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## **Innovation and Human Resource Development**

### **1. Introduction**

The localization of the economical activities and related human recourse development cannot be fully understood without understanding of the wider socio-economical aspects. The knowledge production and utilization are crucial factors for the additional value creation. This new step in market-oriented economy has strong roots in the creation, distribution and utilizations of the knowledge as it was never before. The knowledge creation and distribution are the key economical forces and knowledge itself is the economical source that has privileged right to be placed altogether with other sources in spite of the fact that knowledge itself does not contribute to economical growth but it has to be included to product. The innovation, ability to apply the RTD results into the form of competitive products and services are the key drivers of competitiveness enhancement.

### **2. Innovation and regional development**

The economical theories and empirical research put the emphasis on the key role of the accumulation of the human capital, RTD and innovation processes result to the economical growth achievement, competitiveness enhancement, the quality of life improvement and based on this also the improvement of overall economical development. The investment into the education, research and development bring the effect after certain time period but their benefit for the society is indisputable (GRILICHES, 1994; ROGERS, 1995).

The advanced regional policy aims are focused on the regional competitiveness promotion that is connected to four main factors:

- structure of the economical activities,
- level of innovation,
- level of region accessibility,
- level of the labour forces education.

The growth of the regional competitiveness is significantly conditioned by its innovation capacity rise. The innovation potential is determined to certain extend by insufficient financing, the decrease of number of RTD staff, the low share of private sector and differentiate qualification structure of the regions. That is why the emphasis must be put on education, the higher expenditures to R&D, support of the activities enhancing creation and transfer of knowledge as a results of research into the practice and new technologies. The EC pay attention to innovation potential measurements.

The measurement methodology and results are published on the web portal „European Innovation Scoreboard“ using the indicators from the following areas:

- Innovation Drivers,
- Knowledge Creation,
- Innovation and Entrepreneurship,
- Application,
- Intellectual Property.

The innovation support has become the key issue for the EU long-term strategic aims and the importance of this orientation constantly increases. In this connection in EU relevant documents the following aspects are highlighted:

- The necessity of the complex system approach to the creation of required pro innovation environment, relevant innovation policies, specification and effective utilisation of its tools,
- The necessity of the mutual connection and harmonisation with other governmental policies and building of the effective institutional and legislative framework,
- The sectional character of innovation that requires cooperation of all stakeholders,

The accent on regional dimension of adequate innovation policy.

According to Peter DRUCKER (2001), innovation is a set of tools to create a new business. These tools can be learned and practiced. Gary HAMEL (1998) redefines innovation as strategic innovation -- the capacity to reconceive the existing business model in ways that create new value for customers and stakeholders and advantage over the competition. The innovation process has to be market oriented. If it is technologically oriented sometimes “the technological miracle” can be created but without required benefit. Drucker stated that from the top management point of view only two basic roles exist: marketing and innovation. As long as function of the marketing is to satisfy the actual customer needs, the innovations are going further – they try to satisfy the future customers needs. Without the ability to permanently innovate the company will decline in the moment when the customer needs, technology and competitors will change.

Based on the EC definition the innovations are renewal or extension of product and service range and associated markets. Innovations mean creation of the new production, delivery and distribution methods and introduction of the changes in management, workflow, work conditions and human resource skills.

The company ability to innovate is influenced also by human resources that create its part and the qualified workers can be considered as key company assets. The company has to employ not only researchers but also engineers who are able to manage the production, the sellers who are able to understand the technical part of their products and managers who understand the technical problems. Besides the employee structure (especially from the qualification point of view) the ability of company to innovate is influenced also by company marketing strategy, competition, relationship to universities and research institutions etc. (HUDEC, 2007).

The technological changes and innovations are the base for dynamic knowledge economy. The differences regarding innovation perception and institutional base for them can partly explain the differences in the economical performance. The strategic behaviour of the companies and alliances creation as well as their mutual influence and knowledge exchange between companies, research centres, universities and other institutions are the core of the innovation process. The researchers in the area of innovation and innovation policy creators focus their attention to efficiency of innovation creation, dissemination and utilisation. At the last several years the theory of competitiveness goes further to the role of the human capital and introduce the term competitiveness based on creativity in connection to education and conditions for innovation creation and dissemination. The importance lays in the high additional value creation as a result of creative process. Unlike of research and development that is mostly based on highly qualified labour force and infrastructure, the creativity infrastructure is based on connection of human capital and concrete environment (URBANČÍKOVÁ, 2007). The creative sector consists of creative industry and services that work on the profit creation principles but also consist of non-profit arts. Just this combination leads to high additional value creation in the branches as architecture, design and entertainment industry. It limits the competitiveness advantage appreciation that is based on the innovation profile of companies, regions or countries

(FLORIDA, 2002; BENEŠ, 2005). The level of the human capital is comparative advantage or on the contrary disadvantage for the enhancement or weakening of the regional position in the global competition. The human capital that is necessary for the innovation development is closely bound with social capital that exists altogether and with close relationship to human capital. Another possibility is to utilise or build the human capital altogether with social networks and to exploit the social networks potential in connection to community or relative relationships and other traditional institutions. In contrary to political, ethnical, social and religious sub cultures these relationships are characterised by strong and concentrated relationships. The existing networks cannot be ignored but in reverse have to be active in the regional development benefit. The practise of the social capital activation can be called as a partnership e.g. public-private partnership. The investments into social capital enable the regional policy realisation that is based on the consensus and which offer possibility effectively promote human capital, enable effective public services and infrastructure functioning, offer the satisfaction and high life quality for their citizens etc. (HUDEC, URBANČÍKOVÁ, 2007).

### **3. Innovation and human resources planning.**

The globalisation and discussion about economy based on the knowledge increase the interest about the role of the knowledge in the economical development. That is why the human resource development becomes one of the key themes at the national or regional level. The human capital level is seen as a comparative advantage.

The term development can be understood in the several ways and is a mixture of the different meanings and nuances. From the public sector point of view the development usually means an income increasing, higher number of labour positions, decreasing of unemployment or higher productivity. From the strategic and development point of view the development can be understood as improvement in the following areas (MALIZIA a FESER, 1999):

- Labour force (education and training, availability, cost);
- Infrastructure (availability, capacity, transport, telecommunication, etc.);
- Economical and social services and facilities (availability, capacity, university and other educational institutions, business incubators, industrial and scientific, sport and outdoor facilities, etc.);
- Environment (natural, business, cultural, etc.);
- Economical structure (structure of the economical base, diversification, etc.);
- Institutional capacity (management, knowledge, skills) for the economical development support.

At present the role of innovation is highlighted in many researches regarding regional development. The ability create innovation in the area of products, processes and organisation is understood as a determinant of business competitiveness whereas the spatial level of the region shows to be ideal for the innovation and cluster activities. The innovations as a key force orient the organisations to ambitious aims, leads to industrial renewal and contribute to development of the new economical branches. From the process point of view innovations have a character of system of interactions and changes between different functions and actors. Their experiences, knowledge and know how are mutually enhanced and the role of the human and social capital is strengthen. Some theories include into the innovation also the new forms of organisations (institutional innovations) and from the sociological point of view the interactive learning can be considered as basic aspect of the innovation process (LUNDVALL, 1992, 1994). The role of the change management is crucial for the concept of the global knowledge economy and also for the learning regions. The rapidly changing environment requires flexibility, fast reaction and versatility that is why the innovation capacity of the regions and the institution located in the region is very important.

The high quality labour force is an inevitable condition for the economical growth in the region. The level of the education does not automatically means economical growth, the graduation from the certain study branch, its utilisation in the work place and many other factors are strongly important as well (ZGODAVOVÁ and URBANČIKOVÁ, 2002). There are many study branches and even more job positions and that is why the everyday tasks at the regional labour market is to ensure harmony between two sides of the labour market:

- offer side and
- demand side.

The mutual connection between labour offer and demand can be characterised by two phenomena (Nekkers a kol., 2000):

- The problems of quantitative interconnections caused by unbalance between the number of labour force and required education and skills that are available at the labour market and the number of suitable working places.
- The problems of qualitative interconnection that arise as an unbalance between level and type of knowledge and skills of the labour force at the labour market and requirements on their quality and type at the demand side.

This differentiation is very important for the planning of the educational, re qualification and training programmes by the separate groups at the labour market. The optimization of the benefit of the education to economical growth is extra-complicated assignment problem. The different types of employer's preferences must be taken into account and they must be synchronised with the information about employees in order to harmonise the labour market. Of course it is almost impossible and one of the typical problem is the labour market transparency for both sides, labour force entering the labour market and employers. The creation of at least static regional system of labour market information is the rule in every country. It functioning and results are strongly dependent on the employability trend predictions, which represents very difficult process (HUDEC a URBANČIKOVÁ, 2004).

The strategy has to emphasis three human resource development aspects:

- to assure that education at all type of schools will be oriented to real needs in practice,
- to identify the main regional problems as a deficit in the competences and not offer,
- to put attention to all types of learning, not only education and training.

These three areas of strategy point out:

- competitiveness (the development of the relevant skills and competences in the area of regional labour force),
- employability (the support of all employees in order to take part in education and personal development) and
- social inclusion (support and encouragement of the disadvantage groups development).

The human resource development strategy should settle the aims not only for young people but also for the whole population in the region with regard to national strategic goals. The special attention should be devoted to young people who attend the labour market for the first time and they have strong will to learn. It is necessary to develop such abilities that will support the ability to overcome problems and challenges and to offer them such a knowledge and training that will help them to adapt to new conditions and to be flexible.

In order to implement the human resource development strategy, the tools at the offer and demand side should be defined. The measures at the demand side have to offer a lot of suggestions how to increase the demand for the partner institution that work at the sub regional level. The measures at the offer side should be aimed to increase effectiveness of individual and collaborative learning.

#### 4. Human Resources in the knowledge economy.

The ability to add value by knowledge creation and application become more important in the knowledge economy than access to traditional factors of capital, material and work. The education and development processes play the crucial role in this process. The ability to create and utilise the knowledge for ongoing improvement and radical innovations in the labour processes, goods and services is substantial for the regional progress. In the knowledge economy the several types of knowledge can be found (Tab. 1.):

Table 1: The type of knowledge

Knowledge	The knowledge description	The main transfer channel
„to know what“	Describes facts and information.	Educational institutions of all types
„to know why“	Includes rules, norms and acts that are necessary to correct potential mistakes.	Educational institutions of all types
„to know how“	Describes skills and abilities to do something concrete, the type of knowledge that is usually gained in the work process.	Depends on practical experience gained through tangible learning at the work place and by networks between industrial and business partners
„to know who“	Information about who knows something concrete and social ability to build the relationship connected to learning for the special groups or individuals and build on their professional expert knowledge.	Gains by understanding and learning from wide social interaction using professional contacts, customers, suppliers and other agencies and organisations.

Source: adjusted by author based on (Atalik and Fischer, 2002).

In connection to knowledge economy it is necessary to understand how the region perceives its human resources. They can be understood only as a work force that carry out in advance defined and planned activities but also as problem solvers, the flexible receivers of the information and potential innovators. It is necessary to define and understand the range of possibilities that are available for the institutions that influence the regional development because to understand them means to help make decision regarding regional development in the area of education where the education, work and innovation are very closely mutually connected (BROWN A DUGUID, 1991). The less educated people have a difficult position in the labour market in the knowledge economy society (GODDARD, 1999). The knowledge workers create the vitally important part of knowledge economy. It can be expected that they will pay attention to their own employability and economical attractiveness and that they will be aware of their market value. They will probably make effort to institutions in order to enable them education that will satisfy their needs (URBANČÍKOVÁ and ZUBALOVÁ, 2005).

The systematic development of the human resources is important area for national politicians in all over the world. It is reflected in increasing emphasis given to further education, equality, social inclusion, and employability and knowledge economy. In the knowledge economy the regions cannot effort to vast one third of their potential labour force as a results of their inadequate education and social inclusion (HUDEC, URBANČÍKOVÁ and ZUBALOVÁ, 2005).

The successful modern economies are built on the ability of people because their knowledge and skills are key factors for regional economies success. The people are the new ideas sources. In the fast changing world economy the skills have to be permanently up dated. If

not, the regional competitiveness will be significantly falling down. The lack of skills slow down innovation and hinder investments. This problem is very significant especially for the small institutions and regions that have a problem to recruit the high quality graduates or they cannot afford to invest into education and training. But unfortunately in many institutions or regions the top managers underestimate the value of skills very often. It includes the area of managerial skills as well.

Especially in the regions that have a high price of production factors, the long term sustainable development is connected to ability increase the institutional performance by ongoing innovations, knowledge creation and learning. Both, the individual learning as well as institutional learning is inevitable but not sufficient condition for innovation. The individual learning includes the adoption of information and knowledge, understanding by formal and non-formal education and learning-by-doing. The institutional learning depends on individual learning. It can be understood as a process in which institution raise knowledge gained by individuals and transfer them into the group knowledge form using dialog, discussions, knowledge sharing and observations. This process undergoes through internal and external networks. The result of institutional learning is such a type of the knowledge capital that can be utilised in the institution for the very long time (FUCHSOVÁ a KRAVČÁKOVÁ, 2004).

The knowledge becomes more and more important in the process where material sources are replaced as a predominant source of prosperity. Besides the non tangible assets of the region become more mobile, the existence of spatially immobile clusters in which the activities for additional value creation are carried out influence the production location especially its tangible elements. The final effect is that production is in large extend locally bind. The proximity and location play key role in the process of knowledge transfer. It comes from non-tangible character of knowledge and from the interactive character of innovation process.

## 5. Conclusion

The new information technologies and increasing demand on knowledge and skills bring the high interest of human resource managers regarding human resource development activities and strategies. The human resource development becomes to be considered as a crucial for further success. The values and principles supported by economical theories and theories of human and social capital have to adopt in practise by human resource managers and decision makers.

The progress in the area of human resources in the knowledge economy is quite often slow down by different individual or group interests, the old way of thinking that hinder critical thinking and change. At present there is a high need for the new approaches to strategy creation. The strategic thinking influence the human resource theories and vice versa. The support of the labour force creativity and their integration into institutional changes can bring the significant competitive advantage. The knowledge creation and their utilisation for improvement and innovation of the work processes become unique characteristics of institutions. The social capital quality, trust, respect, ethic, meaningful work and practical wisdom gain important at all managerial level.

It is important to realise that current changes do not touch only private sector but also the public sectors and especially regional self governance. The regions become very important level of strategic planning and fulfil strategic tasks. A lot of very theoretical but also practical reasons exist for it. Many of them are known as regional policy principles and have their economical and social dimensions. The level of human capital is seen as competitive advantage. There is no doubt that human capital and its quality are the decisive factor whether region will innovate or not.

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