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FOREWORD

The prospects for the global economy at the end of 2016 are about easing recessionary conditions in some emerging economies that will probably gradually improve global growth. Global growth could accelerate in the third part of 2016. Some emerging economies are facing better conditions thanks to the weaker dollar and some rebound in commodity prices, while others remain in recession. US growth slowed in the first quarter of 2016, while Japan's government just avoided a relapse into recession. Euro-area growth is robust compared to its recent trends, but cannot be relied upon to provide much support for the rest of the global economy. The nervous global mood and the difficult transition to lower commodity prices argue against a strong recovery. However, there is reduced potential for shocks to disappoint expectations, as excess optimism has been curbed. The global economy should be more resilient to downside risks. Governments could encourage investment, taking advantage of still-low interest rates. A modest rise in yields across the main developed regions is likely; commodities have recovered somewhat, and the inflation outlook has improved, also supported by upcoming positive base effects.

This is a very short description of our world economy status at the end of 2016 and beginning of these facts our articles are trying to be as helpful as can be for those who are trying to change our world economy in a better one.

*In the first paper entitled **Adaptation and Progress Through Change Management**, Gabriela Mehedințu and Ana Munteanu emphasize that the technological progress, digitization and the explosion of information significantly change how individuals, the business environment, and society act, develop and add value. They say that new, interdisciplinary approaches, constantly adapted and sustainable both at the micro and the macro levels are required. Within a company, change management is a systematic element of the strategic business process and involves the early identification of the opportunity of the employees' development, courage, commitment and flexibility; under no circumstances should it be seen as a risk and instability factor, as it may be considered in the early stages. The example presented in this article proves that the openness to change and continuous improvement develops advantages, optimizes processes and sustains long-term progresses.*

*In the second paper entitled **Knowledge as Investment in Human Resources to Increase the Company Success** we can easily discover that in this era,*



characterized by rapid changes in information and communication technologies and the increasing competition on the global market, the main factor of strategic development of the modern successful company is the development of strategic resources. The author Oriana Negulescu says that the most important strategic resource is the people's expertise that is bringing competitive advantage to the company. The employees' knowledge accumulation is probably the main tool the management has to consider in designing strategies for company's growth. However, the employees' knowledge is contributing to the knowledge based company, as a factor of success. This paper is aiming to emphasize the main concepts regarding the knowledge based concept, the profile of a knowledge based company, the importance of employees' knowledge accumulation for the company's development and to consider the knowledge as being an investment by training. The return of investment in human resources knowledge is finally analysed.

*In her paper **Change Management Strategies Related to the Global Environment Complexity**, the author Elena Doval suggests that the changes in organizations appear as a reaction to the organizational environment changes. In order to manage these changes successfully, Mrs. Doval says that the managers need to anticipate and design alternative strategies by preparing different options. Nevertheless, the complexity of the global environment forces the managers to adopt strategies for their organizations that are facilitating the creation of new strategic competences and competitive advantages to face the environmental rapid changes. In this context, this paper is aiming to illustrate the main directions the change management may consider changing the organization strategies in order to harmonize them with the external environment, such as integration versus externalization, flexible specialization and flexible organization, standardization versus adaptation, market segmentation, relationship building and maintaining and communication integration. However, the author thinks that the new strategies are based on a changed attitude of the managers towards the competitive advantage that is dynamic and focused on creation rather than to operations.*

*The aim of the paper **A Model of the Influences of a Forest Fire on its Neighbourhoods and Related Risk Management Aspects**, by Ioan Valentin Marcel Posea, is to produce a model for the propagation of a forest fire analyzing the influences that the fire zone has on its neighbourhoods. The model is a Moore cellular automaton type. It depends on six parameters: the medium slope of the elementary cell, the layer type, and the burning time of the fuel, the fuel type, the wind direction and speed. In order to study the influences of various parameter configurations on the system of vicinities of a fire cell, the author constructed some special directional correlation functions. An application is elaborated based on real data.*



*The scientific paper **Operations of International Crisis Management as a Part of Security and Defence Policy of the Republic of Bulgaria**, by Nikolay Nichev and Elitsa Petrova, follows the invitation of scientists from the University of Defense in the Czech Republic, Brno for joint international study on economic diplomacy and peacekeeping. The paper presents the role of the Bulgarian army in the operations of international crisis management as part of the security and defence policy of the country, and characteristics of the activities of armed forces in international operations for crisis management. The article focuses on national contribution to international efforts in support of peace and stability, the legal basis for the participation of the Armed Forces of the Republic of Bulgaria in allied and coalition operations and support operations and military participation of the Republic of Bulgaria in international missions and operations.*

*The article **Social Progress and Economic Projects for Disadvantaged Groups in Romania**, by Aurelian Virgil Băluță and Gabriela Iosif, arouses great interest in an issue less addressed in our journal. The paper aim is to analyse the social progress, social politics, social law and successful projects applicable to some disadvantaged groups: Roma men and women. Inclusion of Roma people is analysed from economic point of view. The economic problems of equality by gender are presented in terms of labour rate and other relevant ratio. For Roma people the focus of analyse is also on labour involvement.*

*In their scientific paper, entitled **Some Hints on Individual Lending and Different Factors Affecting the Credit Activity Risks**, the very young researchers Luminița Cernenco and Marilena Pieleanu Lazarencu discuss about the credit activity that responds to real economic necessities within its objective features: the production stimulation, the increase of competition, a sounder correlation between the capital needs and the possibilities of its formation. The authors say that times proved that the human beings use to live and act through loans and credits as they contribute to the relationships explosion with all partners, in all activities, in the most complex way. The present paper intends to reflect particular situations in which the Banking Law 58/1998 (updated) contributed to the economic and commercial activities development via particular products and services provided by banks in credits and loans.*

*In his article, **Understanding the Notion of State Aid and Its Correct Application**, the very young researcher Adrian Ștefan Ene says that his paper has first of all the objective to deepen the understanding of the notion of state aid according to article 107, paragraph 1 from the Treaty on the Functioning of the European Union definition. Also, he wants to show how the European Union legislation is directly applicable to the Romanian legislation through the Guide Regarding State aid and the Emergency Ordinance no. 77/201. Simultaneously, he wants to reveal us how it is applied through the State aid schemes Decision no. 807/2014 and 332/2014.*

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Finally, I hope you will find interesting the Issue 4/2016 and I strongly invite you to address your comments and suggestions at office_analeserieconomie@spiruharet.ro and, of course, to submit your own papers via the online submission system.

Make new researches and help humanity by sharing them!

***Associate Professor Elena GURGU, Ph.D.
Deputy Chief Editor***

ACADEMIA PAPERS



ADAPTATION AND PROGRESS THROUGH CHANGE MANAGEMENT

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Abstract

The technological progress, digitization and the explosion of information significantly change how individuals, the business environment, and society act, develop and add value. New, interdisciplinary approaches, constantly adapted and sustainable both at the micro and the macro levels are required. Within a company, change management is a systematic element of the strategic business process and involves the early identification of the opportunity of the employees' development, courage, commitment and flexibility; under no circumstances should it be seen as a risk and instability factor, as it may be considered in the early stages. The example presented in this article proves that the openness to change and continuous improvement develops advantages, optimizes processes and sustains long-term progress.

Keywords: *change management, continuous improvement, optimization, progress.*

JEL Classification: M21, O33

Introduction

This paper looks at the various definitions that change management has been given, finds some reasons why companies should use change management in order to be more efficient and presents an example which proves that the openness to change and continuous improvement develops advantages, optimizes processes and sustains long-term progress.



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The technological and informational explosion, which requires new approaches useful and necessary for the individual, the company, and the society to adapt to the new trends, determines today's perpetual change.

Companies, particularly, are obliged to adapt and implement change for multiple reasons, among which [Lindinger & Goller, 2004]:

- technological developments accelerate any company's processes;
- global information networks make business processes transparent creating a certain pressure for change;
- customers' increased expectations based on information determine new approaches to quality and services;
- sustainability is ensured only through cooperation;
- changes in international legislation require rapid adaptability.

The term 'change' is joined inevitably by the term 'development', and change management is the proactive method of managing change which brings success to the companies that integrate it into the daily agenda of the company's management [Rank & Scheinpflug, 2010].

Definitions of change management in a company in literature

Change management has active implications in the company's adaptation and development, requires an interdisciplinary approach starting with the senior management levels, which is why the literature identifies many of its approaches.

One approach defines change management as a '*symbiosis between leadership and management*'; it is an emotional approach to the issues between a company's employees and management [Friedrichsmeier & Frühauf, 2009], because a company is managed and exists through the active involvement of the people, i.e. its main resource.

Another approach of the change management looks at it as the sum of all the conscious methods for implementing the processes that lead to change in an organization. Under this approach, change is a conscious and active action, i.e. a chosen and responsible decision [Lindinger & Goller, 2004]. Viewed from this perspective, change management also includes the techniques for solving the staff's problems, as well as the change impact on the corporate amendments so that the desired change can be implemented effectively and efficiently [Pirker, 2007].

The economist Peter Drucker makes a difference between the terms effective and efficient, by linking effectiveness with the phrase '*do the right things*' and effectiveness to '*do the things right*' [Drucker, 1969]. For the organization to be sustainable and have long-term competitive advantage, managers should correctly apply both concepts.



Efficiency refers to the use of an organization's resources on long-term also in terms of cost, from the planning stage to the stabilization and control of change. The effectiveness of change management refers to two components:

- firstly, there is the question to what extent the company operates correctly the resources involved; and
- secondly, it refers to the acceptance of change and the identification of the employees with the change [Tanțău & Bock, 2010].

Change, the permanent need in the business environment

The business environment, which is in a permanent adaptation, requires a firm to act flexibly, to recognize and accept very early the need for change and attach high importance to change management and its processes through their involvement in the strategic decision-making processes; under no circumstances should change be considered a risk factor.

Change management involves having courage, desire for transformation and a new way of looking at problems. The linear thinking and the 'homo economicus' image (the economic man – the individualist man concerned about his own needs) loses ground every day. The complexity of the new competitive environment can no longer be monitored only by summing the factors influencing the organization. The economic factors should be supplemented with other noneconomic factors, such as the employees' satisfaction [Costache, 2001].

In this regard, David Swanson, the American manager from Procter & Gamble argues that change management must be a matter of survival [Keuper and Groten, 2007].

Among the most notable failures to adapt to change, there are:

- the Kodak case: as J. Kotter noted in a *Forbes* article in 2012, the success Kodak had with the photographic film made the company's management overconfident, so they didn't think of innovating anymore and adapting to the trend imposed by the digital cameras they invented;
- the Nokia case: as Haydn Shaughnessy noted in a *Forbes* article in 2013, Nokia did not respond actively to the trend imposed by Apple and Android on the smartphone market, being reluctant to the advantages offered by the new touchscreen phones on the market. They only tried to improve their own system: Symbian OS, which did not bring anything new. It was overtaken in 2011 by Windows, but it was already too late for the company to be able to regain the strength and the market share it originally had.



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Change management has as main objective the successful implementation of change, following the established plan and obtaining the following advantages [Pirker, 2007]:

- understanding the needs for change;
- preparing for impact;
- motivation for the common goal;
- controlling the expectations;
- acceptance of the management team and its inclusion in the process;
- employees' involvement.

The essential factors of change should be used in such a balanced way that the company optimizes the internal processes and survives on a long-term the dynamic environment it is located in.

Adaptation and exploitation of the technological progress

A company is sustainable when it adapts and progresses, when it has well-defined strategies, when it converts the internal and external dynamics into advantages. This approach requires constant learning, flexibility, a strong organizational culture and focus on the employees and on a comfortable working environment, properly adapted to the working needs and modern security.

A good example of a strategic decision which leverages technological progress and adapts the company to the new beneficial trends is a company that owns an office building, built in 1966-1970, with just one floor, with a total area of 919 square meters and a used floor area of 797 sqm, where a total of 56 employees work 40 hours per week.

The building has the following individual technical features:

- electrical installation;
- gas central heating – 93 kW heat output;
- radio burglar alarm system with 32 detectors;
- air conditioners – 12,000 BTU;
- water supply and sanitation systems.

The utilities consumption for the years 2014 and 2015 are presented in the following chart:

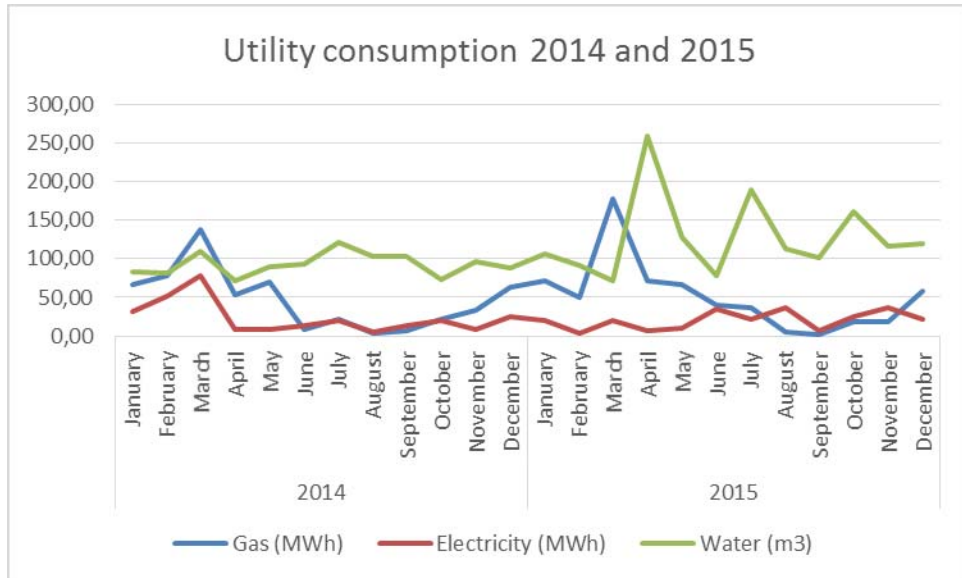


Figure no. 1. Utility consumption 2014 and 2015

Source: own elaboration

Since there is a need and a strategic tendency to optimize the consumption of utilities because of the environmental, social and economic impact that they have and because there are already modern technologies that can meet the companies that want to develop in a sustainable way, the analyzed company decides to implement the change of the existing technologies, introducing an integrated building management system (BMS), which presents a series of economic and technical advantages, among which:

- it increases the indwellers' comfort;
- it increases the indwellers' satisfaction;
- it increases labour productivity;
- it has a more effective control over the total occupied space;
- it reduces the CO₂ emissions;
- it can monitor the energy consumption;
- it can monitor the activity around the building;
- it can identify and alert timely the emergency situations;
- it can monitor and control the building in a flexible way.



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The literature and the implementation of such systems prove that such a change in a company can optimize the costs and consumption by about 30%.

In our example, the company tries to constantly adapt to the internal and external environment through a culture of change and through the use of the tools of continuous improvement, and the optimization of the working processes.

Rank and Scheinpflug support Vahns' theory that defines four areas which identify the need for change [Baetge *et al.*, 2007]:

- Strategy: building the strategic competitive advantage by exploiting the successful potential of the company. The company from our example uses continuous improvement processes in order to obtain a high quality working environment for its employees and to increase productivity.

- Organizational culture plays an important role when a change strategy of the employee's behaviour and thinking is desired, because it motivates the employee through appropriate communication structures.

- Technology: change at the technological level in an organization is usually linked to the organization's desire to adapt to the new.

- Organization: by organization we understand the organizational and organizing structure. By changing one of these structures, a change (restructuring or adaptation) also occurs at the organization's level. For example, in order to reduce the utility costs and increase the employees' satisfaction and productivity, the management uses continuous improvement processes that affect both the organizational structure and the organizing one.

Within the change management an important role belongs to the employee. The progress is supported by the long-term policy which requires liability to employees and society. Thus, among the important objectives of the company there are the qualitative development and the employee's satisfaction. For these to be achieved, it is promoted an optimum, attractive working environment, adapted to the European working requirements and standards, motivating employees through open communication with them in order to stimulate the employee during the daily work.

Responsible for developing a professional working environment, modern and economical, is the facility manager, who is empowered to adapt the building to the modern technological innovations in order to meet the employees' expectations. That is why, in the above mentioned example, the manager's aim is to modernize the building with BMS. The implementation of change lasts 5 months.



Identifying the employees participating to change

In terms of change management and implementation, it is necessary to know the nature of change, the processes and the parties involved, their roles, respectively. There are five categories of participants to change that fulfil different roles [Conner & Clements, 1999] (see Fig. 2):

– *Sponsor*: the one who legitimizes the change and shapes the frame. For the company we took as an example, this role is taken by the company's facility manager. He is the one who identified the need for change, starting from the technological progress existing in the market and from the need to adapt and optimize the working environment in order to increase the safety of the building, the employees' productivity and reduce the cost of utilities in the medium and long term. He filed an application to change following a detailed analysis and gave it to the company's general manager, mentioning the technical, social, environmental and economic advantages brought by the implementation of the change.

– *Change leaders* are those who want to introduce change, but cannot do this legitimately. They are part of the project team, confirm and support the change, and are the contact people for specific questions. In our example, they are represented by the two colleagues: the technical manager and the economist, who participated in the change implementing study.

– *Change agents* are responsible for the actual execution of change. They evaluate the problems, develop the plans and implement the change effectively. Therefore, they are the direct contacts, being the intermediate people between the sponsors and the stakeholders; they are responsible for producing the change, control the sponsors' commitment and handle the data collection on the state of implementation of the instrument and the beneficiaries' response to change. They help to support the beneficiaries, as well as their motivation and involvement, and make an important contribution in achieving change. In the company from our example, the change agents are two employees of the facility management department.

– *Targets* are directly affected by the change. They must be informed and must understand the need for change and they have to accept it. A change is successful only to the extent that the beneficiaries are aware, willing, and accept the change. They are represented by all the company's employees.

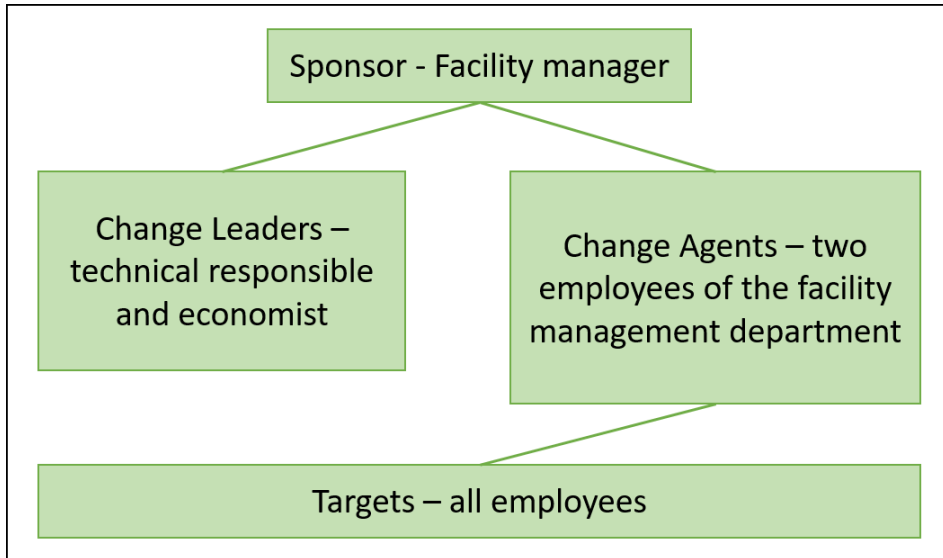


Figure no. 2. Participants to Change

Source: own elaboration based on Conner & Clements, 1999

Adaptation and acceptance by communicating change

The key success factor of change management that can prevent and overcome resistance is communication. To have guaranteed success, all kinds of interpersonal communication, regardless of the direction and level of management, will be used in all phases of change implementation. Communication can be formal, when it occurs during meetings, or by e-mail. For the company shown as an example, the change was officially communicated by weekly meetings between the change agents and the management of the human resources department, as well as by quarterly meetings with the top management of the company. There were also image-based communications, which exert a strong influence on the employees' behaviour, because images have a strong emotional component.

Seminars were organized with all the employees in order to inform, clarify, persuade, engage and lead to action [Rank & Scheinpflug, 2010]. Direct talks between the change agents and the beneficiaries were facilitated, this communication being more informal, as the company works with a small number of employees.



Resistance to change

Change management and resistance are two interdependent components because, as long as there is a situation of balance, resistance does not intervene, but when it comes to change, resistance to change comes because man feels he is losing control of the situation. The reasons that cause resistance to change are numerous: fear, reluctance to learning, lack of self-confidence, convenience.

Although the X company has developed a culture of change, it is led by people whose individual behaviours can hamper work processes or even the functioning of the organization (for example, the lack of communication and information, limited time, high volume of work, insufficient knowledge). The human resource is a decider entity that may affect the implementation of change through their perceptions and actions. People's capabilities to respond to change are different. Implementing change is easier in teams made up of proactive and cooperative people than in those made up of reluctant people.

In the given example, the resistance came mainly from the beneficiaries whose behaviour has followed the general reaction to the change, represented in Figure no. 4 [Kostka & Monch, 2009]:

- Shock/surprise: unexpected circumstances arise. Beneficiaries have refused to attend the information seminars.

- Refusal/denial: the person is convinced that change is not necessary. Managers do not see change as a factor of progress, considering the current situation optimum and still refuse to attend the information seminars. They consider that the effort is too big and the five-month change implementation period causes major delays in their current work.

- Rational understanding: characterized by recognizing the need for change. The facility manager discusses face-to-face with the beneficiaries who understand the need for change but still do not accept it.

- Emotional acceptance: the behaviour changes towards adopting the new conditions. The employees begin to accept change and be aware of the advantages of the new system to be implemented.

- Exercising, learning: the emotional acceptance triggers the desire of a learning process, which can get a positive behaviour. Following the seminars, the beneficiaries adopt a positive behaviour, becoming open to the new.

- Realisation: through the learning process, more and more information are acquired that determine the awareness of the situation. Managers are now convinced of the need for change and expect a positive result of the implementation.



– Integration: the new behaviour is fully integrated, so they are considered natural. The use of BMS starts.

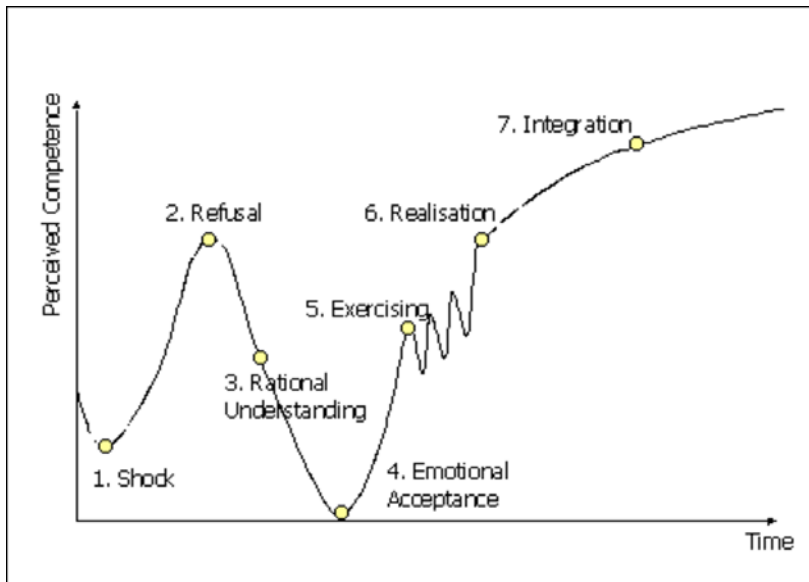


Figure no. 3. Phases of the change process

Source: Claudia Kostka and Annette Monch, *Change Management. 7 Methoden für die Gestaltung von Veränderungsprozessen* (München: Carl Hanser, 2009), p. 14

The successful implementation of BMS is equally visible in this case, as in other similar cases. The utility consumptions decrease on average by 35% and evens according to the graph shown in Figure no. 4. Furthermore, the employees' satisfaction increases due to the comfort of the workplace offered by the new technology

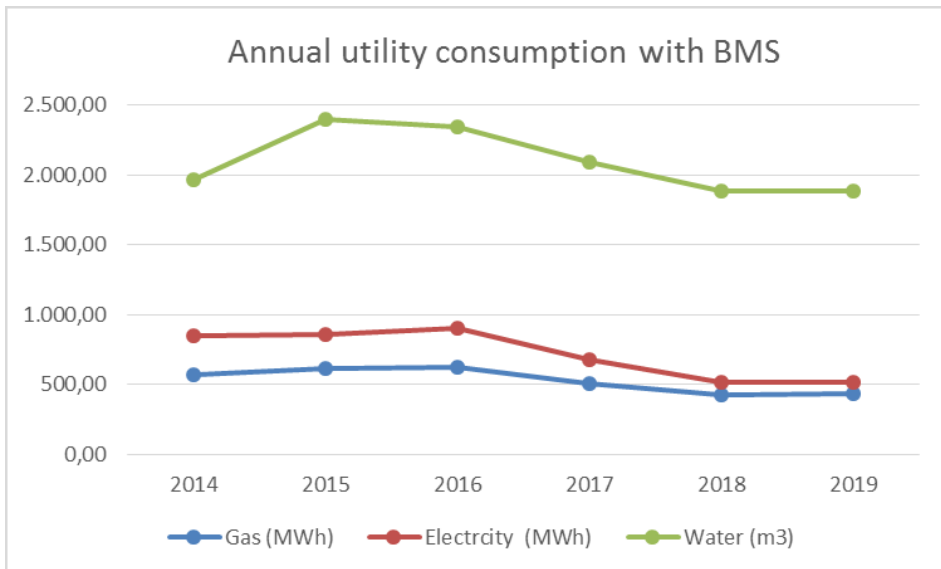


Figure no. 4. Annual utility consumption with BMS

Source: own elaboration

Conclusions

The example of implementing change in a company in order to optimize its processes is a representative one for today's dynamics, when technology plays an important role and the adaptation to the new trends is essential for a company that wants to be sustainable. The attention directed towards the employee, the environment and the economic effects proves the companies' strategic approach that wants to progress, to develop.

Change management should be a key point in the top management's decisions, in a company's culture and in all the employees' thinking. Only through flexibility, positive response to the current developments and a proactive attitude can a company progress and develop in a sustainable way.

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KNOWLEDGE AS INVESTMENT IN HUMAN RESOURCES TO INCREASE THE COMPANY SUCCESS

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Abstract

In this era, characterized by rapid changes in information and communication technologies and the increasing competition on the global market, the main factor of strategic development of the modern successful company is the development of strategic resources. The most important strategic resource is the people's expertise that is bringing competitive advantage to the company. The employees' knowledge accumulation is probably the main tool the management has to consider in designing strategies for company's growth. However, the employees' knowledge is contributing to the knowledge – based company, as a factor of success. This paper is aiming to emphasize the main concepts regarding the knowledge - based concept, the profile of a knowledge - based company, the importance of employees' knowledge accumulation for the company's development and to consider the knowledge as being an investment by training. The return of investment in human resources knowledge is finally analyzed.

Keywords: *strategic resources, knowledge-based company, investment in human resources, return on investment.*

JEL Classification: D83, D87, M19, M21, M53

Introduction

In the last decades of the 20th century the information and communication technology has been rapidly developed and as a consequence the people's digital skills. Whether the people has been considered to be the companies' best resource, in the first decades of the 21st century the expertise in bringing knowledge to the companies became the most valuable resource to bring competitive advantage.

This paper is aiming to underline the importance of people's knowledge accumulation as investment in a knowledge - based company. The paper covers in brief the main concepts of knowledge, the profile of the knowledge-based



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company, the concept of knowledge accumulation by training as investment and finally the return on investment in human resources knowledge, by using the conceptual ideas of different authors that have been cited and the own view on the mentioned topics.

What is knowledge?

Drucker (1998) considers the knowledge is the ability to know what to say and say it well. He considers the current concept of knowledge as being knowledge which “proves itself in action” and is focused on results.

The knowledge has different forms (Doval, 2008), such as:

- Explicit knowledge: books, papers, databases, videos, etc.;
- Implicit knowledge: in people’s mind and could be explained;
- Tacit knowledge: in people’s mind and difficult to be explained.

But, the tacit knowledge is transforming in explicit knowledge, the explicit knowledge in tacit knowledge and so on (Nonaka & Takeuchi, 1995). In this respect, Stevens (1998) describes codified knowledge as being able to be reduced to information (the know-what) and tacit knowledge as including skills such as insight, creativity and judgment (the know-how).

Different authors point out knowledge or knowledge characteristics in different ways, all being relevant to understand the concept, such as:

- knowledge doesn’t exist in nature as such; it is a human and cultural product. knowledge is a self-expanding resource, but can only be artificially transformed into a scarce resource (fucs, 2004);
- knowledge doesn’t last forever; it become obsolete in the context of use (howitt, 1998);
- knowledge is a key resource of companies (Scarso & Bolisani, 2010).

Nevertheless, knowledge is a valuable intangible resource for any company being related to innovation and being able to develop in a framework of human capital and information and communication technology and that hardly ever may be measured.

Knowledge-based company

A knowledge-based company can be defined as a company that is focused on the use of ITC and on valuating its employees upon their expertise to innovate, apply the knowledge and develop the intellectual capital in order to gain competitive advantage, profit or benefits.



Very often the most valuable knowledge that an organisation has is in the heads of its people, and those of its stakeholders, especially customers (Tocan, 2012). But, in all strategic processes in the firms based on knowledge, not all knowledge has the same role and impact (Nicolescu, 2011).

In such organizations the people invent and create knowledge (ideas, experiences, the training results) and transform the knowledge into new products, services, technologies, projects that are offered in an accelerated pace to the market (Nonaka, 1998).

The methods used to create knowledge in a company could be grouped into four types of conversion (Neagu, 2009): (1) socialization, such as shared experience, on-the-job training, informal meetings, apprenticeship, joint activity, etc.; (2) externalization, such as dialogue and self-reflection; (3) combination (meetings and telephone conversation, presentations, ITC use); (4) internalization (learning-by-doing, simulations/experiments, reflections with others, etc.).

A company may become knowledge-based by using the Knowledge enterprise building model, a conceptualization of the “Knowledge growth model” (Burton-Jones, 1999), following six stages (fig. no. 1):

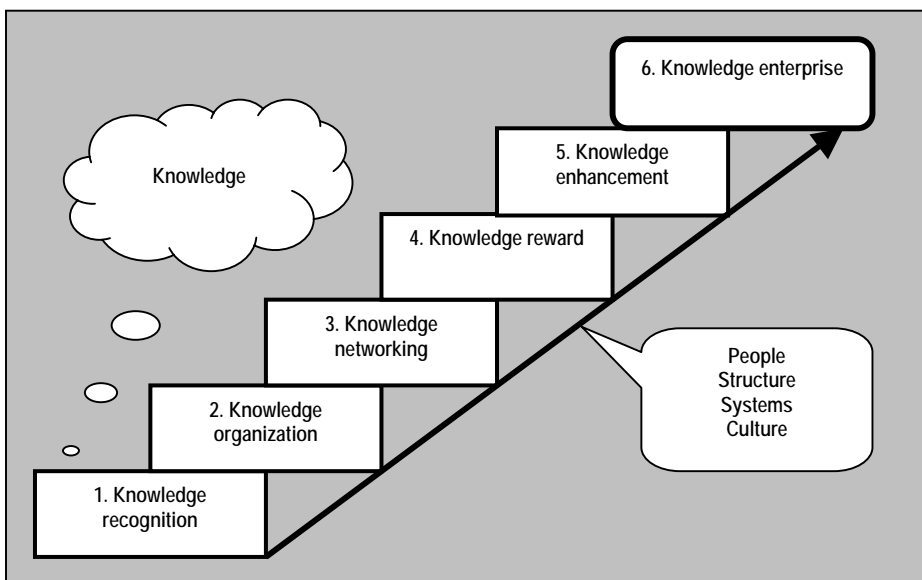


Figure no. 1. Knowledge enterprise building model

Source: Adapted from Burton-Jones, 1999



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(1) Knowledge recognition: creation of corporate awareness of the importance of knowledge as a factor of production.

(2) Knowledge organization: characterized by reductions in middle management layers accompanied by progressive externalization of non-core functions and internalization of core functions.

(3) Knowledge networking: characterized by the diffusion of edition making and increased use of cross-functional teams.

(4) Knowledge reward: realigning the reward system with internal structure and knowledge focus.

(5) Knowledge enhancement: marked by increased investment in R&D and training.

(6) Knowledge enterprise: knowledge management and business management have fused.

In the process of building the knowledge enterprise the structure, systems and organizational culture are changing and its people are adapting to the new concept.

The profile of a knowledge-based company

The main characteristics of the knowledge-based economy that could be transferred to any company that are willing to be a knowledge-based one are grouped on three dimensions (Trewin, 2002):

(1) Innovation and entrepreneurship

- research base and potential for knowledge creation;
- knowledge creation with commercial potential (this includes invention and patenting activity);
- knowledge networks and flows;
- entrepreneurial activity, referring to the creation of new, fast growing businesses.

(2) Human capital

- stock of skilled people (education and skill levels of the population and the potential stock of qualified people);
- flow of skilled people (this characteristic looks at knowledge workers, the level of educational attainment of the labour force, the extent of employer training and human capital loss/gain from the economy);
- investment in human capital (refers to expenditure on education and training by government and business);
- lifelong learning and access to education and training.

(3) Information and communication technology



- ICT infrastructure and access;
- business and government use of ICT (examines the penetration of ICT into business and government processes);
- ICT skill base (refers to the share of ICT workers in the labour force, as well as covering skill shortage issues).

A knowledge-based organization is made up of four characteristics that can be summarized as process, place, purpose and perspective (Zach, 2003).

- Process refers to the activities within an organization, some of which are directly involved with making a product or selling a service and others that are ancillary but no less important.
- Place refers to the boundaries of the organization, which for the purposes of sharing and creating knowledge often go beyond traditional legal boundaries.
- Purpose refers to the mission and strategy of the organization – how it intends to serve its customers profitably.
- Perspective refers to the worldview and culture that influences and constrains the decisions and actions of an organization.

A knowledge-based enterprise derives knowledge from various sources that include customer, competitor, product, process, financial and people knowledge (Kotelnikov, 2016).

The organizations that understand their operational dependencies on human capital (talent, knowledge, etc.) are succeeding because they see things differently (Rhodine, 2015):

- they understand that success falls on the technical enterprise, and that the technical enterprise depends on talent and knowledge;
- they also understand that their knowledge workers – those individuals engaged in the acquisition, analysis, and manipulation of information versus the production of goods or services – are a critical component of organizational success;
- knowledge, in turn, depends on reliable information as a feedstock;
- successful companies recognize this dependency and work hard to equip them with information.
- briefly speaking, a knowledge-based company is characterized by the following features that are bringing success:
 - *strategic resources*: highly-skilled workers, know-how, knowledge, information, intellectual property;



- *strategic competencies*: high level of technology, innovation, market opportunities to customers, investment in knowledge and people, knowledge diffusing and using, competitive advantage capitalization.

The traditional organizations are facing on the market the competitive advantage of the learning organizations and the knowledge-based organizations that are performing due to the knowledge (Doval, 2014).

Considering the knowledge as being an investment by training

The investment in knowledge is defined as the public and private spending on higher education, expenditures on research and development, and investment in computer-based and information systems, spending on education and skills development clearly critical to the growth of a modern workforce (Gogoforth, 2010).

Training presents a prime opportunity to expand the knowledge base of all employees, but many employers find the development opportunities expensive. Despite the potential drawbacks, training and development provides both the company as a whole and the individual employees with benefits that make the cost and time a worthwhile investment (Tyagi, 2015).

The human resources expenses include the training of managers for job interviews, performance evaluation and self-assessment forms development and training of employees to complete self-assessment forms, job analysis and job descriptions and the activities monitoring.

All large firms are engaged in training and continuous training of staff by scheduling, organizing and conducting training programs and programs for coaching, through which employees or those promoted to higher positions are assisted and guided to get the expected performance of the company's management.

Although the costs incurred for human resources' training involve, among other things: expenditure on salaries of lecturers or instructors; administrative expenses (room rental, catering); costs of advertising media; expenses of materials for disseminating knowledge (CDs, videos, films, brochures, books, etc.), however, investment in human resources benefits are obvious: higher productivity, quality of the work and products/services, wages, workers' moral and satisfaction, loyalty to the company.

In fact, expenditure on training human resources is an investment in intangible capital of the company.



Knowledge-based businesses generate cash flows from investment in intangibles rather than from physical assets and labour. Investment in intangible knowledge-based assets includes R&D, design, brand equity, software, and human and organisational (relational) capital. This is both difficult to value and does not provide clear collateral for investors (Wilson & Wright, 2015).

The rate of return on investment may be measured by analysing the change in skills and competences of each individual and the impact on company's performance due to investments in training. One analysis of a large US manufacturing firm revealed that an increase in training expenditure yielded a rate of return for the company of 20 to 35 per cent (Bartel, 1995). Other studies have found that the beneficial effects of enterprise training depend on collateral investment in technology (Lynch, 1995).

Using quantifiable metrics improves the credibility of human resources as a profession, and allows upper management to identify specific, measurable ways that human resources services benefit the organization. To calculate the return on investment of human capital, the organization's net revenue (gross revenue after deducting operating expenses, salaries and benefits) is divided by the cost of salaries and benefits. To calculate the return on investment of a particular training program, the value of the specific program has to be calculated, then to divide it by the costs of implementing the program (Benjamin, 2016).

In order to estimate the optimal investment for workforce training the accumulation theory and the Cobb Douglas production function are useful (Hartu, 1995).

The accumulation theory

The capital accumulation is usually done through investment, while the capital depreciation occurs in service? The increase the accumulation fund capital investments on track? But labour is a factor in revenue growth. In turn, employment growth is determined by two classic ways:

- quantitatively, by recruiting additional number of employees;
- qualitatively, through training, upgrading of training the existing workforce.

Therefore, the accumulation fund acquires precise destinations: equity investments (technologies, equipment, etc.) and investment in workforce. When the growth rate of the labour force is approximately constant it results the optimal investment for workforce training.



Cobb Douglas production function

The turnover is a function of expenditure on staff training and investment expenses, expenses corrected with specific coefficients. From here determines necessary investments in the training of human resources, and the impact of the training investment turnover growth and generally increasing the performance of the company. Therefore, each budget increase investment in training human resources to fund wages steadily increase the turnover and the gradual decline in the share of spending on training in total turnover.

But, the training investment is increasing the employees' competences and thus their wages, with negative consequences on the company's profit. The balance is to be realized between the increased expenses with the training programs and the increase of productivity and products/services quality.

Conclusions

The knowledge is an intangible resource for any company and the most valuable resource is the highly skilled employees.

The expenses with the knowledge accumulation by training programs may be considered investment because they have positive impact on the company's turnover and profit and, in addition, they bring more benefits like employees' and customers' satisfaction, higher productivity and quality and not the last elevate the employees' stability and loyalty towards the company.

A knowledge-based company well equipped with information and communication technology and highly skilled employees and providing programs of human resources training is able to build and develop strategic competences that are conducting it to success.

Nevertheless, the investment in knowledge is conducting to the company's long-term growth, having in view the fact that the returns are increasing and the company becomes more competitive.

This paper may be a useful reference for any company and it may be developed in terms of methods to evaluate different other forms of knowledge accumulation rather than training programs (such as coaching, learning-by-doing and so on).

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CHANGE MANAGEMENT STRATEGIES RELATED TO THE GLOBAL ENVIRONMENT COMPLEXITY

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Abstract

The changes in organizations appear as a reaction to the organizational environment changes. In order to manage these changes successfully, the managers need to anticipate and design alternative strategies by preparing different options. Nevertheless, the complexity of the global environment forces the managers to adopt strategies for their organizations that are facilitating the creation of new strategic competences and competitive advantages to face the environmental rapid changes. In this context, this paper is aiming to illustrate the main directions the change management may consider changing the organization strategies in order to harmonize them with the external environment, such as integration versus externalization, flexible specialization and flexible organization, standardization versus adaptation, market segmentation, relationship building and maintaining and communication integration. However, the new strategies are based on a changed attitude of the managers towards the competitive advantage that is dynamic and focused on creation rather than to operations.

Keywords: *global environment complexity, management, change management, strategy, competitive advantage.*

JEL Classification: L25, M21

Introduction

Changes in organizations occur as a reaction to changes in the organizational environment, and for them to have positive effects company managers must adopt strategies that lead to the preservation or development of competitive advantage.

Nohria and Ghoshal (1997) state that “the competitive advantage of an increase in multinational organizations the ability to create new value through accumulation, transfer and integration of different kinds of knowledge, resources and capabilities along dispersed organizational units”.



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The authors point out that the organizational changes associated with global integration have new technical capabilities by specific vehicles of network structures. These capabilities are built, on the one hand, by specific strategies of global organizations (alliances, acquisitions, joint venture, etc.) and secondly, through the combination of resources and capabilities accumulated from various units of global and localized alliance partners in new capabilities that are not available to any affiliated parties.

The specific features of company environment (complexity, uncertainty, limitation of skills and abilities) necessitate them to search for new management approaches that fit in with the new challenges (Gorzen-Mitka & Okreglicka, 2014).

In the context of the global economy changing, this paper is aiming to illustrate the main directions the management may consider in order to change the organization strategies to harmonize them to the global environment. Using the ideas of the most known authors in the management literature, the paper emphasizes the main strategies that may change the organization and adapt it to the global changes.

Global environment complexity

One of the main conclusions in European Environment Agency (EEA)'s flagship report, SOER 2010 (The European environment — state and outlook), appears obvious: "environmental challenges are complex and can't be understood in isolation". This interconnectivity is often referred to as "globalization" and it's not a new phenomenon (EAA, 2011). Underdal (2010) also stresses that the complex environment can't be well understood.

According to Stampleton et al. (2004), the international environmental complexity is associated with volatility and risk. The environment complexity is a multidimensional construct (Cannon & St. John, 2014). Nevertheless, the global environment is also dynamic. According to Reeves et al., 2013, the dynamic environments require a *switching* approach and the switching requires resources and information to flow readily across organizational boundaries.

The environmental risks relate to the entire ecosystem of the planet and although some are natural risks and others are caused by various activities; they are predominantly the responsibility of people as individuals or organizations (Negulescu, 2015a).

Coping with the complexity of today's business environment is not about predicting the future or reducing risk. It's about building the capacity, in yourself, your people, and the organization to adapt continuously and learn speedily, in order to maximize the chances of seizing fleeting opportunities (Seijts et al., 2010).



Change management strategies

The complexity of the global environment forces the managers to adopt strategies for their organizations that are facilitating the creation of new strategic competences and competitive advantages to face the environmental rapid changes.

The complex context in which it changes in the international environment makes the management to adopt a number of strategies to facilitate not only to reduce the forces against change but also to organizational success acting in the international or global. Based on the fact that changes in the international environment are not predictable, Williamson (1999) suggests building a portfolio of policy options and proposes that this process will follow four phases: discovery constraints hidden establish the most appropriate change processes, portfolio optimization options and combining planning with opportunism. In brief, Williamson's portfolio of options enables companies to face the complexity of the global environment by preparing alternative strategies.

The main directions the change management may consider to change the organization strategies in order to harmonize them with the external environment, such as integration versus externalization, flexible specialization and flexible organization, standardization versus adaptation, market segmentation, relationship building and maintaining and communication integration, as well as the global strategy, reunited in a conceptual model (fig. no. 1).

Managers' attitude towards the competitive advantage

The companies that operate internationally and globally are designing their strategies to search for new resources, developing new strategic skills and capabilities and to perpetuate them in the future. The international competences are based on a fundamental change of the management's attitude towards the competitive advantage, which is dynamic and directed towards creation rather than the operations. The companies do not focus on protecting the competitive advantage obtained through already old strengths, but through innovation, accumulation of new knowledge and experiences and discovering new resources and capabilities.

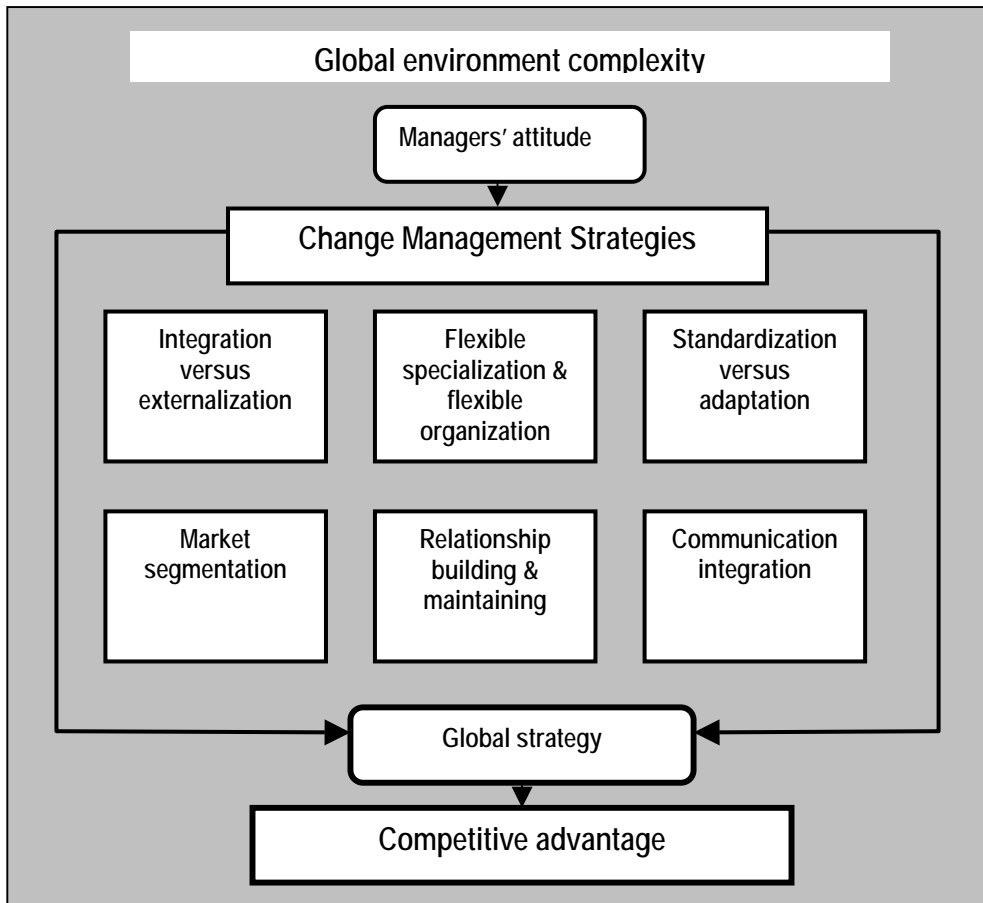


Figure no. 1. Organization Change Strategies conceptual model

Integration versus externalization

Vertical integration usually incurs high fixed costs. The policy to produce everything in the same company was specific to the planned economy and large state enterprises with over 10,000 employees. Major international organizations operating globally, with over 20,000 employees, adopt the same policy but do not face the problem of high indirect costs as administrative processes rely on outsourcing peripheral activities due to the inflexibility of the administrative system.



The harmonization of the two policies – integration and externalization – facilitates the access to economies of scale and competitive advantages resulting from the operations control and flexibility within organizations, low management, and indirect costs.

Flexible specialization and flexible organization

Flexible specialization represents the organization's response to the challenges of the competition by strategic mutations from the mass production to the specialized production. This change is possible through a continuous process of products' innovation and the implementation of the flexible processes, by integrating the small network of specialized subcontractors which have as the comparative advantage a high-level of technology and highly qualified personnel and information. The organization retains only core activities where the strategic competences create a competitive advantage.

Acting in the international environment, the large corporations include local organizations in the networks of the subcontractors supporting them financially and technically, thus having available local niche markets through the import of parts and re-export of finished products.

In order to increase the efficiency of the international environment management should adopt the strategy of the flexible organization.

According to Volberda (1998), the modern organizations must include a number of different features of classical organizations to be more successful without losing the competitive advantage already created. The transformation process would lead to change:

- The system: from the technical, rational, closed system to natural, based on learning and thinking, open-closed system.
- The structure: from mass production, differentiated structure, employment formal to network and subcontractors, flexible specialization, flexible systems and equipment, specialty, multi-specialist posts.
- In culture: from planning and control, vertical relationships, information formal preset targets to the fragmentation and action, mutual relations and collateral, informal information, speculative, group and individual targets.

This is achieved through the process of changing and adapting the organization classics, gaining features enabling the implementation of other strategies such as adaptation, outsourcing, and organizational networks.



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Standardization versus adaptation

The standardization is the mass manufacture of products or services, specific economies of scale by applying computer technology and standardized marketing and sales systems with low-cost in the home country and exporting them to the international market.

The adaptation involves changes in technology, products, marketing and sales systems to meet the demands of consumers and beneficiaries of goods and services in the market segments in which they are to be exported.

The harmonization of these policies leads to a strategy for penetrating foreign markets. In this sense, Johansson (2000) points out that in many international activities, the core business that creates the intermediate product is standardized to achieve economies of scale and the final product is tailored to meet the local requirements.

Depending on the local conditions, the strategy of harmonization between standardization and adaptation can take different forms, such as standardized products and communication system adapted or adapted products and standardized marketing system.

Market segmentation

The increase in sales volume and the conquest of new markets are and will be the main strategic goals for any organization. The entering new markets can be achieved through consumers and beneficiaries market segmentation strategy.

McDonald and Dunbar (1998) propose that the segmentation strategy should comprise two main phases, namely: (1) the development of the market segments and (2) the selecting segments after classify them according to the priority, where there are 5 stages: market, customers and transactions, market segmentation, segment attractiveness and competitiveness of the organization, and also twelve work steps:

- analysis of market size, structure, trainers;
- buyer profile: consumers and beneficiaries;
- purchasing options: products and services requested;
- buyers and goods and services purchased;
- buyers' needs; forming segments;
- combination of buyers, checking list of buyers; criteria of attractiveness of the organization;
- criteria ranking by importance; evaluation of the criteria using the main parameters;



- segments assessment and the attractiveness calculation; and
- organization's strengths on the market segment or competitiveness.

The process of market segmentation is particularly important for the management of any organization to provide scientifically different consumer groups and beneficiaries which they expect correlated with what the organization has as its competitive advantage.

Relationship building and maintaining

The strategy of building relationships that facilitate the activities in the international environment is focused on:

- promoting and encouraging the two-way communication;
- considering the position of the stakeholders in each country;
- ensuring trust, warmth, involvement and intimacy relations with partners in the host countries.

According to Berry (1995), the relationships with consumers and beneficiaries building is based on five strategic elements, out of which we name three:

- the developing services which build relationships (for example, key account management);
- the transfer from organizational relationships into individual relationships;
- the increase in core products or services with additional benefits.

Communication integration

The integration communication strategy means the organization as a brand in terms of its aims to create the image. According to Schultz and Kitchen (2000), the integrated communication involves the relationship management with the groups of the customer in a pluralistic, interactive and long term manner. They distinguish four characteristics of the integrated communication to create the image and the recognition for the organization:

- The integration of communication management needs a proper understanding of the dynamics of the buyers and potential buyers' voice. The relationships with them must be planned, implemented and monitored, and adjusted when necessary. This process is guided by strategic imperatives and long-term vision and involves various strategic alliances and relationships.

• Integrated communication is not an activity but a process involving the use of the entire diversified arsenal of the organization's communication.



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- The communication is performed in both directions, interactive and with the purpose of mutual benefit. It is to identify, establish and maintain relationships with a diverse audience at national, regional, international and global levels.

- The public capable of influencing the organizational performance is pluralistic in terms of survival and organization's growth in the global environment.

The image is too important to be left to the hazard and, therefore, it must be created, strengthened and improved continuously to bring identity to the organization through strategic actions.

Global strategy

The Global Strategy has a specific organizational setting (Ghoshal, 1997). To be successful organizations have to fulfil three objectives:

- (1) To be effective in the current operational activities by:
 - exploiting the advantages offered by the differences in different countries (e.g., labour costs or cost of capital);
 - economies of scale: expanding and volume;
 - economies of scope: the investment and the costs to be allocated between the products, markets, and businesses or activities.
- (2) To achieve effective management of risk through:
 - balancing economy of scale by flexibility between strategic and operational actions;
 - portfolio diversification and creation options on the comparative advantage of different countries.
- (3) To develop innovation, learning and adaptation by:
 - learning from differences between countries regarding management processes and systems;
 - exploiting the advantages of accumulated experience (cost reduction, innovation);
 - spreading the knowledge and learning throughout the organization (branches and locations in various countries) regarding the products, markets, and businesses or activities.

Nevertheless, for the business to be freely conducted under the laws of competition and the organizations to adopt strategies for change which gives them the competitive advantage, it is necessary that the global environment be free of global security threats. In this respect, the defence management worldwide has to consider the international existing opportunities and to develop some strategic



actions to protect their countries and citizens: activities planning & costing, including resource allocation; capacity building, risks management; defence personnel and civil people training; cooperation among the organizations; bilateral & global alliances; diplomacy and cyber agreements (Negulescu, 2015 b).

Conclusions and recommendations

The global environment is complex, dynamic and volatile.

The companies acting globally or internationally – mostly the corporate – need to be aware of the complexity of the global environment in order to keep their competitive advantage or to gain it. In this respect, they need to adopt change strategies, among integration versus externalization, flexible specialization and flexible organization, standardization versus adaptation, market segmentation, relationship building and maintaining and communication integration or a global strategy.

Among the directions of actions resulting from the strategies briefly described above that the companies may consider there are:

- to prepare the company to learn from successes and mistakes;
- to invest in technology partnerships to ensure flexibility;
- to invest in foreign relations to gather knowledge from collaboration;
- to recruit innovative managers who appreciate teamwork;
- to understand the company's customers and their values, searching for the opportunities of communication and cooperation;
- to invest in network organization's structure, not only in infrastructure, and granting importance of cyber communication with suppliers and customers;
- to invest in branding to quickly gain competitive advantage;
- to develop new classes of products and services with computerized technology;
- to avoid accumulation of cash and investing money in new business development organization that creates opportunity and success;
- to prepare harmonized standardization with strategic adaptation and development of new related procedures;
- to outsource the auxiliary non-core business to reduce costs;
- to redeploy operations in the host countries;
- to expand the company's activity from manufacturing to services, which are easier launched on the international market;
- to scan the environment continually to highlight the threats and opportunities;



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- to plan the recession and prepare the revival strategy.

However, the complexity of the international environment may be confronted by implementing the best suitable organizational change strategies and by continuous adaptation to changing of the complex global environment.

This paper may be a useful insight for practical application of the management strategies briefly presented, but also for further development of management strategies by combining them and adding others appropriate to real situations.

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A MODEL OF THE INFLUENCES OF A FOREST FIRE ON ITS NEIGHBOURHOODS AND RELATED RISK MANAGEMENT ASPECTS

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Abstract

The aim of the present paper is to produce a model for the propagation of a forest fire analyzing the influences that the fire zone has on its neighbourhoods. The model is a Moore cellular automaton type. It depends on six parameters: the medium slope of the elementary cell, the layer type, and the burning time of the fuel, the fuel type, the wind direction and speed. In order to study the influences of various parameter configurations on the system of vicinities of a fire cell we construct some special directional correlation functions. An application is elaborated based on real data.

Keywords: *mathematical modelling, cellular automata model, forest fire.*

JEL Classification:

Introduction

The problem of simulating the propagation of fire in a forest is one of great importance and is extensively studied. The main models are classified as stochastic, based mainly on laboratory experimental data, or deterministic, based mainly on physical laws of conservation of energy in the system formed by the burning and the surrounding area. The deterministic models are grouped in vector models and cellular automata.

Cellular automata type models are based on ideas of J. von Neumann and S. Wolfram. From a theoretical view point, a cellular automaton is defined by the universe of the automata, the system of vicinities of a cell, the state of a cell, and the transition rule.

The type of the system of vicinities determines the type of the cellular automaton. Usually there are four types presented in Fig. 1.

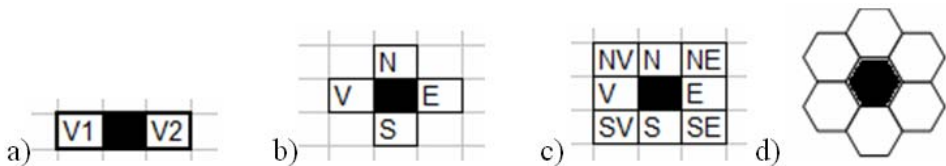


Figure no. 1 a) Linear Automaton, where V1 and V2 are neighbours of the active cell; b) J. von Neumann cellular automaton (four neighbours of the active cell); c) Moore automaton with eight neighbours; d) Hexagonal automaton (6 neighbours of the active cell)

Being a time dependent model, the associated lattice of the automaton universe generates at a given time the configuration of the machine. This configuration and the transition rules determine the evolution of the system.

Experiment

The type of the transition rules, deterministic or stochastic gives the type of the cellular automaton. We shall consider a covering 20 x 26 grid of square subdomains (Fig. 2) of the domain D in study.

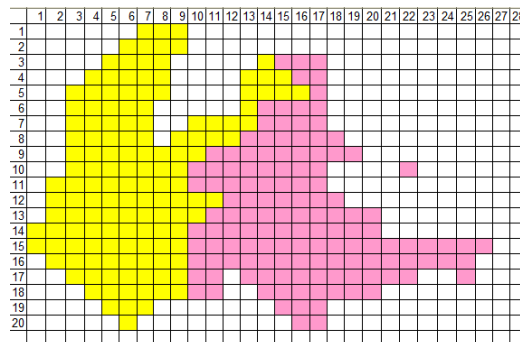


Figure no. 2. The universe of the cellular automata

We take as a cellular automaton universe all the shaded cells except the remote one which has the address (10:22). The parameters that will be used to determine the transition rule proposed by the model will be: the bedding type; the wind speed and direction and the average slope of the cell.



Each parameter will produce an index of contribution in the transition rule. Based on the data obtained in the domain we used the following quantification of the bedding type (Fig. 3) of each cell:

- 0 – bedding less;
- 1 – irregular and interrupted bedding;
- 2 – continuous and thin;
- 3 – continuous and thick.

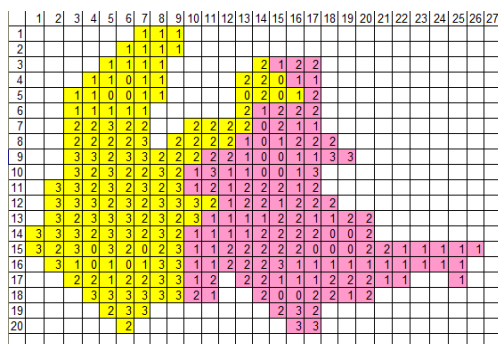


Figure no. 3. Distribution of bedding type

In order to determine the contribution of this parameter we construct a special mark correlation function. The general theoretical context is [10]:

Let us consider a point process with n points on a sample surface. Assign to each point a triplet formed by its Cartesian coordinates and the value of the specific attribute considered. We denote the set of points:

$$P = \{p_i(x_i, y_i, m_i)\}_{i=1,2,\dots,n} \quad (1)$$

The second order characteristics function is:

$$f(m_i, m_j) = m_i \cdot m_j \quad (2)$$

and the mark correlation function is given by:

$$k_f(h) = \frac{E[f(m_i, m_j) | d_{ij} = h]}{\mu^2} \quad (3)$$

where: μ represent the mean value of the considered attribute; $E[X]$ – the mean of the random variable X , and d_{ij} – distance between points i and j .



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For our purpose we shall consider a correlation function of bedding types dependent on the eight directions attached to a cell in the universe of the cellular automata (Table no. 1).

Table no. 1. Characteristics of cellular automata

Direction	N	N- E	E	S- E	S	S- V	V	N- V
θ	1	2	3	4	5	6	7	8

Using the same test function and the values of the attribute given by Figure no. 3 we construct the mark correlation function as:

$$k_f(\theta) = \frac{E[f(m_i, m_j) | direction i \rightarrow j = \theta]}{\mu^2} \quad (4)$$

Using the algorithm from underneath, we obtained the results presented in Table no. 2 and Figure no. 4:

For each direction from 1 to 8

For each cell in the universe

Calculate and store the corresponding value of the test function

End for

Averaged the values of the test function

Determine the value of the correlation function

End for

Table no. 2. Experimental results

θ	1	2	3	4	5	6	7	8
$k_f(\theta)$	1,1113	1,0949	1,0897	1,1036	1,1113	1,0949	1,0897	1,1036

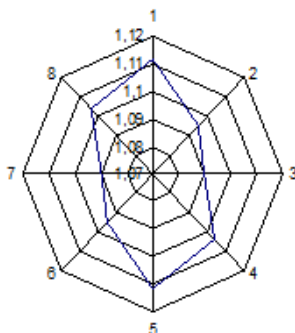




Figure no. 4. Polar graph of the correlation function

This function presents a natural symmetry with respect to the origin. The contribution of the parameter bedding type to the model is given by the normalized values of the function $k_f(\theta)$ and will be denoted by $c(\theta)$. This value is independent of the active cell.

The parameter wind speed and direction are considered constant during the simulation and are obtained for $v = 0$ km/h, $v = 8$ km/h, $v = 36$ km/h, $v = 58$ km/h.

If we consider that the intensity of the wind is grouped in 5 categories and the direction the wind is blowing from is a then $b = (a + 4) \bmod 8$ and the contribution of the parameter wind direction and speed is given by:

$$v(\theta) = \begin{cases} i \cdot 0,2 & \theta = b \\ i \cdot 0,1 & \theta = b \pm 1 \\ i \cdot 0,05 & \theta = b \pm 2 \\ 0 & \text{otherwise} \end{cases} \quad (5)$$

The value of this function is also independent of the active cell.

A discrete quantification of the mean slope of the cells is given by Figure no. 5.

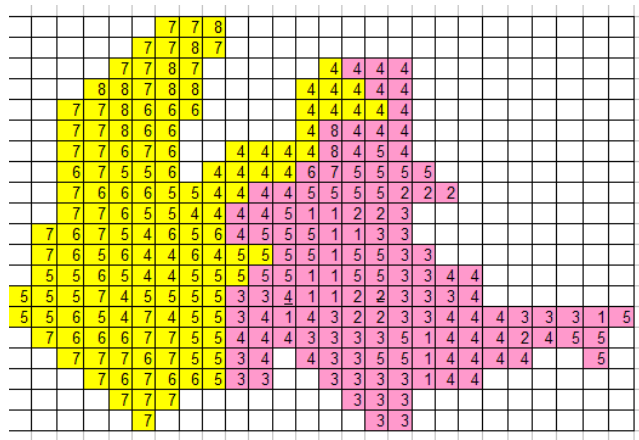


Figure no. 5. Mean slope

The contribution of the parameter slope is given with respect to the active cell.



For each active cell a we consider $p(a, \theta)$ the difference between the mean slope of the neighbour on direction θ and the mean slope of the active cell. The value of the contribution of this parameter is denoted by $s(a, \theta)$ and represents the normalized value of $p(a, \theta)$.

Number of intervals of time for complete combustion of fuel in each cell (corresponding to the number of steps in the algorithm in which a cell can be considered to burn) denoted by $t(i, j)$ is quantized in this model using the bedding type and fuel model and is given in Figure no. 6.

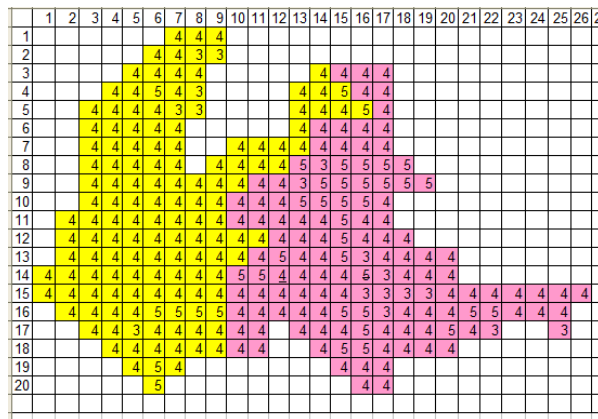


Figure no. 6. Time intervals for complete burning

In order to define the transition rules we consider seven different types of states for a cell and for each we attach a colour:

- ST0 – no fuel in the cell; attached parameter is θ and the colour is green;
- ST1 – cell unaffected by fire; the value of the attached parameter is smaller than l and the colour is white;
- ST2 – weak influences on the characteristics of the cell; the parameter takes values between l and 2 , attached colour being yellow;
- ST3 – moderate influences on characteristics of the cell; parameter takes values between 2 and 3.5 and the colour is orange;
- ST4 – state of major influence on cell characteristics, igniting combustible material imminent. The attached parameter values are between 3.5 and 5 , with brown colour;
- ST5 – burning cell, considered active cell; value of the parameter is 5 and red colour attached (Figure no. 7);
- ST6 – cell total burned; without parameter attached and black colour.



p(8)	p(1)	p(2)
P(7)	ca	p(3)
P(6)	P(5)	P(4)

Figure no. 7. Parameters of the system of vicinities of the active cell

The algorithm used is (Figure no. 8):

For all ca

If ca(i,j) is in ST5 then

For $\theta = 1$ to 8

$$p(\theta) = p(\theta) + c(\theta) + v(\theta) + s(ca, \theta)$$

if $p(\theta) \geq 5$ then $p(\theta) = 5$

Next

$$t(ca) = t(ca) - 1$$

if $t(ca) < 0$ then ca(i,j) is ST6

Next

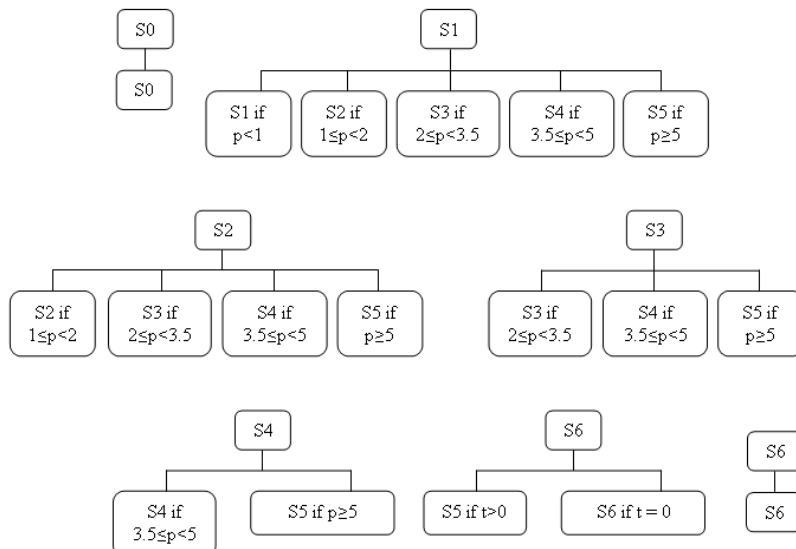


Figure no. 8. The algorithm



Considering two starting active cells, the evolution of the model in 1, 3, 5 and 10 time intervals is presented in Figure no. 9.

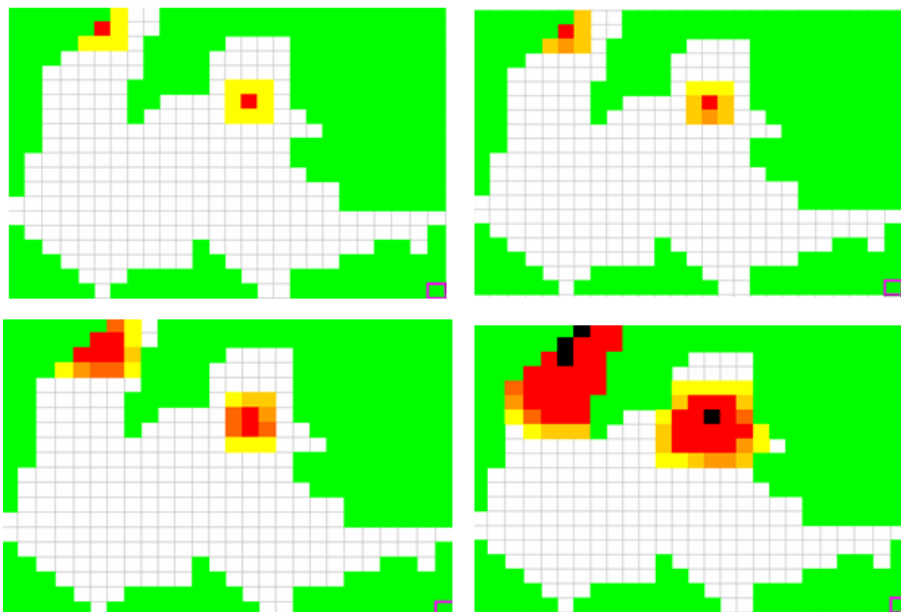


Figure no. 9. Evolution of the model

Conclusions

In this paper we propose a model that can estimate the performance of a fire depending on wind speed and terrain slope. In this respect, it is determined a model of cellular automaton type for simulating of litter fire for U.B. V Noua.

Mathematical modelling offers a number of advantages. After simulation, we can see how the fire spreading from one cell to another.

In terms of fire risk management, especially global warming interested reflected by increasing the annual and monthly average temperatures. For this purpose, in the mathematical modelling we have considered these aspects, as well as other characteristic issues.



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**OPERATIONS OF INTERNATIONAL CRISIS MANAGEMENT
AS A PART OF SECURITY AND DEFENSE POLICY
OF THE REPUBLIC OF BULGARIA**

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Abstract

The current scientific publication follows the invitation of scientists from the University of Defense in the Czech Republic, Brno for joint international study on economic diplomacy and peacekeeping. The paper presents the role of the Bulgarian army in the operations of international crisis management as part of the security and defence policy of the country, and characteristics of the activities of armed forces in international operations for crisis management. The article focuses on national contribution to international efforts in support of peace and stability, the legal basis for the participation of the Armed Forces of the Republic of Bulgaria in allied and coalition operations and support operations and military participation of the Republic of Bulgaria in international missions and operations.

Keywords: *crisis management, international crisis management, Armed Forces of the Republic of Bulgaria.*

JEL Classification: H12

Introduction

The Republic of Bulgaria is involved in the collective EU members' effort, coordinated for the effective implementation of policies and mechanisms in the field of international relations. The common security and defence policy has to contribute to the strengthening of transatlantic cooperation. The country develops its national capacity to participate in the common security policy of the EU by participation in operations and missions for crisis management.

The Republic of Bulgaria aims at promoting and strengthening the role of NATO in the implementation of policy and operational responsibilities to continuation of political dialogue and successful participation of the country in operations and NATO missions, through participation in international crisis management.



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National contribution to international efforts in support of peace and stability

National contribution to international efforts in support of peace and stability includes participation in allied and coalition operations with formations of the Armed Forces. Armed Forces and institutions, which provide international crisis management are focused in developing and maintaining a common security and defence policy through participation in missions and operations for strengthening the international order and security.[1]

The powers of the President in the implementation of international crisis management policy are defined in the Constitution and the laws of the country. The President is the supreme commander of the Armed Forces and Head of Consultative Council on National Security.

The Consultative Council on National Security forms the political advisory level in the system for international crisis management. Its role is to build a broad public consensus on issues of national security and in particular on issues of the international crisis management.

Central executive authorities perform the implementation of international crisis management policy. Ministers, heads of departments and governors of districts are responsible for the state of international crisis management within their field of competence. [2]

The role of the Armed Forces as an instrument of this policy is to contribute to the realization of national interests, to deter and defeat enemy together with allied forces, to keep threats away from the borders of the country, and contribute to the protection of the international peace and security. In terms of international crisis management, the Armed Forces are assigned to perform the mission “support of international peace and security”. This mission includes the fulfilment of international commitments and participation in NATO and the European Union in crisis response, conflict prevention, combating terrorism, participation in missions of the UN, and other coalition formats, activities for control of weapons of mass destruction, their delivery and materials for their production, international military cooperation, humanitarian aid, etc.

The political ambition of the Bulgarian Armed Forces for the mission “Support of international peace and security” is to maintain readiness for participation in multinational allied and coalition operations in response to crises. This contribution includes participation in long-term operations with rotation with a reinforced battalion (combat group) or a number of small units, but within resources equivalent to the level of ambition (about 1.000 people). Naval Forces

are involved with the declared resources equivalent to one frigate for a period of three to six months in a year. The Air Force participates with helicopters without rotation of personnel and for a period of six months in a year. The necessary logistical support is also provided. [3]

The elements of management of the Bulgarian system for participation in international crisis operations are:

- analysis and assessment of the status and trends in the security environment and taking preventive action;
- adequate exchange of information;
- planning, preparation and management of performance;
- implementation of a broad and systematic institutional approach;
- coordination in the work of relevant institutions and organizations;
- methodology and methods for assessing the international crisis management and its components in relation to their resourcing and required results;
- mechanisms to assess the taken actions and achieved results;
- establishing a system of internal control and correction for international crisis management.

Essential elements of the international crisis management are consultative bodies to the Council of Ministers. They coordinate the operational implementation of the state policy and provide the necessary concealing to the Government and the relevant authorities in the preparation and implementation of decisions within their competence.

The Security Council is an advisory and coordinating body to the Council of Ministers, which offers a solution for determining the strategic objectives of the executive bodies of the system of international crisis management. The Security Council provides solutions for crisis management, coordinate planning resources to achieve synergy in their use, and coordinate the implementation of the taken decisions. The Council organizes and monitors the implementation of international crisis management. [4]

The legal basis for the participation of the Armed Forces of the Republic of Bulgaria in allied and coalition operations and support operations

The legal basis for the participation of the Armed Forces of the Republic of Bulgaria in allied and coalition operations and support operations is art. 84, item 11 of the Constitution of the Republic of Bulgaria, under which deployment of forces abroad is possible only with the permission of the National Assembly at the proposal of the Council of Ministers. Any particular participation in such operations requires a separate decision. [5]

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Regulatory framework defining the opportunities and mechanisms for participation of our country in efforts to maintain peace includes the National Concept for Bulgaria's participation in peacekeeping operations, developed in 1994, and The Law for Defense and Armed Forces of the Republic of Bulgaria.

According to the concept for participation in peacekeeping operations, Bulgarian participation is subject to the following objectives:

- to raise the international prestige of the Republic of Bulgaria through active participation in efforts to prevent and peaceful settlement of conflicts;
- to integrate the Republic of Bulgaria in European security structures through participation in cooperation with NATO and EU with mandate of the UN or mandate of the Organization for Security and Cooperation in Europe (OSCE);
- to prepare highly qualified specialists in the field of peacekeeping operations and cooperation in military sphere;
- to acquire new military experience for the preparation of the national armed forces.

The participation of Bulgarian forces and military professionals in TSO enforces the principle that all participation in an operation has to comply with the national interests of the Republic of Bulgaria. Participation can only be in operations carried out under the auspices and control of the UN or the OSCE, in accordance with the UN Charter and international law. Participation has to do with conflict prevention, and peacekeeping, and has to be based on a specific agreement with the Bulgarian government for every specific military operation.

Military participation of the Republic of Bulgaria in international missions and operations

The Armed Forces of the Republic of Bulgaria participate in international missions and operations as separate units or as individual soldiers in a specific mission or operation. Figure 1 shows the participation of Bulgarian military personnel in international missions and operations.

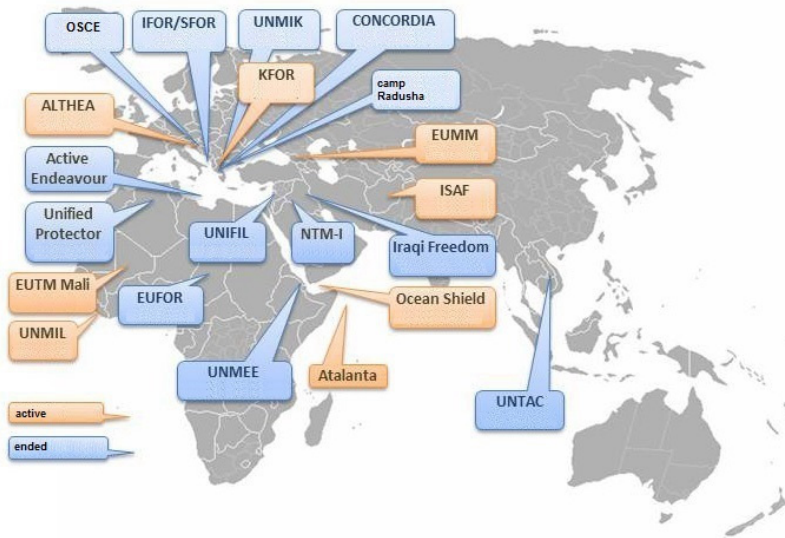


Figure no. 1. Military participation of the Republic of Bulgaria in international missions and operations [6]

Completed participation

NATO stabilization force in Bosnia and Herzegovina (SFOR). Engineers, transport and mechanized platoon and a security company from the Bulgarian Army participated in SFOR.

An engineering platoon with 36 personnel participated as a component of the Dutch contingent from June 20, 1997 to November 1, 2001. Bulgarian soldiers together with their Dutch counterparts repaired and constructed public buildings and roads.

A transportation platoon participated in the composition of the group Gelb/BELUGA from June 20, 1998 to January 15, 2001 with 26 military personnel and 10 vehicles. Bulgarian military performed transportation tasks in shipping supplies, humanitarian aid, fuel, construction of replacement temporary bridges, etc. Seven soldiers served in SFOR headquarters from August 1998 until the end of the operation.

A mechanized platoon with strength of 38 soldiers and equipment was included in the Dutch contingent on November 13, 2001. It performed real operational tasks such as patrolling and controlling.



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A security company with 149 soldiers and equipment was included in the operation on January 2, 2002.

Operations of NATO in Libya (Unified Protektor). A Bulgarian frigate took part in the NATO operation “Unified Protektor” in support of the embargo against Libya. The frigate was included in operation for three months with personnel of 160 people, including special operations group of 12 soldiers.

NATO Training Mission in Iraq (NTM-I). NATO Training Mission in Iraq was launched on August 14, 2004 at the request of the Iraq government to provide concrete assistance in training and equipping of Iraqi security forces. In its essence NTM-I did not have battle nature. It is a separate operation, complementing other international efforts to rebuild Iraq. Our country participated in periodic missions with military instructors depending on particular needs.

NATO operation in the Mediterranean (Active Endeavour). Since 2005 Bulgaria has participated annually for a period of one month in the operation with a frigate with crew of about 110 people and a group of special marine squad for Marine Force Control of Ships. The mission of the frigate included the monitoring of shipping in the area of responsibility and inspection of the ships and cargo.

Multinational forces in Iraq (IRAQI FREEDOM). Bulgarian military contingent in the Multinational Force in Iraq was sent by with a decision of the Bulgarian National Assembly as of 29 May 2003. It endorsed the participation of Bulgaria in the fourth phase of the operation in Iraq – “Stabilizing and recovery”.

Pursuing this decision, five infantry battalions, each consisting of up to 500 soldiers, participated in the mission in Iraq. Bulgarian contingent was included in the composition of the Multinational Division “Center-South” under Polish command, with the task to provide support for the restoration of civilian facilities in the town of Karbala, and in the fall of 2004 – in the province of Diwaniyah.

The decision of the National Assembly as of May 5, 2005 stated that the military personnel be set to 400 soldiers. By a decision of 22 February 2006, the National Assembly authorized deploying Bulgarian military contingent in a humanitarian mission to guard the temporary custody and protection in camp “Ashraf”. The contingent consisting of up to 155 military personnel, included security company of 120 soldiers and support national element of 35 soldiers. Until July 2008 three rotations of the contingent were made at camp “Ashraf”.

For the entire period of participation in the operation in Iraq – from 22 August 2003 to 20 December 2008 –, Bulgaria rotated 11 contingents with 3.367 people altogether.



UN mission Lebanon (UNIFIL). The frigate “Daring” took part in the naval component of the UN Interim Force (UNIFIL) from October 15, 2006 to December 15, 2006.

Mission of the Organization for Security and Co-operation in Europe in the Republic of Croatia (OSCE). Bulgarian officers participated in the mission of OSCE with demining activities on the territory of Croatia in the period September 1999-April 2001.

Bulgarian military field hospital in Radusha. Implementing the commitments of the Republic of Bulgaria to provide humanitarian assistance to refugees in the Republic of Macedonia, Bulgarian military field hospital was deployed in April 1999 in the refugee camp “Radusha”. Families with about 900 children, including more than 100 infants up to 1 year, and neonates in a few days were accommodated in the camp. The hospital included surgery, resuscitation, therapeutic, pediatric, psycho-neurological and infectious teams, an epidemiologist and a pharmacist. The Ministry of Defence also sent groups for logistic support with the ask to feed the refugees in Macedonia.

UN operation in maintaining the peace in Cambodia (UNTAC). Bulgarian army participated in UNTAC from 4 May 1992 to 27 November 1993 with an infantry battalion of 850 men, 10 officers to work in the headquarters of the mission, 34 military observers, and military police team of 11 people.

Current missions and operations

International forces to maintain security in Afghanistan (ISAF). On February 16, 2002 the first Bulgarian military contingent for sanitization, consisting of 32 Bulgarian soldiers was formed. It was located near the British contingent, 10 km from Kabul, where the banned-washing complex was deployed. A decision of the National Assembly terminated its participation and authorized the participation of a mechanized platoon and instructors to train the Afghan Army. In 2007, Bulgaria gradually increased its participation by sending two more companies: one – as part of the Italian Battle Group in Kabul, and the other – for the internal security of the perimeter of Kandahar Airport, as well as specialists in air traffic at Kabul airport, instructors, reconnaissance groups, military police, etc.

In November 2009, the mechanized company and the security platoon were withdrawn from the area of operation. In 2009, the Bulgarian company was tasked with guarding the outer perimeter of Kabul airport. At the beginning of 2009, Bulgaria sent in Kandahar a group for training the Afghan National Army. In 2011, our country sent three groups (two in Kabul and one in Kandahar) and a Team of



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Senior Advisors. The Republic of Bulgaria was actively committed to provide medical teams for the operation, and in 2004 sent to Kabul the first surgical team to work in the Spanish field hospital and later expanded its participation with sending Bulgarian nurses with surgical teams in Herat and Kandahar. In September 2012, four groups for training and liaison with the Afghan National Army were transformed in Advisor teams.

NATO mission in Kosovo (KFOR). On February 8, 2000, a Bulgarian engineering squad of 40 people took part in the construction, maintenance and repair of engineering equipment, as well as in the reconstruction of buildings for the needs of the local population. Bulgarian military observers participated in the mission of UN peacekeeping in Kosovo (UNMIK) from January 15, 2000. At the end of 2009, our engineering platoon terminated its participation in the operation. Bulgarian participation in KFOR amounted to 11 soldiers in the headquarters of the mission.

Military operation in Bosnia and Herzegovina (EUFOR "ALTHEA"). Bulgaria has participated in the operation with up to 10 soldiers in the headquarters and a company with a national support element of 140 soldiers and up to 40 pieces of equipment since the beginning of September 2012.

EU mission to train the security forces of Mali (EUTM mali). The Bulgarian Armed Forces has participated in EUTM Mali medical team with four soldiers with their personal weapons and equipment.

Table no. 1. Participation of Bulgaria with individual military staff in operations and missions abroad

Missions and Operations	Numbers	Form of participation
EU operation in Chad / Central African Republic (EUFOR)	2	headquarters of the operation
UN Mission in Ethiopia and Eritrea (UNMEE)	7	military observers
An EU peacekeeping in Macedonia (CONCORDIA)	1	headquarters of the operation
Military Observers in Tajikistan (UNMOT)	27	military observers
Military observers in Angola (UNAVEM III and MONUA)	38	military observers
EU Monitoring Mission in Georgia (EUMM)	12	military observers



EU naval operation against piracy off the coast of Somalia and the Gulf of Aden (Atalanta)	1	operational headquarters
UN Mission in Liberia (UNMIL)	2	military observers
NATO anti-piracy mission off the coast of Somalia and the Horn of Africa "OCEAN SHIELD"	1	headquarters of the operation

Conclusion

Policy on the risks and threats facing national security and ensuring the security of citizens and democratic institutions are an integral part of the joint efforts of the EU and NATO, which lead to the realization of the vision of an area of freedom, security and justice. Bulgaria has to participate actively in international crisis management, under the auspices of the UN, EU and NATO, in fulfilling its strategic priorities to build a stable and democratic country.

The realization of the pointed missions and operations corresponds to the view expressed in the White Paper of the Armed Forces for participation of the Republic of Bulgaria in operations and missions abroad in support of international peace and security.

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SOCIAL PROGRESS AND ECONOMIC PROJECTS FOR DISADVANTAGED GROUPS IN ROMANIA

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Abstract

The paper aims to analyse the social progress, social politics, social law and successful projects applicable to some disadvantaged groups: Roma people and woman. Inclusion of Roma people is analysed from the economic point of view. The economic problems of equality by gender are presented in terms of labour rate and other relevant ratio. For Roma people, the focus of analyse is also on labour involvement.

The chapters of the communication are: introduction, literature review (state of art) in the field of social progress, theoretical background, tools for social progress in EU, economic inclusion of Roma population, economic equality by gender, conclusions.

Keywords: labour market, social progress, disadvantaged groups, economic insertion of Roma people, economic equality by gender.

JEL Classification: J4

Introduction

This communication aims to highlight the correlation between realities of the disadvantaged persons, the regulatory framework and possible solutions to real social progress in this direction. Policies focus on disadvantaged persons who can contribute to sustaining economic growth, to revitalize and promote the social inclusion of those groups by re/integration on the labour market. Policies on social progress must also pursue the increasing of the awareness of the disadvantaged persons in terms of equality and opportunities of the various projects and initiatives by encouraging their participation in the labour market.

EU has general instruments for social progress and special tools for disadvantaged groups. We selected two disadvantaged groups: Roma people and woman. In the paper we put together principles, law applicable, realities and perspectives, projects done and projects to be done. The analysis of social progress for Roma people and woman is based on statistical information and possibilities of EU programs.



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The successful projects of the EU programming period 2007-2013 and the experience gained may be valorised in the new programming period to improve the situation of disadvantaged groups. At the same time, new theoretical contribution on project management and procedures of applicants or public authorities will help the economic and social performance of EU funds.

Literature review in the field of social progress

In Romania the problems of social progress with focus on disadvantaged groups is more and more subject of research. The concepts for social development are already integrated and systematized (Zamfir & Stanescu, 2007).

The economics has already definitions for social cost, social security, social welfare, social benefits, social-welfare function. A social-welfare function is used to determine the relationship between overall welfare, and the welfare of different citizens [Bannock, et al, 2003]. The problem of work for all started to be very important after the World War II and increased in importance. Mass unemployment is not just economically wasted but also socially disastrous. When unemployment rises, all kinds of social tensions increase [Freeman & Soete, 1994]. In Germany, the recent theory accepted that “social work can be seen as a specific method of communication which has the aim to identify the reasons for necessary and legitimate help” [Boomes & Scherr, 2000, from Klassen, 2011]. In our days, social work and social action has to identify the problems of social values generally accepted, to make them public, to propose new law and to advocate for social change.

The experience of projects from programming period 2007-2013 in the field of management started to be disseminated by communications or by books. The new model, “managerialism”, different from the traditional bureaucratic approach, is focus on problem solving, explicit implementation of performance criteria and measurement, attention to internal control, enhanced discipline and control in resource utilization [Cioclea, 2011].

In the economic research the problem of EU funds access is more and more important. The main constraints identified are: long period of evaluation projects during the competition, long period to signing the contracts between applicants and public authorities for management EU funds, very long term for payment eligible expenses of the projects, communication between public authorities and applicants [Cosea, 2013].

The social economy has developed quickly in the last years. It has exceeded stage concepts. Now the economic and social science may do progress to evaluate



the stages of social economy, to identify functional principles, like solidarity and the participation of the members, organization types of the economical entities [Netedu Adrian, 2013].

The equality by gender passes from theoretical approach and social understanding to economic tools to prevent or to improve the situation of woman. EU law for equal treatment by gender is in force in all Member States. In accordance with EU law, the Governments draw up programs that have already at least one generation, including the experience for project management and implementing.

Roma population was already identified as an EU problem. In the pre-accession period, Romania started, some local project to identify the Roma situation and to project tools for action. The new step is a national strategy for Roma population and integration of social, health and economic instruments to improve the situation.

Theoretical background

The paper uses statistic information collected by National Institute of Statistics, in accordance with EU statistic procedures.

In the paper we use the experience acquired in projects financed by EU. It is the generalisation and dissemination of social progress in special cases.

Tools of social progress in EU

Most of the recent economic research is seeking solutions that will enable the European Union to emerge from the new phase of the economic and financial crisis triggered in 2008, to recover and to turn its economy towards smart, sustainable and inclusive growth, accompanied by high levels of employment, productivity and social cohesion. For these objectives the European Commission approved "Europe 2020 Strategy". This growth strategy for the next decade represents a coherent framework for the Union to mobilize all its instruments and policies and Member States are allowed to take coordinated and consolidated actions that combine financial support, facilitating the access to the labour market, health and social services. In this strategy we want to highlight one side approached, the economic component of the intervention for disadvantaged groups. Is accepted that „Inequalities are numerous and diversified” [Negroponti-Delivanis, 2010].

Even during the last crisis, a central objective of the Romanian Government on social inclusion is the continuation of efforts to develop an inclusive society by providing services for integrated social inclusion, based on a real assessment of the



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individual needs, by developing the tertiary sector and by ensuring equal opportunities for all, with special emphasis on vulnerable groups. [National Strategic Report, 2008-2010]. In the terms of our days, we have to conclude that a nation is composed of members. All the members of a nation may succeed or may fail [Reich B. Robert, 1996].

Implementation of projects for development of human resources has contributed and continue to contribute to a better visibility of the social economy, representing favourable conditions for crystallization of a national strategy to promote the domain in accordance with the recommendations addressed to Member States and with the recognition of the contribution, which it has in economy and in employment issues.

To actively promote the participation of vulnerable people in the community, it is necessary not only to meet the needs of training and integration into the labour market, but also to support them in overcoming the special needs of their status as disadvantaged group, such as those related to combat stereotypes, through information and awareness about the potential and the existent opportunities.

The social economy is based on the idea that people in difficulty, marginalized or excluded, which are seen as a problem for society, can be a resource for society, becoming from assisted or excluded actors, citizens with rights and obligations, taxpayers.

We cannot speak of sustainable development of society without considering the economic and social development, high levels of employment, vocational training opportunities as a result of acquiring new skills, in order to raise the standard of living. Sustainable development means economic development, balanced and equitable, high levels of employment, social cohesion and inclusion. Increasing the competitiveness of vulnerable people, to support the development of human capital, should be an essential condition for ensuring increased opportunities to integrate into a modern and flexible labour market. Also, this will lead to a balanced economic development, because there will be trained and competent people in the labour market, who are trained in professional advancement. Sustainable development can be simply defined as a better quality of life for everyone, both for now and for future generations.

Developing competencies, knowledge and skills, in line with labour market needs, exchange of experience, represent ways that can ensure sustainable development and a dynamic of labour market.

A change of mentality is required, both in terms of setting up innovative forms of social economy, and for increasing awareness. It is needed to combine the



individual responsibility with the collective one, for economic and social development of society and to increase the level of motivation for broadening knowledge and skills development of vulnerable persons.

The European strategy for smart, sustainable and inclusive growth – Europe 2020 promotes: empowering people through high levels of employment, investing in skills, fighting poverty and modernizing labour markets and training systems and social protection, in order to help people to anticipate and manage change and to build a cohesive society.

Inclusive growth requires ensuring for all citizens access and opportunities throughout life. This consideration is supported by several documents.

Economic inclusion of Roma population

At EU level, the Roma minority, the most numerous through the 10-12 million Roma in Europe, is a priority vulnerable group in social and economic inclusion aspects. Despite the multitude and intense European actions to promote social inclusion in the last two decades, Roma minority still has a problematic situation and faces the phenomenon of the lack of prospects. It is manifested by the decreased access to education and training, mismatch between the qualifications held and the demands of the labour market, lack of the support services for people who want to initiate a business, lack of initiative and desire for involvement. The Improvement Strategy of Roma 2011-2020 provides, as a priority direction, increased efficiency active measures for Roma inclusion on the labour market and regulation and promotion of active measures for guaranteed minimum income beneficiaries, by facilitating access to retraining courses.

Compared with the situation in Europe, the Roma in Romania have been recording a low participation in the labour market, but have a proactive insertion behaviour, resorting to informal integration opportunities. Employment of Roma is characterized by a very low participation in the formal labour market, but with high participation in informal labour market, without social security mechanisms.

Roma women have quite a disadvantaged situation, they represent less than one third of the total Roma population employed. According to data provided by the Romanian Government, the number of housewives is four times higher than the national average. Nearly half (48%) of Roma women were housewives, they have never worked (Romanian Government Strategy, 2011-2020).

The European Platform for Roma Inclusion, launched in April 2009, was conceived as a framework for enhanced cooperation, on a voluntary basis, among relevant stakeholders to this issue, namely between Member States, European



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institutions and representatives of Roma, in order to exchange best practices in social inclusion area. The 10 common basic principles for Roma inclusion are: constructive policies, pragmatic and non-discriminatory, targeting clear, but not exclusive, intercultural approach, the integration objective in the traditional society, awareness of gender, policy transfer based on experience, using the Community instruments, involvement of local and regional authorities, civil society involvement, active participation of Roma [Cosea, 2013]

In the same strategy, Roma women appear explicitly as a vulnerable group in projects from the list with specific actions undertaken by the National Agency for Equal Opportunities – ANES. [Făiniș & Andronie, 2012]. The principles that must govern the social economy are: to respect the rights of all citizens, equal opportunities for all, awareness the complexity of various problems and situations faced by vulnerable groups in the Romanian society, taking into account the local context, adopting an approach that has in centre the need, supporting solidarity between generations in order to stop the “contagion risk of poverty from one generation to another”, supporting intra-regional solidarity and permanent consultation.

In the conditions of an increasing and mechanized economy, trades that are based on work by hand have lost popularity and, despite the fact that the handicraft is an essential part of their identity, Roma people tend to abandon it, because it does not bring income as before. Therefore, creation of innovative employment and flexible forms for Roma people and women in risk condition, by setting up structures in the social economy, supports the exploitation of the local workforce, increasing the employment opportunities for people at risk of social exclusion. The structures of social economy can be a tool to ensure workers’ the ability to acquire, to maintain and increase their value in the labour market. Social entities contribute to strengthening entrepreneurship, integrate social responsibility and promote active social integration of vulnerable groups.

These structures may take the form of social enterprises. They need support for the essential role performed as a catalyst for social innovation. Also, must consider the huge potential of social enterprise in relation to the improved access to a job and working conditions for women and young people in particular, but also for various categories of disadvantaged workers [National Strategic Report on Social Protection and Social Inclusion, 2008-2010].



Economic equality by gender

Inequalities by gender are generated in time by natural, social and educational factors. The focus long time of human activities on physical power and the production with labour intensity in pre-industrial period represented the natural and social factors of inequalities by gender. In post-industrial period such inequalities are not justified [Grosu, 2008].

Inequalities by gender represent at the same time an economic problem. The differences of income (namely salaries) and ratio in entrepreneurship are economic involvement. Previous studies proved that segregation by gender involves discrimination in the field of salaries. The situation is complex because “is not only one factor that generates segregation and economic disparities by gender” [Făiniși & Andronie, 2012].

Also at EU level, women are implicitly defined as a vulnerable group, their situation representing a priority in most areas of regulation and action.

In official documents in Romania, woman appears in a situation of vulnerability, especially in relation to the issue of violence and employment opportunities in the labour market. The official documents of Romania’s social problems did not hide the unfavourable aspects. It is accepted that the “risk of social exclusion manifests stronger among women than men in all stages of life, as a reflection of their low participation in the labour market. The risk of poverty is especially higher among elderly women and single parents with dependent children, the predominant group of them being represented by women” [National Development Plan, 2005].

Also, an important goal was “to facilitate the insertion into the labour market of women who are in situation or risk marginalization” being mentioned in particularly the communities of Roma women, older women and women with no education. [National strategy for equality between women and men, 2010-2012].

The fact that unemployment is quite high in the region and that many work as day labourers in agriculture must urge the local government to find solutions. A high unemployment is a problem that largely affects the local economy and quality of life. Economics and economic growth theory say that “regional human capital is the basis of multiple regional or community differentiations” [Basaraba, 2006].

In every kind of strategy for equality between women and men, an important goal is to facilitate insertion in the labour market of women, reducing gender pay gap and implementing measures to reconcile the family life with the professional one.



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In the period of EU programming 2007-2013, with deadline December 2015 for Romania, a lot of projects succeed to change and to improve the situation of women. *Spiru Haret* University has implemented projects such as ProFeminAntrep (www.profeminantrep.ro) and ProFemin (www.profemin.ro). The central idea was to have special projects for women and to increase the situation of women by education for the labour market or for entrepreneurship.

National Institute for Research & Development in Electrical Engineering developed projects for innovation and organised competition by equal chances of success on gender. The projects like “Profis”, or “Clean Access in Calarasi-Silistra Cross Border” follow-up this idea to help women to higher standards than average. The importance and details of the projects, to be used by new project managers or by new staff in EU projects, are presented on the special sites of the projects or on the site of the institution, www.icpe-ca.ro.

The results and the procedures of successful projects from previous programming period may be valorised in the new programming period only they will be preserved in the new guidelines outline.

Conclusions

Because inequalities are numerous and diversified, EU and Member States have to mobilize all its instruments and policies, to take coordinated and consolidated actions that combines financial support, facilitating the access to the labour market, health and social services, with focus on intervention for disadvantaged groups.

Employment of Roma is characterized by a very low participation in the formal labour market, but with high participation in informal labour market, without social security mechanisms.

In every kind of strategy for equality between women and men, an important goal is to facilitate insertion in the labour market of women, reducing gender pay gap and implementing measures to reconcile the family life with the professional one.

The results and the procedures of the successful projects from previous programming period may be valorised in the new programming period only they will be preserved in the new guidelines outline.



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**DOCTORAL AND YOUNG
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SOME HINTS ON INDIVIDUAL LENDING AND DIFFERENT FACTORS AFFECTING THE CREDIT ACTIVITY RISKS

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Abstract

The credit activity responds to real economic necessities within its objective features (the production stimulation, the increase of competition, a sounder correlation between the capital needs and the possibilities of forming it).

Times proved that the human beings use to live and act through loans and credits as they contribute to the relationships explosion with all partners, in all activities, in the most complex way.

The credit activity developed exponentially with the loans portfolio both in products and in services. Nowadays, it is difficult to find a person or a company developing activity beyond the banking crediting.

The present paper intends to reflect particular situations in which the Banking Law no. 58/1998 (updated) contributed to the economic and commercial activities development via particular products and services provided by banks in credits and loans.

Keywords: *individual loans, credit, activity risk, warranty.*

JEL Classification: G1, O2

Introduction

Funding individuals through credit is as important as the funding of companies when the correct approach of such demarche can be proved as sound for development. For banks, the credit activity is essential for their future while the customers' confidence is crucial. Therefore, a keen attention is always given to the lending activity as the main engine of creating money and supplying development.

The commercial banks have got a major role in the modern market economy, because of their connections with all economic sectors and their power of taking the bank-customer relation to high standards and confidence.



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Banks have their own purpose of getting high profit by assuring the perpetual movement of money and funds, by crediting both individuals and organizations, all for all parties' concerned benefits

Usually, the banking system provides the majority of the financial services and takes care of giving the necessary loans to those in need. The single coordinating authority of the business credit instruments is the Central Bank (of emission), which accomplishes the roles of administration of the organizational process to the financial service and the credit-discount of the economy. So, the credit essential contributes to the increase of the economy, facilitates the adjustment of the economy, the selection and the stimulation of the economical courses, providing financial means for the realization of the production.

The assumed role of the bank is defined by the policy objectives of lending that express the global advantageousness established for a specific period, create the necessary condition to lace full trustiness through a sound imagine on the market. Sometimes, keeping a good position in the market necessitates a sharp eye for profit, a prompt decision and a certain degree of aggressiveness against other competitors.

Sometimes, the credit concept is misunderstood being confounded inside the relation between money and finance. While money provides a relative independence, some similarities with the credit generate incompatible conclusions with the scientific rigors of the truth. The credit represents an effect of the economical processes after the apparition of economical assets temporary available; the finance refers to any commercial activity of providing funds and capital assets already formed and stored.

From banking activity point of view, the lending refers to the most important structure of placement operations – as volume and contribution of getting banking profit. The banks, based on their own strategy updating periodically, establish the levels of loans according to their lending limits for subsidiaries, following specific particularities.

The abusive use of the credit generates risks and distortions in the chain lending. The lending activity is realistic when it is based on the viability analysis and the business realism according to the identification or review of the customers' capacity of paying.

A good lending facilitates obtaining a good profit for the bank and access to funding sources to cover their necessities for the possible customers.

The purpose of the lending activity represents the credit grant considering the minimizing of the exposure to risks corroborated with the assuming of an adequate



profitability of the taking risk. The risk of the credit manifests as a result of non-compliance with the conditions provided in the credit contract, in that the borrowed sums and the related interest rates cannot be paid as a result of the customers insolvency. We notice that the users of banking services became more careful, not just for costs and the rapidity of granting a credit, but to the risks and obligations which they assume, too.

The lending of individuals is the stimulus of the society development in Romania. The most part of the credit scrolls by way of commercial banks which have as object of activity the collection of resources and the achievement of placements destinations in certain conditions, too.

The ongoing of the credits for individuals, their granting and guaranteeing, achieves based on contract, according to the internal arrangements of the lender, authorized by the responsible authorities.

Nowadays, we assist to a significant increase of the demanding for credits in RON – the lending from the market are almost totally in the national coin.

The acquisition of some durable goods cannot be realized only based on saving. The financial banking institutions make available for the individuals' cash resources for long periods, adequate for the periods of use of these types of goods, after a careful analysis of that person's incomes.

To sustain the idea, we operate here with the CONSUMER CREDIT or the PERSONAL LOAN that includes a large spectrum of credits with different destinations, trying to respond to a variety of personal needs for the individuals. In the lending offers of the commercial banks we find various banking products:

- credit for construction;
- design;
- redecorating homes;
- loans for buying a car;
- credit for studies;
- credit for trips and holidays.

Due to the registration of an important demand for personal credits, more financial institutions have diversified the range of such products offered to customers. Regarding the loans for individuals, besides the standard personal loans for which it does not have to mention the purpose of the credit and there are not requested evidence of its use, there were initiated credits for retirees, for students, for freelancers. Personal loans are made for covering the personal needs without conditioning the destination of this money.



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Usually such credits are provided in a fast way, as they necessitate a reduced volume of paper sustaining the application. The application conditions are the following: the customers should be Romanian citizens with permanent residence in Romania or foreign citizens working in Romania under permanent residence in this country. Loans can be given to individuals aged up to 70. The applicants must not register any debts linked to previous loans contracted.

The advantages of this type of credit would be: the achieving relative fast of a sum of money that can reach till 120.000 RON and even more; a high but rational profit (almost 7-9% – but attention, DAE or the effective annual profit is much bigger); easily obtainable – the requested documents are a salary certificate and the identity card.

The disadvantages are generally associated with the credit objectives (you can think of it as a job, practical you pay in order to receive some money); the medium to big profit, higher than the mortgage credit, being relative easily obtainable, a lot of people use it to buy any kind of things, and in the end having a burdensome rate.

The credit on real estate or the mortgage credit represents the offers of buying a house and refers to the possibility of guarantee the credit precisely with the house bought, without endorsers and other types of guarantees. In general, the mortgage credit guarantees with the house mortgage, while the credit on real estate can be guaranteed with another types of guarantees (endorsers, other houses). It is considered, generally, that the credit on real estate can finance the build of constructions, while the mortgage credit cannot make possible this thing, because it is impossible to mortgage an absent construction.

The advantages of this credit: a possibility of having a house, the only one for the majority of people; a reasonable rate, much lower than the other types of credit; if the rate is less lower than the rent we would pay, it helps to save some money.

And the disadvantages: it is lent for long and very long periods of time. During 20 or 30 years we can incur 2 big crises in society and a lot of personal issues. It is hard to predict what will happen during this time; a lot of papers and running, but choosing the most favourable offer it can be made important savings.

An important part of banking loans is dedicated to “The first house”.

THE FIRST HOUSE is a program funded by the Romanian Government. Initiated in 2009, by the Emergency Ordinance no. 60 (EO 60), this kind of credit was well received especially by the young individuals, looking to buy a home. Under the EO 60 the Government integrally guarantees the loans granted by banks, for cheap credits. The statistics show that in Romania the demand and the offer for

houses were badly affected by the past economic crisis. However, the FIRST HOUSE program remained a part of the actions that were made to extinct the crisis initiated by the government, having the main intention to facilitate the access for mortgage credits in order to improve the living conditions.

The ranks of quality of living place Romania on the last place, as 53.2% of the population is living in overcrowded houses. The proposals for the improvement of the living conditions by the stimulation of buying new places to live or consolidate the old ones in the FIRST HOUSE program are:

- the differentiation of the financial conditions related to the contracted credits in the program depending on the object of the credit (better financial conditions for down payment and/or rate for buying a new house or consolidate vs. old house in the program);
- the differentiation of the annual limit's level assigned for guarantees in the program by the granting of higher limits for new or consolidated houses;
- the difference between the guarantee's process by the country of the contracted credits in the program, by reducing of the granted guarantee of the country for the contract of the credits for buying houses.

The FIRST HOUSE program has known a significant dynamic so far, because of the advantageous conditions for buying a house by the eligible individuals. The statistics mention this program as the most popular and successful one. The guarantees for the acquisition or construction credits for houses in the program are granted only in RON by the financier who chose for taking 50% of the risks assumed by the country in the previous stages. Examples of houses that can be bought:

- houses already finished, for buying, including the ones built and put into use;
- houses unfinished yet, in various stages of construction, for buying after finishing;
- new houses, to buy once they are ready.

This program allows also the construction of debtors' own house. Under this program houses can be built by the individual beneficiaries or by unincorporated associations constituted by minimum 2 beneficiaries.

The mortgage credit THE FIRST HOUSE offers the possibility of buying a finished house or one under finalization, being in different construction phases, intended to be bought after the finalization. The guarantee of the credit represents the property funded by this. In the case of the construction, the guarantee of the credit is the land and the next building which will be built.



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During the entire period of loan, a life insurance is signed, which offers protection in case of unexpected events. The pay of this first payment supposes a minimum effort, because you can pay monthly, together with the rate of the credit.

The great asset of the FIRST HOUSE credit against other types of housing loans is the minimum earnest requested by the bank. If in the case of the classic housing loans, the earnest that had been given was necessary to be 15-25%, according to the offers of each bank, THE FIRST HOUSE is little more indulgent of this point of view with the potential customers, being necessary only a 5% earnest. The FIRST HOUSE credit has the advantage that is enough legislative defended. It is based on some emergency ordinances, but also methodological norms enough firm in order to protect the involved parts in this program.

The disadvantages are that by the instituted mortgage in favour of the Romanian country the beneficiaries of the credit acquire the interdiction of selling for a period of five years from the moment of signing the sale-purchase contract.

The statistics show that in Romania the demanding and the offer of houses were badly damaged by the economic crisis because of the decrease of the purchasing power, the worsening of the loans' conditions and the discount of the investment funds.

The development of the lending activity of the individuals is influenced by the development of the banks, the commercial activity in a bank being vital for its existence. The customer is the crucial element in the strategy's defining of the banking system, at once with the increasing of the competition and the development of new products and services. In the progress of the banking activity, it is significant the knowledge of the customers' needs and the decision factors that are based on the choosing of a certain banking product.

So, the bank anticipates the reaction of this and can affect the structure of the offered services. The behaviour of the customer is influenced by the trust that he has in the banking system, by the availability of purchasing the services, by the bank's reputation, the range of products and services, the existence of a helpful and able staff, etc. A bank that knows the quality of its services will always search to surpass the minimum level of customers' satisfaction, giving to these more than they request.

The diverse typology of the banking products and services has a major importance in choosing the bank. The interbank competition orientates the banking activity closer to the customer's demands, by the development of an offer with banking products in order to attract and maintain customers

Five important things when we choose a credit:



1) the effective annual profit, that DAE that sums up all the costs with the credit and surely it is high enough, reported to the profit amount initially communicated by the bank;

2) the total paying sum at the end of the period, this one being the mark in the implication of the credit;

3) the value of the rate, but it is not a decider factor;

4) the total value of the rates should not overcome a certain sum (that total percent of debt); it is indicated that the rate should not overcome 25% of the incomes;

5) the reserve fund, this helps the paying of the rates in case of a crisis situation.

The credit conditions adopted by the banks in the second part of this year allow to the customers to borrow higher sums than before, considering the increase of the loan period and the maximum limit that a customer can borrow. Nowadays, the banks offer the population the possibility of indebtedness till 70% of the net incomes, according to the type of the product and the rating of each customer. In case the customer borrows money till the maximum limit, during the course of the loan, the credit conditions can be modified, so the rate can go higher, to multiply the poundage.

The relaxation of the credit norms presents advantages during short periods for the majority of the customers and offers substantial profits for the banks during long periods of time. Because the banks do not afford to decrease too much the rates of the credits given to the population, they appeal to whatever they have in order to finance more clients. The credit period extension is a good example to sustain this idea. It is good to know that any additional year for the loan period it means additional profits, poundage, and more insurance. But, the real trick it is the increase of the credit period. The customers' benefit remains the lower monthly rate allowing the fit into the maximum limit accepted by the bank. However, the total sum that the client must pay to the bank at the end of the credit period is several times higher in case he chooses, the maximum period for the loan.

Major changes for the maximum period of repayment were made regarding the personal mortgage loans. So, if last year, the majority of the banks offered this loan during 20-25 years, this year the limit was extended till 35 years. Although the extended of the rates' number makes possible the accessing of a higher sum, this thing significantly increases the total sum which the beneficiary must pay at the end of the loan period. There are also some possibilities of refinancing of a credit contracted during longer periods of time with specific advantages and

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disadvantages. Making a decision regarding the contracting of such a loan should be correlated with the exact analysis for the beneficiaries and the sacrifices which the potential client will have.

The customers must be notified by the banking institutions about the types of credit for which the costs increase: the credit during long periods, the car credits, the overdraft credit card, etc.

The credit institutions customize the banking products according to the demand and they are generated by banking activities which assure a high level of individualization of services and their differentiation in a banking financial institution.

A deep analysis of the credit products shows to customers a lot of options with regard to: the payment methods (monthly rates, the delay period); the annual rate of the profit; the limits of the credit that can be taken and, especially, the effective annual profit.

The efficiency of the banking services it is evaluated also considering the satisfaction of the demanding of the bank's customers. The quality of the credit relations, the services and the continuity of the products and services' offer will help the increase of the customers' fidelity, these being less tempted to evaluate the choice of using the services of the competition.

The motifs that support the decision of choosing a certain bank are the offer of current banking operations and the credit zone from where it is expected a simplifying of the procedures, implicitly of the access to the credits; the offer of an advantageous package of taxes and poundage and, eventually, others services which can be useful for the credit line, the most advantageous profit, the readiness and the companionable of the staff, the attitude and the organizational culture of the bank. The banks keep remaining highly competitive. This means that a customer can choose the bank that offers the most advantageous conditions and he can be informed with all the things that he is interested in.

The disappearance of the effects of the economic crisis and the decrease of the rate and the prices of the houses lead to the dynamism of the residential real estate transactions, the statistic dates showed that besides of the acceleration of mortgage loans selling in RON and the increase of the numbers of new houses, too. So, the increase of the volume of real estate loans was also impelled by the governmental program THE FIRST HOUSE, through which the banks sell real estate loans guaranteed by the country, exclusively in RON. These credits represent almost 48% of the current stock of housing loans.

According to the monetary indicators from the website of the National Bank of Romania, the balance of the RON credits given to the population has increased last year (between September 2015 and September 2016) with 32.4%, reaching at 58.731 millions RON. An important part of these loans is the refinancing or the conversion of the credits into currency. The currency credits for the individuals have decreased in the same period of time with 11.2%. So, the portfolio of loans in the national coin approached the level of the currency loans.

Following the evolution of the loans from the banking market, we notice that the production of loans in 2016 is situated on a much superior level than the previous years – we can notice a doubling compared to 2008, a boom year of the Romanian economy.

The volume of the new financings is over 22 billion RON, the equivalent of almost 5 billion EURO. We can say that the development of the credit for the population is sustained by the improving of the liquidity conditions in the market, the decrease of the profits, the increase of the salaries, and the high level of the population's trust in the dynamic of the economy.

As regarding the macroeconomic level, both the over and under credits have negative effects against the whole economy. The over credit concretizes by an increase through the medium of the credit, the monetary mass, in degree with the volume of the goods and services and leads to an inflation with negative consequences for the economy. The under credit brakes the economic activity as the economic agents will never find the necessary funds to contribute through their activity to the global economic growth.

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The Banking Law 58/1998 republished and updated



UNDERSTANDING THE NOTION OF STATE AID AND ITS CORRECT APPLICATION

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Abstract

The purpose of the present paper has the following objectives:

- *to deepen the understanding of the notion of state aid according to article 107, paragraph 1 from the Treaty on the Functioning of the European Union definition;*
- *how the European Union legislation is directly applicable to the Romanian legislation through the Guide Regarding State aid¹ and the Emergency Ordinance no. 77/201;*
- *how it is applied through the state aid schemes namely Decision no. 807/2014 and 332/2014.*

Keywords: *state aid, European Union Treaty.*

JEL Classification: O0, G1

Introduction

This paper covers the notion of state aid and how it applies in the current national and international economic context, by creating a comprehensive understanding of what state aid is, defined according to the Treaty on the Functioning of the European Union, article 107, paragraph 1 and through the Emergency Ordinance no. 77/2014. And also how state aid applies in Romania through the two schemes, namely Decision no. 807/2014 and Decision no. 332/2014.

The study is based on economic and legislative information gathered and extracted from the Treaty on the Functioning of the European Union, national legislature and the Guide Regarding state aid (only in Romanian). According to the Treaty on the Functioning of the European Union, *article 107, paragraph 1* defines the notion of state aid as follows: *Save as otherwise provided in the Treatise, any aid granted by a Member state or through State resources in any form whatsoever which distorts competition by favouring certain undertakings or the production of*

¹ Developed by the Competition Council, available only in Romanian.



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certain goods shall, in so far as it affects trade between Member States, be incompatible with the internal market. As a recent member of European Union, Romania considers itself an affiliated part of corresponding international agreements.

The European Union Law for State aid is implemented through regulations, recommendations, communications, guidelines, agreements, directives, decisions from the European Commission, which provide a comprehensive understanding of the notion of state aid in all economic fields, being regularly update. The Ministry of Public Finances, through the General Directorate for state aid, uses, as their primary regulatory action, the Emergency Ordinance no. 77/2014 regarding national procedures in state aid field and the amendment and completion of the Competition Law no. 21/1996, with the consequent modification and completion.

State aid – definition²

State aid rules apply only to measures that satisfy all of the criteria listed in Article 107(1) of the Treaty on the Functioning of the European Union (TFEU), respectively:

(a) State resources

Financial transfers that constitute aid can take many forms: grants or interest rate rebates, loan guarantees, accelerated depreciation allowances, capital injections, tax exemptions etc.

(b) Economic advantage

State aid is considered an economic advantage for a company that under normal competitive market conditions would not have benefit from it, e.g. an enterprise obtains risk capital from the state on terms which are more favourable than it would obtain from a private investor.

(c) Selectivity

A scheme is considered “*selective*”, if the authorities administering the scheme enjoy a degree of discretionary power. The selectivity criterion is also satisfied if the scheme applies to only part of the territory of a Member State.

²The definition of state aid considers the Art. 107 of the Treaty on the Functioning of the European Union as it is given by the Romanian Competition Council (English version), which can be found following the next link: <http://www.renascce.eu/?pag=100&limba=en>



(d) Effect on competition and trade

A measure of state aid is regarded as distorting competition when the quantum amount granted exceeds the threshold of 200 thousand Euros.

The relation between the state aid, competition and market failure

The existence of state aid legislature is essential for the well-being and protection of the Single Market, especially under the conditions in which in this market operates millions of consumers. The existence of a competitive environment in which the interventions of the Member States can be accomplished without any common rules will establish a fragmented market, which will stop growth and economic development of the Single Market and ultimately it will determine a fierce competition between the Member States of providing grants.

In a functioning market economy, competition occurs both on the products market and services market, as well as geographically, and in areas where the reach depends on the product characteristics (price of the product, shipping cost, size, etc.).

Establishing a market price is accomplished by using the mechanisms of supply and demand. The established price should ensure a reasonable coverage of demand and should be bearable for consumers, but should also assure an acceptable level of profitability for the manufacturers. Therefore, is safe to say that the competition between manufacturers of products and of services manifests at the market price. One way competition works is by placing all the manufacturers under a beneficial competitive pressure, which determines them to seek to attain a market value based upon quality. Therefore, the manufacturing price and the final product price have the ultimate goal to cover the demand, which manifest on the market, in the highest way possible.

If the manufacturers try to draw in a larger number of clients, they will have to reduce the products and services' retail prices. So, in order for the manufacturer to be competitive they must lower the production costs.

The state, on the other hand, is interested in insuring, defending and promoting the public interest, therefore, the state involves itself in contributing in developing a society which:

- has a balanced regional economic and social development;
- can create sufficient jobs, well paid and regulated in terms of labour protection;
- has staff employee's or potential employees well trained, with an adaptable knowledge base on the continual changing requirements on the labour market;



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- can create diverse and modern products and services adequate to the consumer needs with an acquisition cost that can be affordable to a larger consumer crowd;
- has utilities of any nature and quality that are available to all citizens at reasonable prices;
- has or will have an infrastructure which enables in good condition the ongoing economic and social life;
- can reduce the number of unemployed staff to a minimum, and the disadvantaged in terms of employability can be integrated, under certain conditions, on the labour market;
- can provide a clean, conducive to human life environment in which the citizens work;
- can provide education and culture to a larger number of citizens, etc.

The state has at some percentage the resources needed to achieve some of the previous objectives; in order to achieve the rest, the state needs the involvement of the private sector.

If the economic activity is run in good conditions, it determines the entrepreneurs to adopt by themselves measures that can achieve a part of the objectives of the state or society in which they operate. Thereby, creating new jobs, maintaining them, ensuring the proper conditions of work to the employees is, oftentimes, in the interest of the entrepreneurs, which in turn contributes to the fulfilment of the public interest. In order to ensure their staff well-trained, capable to operate new machinery and to implement new technology, the entrepreneurs invest in the training of its employees. But because the investments of the entrepreneurs are limited to certain areas that can generate profit, market failures can be defined by those sectors in which competitiveness does not manifest nor does it lead to the public interest fulfilment. Because of this, market failures cannot be solved by the private sector or entrepreneurs, who do not have the economic interest in investing, in solving or in diminishing market failures; knowing that in doing so, this will affect their competitiveness and will diminish their profits.

Therefore, the state has the role in solving or diminishing market failures, through the next two options.

a. Statutory regulation for certain sectors, areas, activities in which market failures manifest; for example, the state imposes labour market regulations (sets the minimum wage, the minimum number of days of leave, length of a working day and that the employer must train his employees on his own financial resources in the field of occupational safety and labour protection) which the employer must respect.



b. Financial compensation of certain market failures; this can be achieved when the state grants quantifiable benefits to companies with the purpose of raising the interest of these companies to invest their own capital in conducting certain activities that are not considered at baseline cost. The granting of such benefits may easily take the form of state aid; therefore, the state, must always be able to identify a causal link between granting the state aid and the market failures to which it addresses.

The appropriateness of granting state aid, their amount and how concrete or the most appropriate instrument for the aid are required to be established through analyzes and studies carried out before the establishment of the real openness towards facilities. One of the foremost criteria's that the European Commission, when they analyze the effects of granting the various categories of state aid, is the prevalence of the positive effects over the negative effects.

The typology of market failures and the ways of their diminishing using the state aids

a. *Less developed regional areas which attract fewer investments are counterbalanced by the state through national regional investment aid.*

Differences between the level of development of different geographical areas manifest both on an European and national level; both of which have developed regional areas, favourable to economic activities, with a well developed infrastructure, high income and a high level of production relative to population, business opportunities materialized in easy access to the resources necessary to conduct and develop technological processes, a numerous and well prepared existing workforce and the existence of markets for products and services. While the less developed regional areas are characterized through insufficient infrastructure, a low income and level of production relative to population, the inexistence or reduced existence of business opportunities with difficult access to resources necessary for developing technological processes, numerically reduced workforce and/or with insufficient training, and underdeveloped markets for products and services.

Therefore a rational entrepreneur or investor will avoid investing in a less developed area and will chose to invest in a developed area, which will create an even bigger development gap between the two.

Considering the fact that the state has the interest in promoting a balanced development throughout all the regional areas of its country, it will try to determine the investors or the entrepreneurs to invest in the less developed areas. This can be achieved through granting **national regional investment aid**, if the investors or entrepreneurs choose to invest in less developed areas.



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b. Under-funded financial sectors and crisis of overproduction

Because the necessary investments to operate in some economic areas are oftentimes significant, investors choose to invest in areas which guarantee the return of the investment.

One such case is that of providing broadband electronic communications, in which the investors develop their own networks, primarily in urban and adjacent areas where there is a significant population that can provide them creditworthy potential clients. Therefore, because of the significant investment, the investor will avoid to invest in areas less developed, located far from the main networks. Therefore, the state will try to help develop broadband electronic communication networks by subsidizing part of the cost of creating them or may cover some of the cost of connecting end-user to networks already created; this type of aid is called **state aid for rapid development of broadband communications networks**.

On the other hand, some economic sectors face a crisis of overproduction when the demand of some products or services drops dramatically or they are no longer required on the market.

This is the case of the coal sector, where the reduction of coal consumption has caused lately the ceasing of a significant number of mines. In this case, the aid that the state can provide has the role to ensure environmental protection and avoid potential disaster caused by the deterioration of unused mining infrastructure by providing the costs of closing the coal mines which stopped their activity. Both of the cases mentioned above are examples of **sectoral state aid**.

c. Difficult access to finance of the small and medium enterprises

Because first starting an economic activity requires somewhat significant financial resources for an investor and because the recovery of the initial investment could take a considerable amount of time, this forces the investor to attract financial resources from the financial market, especially from the banking sector. The banks tend to lend investors the required amounts only under sufficient guarantees that the amounts borrowed will be repaid, making it difficult for an entrepreneur to start a new activity.

Therefore, the state, considering the importance of the small and medium enterprises sector for the national economy, can decide to grant different facilities to the entrepreneurs in order for them to develop their own activities; this facility can take the form of grants, subsidized loans or guarantees at a reduced cost compared to the level charged by commercial banks. These kinds of facilities are called **State aid for SMEs**³.

³ SMEs means Small and Medium Enterprises.



d. *Companies in financial difficulty with the impossibility of continuing activities*

When companies are in financial difficulty with the impossibility of continuing activities, some of them can be saved by technological restructuring in parallel with the injection of capital.

If the state funds or facilitates loans or guarantees for the benefit of companies in difficulty at prices lower than those prevailing in the market, given their rescue and restructuring, these are called **state aid for rescuing and restructuring**.

e. *Utilities and some services which are not provided or their market price is too high*

Because a number of utilities, like thermal energy, can be prohibitive to families with low income considering the relatively high production price, the state must regulate a maximum supply price which sometimes is below the cost price charged by the heat producers.

Therefore, in order for the producers to continue conducting business in terms of quality and economic profitability, the state can compensate a percentage of the production cost of the service they produce. This type of aid can take the form of **compensations to companies for the provision of a service obligation or a service of general economic interest (SGEI)**.

f. *Disadvantaged workers which are not employed by entrepreneurs*

Some categories of workers are considered disadvantaged from the point of view of employability, this is the case of people who did not have a stable job paid in the last 6 months, or they are aged between 15 and 24 years, they did not graduate any form of high school or hold a professional qualification and also are in the first two years since they graduated and did not have a stable paid job, they are above 50 years old, or they live alone having one or more persons in their care. Also a number of employees fall into the category of disabled or handicapped workers.

The difficulties in entering the labour market for the above categories can vary from arranging special working conditions necessary to the staff with disabilities, to higher training costs in the development of certain skills, or lower revenue generation. The state compensates this employment disadvantages by determining the undertakings to employ staff from the categories mentioned above through granting **aids for the recruitment and employment of disadvantaged workers and workers with disabilities**.



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g. Training is not a priority for companies

Companies tend to keep production costs under strict control, in such a way as to reduce the price of goods and services sold, to increase their competitiveness and ultimately maximize the profits from the economic activity in which they are engaged. Thus, the amounts of investments in training their staff are reduced.

However, the state has among his objectives, raising the level of the whole population engaged and, therefore, can subsidize fully or partially vocational training cost, by providing **state aid for training**.

h. Research is not encouraged

Similar to vocational training, companies will invest in research only sporadically, within immediate needs of development of new products and services. Therefore, the research conducted will have a highly applicable component, financially quantifiable in a reasonable time horizon providing investors with a quick initial investment recovery, new innovative products and services, additional revenues and profits and other benefits.

Also in this case the state can subsidize a percentage of the research costs undertaken by the companies, through **state aid for research, development and innovation**.

i. The environment is not protected

The running technological processes often generate gas and particle emissions that contribute to environmental damage. Therefore, there were established national, international regulations which establish corporate responsibility both in terms of reducing the amount of pollutants and in terms of penalties that will be incurred under the contravention charging rules.

The state will not provide funding to cover costs that enterprises must bear by virtue of their obligations imposed by the national and international legal regulations. However, the state can subsidize businesses to improve environmental protection through overcoming the environmental standards such as increasing the energy efficiency, promotion of energy production from renewable sources and reducing industrial pollution. These facilities granted by the state are called **state aid for environmental protection and energy efficiency**.

The Emergency Ordinance no. 77/2014 – the mirror of EU Recommendation in the field of the state aid

In close correlation with European Union recommendations, by Emergency Ordinance no. 77/2014, the Romanian Government decided to harmonize the process of modernization of the state aid by applying the requirements of *minimis*⁴.

⁴ *De minimis* Aid is the type of aid which is under EU rules limited to a level that does not distort competition and or trade with the Member States.



The provisions of the above mentioned regulatory action do not apply to State aid or *de minimis* for agriculture and fisheries, for which the Ministry of Agriculture and Rural Development fulfils the role of national contact in relations between the European Commission and public authorities and institutions, and other state aid providers.

The establishment of state aid or *de minimis* measures will be made after the analysis of opportunities and requires the initiator or supplier to develop legislation or administrative regulatory actions. Regulatory actions establish state aid/individual state aid or individual/*de minimis* schemes which should provide at least the following: objective, how to grant state aid or *de minimis*, beneficiaries, the application, the amount of funds allocated for this purpose in the budget provider, the European applicable provision under which the state aid or *de minimis* aid measure was instituted in accordance with the legislation field.

Any state aid measure instituted by the central public authorities, except the central public authorities who manage European funds⁵, must be accompanied by a Memorandum approved by the Government on the framing of the support measure in economic, financial and budgetary policies of the state⁶. The procedure and the content of the Memorandum will be established through a Government decision and will be initiated each semester by the SGG⁷, after consulting the suppliers in the Interministerial Council, “The Council for the implementation policy in the field of state aid”.

The Emergency Ordinance no. 77/2014 also states the need to introduce a stage of preliminary consultations between aid providers and the experts from the Competition Council⁸. The consultations between aid providers and the experts from the Competition Council identify the measures on how the aid measure can be implemented. The consultations benefits lead to:

- developing measures to support compliance with state aid legislation;
- issuing licenses by the Competition Council in a shorter term;
- more legal certainty in the implementation of state aid or non-state aid measures.

The proper procedure of notification and information is sent electronically to the European Commission by state aid Notification Interactive (SANI II) through the Competition Council.

⁵ Emergency Ordinance no.77/2014, Article 7, paragraph (4).

⁶ Emergency Ordinance no.77/2014, Article 7, paragraphs (1),(3),(5).

⁷ Secretary General of the Government.

⁸ Emergency Ordinance no.77/2014, Article 8.



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The monitoring of the state aid or *de minimis* is done for each measure, by either the provider or the administrator. On the spot checks are done to insure the monitoring measures and conditions for the state aid granted. If the measures and conditions are not carried on, the state aid is recovered.

The aid recipient is obliged to repay the state aid/*de minimis* with the related aid interest.

Both the beneficiary and the provider or the administrator of the state aid/*de minimis* aid must keep a database with the related aids granted for at least 10 years.

Currently, the Ministry of Public Finances implements several state aid schemes, of which we exemplify Decision no. 807/2014 and Decision no. 332/2014.

The Decision no. 807/2014 about how certain state aid schemes are established to stimulate investments with a major economic impact

The primary objective of the scheme is regional development through the performance of investments in all sectors, with the total estimated number of beneficiaries to this scheme of 150. Undertakings can apply for funding under this scheme until December 2020 with the pay being executed until 2023. To meet the scheme conditions of eligibility the assets must fulfil the following⁹:

a) the beneficiary of state aid must not sell the assets for which it received financial help;

b) the beneficiary of state aid has the obligation to record the assets in its accounting and to keep them at least 5 years;

c) the beneficiary must purchase the assets under public procurement legislation.

Assets are either tangible assets which can be constructions of any kind, the expenditure for the execution of constructions like new technical installations, machines and equipment and intangible assets which are patents, licenses, know-how or other intellectual property.¹⁰ Also the assets must be purchased from persons that are not affiliated to the buyers.

The maximum level of the state aid an enterprise can benefit of within the scheme is the following corresponding to the eligible expenditure¹¹:

Region	Maximum level of state aid	
	2014-2017	2018-2020

⁹ Decision no. 807/2014, Articles 1, 3 and 5.

¹⁰ Decision no. 807/2014, Appendices 2, Article 1 letters a), b).

¹¹ Decision no. 807/2014, Article 9 paragraph (1).



Bucharest Region	the equivalent in Lei of EUR 11.25 million	the equivalent in Lei of EUR 7.5 million
West Region and Ilfov Region	the equivalent in Lei of EUR 26.25 million	
Regions NW, Centre, NE, SE, South Muntenia, SW Oltenia	the equivalent in Lei of EUR 37.5 million	

The gross intensity of the regional state aid relative to the eligible expenditure cannot exceed the following percentages¹²:

Region	Maximum level of state aid	
	2014-2017	2018-2020
Bucharest Region	15%	10%
West Region and Ilfov Region	35%	
Regions NW, Centre, NE, SE, South Muntenia, SW Oltenia	50%	

Contribution to regional development must exceed the state aid granted to companies at least once.¹³

The state aids are granted only if they have a challenging effect, which can be determined through a comparative analysis between two company projects, one with the intervention of the state and the other without.

One of the conditions that a company must meet in order to obtain the agreement for funding, is to not proceed with the investment prior to obtaining consent for funding.

For a company to benefit from state aid, it must meet several criteria's in order to be eligible, including: the company must make an investment in the sectors the scheme permits, the company must be registered under the laws of Romania, the company must not be in bankruptcy or insolvency and it must not have debts to the state or local budgets.

Also for a company to benefit from the approved state aid, it must achieve partial or total eligible costs.¹⁴

¹² Decision no. 807/2014, Article 10 paragraph (1).

¹³ Decision no. 807/2014, Article 12.

¹⁴ Decision no. 807/2014, Appendices 2 Chapter III Article 9.



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For an enterprise to benefit from the payment of the approved state aid, it must submit a request for payment accompanied by the following documents:

- a) tax certificates which demonstrates that the company has no debts to the state;
- b) the company's balance sheet and balance;
- c) a form in which are the prescribed costs incurred by the company and the state aid requested to be paid;
- d) any other documents that the company deems evidence for eligible expenditures.

The enterprises are entitled to at most two payment requests for the approved state aid within one calendar year.

For payments the Ministry of Public Finances examines the compliance documents submitted by the undertaking and solves the enterprises application after conducting a spot check to verify the truthfulness and conformity of the documents submitted.

The enterprise must maintain operational the initial investment made for at least 5 years since the date of its completion.

In case a company cannot fulfil the investment plan which was approved, it may submit an amendment to the plan by the Ministry of Public Finances. This then is examined by the Ministry if the information changed is accurate and complete, in this case granting the new agreement. The undertaking may submit under this scheme up to two plan changes. In case the change of plan documentation is not correct and complete, the Ministry of Public Finance revokes the finance agreement.

The state aid paid will be proportionally recovered, up to the degree of non-realization if the enterprise does not realize the contribution to regional development and the enterprise does not fulfil other requirements provided by the financing agreement.

Decision no. 332/2014 regarding how the state aid scheme is established to support investments and promote regional development through the creation of jobs

The purpose of this scheme is regional development through investments that help create jobs in all sectors.

The Ministry of Public Finance may issue financing agreements until December 2020. The state aid is to be paid between 2015 and 2025, based on the financing agreements issued beforehand, within the limit of the annual budget



allocated to the scheme.¹⁵ With a total estimated number of enterprises which will benefit from state aid based on the scheme of 1.700.¹⁶

The eligible expenditure is considered the newly created jobs for a period of two consecutive years.

The maximum level of the state aid an enterprise can benefit of within the scheme is the following corresponding to the eligible expenditure¹⁷:

Region	Maximum level of state aid	
	2014-2017	2018-2020
Bucharest Region	the equivalent in Lei of EUR 11.25 million	the equivalent in Lei of EUR 7.5 million
West Region and Ilfov Region	the equivalent in Lei of EUR 26.25 million	
Regions NW, Centre, NE, SE, South Muntenia, SW Oltenia	the equivalent in Lei of EUR 37.5 million	

The percentages of the regional state aid intensity depending on the regions, that the companies can benefit, are as follows¹⁸:

Region	Maximum level of State aid	
	2014-2017	2018-2020
Bucharest Region	15%	10%
West Region and Ilfov Region	35%	
Regions NW, Centre, NE, SE, South Muntenia, SW Oltenia	50%	

The state aids are granted only if they have a challenging effect, and if the following conditions are cumulatively fulfilled:

a) the undertaking must submit a request for funding along with the related documentation to the Ministry of Public Finance;

¹⁵ Decision no. 332/2014, Article 3 paragraphs (1), (2).

¹⁶ Decision no. 332/2014, Article 5.

¹⁷ Decision no. 332/2014, Article 8 paragraph (1).

¹⁸ Decision no. 332/2014, Article 9 paragraph (1).



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b) no investment project must begin before the Ministry of Public Finance approves the financing agreement.

If the applicant enterprise requests that the investment should be started before the receipt of the financing agreement, the entire investment will not be eligible.¹⁹

Businesses eligible for approval of a financing agreement issued by the Ministry of Public Finance must meet several criteria: are registered in Romania, conduct an investment in any sector, prove that have no debt to the state and not received other state aid.

The investments the enterprises make must fulfil the following criteria²⁰:

- a) they must be recognized initial investments;
- b) they have to lead to the creation of jobs;
- c) they should be viable and generate economic efficiency for the enterprise.

The state aid will be paid to the enterprises that received a financing agreement, after they partially or fully perform the eligible expenditure.²¹

An enterprise is allowed to send at most 4 requests for payment of state aid within one calendar year.²²

The enterprises that received a financing agreement are bound to start the investment according to the business plan and to inform the Ministry of Public Finance, and if they do not perform the investment these are bound to inform the Ministry of Public Finance within the shortest time possible.²³

The enterprise is bound to maintain each new job for a term of at least 5 years as of the date it was occupied for the first time, and for 3 years for SME, respectively.²⁴

The revocation of the financing agreement takes place in the following situations²⁵:

- a) the investment has not started;
- b) the minimum number of jobs is not maintained;
- c) the bankruptcy is declared or the activity suspended;
- d) the location of performance of the investment moves to another region where the maximum intensity of the state aid is lower than the one corresponding to the region where it benefited from state aid.

¹⁹ Decision no. 332/2014, Article 12.

²⁰ Decision no. 332/2014, Article 16.

²¹ Decision no. 332/2014, Article 11 paragraph (1).

²² Decision no. 332/2014, Article 12 paragraph (2).

²³ Decision no. 332/2014, Article 16 paragraphs (1), (2).

²⁴ Decision no. 332/2014, Article 18 paragraph (1).

²⁵ Decision no. 332/2014, Article 20.



The state aid paid is to be recovered *pro rata* to the degree of failure if the enterprise does not observe the requirement regarding the maintenance of the jobs created and if the enterprise does not observe the requirement regarding the maintenance of the initial investment.²⁶

The state aid that must be recovered includes the related interest owed as of the date of payment and until the date of recovery.²⁷

Conclusion

One of the main objectives on the agenda of the European Union is the regional development throughout all its Member States, therefore, this objective transfers also to our country, which the Ministry of Public Finances through the General Directorate for state aid strives to level. The poor regional development causes different intensities of aid which are given to the less developed areas throughout our country.

One of the biggest discrepancies with about 40 percent intensity is between the country capital region and the east, south east, south west and north east regions.

Regional investment aid policies are not the only tools available to Member States to support investment and job creation in disadvantaged regions. Member States may use other measures, such as improving the infrastructure and quality of education and training, and also of improving the business environment.

Therefore, the Member States should indicate why they choose to grant regional aid for the common goal of fairness and cohesion when introducing a scheme which is not part of an operational program financed by cohesion policy funds.

If the state aid is granted in the form of direct grants, tax incentives or supply of land, goods or services at reasonable prices, the state must demonstrate why other forms of aid are not suitable for granting.

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2. Emergency Ordinance no. 77/2014, December 2014.
3. Decision no. 807/2014, September 2014.
4. Decision no. 332/2014, April 2014.

²⁶ Decision no. 332/2014, Article 20 paragraph 4.

²⁷ Decision no. 332/2014, Article 20 paragraph 6.



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