those taken in care of a hospital or charitable organization.

[11] Hayek, F.A. [1946], *Individualism and Economic Order*, The University of Chicago Press, pag. 1-32., 1980

According to the conceptual boundaries of North's[12] approach, institutions are rules, organizations are the players.

Political organizations, economic or social represent groups of individuals that are united by common means to achieve their goals, more or less different. The institutions determine the set of incentives and opportunities in society and organizations arise to take advantage of these opportunities. The question of the existence of organizations and their specific mode of evolution depend on the structure of incentives and constraints provided by the institutions. The need of the distinction between "institutions" and "organization" does not exclude that some institutions (mainly formal) need and have a specific organizational component, so institutions can be incorporated into organizations. Examples of this are family, church, state, as organizations designed to serve the goals of its members and incorporating certain rules (of conduct and administrative) governing their operation. However, the nature of this institutional analysis stems from modeling institutions as inter-organizational rules, not intra-organizational, recognizing the predetermined hierarchical nature of the latter.

Taking into account relevant differences between institutions and organizations, we want to note the importance of mutuality between the actions of organizations and development institutions. This approach allows the unification of institutions as rules of the game by approaching institutions as rules of conduct, which means that the strategies of organizations influence the rules of the game.

Consequently, institutions arise endogenously in the course of social and organizational interactions and are thus a result of dynamic (dis) equilibrium.

Acknowledgement

„This work was supported by the project "Post-Doctoral Studies in Economics: training program for elite researchers - SPODE" co-funded from the European Social Fund through the Development of Human Resources Operaţional Programme 2007-2013, contract no. POSDRU/89/1.5/S/61755.)".

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6.6 Svetozar Pejovich (1995), *Economic Analysis of Institutions and Systems*, Kluwer Academic Publishers,.

7.6 Williamson, O.E. (2000)*The New Institutional Economics: Taking Stock, Looking Ahead*, în "The Journal of Economic Literature", Vol. 38, No. 3,.

[12] Douglass North, Institutions, Institutional Change and Economic Performance, Cambridge University Press, 1990, pag.4

THE YEARBOOK OF THE „GH.ZANE" INSTITUTE OF ECONOMIC RESEARCH
VOL. 20, ISSUE 2, 171-177, 2011

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Points of view

ROMANIAN CONSUMER: FROM THE COMMUNIST-ERA BRAND TO THE CAPITALIST-ERA BRAND

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Abstract

Before 1989, the brands have known a limited and imposed development. Along with the transition to capitalism, these brands have also undergone a transaction in the property of other persons (either natural or legal). The desire of new owners to positioning communist brands on the capitalist market involved adapting to new market rules. In order the products be promoted, creative ideas that change the original image products have been proposed. There have been changes in the packaging, slogan or even name of the product. The attempts of rehabilitation and placement of brands in the new socio-economic context have shown that several features acquired by the product during the communist period contribute to the product pulse of life, and denying them would mean failure of the product.

Marketers have noticed some behavioral trends manifested in a capitalist economy by the consumer who in the past has experienced the communist regime. They talk about the existence of a nostalgic feeling of the people who lived in a communist regime. Such a nostalgic feeling makes the consumer to choose (from a wide variety of offers available for a category of products) particularly the product used during the communist era, due to the memories that are related to that product.

Demonstrating the influence of nostalgia on customers consumptional behavior provides an important resource that can be exploited by marketers in the product marketing strategies.

Key words: *communist-era brand, capitalist-era brand, nostalgic consumers*

1. Introduction

For Romanians, living under communism has meant a struggle for the conquest of tomorrow. Most times, people have had money but could not find in stores the needed products. Socialist economy means controlled prices: theoretically, each person affords a lot of things, but practically, the shelves are empty while huge queues (even for the basic food/goods) being part of everyday life.

With the fall of communism, the consumptional behavior of Romanian consumers has changed. The specialists` opinion on this subject differs a lot. Some marketing specialists consider that Romanians have a different consumptional behavior compared with other nations who have also been part of the communist bloc. In contrast to these nations, Romanians change their consumptional habits with difficulty and into a different direction. Romanian consumer reacts differently because, after the fall of communism, he has felt as being estranged. If other former communist countries such as Hungary or the Czech Republic have already gone over this stage, the Romanian consumer fails to overcome the stage where he still reveres the traditional values. Most of the Romanians dream of a "modern life, but

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with traditional values"[4]. Other marketing experts consider, on the contrary, that the Romanians show a post-revolutionary consumptional behavior very similar to the one of other former communist nations. As a result of the food penury in the last decades of the communist regime when people have wasted hours standing in endless queues just to receive the food ration, since the downfall of Iron Curtain and establishment of the market economy people have begun to shop in abundance. Romanians have quickly learned the new way of buying: how and what to buy, where to buy, how to find in stores the product they need. In other words, they have learned the mechanism of consumption practices.

Consumption is not an important link of a chain only for the market economy, but it has been equally important in the communist era, being a unit of comparison between the developed and less developed countries.

Both communism and consumption society have produced serious changes in the mentality and behavior of Romanians. In both situations there are formal and informal pressures to comply with certain rules: in communism one has to comply with the political rules while in consumption society one has to comply with the rules dictated by marketing strategies. Hence one may see that the exaggerations on consumption are induced by the manufacturers and not by individual consumers. The first ones mentioned above are generating real life styles, based on their products. This strategy increases their chances of survival on the market, to the prejudice of those who are promoting only the quality of the products themselves.

As for the "consumption of the brand" in Romania, Liviu Chelsea speaks about the existence of two types of followers for the cult of brands[5]:

1.6 those coming from unfavourable environments who are living in less or more poverty, but at the same time, with an intensive television consumption, and

2.6 the rich ones, with exaggerated egos and who give great importance to appearance/visibility.

The need to move up the social status ladder has been met through the contribution of producers: buying products from *brands* that the consumers cannot easily afford solves this problem superficially, through the promise of experimentalizing positive feelings made by manufacturers once they deliver the products. This behavior is typical not only Romania, but is rather general, being present also in developed countries. As stated by Jean Baudrillard: "because of crediting, consumption precedes the production of goods"[6]. In other words, "credit precedes production".

2. From brand advertising in communism to brand advertising in capitalism

Advertising plays the role of an industry with strong influence on the social environment, leading to serious changes in the society. Through advertising people are provided with suggestions that cause new behaviors and stereotyped attitudes. People no longer use the product, but they have gone so far as to identify themselves with it, copying its personality. Because the historical past is a common one, it provides advertising industry with the formulas applicable to the entire population, creating coincidences to solidify in the minds of consumers the promoted attributes of the product and to justify the transfer of image.

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[4] Paul Garrison, „*Romanian consumer behaviour is changed with difficulty and differently*", (2007), in *Front News* http://www.frontnews.ro/social-si-economic/companii/paul-garrison-comportamentul-consumatorului-roman-se-modifica-greu-si-in-mod-diferit-4042], accessed in December 2010

[5] Liviu Chelcea, „*Shortage economy experience, the best card of Romanians in full-blown of financial crisis*", (2008), in *Front News*, http://www.frontnews.ro/social-si-economic/eveniment/liviu-chelcea-experienta-economiei-de-penurie-din-comunism-atuul-romanilor-in-plina-criza-financiara-17446], accessed in January 2010

[6] Kendall, Diana, *Sociology in our times*, Sixth Edition, Thomson Wadsworth, 2007, p. 31

Collective experiences of the population, reminded through the mechanisms of collective memory and explained by nostalgia, have led to the identification of a powerful marketing tool, namely: communist symbols that have been adapted to the capitalist content texture. As mentioned in the chapter above (influences of nostalgia in marketing), the transition to a capitalist society has led to the selection of only those positive pre-revolutionary experiences, the negative ones being improved. Thus, "for the advertisement to be effective, and implicitly, the product to become a marketable product, remanence of Stalinism images requires an artifact of positivity, of commercial optimism"[7]

A significant example is the attempt to change the name of the car "Olcit", made in Craiova. Manufacturing the car under the name of Oltena (only for a short period of time) has not resulted in repositioning of the product but in cessation of production, very shortly after the change.

For the brands that want only to resist on the capitalist market, in a first phase, continuity is the key. For those that want an advantageous repositioning in the context of the market economy, continuity involves also integration of an inventive strategy of promoting. "Accommodated to the common subconscious, communism (carefully weighed) sells informal emotions, supplemented with creativity and humor. The originality of ad slogans appeals to the nostalgia of elderly people and, equally, to the curiosity of naïve young people"[8]. Exploitation of personal and historical nostalgias are cited here as an argument for the repositioning of communism products.

The Campaign for ROM Chocolate, led by McCann Erickson, is addressed to those who have consumed the product since the times of pre-revolution, but it also aims the young audiences, by promoting "great thrills". Communist clichés are easily refined and sold to contemporary society: Ceausescu is posted during a working visit, adopting the Party's position in the spirit of the times: "we do not tolerate mini-skirts"[9].

The major difference between communist advertising and capitalist advertising is that "in communism, advertising does not exceed the stage of propaganda"[10], while in capitalism, a product become marketable when its attributes are associated with a story, relying on emotions. Let's take the example of Dacia, a car that is addressed to the general public: initially, the advertise has strictly aimed car attributes; but since the launch of Dacia Logan, they have started to promote an emotional attribute, namely the tradition which "will go on"[11]

"Imposed by a market that could not know other alternatives, Stalinism brands are forced to adapt. The strategies of advertisers cosmetisize such brands, while buyers nostalgia facilitates their marketing. Thus, Romanian communism is changed into a fashionable symbol, carefully consumed by the capitalist market"[12]

3. Advertising pattern during communism

In pre-revolutionary period, ads seem to be passed through a template. As said above, the main purpose of these advertisements is not to promote the product itself but especially the communist propaganda. Depending on the Party's economic policy, certain products or even brands of products promoted through advertising have been imposed to people.

A very good example in this respect is the advertisement to the Japanese ocean fish. Because of an excess of import ocean fish products, justified by a trade agreement concluded

[7] Enache, Gabriel Ion, „*Market Communism*", in 22 - The Magazine of the Group for Social Dialog, 2006 http://www.revista22.ro/comunismul-de-piata-2966.html], accessed in February 2011
[8] idem
[9] Quoted passage from ROM Chocolate advertisement, Advertising Campaign in 2006.
[10] Domenach, Jean-Marie, Political *Propaganda*, European Institute, Iaşi, 2004, p.84.
[11] Quoted passage from Dacia Logan advertisement, Launching Advertising Campaign in 2004
[12] Enache, Gabriel Ion, „*Market Communism*", in 22 - The Magazine of the Group for Social Dialog, 2006 http://www.revista22.ro/comunismul-de-piata-2966.html], accessed in February 2011

by Romania with Japan, posters like "no meal without Ocean Fish" have been scattered throughout the cities.

Ocean Fish Ads

The fact that the products promoted through such propaganda are so price-accessible and easy to find in stores in a time when food and goods are obtained with difficulty, this action has been perceived by consumers as the expression of sincerity of the Party towards them. If nowadays the products promise to provide experiences beyond the specific attributes, failing often to keep their promise, in those days the products have been promoted with their actual features and attributes.

The Savings Bank (CEC) is the only banking institution from the communism period allowed to conduct financial businesses. Although alone, promotion of the institution is made intensely.

CEC Ads

Pre-revolutionary ads appear frequently on the covers of notebooks, or in almanacs, on the street posters and even in the brief broadcast television program. Though TV ads last long enough, it has never been a concern for the producers since all the institutions are owned by the State, which is the only buyer and seller of advertising space.

Towards the end of the communist period, in the desire to circumvent the foreign debt, the economic shortage has deepened. Nothing that can be reused is wasted. Thus, these messages considered nowadays as ecological have their roots early in communism. However, such ads are only a part of the communist policy propaganda. Likewise, the products and services are promoted in ads that emphasize the development and economic prosperity, achieved only through work.

Advertisement: ”Recycling, Recovery, Reuse”

A study presented in May 2011 at EMAC Conference in Ljubljana shows that choice between *retro-brands* and *recent-brands* is not made by consumers based on concepts or feelings of nostalgia. Moreover, nostalgia may not be, by itself, the main element in the *brand* communication strategy [Cattaneo, E., 2011]. Tangible attributes of *retro* products and their improved functions are rather those that lead consumers to buy them, in the detriment of new sorts. These are the aspects that a communication campaign should emphasize, because they are easy to be associated to the *brand*, causing the cognitive prominence that turns into a purchase intention.

A particular representation of the social memory is nostalgia for an ended historical period. In recent years, researchers have paid greater attention to nostalgia for the communist regime, manifested in Eastern Europe: *ostalgia* (meaning “Eastern nostalgia”). Due to the large geographical area where implications of this concept can be found, one speaks even about the phenomenon of *ostalgie.*

Ostalgia owns particularities in each State which has experienced the communist regime. Therefore, the main question arising in terms of this phenomenon is the following: “is *ostalgia* a manifestation of the totalitarian thinking, a rejection of democracy or, on the contrary, an innocent reference to a past which being irreversible cannot be a danger?”[13]. There are several attitudes towards this phenomenon:

- some researchers claim that *ostalgia* has negative connotations and leads to frustration and puzzlement among people who want to understand the nature of the communist system and to justify the victims of the regime;
- others believe that nostalgia is a natural human experience, and *ostalgia* is not a nostalgia for the regime itself but for the time experienced by each of them at that point in history.

At consumption level, *ostalgia* argues that young people who have experienced the communist regime, becoming adults in the capitalist society, prefer the products from the totalitarian regime due to the feelings of nostalgia for their youth: the smells, tastes, sensations.

In the nowadays society one talks about a “*generation of the revolution*”. Common features of membership are: the key with string tied around the neck (not to be lost when playing games around the block of flats) and the products of a beautiful and carefree childhood: Eugenia biscuits (the name became generic), Pitic chocolate, Brifcor and Ci-Co juices, Turbo chewing gum, Pegas bike, etc. Now, after more than twenty-one years after the fall of communism in Romania, these *children of the revolution* are today the main target group for marketers, for two reasons:

1. their income and expenditure are the highest;
2. they have long-term retention potential.

Taking into account these arguments, many of the products published before 1989 are trying to reposition, and those who have already failed are attempting to re-enter the market.

[13] Negură, Lilian „*Ostalgia, the memory and social representations. Moldova Republic Case*”, in Neculau, Adrian and Sirota, André, „Sequestered Individuals and Societies”, Ed. Universităţii Al. I. Cuza, Iaşi, 2010, p.56

4. Conclusions

It is clear that pre-revolutionary products are still stirring up emotions and memories to many Romanians, but it is not certain that we can talk about an attachment that gives birth to devotion towards these products. According to Stephen Liute, S*trategy Director* at Grapefruit, "we are not extremely bind to native brands. And, this is because before revolution, the social and political system has thrusted on everything. The system being the one that knows better your needs, giving you no chance of choice. Most often (in fact, in the 80`s), the Party has left you not a bit, nothing. And then, after revolution the Romanians have burst out, looking desperately after abroad *brands*. And yet this outburst not over"[14]

If during the communist period, these products are ubiquitous in the lives of Romanians, the revolution throws them away along with the economic system that has created them. But market economy based on consumption, brings to light a powerful competitive advantage of these products: even after more than twenty-one years since the fall of the totalitarian regime, they have a name known by most of the Romanians. And for this name, companies show a real interest. You can not build a strong *brand* without a well-known name. The value of a *brand* is given by the degree of awareness, image and preference for that *brand* manifested among consumers.

We cannot ignore that pre-revolutionary products have some disadvantages caused by the negative associations made between them and historical realities. These are not easy to remove and their removal is not a cheap process at all, but removing or replacing the disadvantages with advantages is essential in the competition of these *brands* with their Western rivals exposed for sale on the shelves of the stores.

If we do not properly manage and fructify the advantage of notoriety among consumers, this will not render the expected results. Notoriety adds a "plus" for manufacturers, - it transforms individuals from ordinary consumers into loyal consumer, meaning that they will buy the product repeatedly and they will prefer the product instead of similar products - but notoriety cannot reach the objectives by itself. Only if we attach to notoriety also a profound exercise in marketing, customer retention can be acquired. We can get savings when repositioning on the market a communist brand if managers have the ability to transform the historical significance of the product into a generator of interest and commitment of the customer towards the product concerned.

Besides the negative associations that pre-revolutionary products have inherited, there is another major disadvantage of them: being born in a regime in which differentiation is punished, these products are free of personality and unilaterally. These products are purchased due to the lack of alternatives, requiring no promotion. In any case, consumers have been aware of the primary attributes of products, whether positive or negative, because they purchase them repeatedly and consistently. Therefore, for repositioning them on the capitalist market, it has been necessary to associate to these products secondary attributes, intangible and abstract, hence resulting their repositioning as *brands.*

Acknowledgements

This work has been co-financed by the European Social Fund, through the Operational Programme for Human Resources Development for the Period 2007-2013, Project number: POSDRU/1.5/S/59184 "Performance and Excellence in Postdoctoral Research in Romanian Economics Sciences".

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THE YEARBOOK OF THE „GH.ZANE" INSTITUTE OF ECONOMIC RESEARCH
VOL. 20, ISSUE 2, 179-187, 2011

ELENA-DANIELA VIORICĂ[1] Points of view

INTERNATIONAL TRADE OF THE EUROPEAN UNION'S COUNTRIES. A COMPARATIVE ANALYSIS

1

Abstract *

This paper's main objective is to comparatively identify the groups of EU countries that have similar characteristics regarding the international trade performance indicators, for 2007, before the economic crisis burst, and 2009, the lowest point of the economic crisis, when the international trade suffered the most important decline in export's volume according to the World Trade Organisation (WTO) report on International Trade in 2010. Using the factorial analysis, we construct an international trade map for 2007 and 2009, and we evaluate the differences between the two moments and define profiles for the aforementioned years.

The paper is structured into 2 main parts. The first part deals with the data and methodology used, and in the second part we present the analysis to which we identify the similar groups of countries in terms of international trade performance and, then,we present the 2007 and 2009 trade profiles based on the international trade statistics provided by the main specialised institutes.

Keywords: *international trade, E.U. countries, factor analysis, economic crisis*

1. Introduction

According to the World Trade Organisation (WTO) report on International Trade in 2010, in the second quarter of 2009, the lowest point of the economic crisis, the international trade suffered the most important decline in export's volume. After that moment, the exports for merchandise and commercial services trade made a significant upward turn, showing the recovery of international trade in the European Union (EU).

This paper's main objective is to identify the groups of EU countries that have similar characteristics regarding the international trade performance indicators, for 2007 and 2009, comparatively.

Using the factorial analysis, we construct an international trade map. For the countries' international trade statistics, we compare the results obtained for the 2009 data with the results obtained for the 2007 data, before the economic crisis burst. We evaluate the differences between the two moments and define profiles for the aforementioned years.

The working hypothesis is that the hierarchies amongst the countries did not change significantly, even if the trade volume and value decreased. Therefore, the two years' profiles may be very similar regarding the international trade performances.

The paper is structured into 3 main parts. The first part deals with the data and methodology used, in the second part we present the analysis to which we identify the similar groups of countries in terms of international trade performance. The final part presents the 2007 and 2009 trade profiles based on the international trade statistics provided by the main specialised institutes.

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* This paper is financed by the project "Post-doctoral studies in Economics: training program for elite researchers - SPODE", co-funded by European Social Fund Operational Programme Human Resources Development 2007 – 2013, contract no. POSDRU/89/1.5/S/61755.

2. Data and methodology

The data used is grouped into two categories: indicators that reflect the performances of each country's international trade, and indicators that are related to an efficient international trade. The first group includes indicators such as Real growth in total trade, Balance of the current account (% of GDP), Contribution to WTO budget, Share in EU's total exports/imports. The second group consists of indicators linked to the business environment and infrastructure, like Ease of Doing Business and Logistic performance index.

The sources for the indicators are World Trade Organisation, World Bank, Eurostat, and the countries' statistical institutes.

Real growth in total trade is the average annual growth rate of the total exports and imports in goods and services at constant 2000 U.S. dollars. The values are from the Balance of Payments (BOP) data, from the World Trade Organisation.

Balance of the current account (% of GDP) is the sum of net exports of goods and services, net income (such as interest and dividends), and net current transfers (such as foreign aid), calculated as a percentage of the country's Gross Domestic Product. The data source is Worldbank.

Contribution to WTO budget (%) represents the individual contributions calculated on the basis of shares in the total trade conducted by WTO members. The data source is WTO.

Share in EU's total exports/imports represents the share of trade exchanges (export or import) with the EU-27 (% of imports from the EU-27 in the total imports and % of the exports to the EU-27 in the total exports) of a Member States. The data source is Eurostat.

Logistic performance index reflects the overall perception of a country's logistics based on over 1,000 responses to a survey of logistics performance. The overall LPI was aggregated as a weighted average of seven key areas of logistics performance (1-5, best). Data are from WTO.

Ease of Doing Business is a rank indicator and represents a country's overall business climate based on seven indicators (1-183 worst). Data are from WTO.

In order to profile the two aforementioned years, we used the factor analysis – the principal components method, which will permit to visually identify the groups of countries with similar characteristics and the correlated variables that contribute at making this identification possible. For both years, we extracted two components, which explain more than 70% of the total variation for the targeted countries.

Also for the purpose of discerning the changes in international trade patterns for the two years, we used the cluster analysis, the hierarchical classification method, and we analysed the differences in the similar countries' groups that were identified based on the set of trade indicators.

3. Empirical results

First, we analysed the evolution of imports and exports for the EU's members. The time period 2007-2010 was significant for it comprised the years before the crisis and the years of the crisis. The results are presented in Fig. 1 and Fig. 2.

The graphical presentation shows the same trend in both exports and imports. The trend did not change in shape, the only significant differences during 2007-2010 time period was in value. Therefore, we can observe that year 2009 is, indeed, the year when the exports and imports were the lowest for that time period.

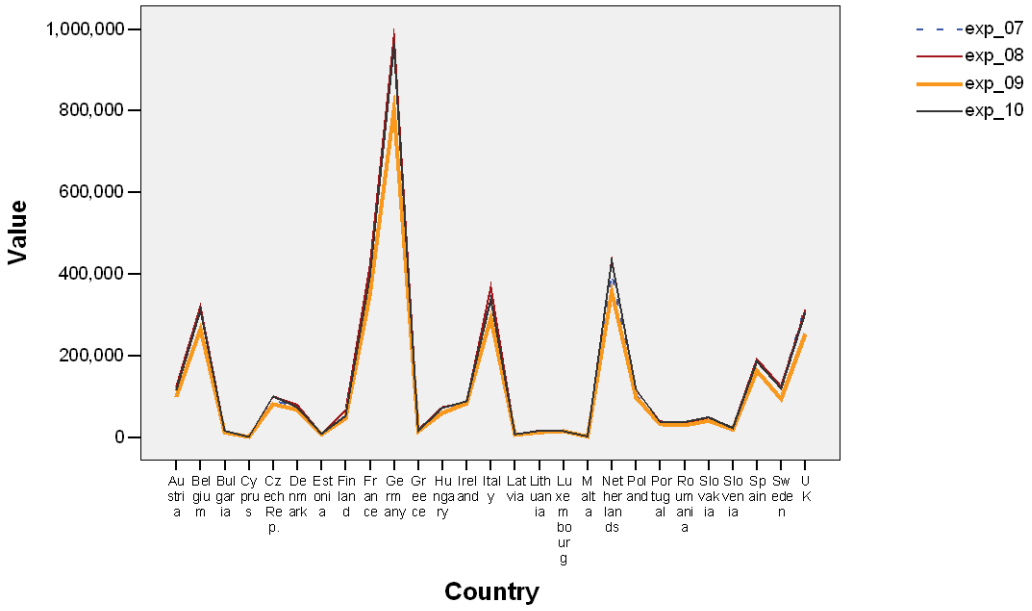


Fig. 1. *Evolution of the EU's countries' export value, during 2007-2010*

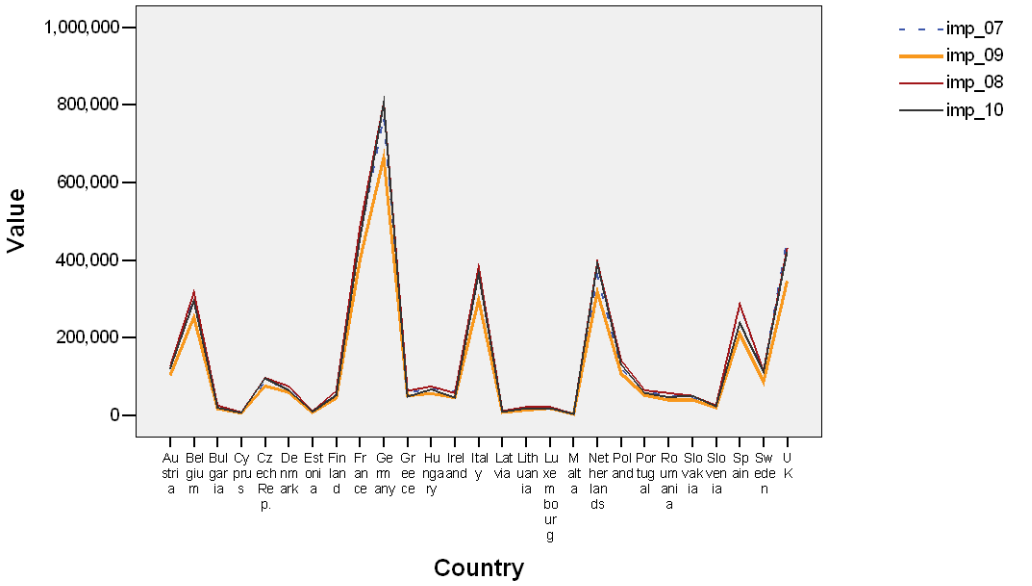


Fig. 2. *Evolution of the EU's countries' import value, during 2007-2010*

Following this line of results, we analysed the countries' specificities and correlations between the trade indicators that underline these specificities.

In order to identify the differences and/or similarities between the two years, 2007 and 2009, we applied the factor analysis to obtain a visual representation of the variables and countries, using the indicators from the two categories.

For 2007, the principal component analysis results are presented in Table 1, Fig. 3 and Fig. 4.

Table 1. Correlation coefficients of the variables with the two factorial axes, for 2007

Component Matrix[a]

	G	
6 6 6 6	DNFM	DGLN
W6 6	CBX I	DVG3M
6 6	CDML I	CBFI G
6 6 6 6	DXKG	DL
6 6 6	DXKG	DLFM
6 6 6	DXM	CDN
6 6	CDVN	DI L

6 P6 6 6W D

D6 6 6 D

In Table 1 are the coordinates of the variables on the two factorial axes (components), i.e. correlation coefficients between each variable and the factorial axis. We believe to be significant those variables with a correlation coefficient greater than 0.6. Thus, for the first component, the variables that are significant to explain the differences between countries are: *Real growth in total trade, Contribution to WTO budget* and *Logistic performance index*. For the second axis, the significant variable is Balance of the current account. Although the share in EU's total imports and exports have a correlation coefficient over 0.6 with the second component, they also have a correlation coefficient over 0.5 with the first component, which means they are not clearly correlated with either axis.

A suggestive display of the variables on the axes and their inter-correlations it is presented in Fig. 3. For the first axis, *Contribution to the WTO budget* and *Logistic performance index* are positively correlated with each other and negatively correlated to the first axis, and *Real growth in total trade* is positively correlated to the axis and negatively correlated to the two-variable group.

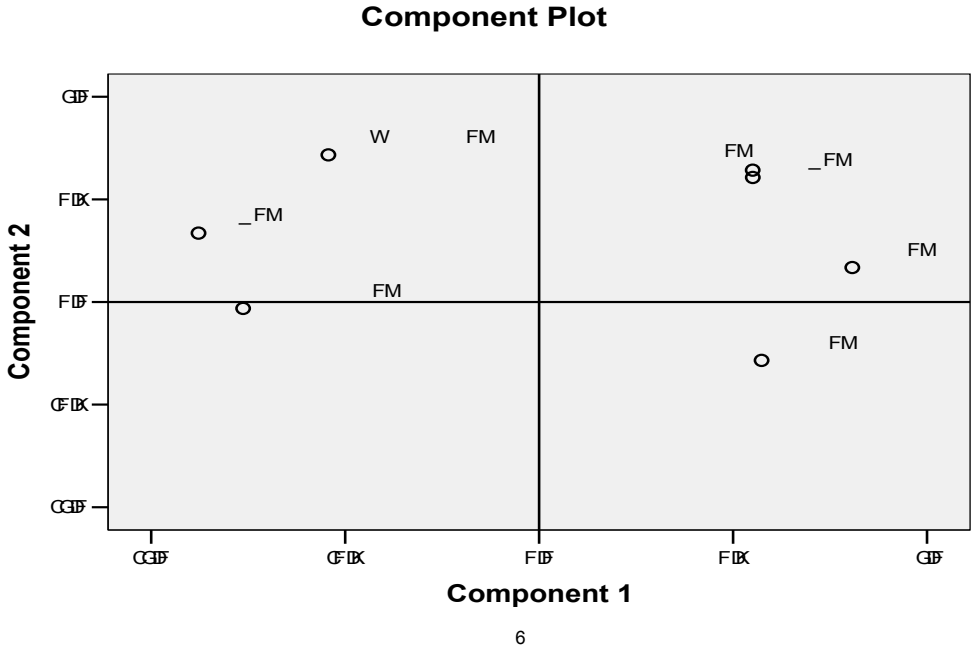


Fig. 3. *The display of the variables on the two factorial axes, for 2007*

In Fig. 4 we can observe the display of the EU countries and, by comparing it with the variables' display, we can draw the following conclusion:

- Luxembourg, Austria, Denmark, Belgium, Netherlands have high values for *Real growth in total trade* and low values for *Contribution to WTO budget* and *Logistic performance index*;
- Bulgaria, Greece, UK and Italy have high values for *Logistic performance index* and low values for *Real growth in total trade*;
- UK and Italy have high values for *Contribution to WTO budget* and low values for *Balance of the current account as a % of GDP;*
- Romania, Latvia, Poland, Czech Republic, Slovakia, Slovenia have high values for *Balance of the current account (% of GDP)*.

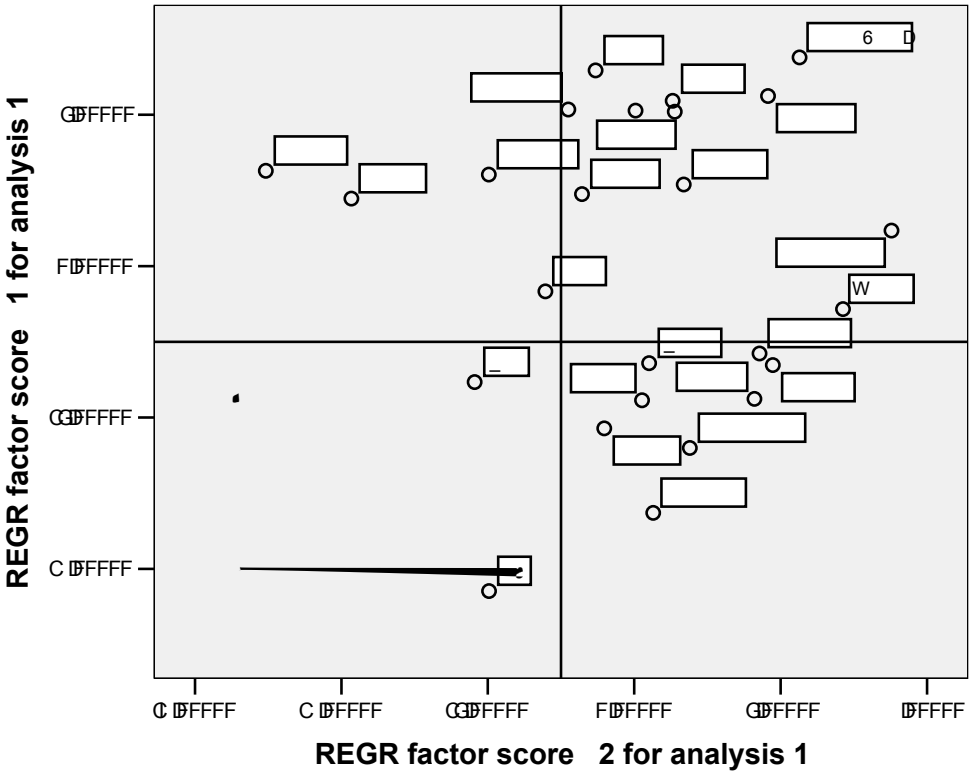


Fig. 4. *The display of the countries on the two factorial axes, for 2007*

In a similar manner, we analysed the data for the international trade of the EU countries for 2009. From the results presented in Table 2, Fig. 5 and Fig. 6, we observe that:

- for the first axis, *Contribution to the WTO budget* and *Logistic performance index* are positively correlated with each other and negatively correlated to the first axis, and *Real growth in total trade* is positively correlated to the axis and negatively correlated to the two-variable group. For the second axis, the only variables that is correlated, positively, with the component is *Balance of the current account*;
- Luxembourg, Estonia, Latvia, Austria, Denmark, Belgium, Sweden have high values for *Real growth in total trade* and low values for *Contribution to WTO budget* and *Logistic performance index*;
- Bulgaria, Greece, Italy have high values for *Logistic performance index* and low values for *Real growth in total trade*;

-6 UK has, with Italy, high values for *Contribution to WTO budget* and, along with Germany, has low values for *Balance of the current account as a % of GDP*;

-6 Greece, Bulgaria, Romania, Portugal, Poland, Czech Republic, Slovakia, Slovenia have high values for *Balance of the current account (% of GDP).*

Table 2. Correlation coefficients of the variables with the two factorial axes, for 2009

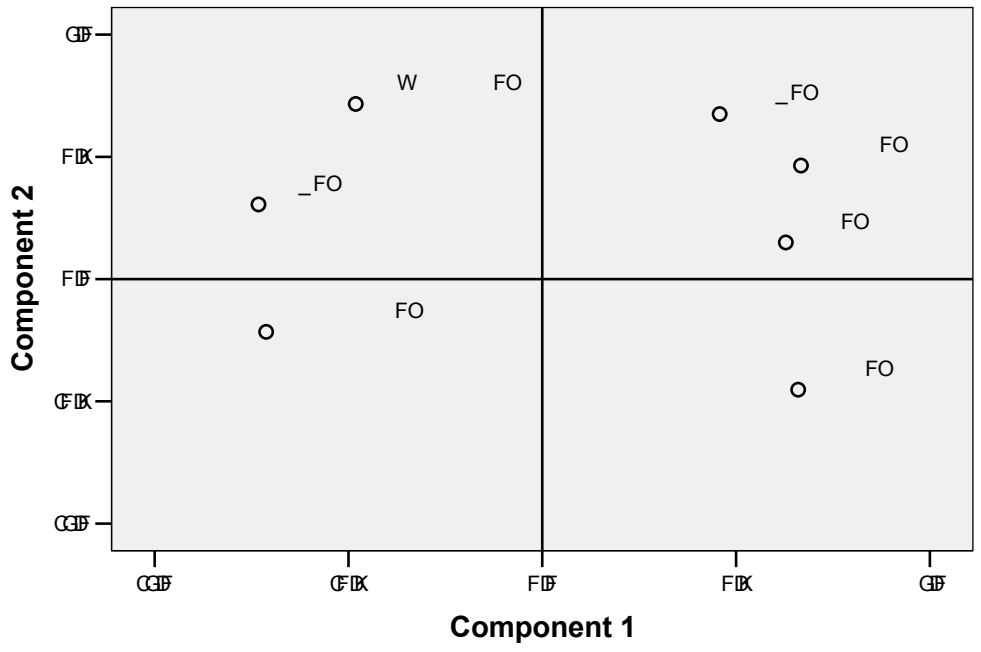
Component Matrix[a]

	G	
FO	D2 N	D0KF
FO	C2MG	C0 GL
FO	D2LM	DLK
_FO	DKN	D2MK
FO	D2LF	C0K
_FO	C2M	D FK
W6 6	C0NG	DMGL

6 F6 6 6W D

D6 6 6 D

Component Plot



6 6

Fig. 5. *The display of the variables on the two factorial axes, for 2009*

6

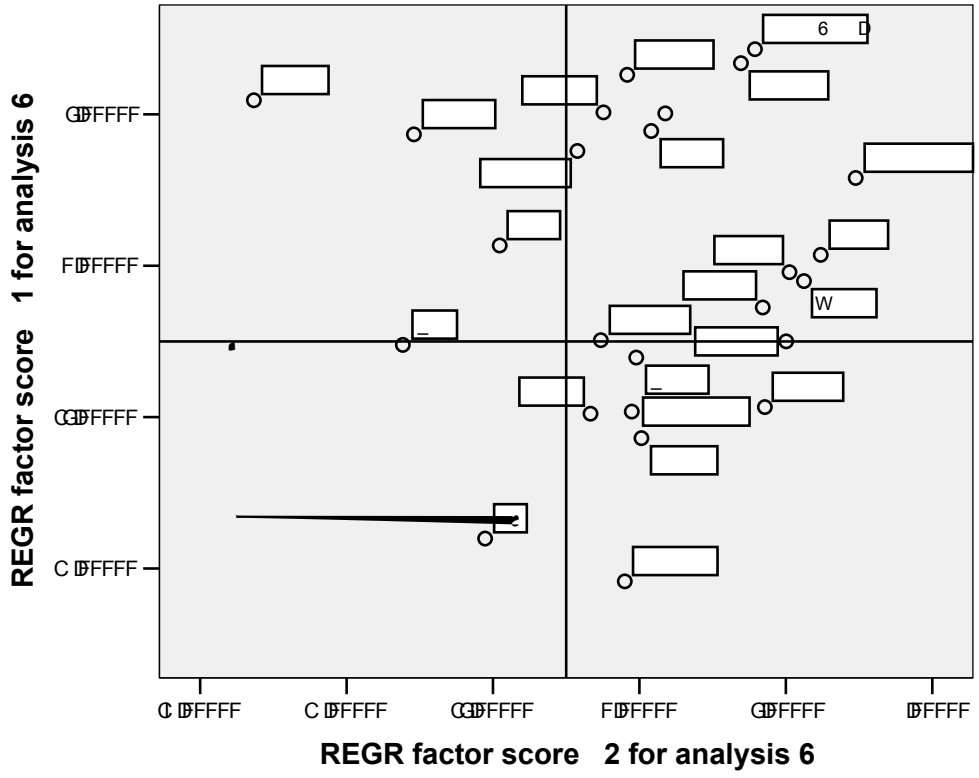


Fig. 6. *The display of the countries on the two factorial axes, for 2009*[6]

Analysing the two years, comparatively, we see, as it is summarised in Table 3, that, in terms of variables, there are no changes in 2009 compared to 2007. The variables that correlate with the components and that determine the display of the countries are the same for the two years. Regarding the countries' display, we observe some differences, as the increase in the number of countries that associate with the correlated variables in 2009 compared to 2007. That situation could be explained by the anti-crisis measures that the governments enforced on external trade to protect their economies.

2007				2009			
First factorial axis		Second factorial axis		First factorial axis		Second factorial axis	
Variables	Units	Variables	Units	Variables	Units	Variables	Units
RG (+)	LU, AT, DK, BE, NL	BCA (+)	RO, LV, PL, CZ, SK, SI	RG (+)	LU, EE, LV, AT, DK, BE, SE	BCA (+)	GR, BG, RO, PT, PL, CZ, SK, SI
WTO (-)	UK, IT			WTO (-)	UK, IT		
LPI (-)	BG, GR, UK, IT			LPI (-)	BG, GR, IT		

In order to evaluate if the change in trade indicators' values in 2009 have significantly rearranged the situation that existed in 2007, we conducted a cluster analysis to determine the groups of countries with similar trade patterns. In Table 3 we presented the cluster membership for each country, in 2007 and 2009. A four-cluster solution was selected.

Table 3. *Cluster membership for EU's members, in 2007 and 2009*

Country	Cluster membership - 2007 -	Cluster membership - 2009 -
Austria	1	1
Belgium	1	1
Bulgaria	1	1
Cyprus	1	1
Czech Rep.	1	1
Denmark	1	1
Estonia	1	1
Finland	1	1
France	3	3
Germany	2	2
Greece	3	3
Hungary	1	1
Ireland	1	1
Italy	1	1
Latvia	1	1
Lithuania	1	1
Luxembourg	1	1
Malta	1	1
Netherlands	1	1
Poland	3	3
Portugal	3	3
Roumania	3	3
Slovakia	1	1
Slovenia	1	1
Spain	4	4
Sweden	1	1
UK	4	4

We can observe that the groups of similar countries that were identified using the cluster analysis, for 2007 and 2009, are identical in composition, confirming our hypothesis that the economic crisis did not significantly change the trade patterns or the hierarchies for the EU's member countries.

4. Concluding remarks

In this paper we analysed the change in the international trade patterns of the European Union's countries that the economic crisis that begun in 2008 might have brought. Our hypothesis was that the crisis, although it reduces the trade value and volume, did not significantly change the trade patterns or the countries' hierarchies. In order to verify the research hypothesis, we analysed, regarding the trade performances of each country, two significant years for the economic crisis: 2007, before the crisis burst, and 2009, the most affected year by the crisis, in terms of external trade. For that purpose, we identified the groups of EU countries that have similar characteristics regarding the international trade performance indicators, for 2007 and 2009, comparatively, and we evaluated the differences between the two moments and define profiles for the aforementioned years. We used multivariate analysis methods, such as factor analysis and cluster analysis.

The results confirmed our research hypothesis. A simple graphical analysis of exports and imports on the EU's countries during 2007-2010 showed that the trend did not change in shape, only in values, and 2009 was the year when both exports and imports were the lowest for that time period. Then, the factor analysis revealed that the variables that contribute significantly to the forming of the two components are exactly the same in 2009 compared to 2007, and they correlate to the components in the exact same manner. Furthermore, the countries' display on the two factorial axes did not suffer significant change, the only change worth mentioning is the slight increase in the number of countries that group around the significant variables. In conclusion, the economic crisis did not significantly change the trade pattern and hierarchies among the EU countries, it only decreased the trade performances.

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THE YEARBOOK OF THE „GH.ZANE" INSTITUTE OF ECONOMIC RESEARCH
VOL. 20, ISSUE 2, 189-193, 2011

CARMEN-LUIZA COSTULEANU [1] Points of view

THE PERSPECTIVES OF IMPLEMENTATION OF HEALTH ACCOUNTS RELATED TO HEALTH AND SAFETY AT WORK, PART OF NATIONAL SYSTEM ACCOUNTS IN ROMANIA

CARMEN-LUIZA COSTULEANU[1]

Abstract

The primary goal of this paper is the current state and prospects of implementation of satellite accounts in National Accounts System in Romania to meet certain specific needs in terms of data, in line with EU requirements, namely the Regulation (EC) no. 2223/96 of the Council from June 25th 1996 on the European System of National and Regional Accounts in the Community (OJ L 310, 30.11.1996), as amended (1998-2009). This regulation basically refers to specific information relevant and provided at EU level: analysis of the role of tourism in national economy; cost analysis and financing of healthcare; analyzing the importance of research and development and of human resources for the national economy; analysis of revenue and expenditure of households; analyzing the household production; analyzing the interaction between economy and environment; evolution analysis of the welfare; the differences between national accounts and business accounts; estimation of tax revenues; social economy; and natural resources.

Key words: *National Accounts System in Romania, satellite accounts, health account, health and safety at work.*

1. Introduction

Article 152 of the Treaty establishing the European Community states that „a high level of human health protection shall be ensured in the definition and implementation of all Community policies and activities", thus acknowledging that public health is heavily dependent on policies in many other areas, including environment, agriculture, industry, trade, and social and economic policy (Costuleanu, 2011).

Health is an important priority for Europeans, who expect to be protected against illness and disease at home, in the workplace and when travelling. Health issues cut across a range of topics-including consumer safety, health and safety at the workplace, environmental and social policies (*, 2009).

Information about healthcare systems and, ultimately, about the health of a population is a prerequisite for monitoring the performance of health policy. The regional indicators currently available for health provide an insight into similarities, particularities and contrasts across regions in Europe. Effective knowledge management for health information requires more than generating information, such as data or indicators at European level. It also requires mechanisms for providing analysis and highlighting possible areas for action, exchanging and disseminating information in an appropriate way to people who can make use of it; and then supporting and monitoring the application of information in practice. A great deal has already been done with regard to generating information at Community level, and this should be brought together in an overall map of progress so far. Though more will be needed, it should also now be complemented by a greater focus on analysis, dissemination and application of European health information.

2. Health and safety at work as satellite health accounts in EU

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The main last indicators used to assess the European health information, representing the basis of EU satellite health accounts are as follows (**, 2010):

a). healthy life years;
b). deaths due to chronic disease;
c). suicides;
d). unmet needs for healthcare;
e). production of toxic chemicals;
f). exposure to air pollution by particulate matte;
g). exposure to air pollution by ozone;
h). annoyance by noise;
i). serious accidents at work;
j). health status, health determinants and use of healthcare services;
k). healthcare;
l). healthcare: hospital discharges, hospital length of stay and medical procedures;
m). healthcare: human and physical resources;
n). healthcare expenditure.

EUROSTAT statistics is including in „Population and social conditions" chapter some health statistics related to health and safety at work (***, 2011).

Health and safety at work is including: structural indicators on health and safety at work; accidents at work (ESAW)-until 2007; accidents at work (ESAW)-2008 onwards; work related accidents, health problems and hazardous exposure-2007 Labour Force Survey; and work related health problems and accidental injuries (LFS 1999).

Furthermore, structural indicators on health and safety at work are including: accidents at work-serious accidents-total-index of the number of serious accidents at work per 100 thousand persons in employment (1998=100); accidents at work-serious accidents-females-index of the number of serious accidents at work for women per 100 thousand females in employment (1998=100); accidents at work-serious accidents-males-index of the number of serious accidents at work for men per 100 thousand males in employment (1998=100); accidents at work-fatal accidents-index of the number of fatal accidents at work per 100 thousand persons in employment (1998=100).

Accidents at work (ESAW)-until 2007 is including: number of accidents at work by economic activity, severity and sex; number of accidents at work by economic activity, severity and age; number of fatal accidents at work by Member State and age, excluding road traffic accidents and accidents on board of any mean of transport in the course of work; number of accidents at work by economic activity and severity; number of accidents at work by economic activity and size of enterprise; number of accidents at work by economic activity and employment status; number of accidents at work by part of body injured and severity; number of accidents at work by type of injury and severity; standardised incidence rate of accidents at work by economic activity, severity and sex; standardised incidence rate of accidents at work by economic activity, severity and age; standardised incidence rate of fatal accidents at work by Member State and age, excluding road traffic accidents and accidents on board of any mean of transport in the course of work; standardised incidence rate of accidents at work by economic activity and size of enterprise; standardised incidence rate of accidents at work by economic activity and employment status. These ones are completed by causes and circumstances of accidents at work (ESAW Phase III), respectively: number of accidents at work by contact-mode of injury, economic activity, sex, age and severity; incidence rate of accidents at work by contact-mode of injury, economic activity, sex, age and severity; percentual distribution of accidents at work by contact-mode of injury, economic activity, sex, age and severity; number of accidents at work by deviation, economic activity, sex, age and severity; incidence rate of accidents at work by deviation, economic activity, sex, age and severity; percentual distribution of accidents at work by deviation, economic activity, sex, age

and severity; number of accidents at work by material agent of deviation, economic activity, sex, age and severity; incidence rate of accidents at work by material agent of deviation, economic activity, sex, age and severity; percentual distribution of accidents at work by material agent of deviation, economic activity, sex, age and severity; number of accidents at work by material agent of specific physical activity, economic activity, sex, age and severity; incidence rate of accidents at work by material agent of specific physical activity, economic activity, sex, age and severity; percentual distribution of accidents at work by material agent of specific physical activity, economic activity, sex, age and severity; number of accidents at work by material agent of contact-mode of injury, economic activity, sex, age and severity; incidence rate of accidents at work by material agent of contact-mode of injury, economic activity, sex, age and severity; percentual distribution of accidents at work by material agent of contact-mode of injury, economic activity, sex, age and severity; number of accidents at work by specific physical activity, economic activity, sex, age and severity; incidence rate of accidents at work by specific physical activity, economic activity, sex, age and severity; percentual distribution of accidents at work by specific physical activity, economic activity, sex, age and severity; number of accidents at work by working environment, economic activity, sex, age and severity; incidence rate of accidents at work by working environment, economic activity, sex, age and severity; percentual distribution of accidents at work by working environment, economic activity, sex, age and severity; number of accidents at work by working process, economic activity, sex, age and severity; incidence rate of accidents at work by working process, economic activity, sex, age and severity; percentual distribution of accidents at work by working process, economic activity, sex, age and severity; number of accidents at work by type of workstation, economic activity, sex, age and severity; incidence rate of accidents at work by type of workstation, economic activity, sex, age and severity; percentual distribution of accidents at work by type of workstation, economic activity, sex, age and severity.

Accidents at work (ESAW)-2008 onwards are including main indicators and details by economic sector NACE Rev.2-2008 onwards. In their turn, the main indicators are comprising: accidents at work by sex and age (NACE Rev. 2: A_C-N); days lost from accidents at work by sex and age (NACE Rev. 2: A_C-N); accidents at work by sex and age, excluding road traffic accidents and accidents on board of any mean of transport in the course of work (NACE Rev. 2: A_C-N except H); accidents at work by size of enterprise (NACE Rev. 2: A_C-N); accidents at work by ISCO and employment status (NACE Rev. 2: A_C-N); accidents at work by part of body injured and severity (NACE Rev. 2: A_C-N); accidents at work by type of injury and severity (NACE Rev. 2: A_C-N). On the other hand, details by economic sector NACE Rev.2-2008 onwards are including: non-fatal accidents at work by economic activity and sex; fatal accidents at work by economic activity; non-fatal accidents at work by economic activity and age; days lost from accidents at work by economic activity; accidents at work by economic activity and size of enterprise; accidents at work by economic activity and part of body injured; accidents at work by economic activity and type of injury.

Work related accidents, health problems and hazardous exposure-2007 Labour Force Survey is comprising: accidents at work; work related health problems; and hazardous exposure. Accidents at work are including: persons reporting an accident at work in the past 12 months by sex, age and education-in %; persons reporting that their most recent accidental injury at work or in the course of work resulted in sick leave in the past 12 months, by sex, age and education-in %; persons reporting that their most recent accidental injury at work or in the course of work resulted in sick leave of more than one month in the past 12 months in the EU and by country-in %; persons reporting that their most recent accidental injury at work or in the course of work in the past 12 months was on the road-in %; persons reporting an accident at work in the past 12 months, by sex, age and economic activity sector-in %; persons reporting that their most recent accidental injury at work or in the course of work

resulted in sick leave in the past 12 months, by sex, age and economic activity sector-in %; persons reporting an accident at work in the past 12 months, by sex, age and occupation-in %; persons reporting an accident at work in the past 12 months, by sex, age and professional status-in %; persons reporting an accident at work in the past 12 months, by sex, age and size of enterprise-in %; persons reporting an accident at work in the past 12 months, by sex, and full time/part time working-in %; persons reporting an accident at work in the past 12 months, by sex, and atypical working time-in %. The work related health problems are including: persons reporting one or more work-related health problems in the past 12 months, by sex, age and education-in %; persons reporting that their most serious work-related health problem resulted in sick leave in the past 12 months, by sex, age and education-in %; persons reporting that their most serious work-related health problem resulted in sick leave of more than one month in the past 12 months-in %; persons reporting that their most serious work-related health problem resulted in limitations in the past 12 months-in %; persons reporting their most serious work-related health problem work in the past 12 months, by type of problem-in %; persons reporting one or more work-related health problems in the past 12 months, by sex, age and economic activity sector-in %; persons reporting one or more work-related health problems in the past 12 months, by sex, age and occupation-in %; persons reporting one or more work-related health problems in the past 12 months, by sex, age and professional status-in %; persons reporting one or more work-related health problems in the past 12 months, by sex, age and size of enterprise-in %; persons reporting one or more work-related health problems in the past 12 months, by sex and working time-in %. The hazardous exposure: persons reporting exposure to factors that can adversely affect mental well-being, by sex, age and education-in %; persons reporting exposure to factors that can adversely affect physical well-being, by sex, age and education-in %; persons reporting the mental factor they were most exposed to by type-in %; persons reporting the physical factor they were most exposed to by type-in %; persons reporting exposure to factors that can adversely affect mental well-being, by sex, age and economic activity sector-in %; persons reporting exposure to factors that can adversely affect physical well-being, by sex, age and economic activity sector-in %; persons reporting exposure to factors that can adversely affect mental well-being, by sex, age and size of enterprise-in %; persons reporting exposure to factors that can adversely affect physical well-being, by sex, age and size of enterprise-in %.

Work related health problems and accidental injuries (LFS 1999) is including accidental injuries and health problems. In turn, the accidental injuries are comprising: accidental injuries at work in 1999, by sex (unit: percentage in each Member State); accidental injuries at work by severity and type of injury (unit: percentage in each Member State); accidental injuries at work by type of injury, work status after the accidental injury and age (unit: percentage for each type of injury); relative standardised incidence rate of accidental injuries at work by permanency of the job, length of service in the enterprise and economic activity of the employer (mean rate for each Member State=100); relative standardised incidence rate of accidental injuries at work by educational attainment level and sex (mean rate for each Member State=100); relative incidence rate of accidental injuries at work by working hours, number of job contract, economic activity of the employer, age and sex (EU mean rate=100); relative incidence rate of accidental injuries at work by occupation and economic activity of the employer (EU mean rate=100); relative incidence rate of accidental injuries at work by severity, permanency of the job, length of service in the enterprise and economic activity of the employer (EU mean rate=100 for each severity); relative incidence rate of accidental injuries at work by severity, frequency of night work and age (EU mean rate=100 for each severity); relative incidence rate of accidental injuries at work by severity, frequency of shift work and age (EU mean rate=100 for each severity); relative incidence rate of accidental injuries at work by severity, working hours and sex (EU mean rate=100 for each severity). Health problems are related to: work-related health problems in 1999, by sex (unit: percentage

in each Member State); number of work-related health problems by diagnosis group, sex and number of complaints per victim; number of work-related health problems by diagnosis group, severity, activity and employment status of the victim and age; standardised prevalence rate of work-related health problems by diagnosis group, economic activity of the employer and age; standardised prevalence rate of work-related health problems by severity, diagnosis group, economic activity of the employer and age; relative prevalence rate of work-related health problems by severity, diagnosis group, permanency of the job, length of service in the enterprise and economic activity of the employer; relative prevalence rate of work-related health problems by severity, diagnosis group, occupation and economic activity of the employer (EU mean rate=100 for each severity).

3. Conclusion

In contrast to the above list of indicators and accounts, for Romania "The 2008-2010 multi-annual national statistics program" includes some very shy actions on health satellite accounts for 2008 (implementation of data collection on health expenditure, harmonized with OECD methodology and with the most recent methodological recommendations of EUROSTAT), yearly (for the collection of health expenditure of the three areas: funding sources, health functions and services, health service providers; an additional field is the collection of expenditure on health human resources in the standardized format), for 2009 (review the national methodology of the System of Health Accounts, following the preparation and publication of the second edition of the OECD-EUROSTAT-WHO methodology) and for 2010 (dissemination of statistics on health expenditure).

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Acknowledgements

This work was supported by the project "Post-Doctoral Studies in Economics: training program for elite researchers-SPODE" co-funded from the European Social Fund through the Development of Human Resources Operational Programme 2007-2013, contract no. POSDRU/89/1.5/S/61755.

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THE YEARBOOK OF THE „GH.ZANE" INSTITUTE OF ECONOMIC RESEARCH
VOL. 20, ISSUE 2, 195-198, 2011

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Points of view

STRATEGIC PLANNING AND PROMOTION OF SOUTH-EAST REGION TOURISM AT NATIONAL AND INTERNATIONAL LEVEL

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Abstract

The world is changing. World economy tends to steady state and all activities designed to preserve the qualities of current environment, sustainable development. Rural tourism and agro-tourism is one way of achieving this goal and it is relatively easy. Therefore, in this paper we argue the importance of the rural tourism for the Romanian economy, the opportunities for development and global recognition. All this because Romania is the country with the largest potential in Europe in terms of rural tourism development, both as an important source of income for investors and for the country's budget. Therefore, at present, increasingly more people with entrepreneurial spirit and began to glimpse the potential benefits of practicing rural tourism. Existing supply is now quite varied, from the types of accommodation to location. But there are a few things missing from the landscape, to make rural tourism in Romania can become what can and deserve.

Key words: *rural tourism, tourism promotion, sustainable development, crisis effects*

1. Introduction

Today we live in a world characterized by accelerated and perpetual motion, and with major changes lately that have a strong impact on management, the firms by increasing the number of products, services and technologies, which has led some experts to consider the second half of the twentieth century as the "second industrial revolution". Tourism is now a very important sector of global economy and beyond. It contributes, on average, approximately 10% of global GDP, but there are countries in which the figure is much higher. Therefore, finding solutions to international and local tourism promotion strategy is part of any country strategy and any organization should undertake a strategic planning activities.

2. Strategic planning and strategic management in tourism

Evolving companies, changes in management and planning system require new ways of orientation and place of business, forcing them to continually adapt to environmental changes inside and outside the action, strategic management is actually a form of leadership based forecasting the anticipation of change to be made within the firm and its interaction with the business. It is essential that companies understand the type of tourism business we place and the place they want to deal with at some future time (strategic planning), but also how to achieve these goals, which are the responsibility of operational planning and the decision-making. Long term planning involves the use of extrapolation to determine future trends, using data from the last period covered by certain growth factors, which in most cases, not made on future developments.

Strategic planning involves a number of changes, extrapolation is replaced by a complex methodology: analysis of development prospects of the company, identifying strengths, weaknesses, opportunities and threats in the environment, competitive analysis firm business portfolio analysis, etc.. The planning of strategic management add specific components to the planning process, namely: potential planning firm at the functional level (marketing, R & D,

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manufacturing, financial, personnel), and general management (structure, organizational culture, skills), and establish management actions to overcome resistance to change.

The transition from planning to strategic management was done gradually from extrapolation of past achievements to anticipate long-term future, and strategic planning and strategic management thereafter, creating the conditions to ensure flexibility and creativity in planning.

Planning helps managers to focus on the future, to anticipate certain events that may affect the company decisively, its existence. Only after planning managers can determine how an organization will coordinate the work of people and they exercise control. Also, planning is of great importance in the coordination of decisions. A decision today should be made taking into account how it will influence the future.

Any organization that efficiently plans his activity will succeed. In one study, approx. 65% of newly established companies will not enjoy the 5th anniversary without adequate planning attention. Planning advantages are manifold, but it should be noted that this does not eliminate risk entirely, but helps business managers to identify problems before they take effect.

The planning process involves the following steps:

1. Outlining the objectives of the company specifying those areas in which the planning process to take place;
2. list of alternative methods for achieving the objectives;
3. establish premises which will be based on each alternative;
4.choosing the best alternative for achieving the objectives;
5.devising plans to implement the chosen alternative;
6.implementation plans into action.

Through these stages in the planning of tourism firms, as is of any company, is very complex, hence the need to ensure an effective planning system, which enjoy the support of top management at any time. Efficient organization of planning is the main instrument through which plans are made on the understanding that must be designed to allow the use of all other management systems within the company.

3. Analysis of tourism development in South-East Region of Romania

Referring to Romanian tourism must recognize that our country was and is an important tourist destination for Eastern European market. Travel products promoted are the seaside resorts, cultural programs and monasteries in northern Moldavia and Bucovina. Romanian tourism offer has not changed over time, has not adapted regional and international developments. It has become uncompetitive in relation to the demands of tourism demand and tourism related products on the international market.

Breakdown by development regions of the country development has meant for Romania an opportunity to examine different problems that regions facing. All eight regions of the country, especially those left behind as development level, have a valuable potential for tourism development but its contribution to national economic growth is still low. In Romania, South-East region holds a position of excellence, confirmed by all indicators relating to domestic tourism market. In 2008 the region was first in the country in terms of accommodation capacity - either existing or in operation - the number of overnight stays and arrivals. The capacity utilization index in use is highest in the country. The accommodation, often of low quality, infrastructure, mostly old, poor and lack promotion in tourism are the problems facing the regional tourism sector, which currently contributes only 6.67% to regional GDP, slightly above the national average but below the average EU countries such as Bulgaria, Poland, Hungary, Italy and Spain. The advance, however, is nationally significant because of the part with only 2.13% of GDP in 2003 (Regional Masterplan 2010-2020).

4. Elements that reflect the tourism potential of South-East region and its development solutions

We can speak about a high potential for tourism. Rich heritage of cultural and natural resources was the prerequisite for the development of tourism industry in the region. The degree of diversification is high and includes travel to the seaside, mountain, cruising, rural and ecological tourism, cultural tourism and religion, yet they have different levels of development, major destinations and known as the Black Sea coast and Danube Delta. Southeast Region has a range of natural resources that properly harnessed, can play an important role in economic and social development. Of these, the most important are deposits of oil and natural gas (Buzau, Braila county and south west of Galaţi County), the stone (Macin Mountains), salt, etc..

Primary advantage that it can capitalize on the region, is the presence of the Constanta port, backed up by the Danube port of Galati, Braila and Tulcea. Their links with major ports around the world, can be used to provide both the raw material needed economic development region and to export goods produced in the region and the rest of the country.

Tourism resources have significant potential for the development of the region:

• Black Sea coast, which includes 13 stations, with accommodation, medical treatment and leisure (hotels, motels, cottages, camping) along the 70 km of coast Navodari and Mangalia.

• Danube Delta, which has a scientific and a tourist attraction high, especially since its incorporation in 1990, together with other adjacent areas in the Danube Delta Biosphere Reserve.

• The region benefits from a special spa with a long tradition Techirghiol, Eforie Nord (with similar properties curative mud from the Dead Sea).

• Also, there are promising for development of agro-tourism (Braila, Galati and Tulcea) with significant resources for development of recreational tourism (hunting and fishing) in the Small Island of Braila, Braila Great Island, etc..

• Vrancea and Buzau mountain area of interest by tourist resorts and Lepsa Soveja and unique tourist areas in the country, such as Muddy Volcanoes (Berka), caves Bozioru, fires coming.

• cultural and historical heritage of the region getic, Roman, Greek, Byzantine monasteries and mansions, mostly concentrated in the counties of Tulcea and Constanta.

For better results, particular attention should be paid to training in the organizations in any field, they offer training for adaptations for training aiming at increasing the overall rate of employment in the region. This is required to achieve in all sectors but particularly in the tourism sector, where changes generated by passing through a crisis in the region caused a massive migration of labor is thus imposing qualifications or retraining those working in the field, through the formation of specific professional skills.This is but a necessary stage of the research are regional tourism operators acting in the South East region but also the processes, products and services offered or the market size in the region.

We propose, therefore, faster access to funds channeled to this field so that it is possible to exploit the potential of the region with maximum results.

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MERGERS AND ACQUISITIONS IN THE CURRENT ECONOMIC

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Abstract: *Mergers and acquisitions are rather the result of strategic processes in a determined sector rather than individual actions of some companies. The main benefits of the merger are related to strengthening market position, reducing margins and increasing competitive pressures (often to the detriment of consumers). The main reason to resort to this type of transaction is the objective, namely increasing company value and hence shareholder wealth.*

Key words: *business combinations, competitive advantage, acquisition integration.*

1.Introduction

Warranty outlets, the emergence of the euro and the creation of the single European market are also reasons for mergers. Diversifying the portfolio of activities is equally one of the motivations for business combinations as a result of the cyclical downturn in certain sectors of activity has prompted businesses to expand through external growth, including non-core business. On the other hand, large groups, conscious of their relations of interdependence, have been associated for reasons of profitability beyond that of individual strategies.

2. Mergers and acquisitions over time

In the '20s creating large enterprises with high vertical integration has increased the pace of industrial concentration; the 60s were characterized by the formation of conglomerates, while the 80s have witnessed a number than mergers and acquisitions supported largely by debt financing. Consequences of globalization trends, increasing economies of scale and increased competition have resulted in the 90s three types of mergers: horizontal mergers to eliminate competition characterized by the grouping of businesses offering the same products or services, vertical mergers aimed at pooling the companies located on different stages of the production process to reduce costs and ensure intermediate outlets, conglomerate mergers between companies located in different areas of activity without complementary technique to divide the risk.

The main objective of companies resorting to mergers and acquisitions aimed at "increasing wealth as their shareholders and achieve competitive advantage [5, 127]. In these transactions, special importance is given to tax issues. A preparatory step for a transaction of merger or acquisition is the first control (due diligence review), which includes "a set of procedures for investigation and examination to obtain complete information to prevent any further negative consequences of the transaction" [6, 22].

In the literature uses the term business combination, meaning the merger of separate entities into one. The main options are to combine the issue of shares, transfer of cash or other assets or their combinations, the resulting entity or entities will control components, some of them will either restructure or acquired entity becomes a subsidiary of the acquirer.

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3. Fundamental principles of business combinations

The fundamental principles of any business combination transaction, whether national or transnational, related to the strategic logic and a real effort to integrate. Observing the strategic logic includes the following aspects:

- preliminary control procedures designed to examine the situation a whole entity to be acquired, this is usually entrusted to a team of professionals (legal advisers and accountants). It also aims to control and management accounting issues, tax and legal issues. In fiscal sense, combining operations cover both purchases and sales of assets and shares.

-6 the expected timeframe for the creation of value by the resultant entity;

-6 increase competitiveness or obtain additional skills;

-6 similar goals of the entities involved in combination, which allows economies of scale with direct implications on the level of performance.

Designed to exploit the benefits of *acquisition integration* merger involving a coherent policy coordination and cooperation between the participating entities.

If the year 1996, worldwide there were more than 2000 business combination amounted to approximately $ 252 billion over the past 10 years their number increased substantially (53.85%), despite the fact that not all support improved performance acquirer entity (an example often cited in this regard concerns the famous takeover by Sony Columbia Pictures, a transaction that generated losses in the next five years estimated at $ 3.2 billion).

For all business combinations, “International Financial Reporting Standards require the use of purchase method, a method that implies the sequential stages” [3, 213]:

•6 identifying the acquirer entity defined by IFRS 3 "Business Combination" as the other entity that obtains control of the combining entities, in that it requires financial and operational policy after blending;

•6 identifying and accounting for assets, liabilities and contingent liabilities acquired;

•6 accounting for depreciation of goodwill and an opportunity to assess it, according to IAS 36 "Impairment of Assets ";

•6 monitoring by combining assets and liabilities acquired. “If there is a possibility of a fair assessment, the liabilities of the acquire is a component of combination transaction cost, but if there is that possibility, they affect the value of goodwill under IAS 37 "Provisions, Contingent Liabilities and Contingent Assets" “[4, 59].

Besides the benefits to business combinations, economic literature also mentions their main obstacles, barriers relate primarily to cultural differences and management of the entities involved (an example is the merger between the Swedish company Pharmacia and Upjohn U.S. in 1995 , where the U.S. directive management style was at odds with the Swedish characterized by open discussion and consensus), and their lack of synergy (synergy in the economic sense, as a set of actions and elements which contribute to achieve the same result and whose interaction contribute to the growth potential).

“There is no negligible the objective resulted in effects of potential synergies resulting from the combination of companies. This can further benefit from the addition of a performance of each company involved in the party” [2, 139]. Although, in general, the overall economic benefits are obvious, there are anti-social effects of these transactions related to staff reductions or closure of unprofitable divisions that turn. For these reasons, before combining entities produce the required control and analysis of synergistic effects, with emphasis on costs associated with these effects.

4.The effect of mergers and acquisitions transactions

The effect of mergers and acquisitions transactions (table 1), is found in the "rescue" of companies in difficulty and waiting for the horizon is the inevitable dissolution. “If the facilities available, this company is attractive to another company, it will be absorbed, and

subsequent strategic decisions, managers of the resulting entity will be able to revive the overall activity" [7, 16].

Table 1

The effects of mergers and acquisitions transactions

The effects of mergers and acquisitions transactions	Management structures of the participating entities: the distribution of power in the entity acquiring or resulting from participating entities hiring managers is determined by pre-merger negotiation phase
	The shareholders and / or members: they become shareholders of the resulting company.
	On employees: refers to the changes inherent in the employment contracts and collective bodies of workers.
	Partners on commercial transactions, financial or otherwise, customers, suppliers, financiers and competitors.

Under legislation adopted, states may intervene in driving the business combination: to attract investors using tax and social levers, brake monopolistic intentions of certain groups through legislation. For the latter situation is eloquent example of Microsoft whose success was considered dangerous for the market, a matter which has generated lawsuits filed by the U.S. government.

"The location and nationality of the entities that are combined in some cases, a problem of our operations, especially at European level, meaning that the resulting statutes (in the case of a merger of entities in different states) is still highly regulated" [1, 34]. For this reason, some companies opt for domestic mergers or joint-venture system instead of an actual merger.

5. Conclusions

The transnational mergers are related to difficulties in tax matters concern often resulting entity dividends, dividends may be subject to double taxation. On the other hand, the incompatibility of national legal systems requires the adoption of measures to regulate the operations of combining and which, at present, are not yet sufficiently effective. European Commission with powers to control operations of the business combination merger intention to require that it be notified in case of businesses whose annual sales exceed € 5 billion and whose business in the EU Member States amounts to at least 250 billion € to prevent situations in which the merged entity could control most of the world market in that area.

In a study presented by Prince Waterhouse Coopers, referring to the geographic area of eastern European countries, a relatively small number of stand-type transactions and mergers and acquisitions involving a significant increase of local investors.

In the past 20 years in the Romanian market experienced a slow evolution as a result of joint action of the following factors: the instability of laws and national business environment, lack of a strong Romanian capital, slow growth and relatively low level of investment FDI. Even if in some sectors of Romanian economy (eg passenger transport and freight) have made steps shy and not always with the objective expected, we believe that in the current period when the economy is strained by a deep crisis, mergers and solution purchases may be one of the levers to mitigate the adverse effects of financial jams.

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