

THE ACTIVITIES OF ENGINEER ECONOMISTS IN THE HUMAN RESOURCES SYSTEM

Liliana Doina MĂGDOIU¹, Ioan Constantin RADA², Nicolina Florina Maghiar³

¹University of Oradea, lmagdoiu@uoradea.ro

²University of Oradea, irada@uoradea.ro

³University of Oradea, nicolina_maghiar@yahoo.com

Abstract — The human resource representing the most important factor of production in any human activity and recent developments in both the national economy and the economies of developed countries involve new skills needed by students for careers and status of European citizens. Unfortunately a growing gap is revealed between the skills and the title, the content of courses that are taught and tested in universities, their lack of innovation.

We believe, following our studies, that economic engineering is one of the new skills necessary for survival in a subsistence economy. The Romanian economy has changed profoundly since 1989, meaning that Romania's industrial infrastructure was situated among the first 10 countries in Europe, and today is one of the subsistence. These issues create opportunities in the current configuration of the labor market, the occupations, in the human resources system, of engineers and economists in their formation as innovators.

Keywords - engineer economists, human resources system, occupations, professional competences, transversal competences, national register of qualifications.

I. INTRODUCTION

IN this analysis we took into account, on one hand the importance of the human resources system in any economic activity, and on the other hand the offer for engineer economists in the fields of electric, electronic and energy in the National Register of Qualifications in Higher Education in regard to the human resources system.

Studying the main work forms in a firm and processes necessary to achieve its overall objectives, namely the processual organization, lead to the results of this organization, namely: functions, activities, duties and tasks, for example: Petrom Bihor.

Human resources activities are vital to the success of any business. Without capable employees, a firm produces inefficiently and risks bankruptcy. Human resources are one of the biggest financial investments of a company. The activities of engineer economists in human resources system are considered activities which optimize

the performance of people in an organization and the relationships between them.

The activities of engineer economists are ubiquitous in human resources system in any organization regardless of its size. These activities are ways to accomplish specific objectives of human resource management. They focus on achieving consistency employee-job trying `to fit` skills and motivation to employee demands and rewards of a job. Engineer economists exerting these activities must comply with policies and procedures regarding personnel management.

Company HR activities can be grouped as follows: organization staff; human resource planning; staffing; human resource development; relationships with employees and unions; terms and conditions, creating good work conditions; rewarding employees.

Engineer economists in the fields of electric, electronic and energy can access the HR system offered by a company and submitted in COR (Classification of Occupations in Romania) and the National Register of Qualifications in Higher Education, namely: human resources specialist (higher education); human resources referent (higher education) [1].

These occupations and respective activities are accessed by engineer economists in the fields of electric, electronic and energy because they have acquired during their initial training professional skills following "performing calculations, demonstrations and applications for solving tasks specific for engineering and management based on knowledge of basic sciences and engineering ", "developing and interpreting technical documentation and management", "planning, programming and management of enterprises and networks associated logistics and production tracking", "development and evaluation of technical, economic and financial level business phenomenon managing technical, economic and financial ", "technical design and technological processes on the structures and systems in the electric and electronic domains in terms of quality, technical and technological design process industry electrical, electronic and energy data in terms of quality, " management and control of companies and specific

processes: project management and enterprise in the electrical and electronic fields"; transversal skills "application responsibly, principles, norms and values of professional ethics in professional tasks and identify objectives to be achieved, the resources available, work flow, run time, time to achieve and risks "identifying roles and responsibilities within a multidisciplinary team and application techniques and effective work relationships within the team "," identifying training opportunities for their development and efficient use of sources of communication and training assistance (portrait internet, specialized software, databases, online courses, etc.) both in Romanian and in an international language "[1].

In performing tasks within the activities of human resources in organizations, engineer economists must take into account that the specialists in economics and the obvious reality argue that the world has changed, as' economies of the West are down. In the US, the combined rate of unemployment and employment in the professional qualification is higher than 15% and in some European countries the situation is even worse` [2]. Some experts argue that the solution is to increase consumption by spending money again, creating new jobs. Consumers are no longer able to borrow as easily as in the past. They live in insecurity to preserve jobs, their inclination towards saving increased lately. It is not clear whether a consumer economy and a sustained low unemployment will return someday. Meanwhile politicians who are involved or not in corruption, have heated debates about how to reduce debt or how to stimulate the economy, which would lead, in the short term, to an increase in government debt.

But most experts agree that an economic recovery depends on the creation of jobs, and more innovation and re-industrialization in our opinion in which the new or improved ideas of engineer economists are able to create products and services able to deliver wealth and new jobs. Businessmen, especially, say that we need more young people that generally produce innovation in areas like science, technology and engineering and also in the human resources system.

Many experts argue that the so-called American 'education science, technology, engineering and mathematics` (STEM education) is becoming increasingly important. Of course, they argue that young people need to be better prepared for the well paid job and highly skilled. It is necessary for them to graduate from high school ready for collage` 'and the graduates of license and master degrees, can be prepared for the labor market which requires superior training.

The tasks of engineer economists required in the activities of the human resources system are in accordance with the competencies listed that must be in the job description. The job description is considered an important management tool that helps to set clear tasks and responsibilities of the job, so the occupant of the engineer economist position is to know exactly what is

expected for the job; helps identify and develop the knowledge, skills, abilities necessary for engineer economists to fill that post; helps to create a clear and concrete bases for comparing positions and determining salary levels; helps to support employment decisions, evaluation and promotion of engineer economists; helps ensure compliance with legislation. It is a tool for engineer economists to help them complete tasks within the system of human resources.

Example of activity: stimulating team work and the integration of new employees at Petrom Bihor.

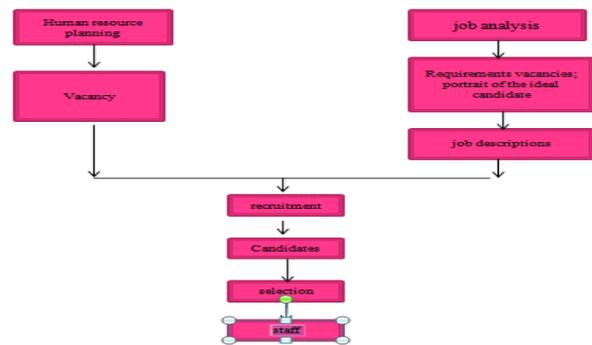


Fig. 1. Recruitment activity chart at Petrom Bihor

II. FORMATION OF ENGINEER ECONOMISTS AS INNOVATORS IN THE HUMAN RESOURCES SYSTEM

For over 25 years, there have been changes and adaptations of specializations in higher education. Of course, the target of these changes was to reach a more and more modern education and increasingly correlated with the economic and social Romanian and European environment [3].

One of the remarkable features of this period is proved by the tendency to raise the degree of synchronization of the Romanian education with the world's higher education through another type of communication with the economic and social environments. In this sense, we can also talk about a continuous process of change in Romanian education. The need for these changes wells from coupling to a free market society that requires a workforce with skills to match its continuous change of the labor market, both internally and externally.

The evolution of specializations in Romanian higher education is a clear evolution of the Romanian economy, which in terms of industrial infrastructure (engineer's fief), situated, in the year 1989, Romania among the first 10 countries of Europe and which has become today a subsistence economy.

We believe that the engineer economists specialization from the field of study engineering and management, on one hand as a requirement of the changing labor market, a result of profound changes taking place in higher education Romania, on the other hand, a response to market demands changing work and at the same time increasing the quality level of skills of managers and engineer economists as an objective forming part of the

mission of the associations and engineer economists from Romania (AMIER) [4].

The need for higher training of human resources in the field of engineering and management has become mandatory as long as specializations in traditional areas: machine building, mining, metalworking, electrics, electro mechanics, food industry, textile, leather industry, etc., have become less demanding on the labor market in the context of the disappearance of industry activities [4].

Unfortunately, it is clear, as some experts have already come to the conclusion that the human resource in higher education prepared in Romania is not ready for the labor market, nor high school graduates are prepared for college. In addition, the combined rate of unemployment and employment under the qualification level, both in our country and in many European countries is growing. Solutions for healing the national economy is re-industrialization, request for more and more innovation. Businesses increasingly require young people who produce innovation in areas such as science, technology and engineering. Or, there is also the training of engineer economists as innovators in the human resources system. Because they are well trained, after they acquired professional skills and cross the undergraduate degree programs and master, they must find paying jobs and to motivate them to continue their work.

There is almost a consensus on the vital importance of innovation in the current situation of the economy and also to educate the youth of economic engineering innovators to transform the human resources system. To do this, the competencies that matter most to innovation must be identified. The question is how teachers can develop those skills of students of engineering economy that matter most to their future as innovators in the human resource system. Advocating the idea that the best measure of efficiency is the performance of a teacher student / graduate and retrieval to the labor market in occupations with skills acquired is the criterion or performance. However, we firmly believe in the responsibility of each professor in regard to improving the learning process. From experience we concluded that those who draw policy and those who administer universities, faculties, departments, programs of study have to know the perfect type of education necessary to promote students who think critically and creatively, communicate effectively and collaborate instead of getting good grades in examinations and verifications. They should have ideas about what motivates students the most to learn. We are not convinced that the tests and courses which are still used by the ones who make the policy as direction of the education progress, measure the skills that matter most today. It requires more analysis of quality training for engineering activities of the human resources system and better sources to confirm the results to contribute to the debate about the education of engineering economy students.

III. ACTIVITY: SPECIALIST IN HUMAN RESOURCES

The skills required from engineer economists for an

innovation of success in the human resources system are extremely important to their future. Creativity and 'ecosystems' of engineering economy students – parental, educational and mentor influences are acknowledged by them as (following discussions with them) as essential for their development. They also said about teachers that they have mentioned as extremely important for their development, there are even models used by them. The license program engineering economy in the fields of electrical, electronic and energy as well as the masters program management and communication in engineering, even though they need to be improved to obtain innovation skills they can lead to the formation of specialists who can occupy positions in the human resources system. Of course, employers always come up with proposals that lead to innovation itself courses of study programs.

Engineer economists in the activities of human resources system have the opportunity to contribute to the development of highly originator work in their fields and in social innovation and entrepreneurship. They can combine innovation with entrepreneurship, but being aware that not all young innovators are entrepreneurs and not all entrepreneurs are and innovators.

The skills of engineer economists in the fields electrical, electronic and energy, both the professional and the transversal, allow them to act as specialist with higher education in the human resources system. This occupation is found in the human resources department and is represented, for example, by the Recruitment Coordinator position. This post is found in large companies. Small and medium enterprises have a separate position for recruitment to selected employees.

Recruitment is searching and attracting activity, in the organization, of a group of people able and interested to fill vacancies within which the group can choose suitable candidates for these positions [3], [5]-[7]. Engineer economists, through the skill they've acquired are specially prepared and before they trigger the recruitment process, they must know the exact number of vacancies (through the planning staff), their nature and requirements (through a job analysis).

If the title of the job, within the company, accessed by the engineer economists as specialist in the human resource system, is not found in the COR, the code of the title nearest from the tasks and responsibilities point of view will have to be taken from the COR. On the Recruitment Coordinator position, the engineer economist answers to the Human Resource Manager and manages

the Human Resources Analyst. He has functional relations, collaborates horizontally, with all the departments during the recruitment process.

The general purpose of the job is the innovation and increasing the efficiency of the recruitment process to ensure hiring and retaining the best candidates for the company's vacancies, according to its policy and culture. The objectives for achieving the general scope are

continuously studying the latest trends in the field of recruitment innovation and adapting them to the company's specific; elaborating innovative recruitment tools and methods to ensure attracting and retaining the most suitable candidates in accordance with the real necessities of the company; promoting the company's image through transparency, confidentiality and transmitting real information.

The description of tasks, attributions, activities as well as job responsibilities will be done based on the size, specific and organizational chart of the company. They may be different.

IV. HUMAN RESOURCES REVIEWER

The engineer economist in the activity of human resource referent, within this system accesses the job of Human Resources Analyst. If in the company's organizational chart the title differs from the one from COR, the title from the COR must be mentioned in the job description. In the case in which the title is not found in the COR, the code from the COR for the title which is the nearest from the tasks and responsibilities point of view will be used. The Human Resources Analyst is assigned in accordance with the company's size, specific and organizational chart within the Human Resources department.

This position is one of execution and is found in the relationship of subordination with the Human Resources Manager, he doesn't have subordinates. Functional relations, of horizontal collaboration, are manifested with all departments when the recruitment and the performance evaluation processes take place. He represents the company in consulting collaboration relations with recruitment and selection companies, consulting companies. In all of these the size, specific and organizational chart of the company will be taken into account.

The general scope of the position is the innovative realization of the human resources activities (recruitment and selection, performance evaluations, career development, etc.) in the company, in accordance with the policy and set procedures. Depending on the size, specific and organization chart of the company, the scope may differ. The job's scope will be found detailed in the individual labor contract (CIM) signed by the parties.

Depending on the size, specific and organization chart of the company, the job's objectives are established in order to realize the general scope, namely: identifying the needs and realizing the recruitment and selection activities of the company's employees; implementing innovative performance evaluation and employee career development systems.

The description of tasks, attributes, activities as well as job responsibilities is done in regard to the size, specific and organizational chart of the company.

V. CONCLUSION

The human resources activities are vital for ensuring the success of any business.

In performing the tasks within the human resources activities, in organizations, engineer economists must take into account that specialists in economy as well as obvious reality argue that the world has changed.

The combined unemployment and employment under the qualification level rates is increasingly higher, both on the Romanian labor market, as well as in other European states.

Engineer economists have acquired professional and transversal competences to conduct activities in the human resources system.

REFERENCES

- [1] National Register of Qualifications in Higher Education <https://www.google.ro/search?q=Registrul%20National%20al%20Calificarilor%20din%20invatamantul%20Superior&ie=utf-8&oe=utf-8&aq=t&rls=org.mozilla:en-US:official&client=firefox-a>, accessed in April 2015
- [2] T.Wagner, *Creating Innovators. The Making of Young People Who Will Change the World (Crearea tinerilor care vor schimba lumea)* Bucharest, Ed. Trei, 2014, pp. (9–10).
- [3] A.F. Sora, *The evolution of the Romanian higher education qualifications 1968-2011 (Evolutia calificarilor din invatamantul superior din Romania 1968-2011)*, <https://www.google.com/search?q=Andrei%20Florin%20Sora%20Evolutia%20calificarilor%20din%20invatamantul%20universitar%20romanesesc%201968-2011&ie=utf-8&oe=utf-8&aq=t&rls=org.mozilla:en-US:official&client=firefox-a&source=hp&channel=np>, accessed in April 2015
- [4] L.D. Magdoiu, I.C. Rada, *Management and Communication in Economic Engineering for Increasing Quality Level of Competences of Managers and Economic Engineers for Labour Market (Managementul si comunicarea in ingineria economica pentru cresterea nivelului de competente al managerilor si inginerilor economisti pentru piata muncii)*, Editura Todesco Publishing House, Cluj-Napoca, pag. 15-28,
- [5] L.D. Magdoiu, *Human Resources Management (Managementul resurselor umane)*, ed. II, PUBLISHING University of Oradea, ISBN: 978-606-10-1482-8? 2015
- [6] Măgdoiu Liliana Doina, et. Comp. - University of Oradea, Romania – *Managers and Engineer Economists between Social Responsibility of Oil Corporations and the Development of the Social Economy (Managerii si inginerii economisti intre responsabilitatea sociala a companiilor petroliere si dezvoltarea economiei sociale)*, presented at Annals of the Oradea University, Fascicle of Management and Technological Engineering, Faculty of Management and Technological Engineering, May, 2014
- [7] T. Cowen, *Create your own economy: The Path to Prosperity in a Discordered World* (traducere Mihaela Sofonea), Editura Publica, 2012, Bucuresti.