ESZTERHÁZY KÁROLY COLLEGE

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R&D, INNOVATION AND PROJECTMANAGEMENT

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INTRODUCTION

1. Preface

The aim of the electronic lecture note is to demonstrate the R&D activity in the context of complex system of geography, the processes of its spatial and temporal change, furthermore its rules according to theoretical and practical aspects. The most important steps of project management will be demonstrated; moreover our purpose is to widen the approach of the pupils by the help of practical topics connected to the issue.

The lecture note containing theoretical knowledge helps to study the basic tool-box of region-manager and resource and risk analyser geographer through the seminars, in addition we try to develop the students' ability for adapting. Supporting this aim, the knowledge of each issue is demonstrated by example projects through the seminars.

2. Content overview

Lesson 1: The definition of the R&D, its characteristics. The Frascati manual

Lesson 2: Concept of innovation, types and characteristics

Lesson 3: Characteristics of innovations (Spatial and temporal spread of innovations. Tools of spatial spread of innovations)

Lesson 4: Strategical planning (experiences of creating and appraising regional innovation strategy)

Lesson 5: Innovation performances and policies. The role of regional innovation in creating knowledge based economy

Lesson 6: Regional policy (Traditional regional policy. Innovation-oriented regional policy)

Lesson 7: Project management I (Project leading. Project organisations. Project planning I)

Lesson 8: Project management II (Project planning II. Project control)

Lesson 9: The role of CSR in projects

Lesson 10: Demonstration of national and international case studies

Lesson 11: Project approach in the human geographical field trips

Lesson 12: Project work in field trips for regional development

LESSON 1: THE DEFINITION OF THE R&D, ITS CHARACTRISTICS. THE FRASCATI MANUAL

1. Objectives

The aim of this chapter is to demonstrate the definition of the R&D (research and experimental development), its types and characteristics (basic researches, applied researches, experimental development) according to the literature. The situation of the R&D sector in Hungary and moreover the characteristics of Frascati Manual will be demonstrated in the aspect of practice.

2. Content

The definition of R&D The classification of R&D Basic and applied research, experimental development The R&D in Hungary The Frascati Manual

3. Detailed expostion

3.1. The definition of R&D

According to the definition of the OECD: "R&D is any creative systematic activity undertaken in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this knowledge to devise new applications. It includes three types of activity: fundamental research, applied research and experimental development".

The research and experimental development (R&D) includes the creative work in order to increase the stock of knowledge (including the knowledge of man, culture and society) moreover to use this new knowledge to devise new applications.

The R&D is such an activity which is correlated with several scientific and technicalbasic activities as well. Although these activities could probably relate strongly to R&D even due to the information-stream or in the aspect of process, institutes and staff, we must exclude them from observation in the measurement of R&D. The R&D and relating topics have to be discussed under two titles: the family of scientific and technical activities and the process of scientific and technical innovation.

Nowadays the importance of research and experimental development has increased among all economic sectors. Consequently growing interest can be experienced among the Government, enterprises and public opinion. Recognizing the determinative role of R&D in increasing the competitiveness and productivity of economy, Hungary did significant steps in the past 5 years (2002-2007) in order to make the innovation to the engine of the economy for 2013 (Molnár 2010).

Fulfilling the requirements of the modern age, the R&D&I (research, development and innovation) expression is used widely nowadays, which emphasizes the even greater importance of research by the integration of innovation primarily in the tenders of European Union (Nyíri et al. 2009).

We must note that R&D can be considered as probably the most important basicelement of innovation activities.

3.2. The classification of the R&D

To understand R&D activity and its role, one must examine it in terms of the organizations performing and funding R&D (institutional classification) and in terms of the nature of the R&D programs themselves (functional distribution).

It is usual to use basic institutional classifications in national (and international) R&D surveys, as they facilitate the survey process, and combine them with functional distributions to obtain a better understanding of the situation described by the statistics.

In the institutional approach, attention focuses on the characteristic properties of the performing or funding institutions. All units are classified according to their principal (economic) activity. In this approach, all of the R&D resources of the statistical unit are allocated to one class or sub-class. The advantage is that R&D data are generally collected within the same framework as regular economic statistics.

In the functional approach, attention focuses on the character of the R&D itself. The nature of the R&D activities performed by the unit is examined, and these are broken down in various ways to show their distribution by type of R&D, product field, objective, field of science, etc. Thus, the functional approach provides data that are more detailed and, since international differences in institutional patterns have less influence, they are theoretically

more internationally comparable than those resulting from institutional classification. This approach is, however, sometimes difficult to apply in practice.

The OECD defines intramural R&D (within the unit) and extramural R&D (outside the unit, purchased) activities in the first Oslo Manual.

Intramural R&D (within the unit): Creative work performing the enterprises in order to use the new knowledge for devising new applications.

Extramural (outside the unit, purchased) R&D: It is the same activity like in the case of intramural R&D, but here it means the adaptation the results of the state research centers and other enterprises – including the other participant enterprises of the group.

3.3. The basic and applied research, experimental development

Research and experimental development is any creative systematic activity undertaken in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this knowledge to devise new applications.

The basic research, applied research and experimental development are listed as the R&D activities. The Act C of 2000 on Accounting defines these concepts exactly.

The "basic research" is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundation of phenomena and observable facts, without any particular application or use in view. In the case of targeted basic research it is expected, that the resulted greater knowledge would be appropriate for solving the known or assumed merging problems. In many cases the results of the research has not got direct or immediately business benefit, but in long-term it could provide the base of several products, applied research. The universities perform mainly basic researches.

The "applied research" means investigation directed to acquire new knowledge with the purpose that the obtained knowledge could be used to produce new materials, products or devices, to install new processes, systems and services, or to improve substantially those that were already produced or installed. It contains the creation of elements of complex systems needed to the industrial researches with the exception of prototypes for commercial usage. The applied research – in spite of the basic research – searches the answers for the specific problems of practice.

The experimental development means the systematic application of knowledge obtained through research and improved by experience with the purpose to create new materials, products and structures, to implement new technologies, systems and services or to achieve substantial improvements in those that are already existing or implemented; in the case of industrial research it means putting the results into plans and creating non-commercial prototypes.

3.4. R&D in Hungary

Although the importance of R&D activity is unquestioned in the economic and social area, the unfavorable market and strict budget conditions have an impact in this field as well. It is indicated, that Hungary spent 1,14 % of its GDP on R&D in the year of 2010 after the increase of the previous years' data (2008: 1%, 2009: 1,15%). The decrease is the consequence of the narrowing state budgets. (Table 1, Figure 1).

	A kutató-fejlesztő helyek						
Év	létszáma¹ az összes foglalkoztatott százalékában	ebből: kutatók, fejlesztők	beruházásai a nemzet- gazdasági beruházások százalékában	ráfordításai a bruttó hazai termék (GDP) százalékában			
2001	0,59	0,38	0,76	0,92			
2002	0,61	0,39	0,77	1,00			
2003	0,59	0,38	0,76	0,93			
2004	0,59	0,39	0,61	0,87			
2005	0,60	0,41	0,73	0,94			
2006	0,66	0,45	0,90	1,00			
2007	0,66	0,44	0,60	0,97			
2008	0,71	0,48	0,62	1,00			
2009	0,79	0,53	0,75	1,15			
2010	0.83	0.56	0.82	1.14			

Table 1. The main indicators of research and development

¹Teljes munkaidejű dolgozóra átszámított létszám.

(Source: KSH 2011)



Figure 1: The R&D calculated number and R&D inputs in percentage of previous year (Source: KSH 2011)

310,2 billion forint was spent on R&D inputs in the economy level in the year of 2010, the rate of growth has been significantly slowed comparing to data of previous years (it was increased to 299,16 billion forint in2009 from 266,4 billions in 2008).

The role of enterprises and abroad funds have increased in financing the R&D inputs. The funds of enterprises increased from 46,4 % of 2009 to 47,4 %, the central governemental support sensibly decreased from 42 % of 2009 to 39,3 %. 12,4 % of funds are derived from abroad: it means a higher rate with 1,5 percentage point comparing with the previous year.

The number of people working in R&D has increased with even higher rate for 2007: their share increased from 0,79 % of 2009 to 0,83 %. The headcount share by sectors has changed: the tendency has continued, as the weight of enterprises is growing, while the proportion of higher education, research and development institutes and other research places is reducing (Table 2).

The number of research places increased summarized with 2,9 % - in the case of enterprises this rate is 5,9 %, universities, colleges 1,1 % higher, while in the case of research institutes it decreased with 3.6 %. This menas that the tendency, which can be characterized by the expansion of enterprises, and regression of higher education, is changeless.

Év	Kutató-fejlesztő intézetek és egyéb kutatóhelyek	Felsőoktatási kutatóhelyek	Vállalkozási kutató- fejlesztő helyek	Összes kutatóhely
2005	8,0	62,2	29,8	100,0
2006	7,5	55,7	36,8	100,0
2007	7,7	52,7	39,6	100,0
2008	6,9	52,1	40,9	100,0
2009	6,8	48,1	45,1	100,0
2010	6,4	47,2	46,4	100,0

Table 2: The composition of research and development places by sectors

(Source: KSH 2011)

Change can not be observed in the case of spatial distribution of research units. Due to half of the research centres work in Cental-Hungarian Region, it was the first – owing to Budapest - in 2010.

The role of enterprises have been even strenghten in financing R&D, while central budget has decreased. Due to its characteristics, the budget is the main financing background of the R&D activities of research institutes and the higher educational research places (we can meditate on its social-economic utilization), it provided backing for 75 % of their summarized R&D inputs, while this is only 14 % in the case of the sector of enterprises (Figure 2.).



Felhasználás

Figure 2: The stream of budget and utilization of R&D inputs by sectors, 2010 (Source: KSH 2011)

The R&D and state support division of Deloitte Hungary Ltd. carried out a survey for the first time (namely: Corporation R&D Report 2010), which focused on cca. 500 local middle and large enterprises relating to the influencing factors of their R&D activitiy, especially the tax benefits and supports.

According to the Report we can tell, that 15 % of the observed enterprises did not spend on R&D at all in the year of 2010 while 53 % of them spent less than 1 % of their turnover. Only 12 % of the analyzed enterprises answered, that they spent more than 5 % of their turnover on R&D (Figure 3.).

The Report appointed that till the regulation conditions are not going to change, 75 % of the enterprises performing R&D activity will not increase their R&D inputs in the following years, in addition 9 % of them calculate with cut of inputs.

Does your company spend for R&D in Hungary; if the answer is yes: how many percentages of the income of 2010 was spent for this purpose?



Figure 3: One of the important questions of Enterprise R&D Report 2011 (Source: Deloitte Hungary 2011)

3.5. The Frascati Manual

In June 1963, the OECD met with national experts on research and development (R&D) statistics at the Villa Falcioneri in Frascati, Italy. The result was the first official

version of the **Proposed Standard Practice for Surveys of Research and Development**, better known as the Frascati Manual.

Since the fifth edition was issued in 1994, attention has increasingly been paid to R&D and innovation as key elements in the knowledge-based economy. Reliable and comparable statistics and indicators to monitor this area are of crucial importance. This 6th edition therefore makes an effort to strengthen various methodological recommendations and guidelines, in particular for improving R&D statistics in the services sector and collecting more detailed data on human resources for R&D. Because globalisation is a challenge for R&D surveys, the Manual recommends some changes in classifications in an attempt to address this issue.

Today's R&D statistics are the result of the systematic development of surveys based on the Frascati Manual and are now part of the statistical system of the OECD member countries.

The Manual efforts to increase the understanding of the role played by science and technology by analyzing national systems of innovation. Furthermore, by providing internationally accepted definitions of R&D and classifications of its component activities, the Manual contributes to intergovernmental discussions on "best practices" for science and technology policies. The Frascati Manual is not only a standard for R&D surveys in OECD member countries. As a result of initiatives by the OECD, UNESCO, the European Union and various regional organisations, it has become a standard for R&D surveys worldwide.

The demonstration of the Manual:

1. This Manual was written by and for the national experts in member countries who collect and issue national R&D data and submit responses to OECD R&D surveys. Although many examples are given, the Manual is mainly intended as a reference work.

2. Chapter 1 is addressed principally to users of R&D data. It provides a summary of the coverage and contents of the Manual in order to help them to use it. It also indicates why certain types of data are, or are not, collected, the problems of comparability they pose and what can be said about their interpretation. The theme of the Manual is the applcation of R&D statistics.

3. The Manual was first issued nearly 40 years ago and deals exclusively with the measurement of human and financial resources devoted to research and experimental development (R&D), often referred to as R&D "input" data.

4. Over the years, input statistics have proved to be valuable indicators and have been used in various national and international reports. The OECD reports on science and technology indicators (OECD, 1984; OECD, 1986; OECD, 1989a); the Science and Technology Policy Review and Outlook series and the *Science, Technology and Industry Scoreboard* (OECD, every second year) all provide useful measures of the scale and direction of R&D in various countries, sectors, industries, scientific fields and other categories of classification. Administrations concerned with economic growth and productivity rely on R&D statistics as one type of indicator of technological change. Advisors concerned with science policy, but also with industrial policy and even general economic and social policies, use them extensively. R&D statistics are now an essential background element for many government programs and provide an important tool for evaluating them. In many countries, R&D statistics are regarded as a part of general economic statistics.

5. However, R&D statistics are not enough. In the context of the knowledge-based economy, it has become increasingly clear that such data need to be examined within a conceptual framework that relates them both to other types of resources and to the desired outcomes of given R&D activities. This link may be made, for example, via the innovation process (see Section 1.5.3) or within the broader framework of "intangible investment", which covers not only R&D and related S&T activities but also expenditures on software, training, organization, etc. Similarly, R&D personnel data need to be viewed as part of a model for the training and use of scientific and technical personnel. It is also of interest to analyze R&D data in conjunction with other economic variables, such as value added and investment data. The Manual is not based on a single model of the S&T system; its aim is to make it possible to produce statistics that can be used to calculate indicators for use in various models.

6. The Manual has two parts. The first consists of seven chapters in addition to this introductory chapter. They present recommendations and guidelines on the collection and interpretation of established R&D data. While all member countries may not be able to comply with the recommendations as stated, there is consensus that these are the standard to which all should aspire.

7. The second part consists of eleven annexes, which interpret and expand upon the basic principles outlined in the preceding chapters in order to provide additional guidelines for R&D surveys or deal with topics relevant to R&D surveys. These annexes can be used for information purposes but are not necessarily an up-to-date interpretation of the subject.

8. The Manual is published both as a paper version and an electronic version available on the Internet. The electronic version will be more frequently updated with new material.

4. Questions

- 3.4. Determine the concept of R&D!
- 3.5. How could R&D activity be classified?
- 3.6. Compare the main characteristics of basic and applied research!
- 3.7. What were the main characteristics of R&D in Hungary in the year of 2010?
- 4.5. Demonstrate the main criterions of Frascati Manual!

LESSON 2: CONCEPT OF INNOVATION, TYPES AND CHARACTERISTICS

1. Objectives

The aim of chapter is to demonstrate the concept of innovation, its types and characteristics of certain types according to the literature. Revolutionary innovations of János Kornai will be demonstrated, which gives facilities for practical homework.

2. Content

Concept of innovation Types of innovation Revolutionary innovations

3. Detailed exposition

3.1. The concept of innovation

Innovation theory is a relatively young science. "Dictionary of foreign words and expressions" published in 1983 (Bakos, F. (editor), Akadémiai– Kossuth Kiadó, Budapest) defines the word of innovation as a rarely used, Latin origin, meaning newness. We will not be more clever if we consider the dictionary of Webster published in 1985 (Webster's Ninth New Collegiate Dictionary, Merriam-Webster Inc. Publisher, Springfield, Ma, USA), in which the determination of innovation is "introduction of something new", and "new idea, theory, tool" (Pakucs – Papanek 2002).

According to Rechnitzer (1993) innovation means new ideas, new activities, new products, and new human and behaviour methods. These are phenomenon, objectives which are different from the previous existed or derived from their modification or restructuration; they could derived from individuals or groups and they are able to be applied and introduced among even wider social and economic groups. Through adopting this processes, the adaptors do their activity in a higher level and their functions broaden (Fehérvölgyi 2010).

The definition of innovation as used today is the following (published in previous edition of Frascati Manual, demonstrated in pervious chapter): "Innovation is an alteration of

an idea to a new, modern product introduced to market or to a new, improved operation used in industry and trade; new approach of any social service" (Pakucs – Papanek 2006).

The foundation of today concept of innovation is connected to the Austrian economist Schumpeter (1939). Schumpeter distinguishes the five basic situation of innovation:

a, Creation of a new product – product, which is not known by consumers; creation of new quality product.

b, Introduction of a new production process, which is based not conditionally on new scientific investigations, but could be a new-type of commercial treatment of product.

c, Enter to new markets, where the enterprise has not previous acted; creation of new market belongs here.

d, Uncover of new resources, sources of semi-finished goods independent from being totally new or previously existed, only the enterprise have utilized them.

e, Creation of new industrial organisation, that could be creation of monopole situation, but franchise belongs to here as well.

The key elements of the above listed things is the newness, it appears in every definition. Schumpeter did not only define innovation, but connected it to economic development and enterprise. The essence of his theory is that the economy where enterprises reproduce themselves in the same form, use the same products, technologies and materials, transport to the same markets and have the same forms is a static one, even when a quantitative increase can be shown. The essence of economic development is the innovation, the emergence and introduction of novelty, the entrepreneur realizing innovation is the key actor in this process (MBVK 2007).

Creation, utilization and diffusion of knowledge is a basic element of economic growth, development and healthy national being; thereby the demand on better measurement of innovation is a central question. The nature and appearance of innovation has recently changed, so it becomes necessary that indicators measuring innovation process would reflect better on these changes and provide adequate tool of analysis for innovation-policy makers.

Related analysis was carried out in the 1980's and 1990's. First edition of Oslo Manual (published in 1992) contained the conceptual set and toolbar relating to surveys and theirs results, primarily the manufacturing technology product and process innovation. Surveys led to further modifications in the structure of Oslo Manual, finally the second edition was published in 1997, that exceeds the investment to service sector.

The second edition of Oslo Manual (2005) is a result of three years cooperation by OECD and European Commission, in which specialists of 30 countries took part. The main change comparing to previous editions is the wider definition of innovation. The definition of innovation is expanded to include two additional types of innovations, organisational innovation and marketing innovation:

"Innovation is

- a, new or significantly improved product (good or service) or process,
- b, a new marketing method or
- c, or a new organisational method
- d, inbusiness practices, workplace organisation or external relations."

Considerable change is the removal of "technology" word from product and process innovation. It aims not the reduction of importance of technology innovation, but makes the definition opener to accept enterprises having lower R&D intensity and to the service sector (Katona 2006).

3.2. Type of innovation

Four types of innovations could be distinguished in the aspect of origin: invention, improvement, copy and synthesis (Hisrich-Peters 1992).

• Invention or original discovery means the creation of products or processes that are novelties or untried. Some of them could make revolutionary penetration, for example the invention of steam-engine, transformer or telephone. Invention in itself is only a creative idea, not an innovation, since usable product or service has to be created from it.

• Improvement means the application of an existing product, service or process in other field in a different way. For instance the McDonald's can be mentioned, which has developed an international network. The idea was to supply cheap meals with quick service, easily available places.

• Copy covers not only the copy of product or service, since the entrepreneur adds his own ideas and creativity in order to improve and develop the product/service, and getting competitive advantage by that. Good examples are the "little companies" in the market of personal computers, which appeared in the 1980's, in the shadow of IBM like Compact or Lucky Goldstar, later the Dell Computer. They did nothing else but marketing IBM clones.

• Synthesis means the combination and new utilization of the existing notions, products or ideas. New kinds of applications are sought or found according to the synthesis. Successful synthesiser is the Federal Express that combined the existing package delivery with new carrying opportunities, by which it shorted and made the package sending safer (BMVK, 2007).

According to Lengyel and Rechnitzer, novelties could not only prevail in socialpolitical sector. The economic-organisational product and activity and social-political novelties are also the prevail segments of innovations.

• The economic-organisational innovation means the appearance of elements and carrying of market economy, moreover its diffusion without limit. If there is an environment, where the institutional conditions of free enterprises are given, it could be limited by economic opportunities and activity of individuals and groups.

• Product innovations are connected strongly to the concept of technical innovation, but it is to emphasize that it means not only the invention of an unknown product or process: it involves the application, which restructures processes, gives new information to appraisal.

• The activity innovation is strongly connected to the above written, when new information, communicational places, immaterial knowledge are used for improving and changing the economic and life-functions.

• Social-political innovations mean the renewal and conversion of community living places, moreover the relating actions, organisations and institutions (Fehérvölgyi 2010).

Innovation is classified into four categories by Freeman, it means a little different classification than the above written (Buzás et al 2003)

• Gradual or modifier innovations; these are little changes, which aims the improvement of performance or cost reduction; and redeems a part or competent with another in the technological process.

• Radical innovations, which lead to new product based on new technology (for example CD player) and to new product based on existing technology (MP3 player).

• Procedure changes, which mean the reformation of certain technologies (for example: use of electrolysis instead of flotation for gaining metal from ores).

• Paradigm shift, which means technical revolutions, also appearance of several new technologies (for example the discovery of microprocessor) (BMVK, 2007).

The wider scale definition of innovation is the main change of the third edition of Oslo Manual comparing to previous editions. The definition of innovation is expanded to include two additional types of innovations, organisational innovation and marketing innovation over product and technology innovation.

Considerable change is the removal of "technology" word from product and process innovation. It aims not the reduction of importance of technology innovation, but makes the definition opener to accept enterprises having lower R&D intensity and service sector.

- Product innovation is the introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses. This includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics,
- A process innovation is the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software.
- A marketing innovation is the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing.
- The organizational innovation could bring novelty in three fields: in business practice; in processes relating to manage of work and management systems; in workplace organisation, which could result new organisational structures or decision making method; in external relations, what involves the types of relations to other firm and public research institutes. An organisational innovation is the implementation of a new organisational method in the firm's business practices, workplace organisation or external relations.

It is important to survey purposes to be able to distinguish between innovation types in borderline cases. A survey was carried out about innovation (it was CIS4 survey) in the EU members – before publishing Oslo Manual – when the majority of frame conditions were built in questionnaires. Questions covered four types of innovations, although questions concerned to marketing and organisational innovation was separated from each other (Magyar Innovációs Szövetség).

3.3. Revolutionary innovations

Accoring to János Kornai, significant revolutionary innovations are demonstrated in Table 3-9. Innovations of Tables were selected by studying different collections from a larger database.

Aspect of selection was the following: widely used, well known products for majority, what are used/known not only by a little group of specialists. Text of study mentions some excluding aspects: 1. Novelties in the sense of Schumpeter can be listed among the invention. Inventions initiated and financed by army are excluded, too. 2. New products and services applied in the field of health care were excluded (for example: medicines, diagnostic equipment), because the selection of most important – of more thousand new medicines and medical tool – would have been very difficult.

Literature relating to technical development and innovation distinguishes new products and technologies. Appearance of these two categories is usually correlated. For instance the copier is a new product as well indicates the appearance of a new technology. Table 1. sorts new products, since Kornai thought that these are considerable in everyday life (Kornai 2010).

Printed circuit	1961	USA	Fairchild
Tone phone	1963	USA	AT&T
Fax	1966	USA	Xerox
Optical cable	1970	USA	Corning
Electronic pocket calculator	1971	USA	Bowmar
Text editor	1972	USA	Wang
Microprocessor	1974	USA	Intel
Laser printer	1976	USA	IBM
Modem	1978	USA	Hayes
MS-DOS operation system	1980	USA	Microsoft
Hard disk drive	1980	USA	Hard disk drive

Graphical user interface	1981	USA	Xerox
Laptop	1981	USA	Epson
Touch screen	1983	USA	Hewlett-Packard
Mobil phone	1983	USA	Motorola
Mouse	1984	USA	Apple
Internet search-site	1994	USA	WebCrawler
Pendrive	2000	USA	IBM
Skype	2003	Estonia	Skype
YouTube	2005	USA	YouTube

(Forrás: Kornai, 2010)

Table 4. Revolutionary innovations (Household, meal, clothes)

Teabag	1920	USA	Joseph Krieger
Electric hand-held hair dryer	1920	USA	Hamilton Beach
Dowel	1920	UK	Rawlplug Co.
Centrifugal machine	1924	USA	Savage
Automatic toaster	1925	USA	Waters Genter Co.
Steam iron	1926	USA	Eldec
Electric fridge	1927	USA	General Electric
Air condition	1928	USA	Carrier Engineering Co.
Neon lighting	1938	USA	General Electric
Instant café	1938	Switzerland	Nestlé
Electronic clothes dryer	1938	USA	Hamilton Manufacturing
Nylon	1939	USA	DuPont
Espresso machine	1946	Italy	Gaggia
Microwave oven	1947	USA	Raytheon
Drive-in fast food	1948	USA	In-n-Out Burger
Transparent adhesive film (Saran)	1949	USA	Dow Chemical
Polyester	1953	USA	DuPont

Teflon	1956	France	Tefal
Velcro	1957	USA	Velcro
Run shoe	1958	UK	Reebok
Halogen lamp	1959	USA	General Electric
Food processor (multi-purpose)	1960	USA	Roboot-Coupe
Tetra Pak	1961	Sweden	Tetra Pak
Metal box for storing drinks	1963	USA	Pittsburgh Brewing Co.

(Source: Kornai, 2010)

Table 5. Revolutionary innovations (Health, beauty-care)

Adhesive plaster	1921	USA	Johnson & Johnson
Paper tissues	1924	USA	Kimberley-Clark
Kitchen towels	1931	USA	Scott Paper Co.
Electric shaver	1931	USA	Schick
Aerosol	1947	USA	Airosol Co.
Disposable diapers	1949	USA	Johnson & Johnson
Transistor hearing aid	1952	USA	Sonotone
Roll-on deodorant	1955	USA	Mum
Disposable razor	1975	USA	BIC
Washing liquid	1982	USA	Procter & Gamble

(Source: Kornai, 2010)

Table 6: Revolutionary innovations (Office)

Scotch tape	1930	USA	3M
Ball pen	1943	Argentina	Biro Pens
Correction fluid	1951	USA	Mistake Out
Copier	1959	USA	Haloid Xerox
"Post-it" adhesive mark label	1980	USA	3M

(Source: Kornai, 2010)

Table 7: Revolutionary innovations (Transportation)

D 1 /	1001		
Escalator	1921	USA	Otis
Parking meter	1935	UK	Dual Parking Meter
6			
Scooter	1946	Italy	Piaggio
	1710	10003	1 100010
Jet airliner	1952	USA	Comet
	1702		
Black box (aeroplanes)	1958	UK	S Davall & Son
Black box (derophiles)	1750	UII	

(Source: Kornai, 2010)

Table 8: Revolutionary innovations (Freetime)

Drive-in	1933	USA	Hollingshead
Polaroid camera	1948	USA	Polaroid
Walkman	1949	Japan	Sony
TV remote control	1956	USA	Zenith
Plastic building-toy	1958	Denmark	Lego
Barbie doll	1959	USA	Mattel
Quartz watch	1969	Japan	Seiko
Video Recorder (VCR)	1971	Netherlands	Philips
Rubik's cube	1980	USA	Ideal Toys
Compact disc	1982	Netherlands,Japan	Sony, Philips
Portable video game	1989	Japan	Nintendo
Digital camera	1991	USA	Kodak
On-line book trade	1995	USA	Amazon
DVD	1996	Japan	Philips, Sony, Toshiba

(Source: Kornai, 2010)

Table 10: Revolutionary innovations (Trade, banking)

Grocery store	1930	USA	King Kullen

Shopping cart	1937	USA	Humpty Dumpty S.market
Supermarket	1950	USA	Northgate Mall
Debit card	1950	USA	Diners Club
Credit card	1958	USA	Bank of America
ATM	1967	UK	Barclays Bank
Tally-ho	1973	USA	Federal Express
Barcode	1974	USA	IBM
E-commerce	1998	USA	eBay

(Source: Kornai, 2010)

4. Questions

- 4.1. Define the concept of innovation!
- 4.2. How can we classify innovations?

4.3. Choose one of the revolutionary innovations and show the circumstances of its birth and spreading!

LESSON 3: CHARACTERISTICS OF INNOVATIONS (SPATIAL AND TEMPORAL SPREAD OF INNOVATIONS. TOOLS OF SPATIAL SPERAD OF INNOVATIONS)

1. Objective

Innovations will be characterized in this theoretical lesson. The spread of innovation is unequal in spatial and temporal segments as well it is influenced by several factors that will be analysed. Adaptation and spread of news is an important analysis factor, since it has got impact on the performance, competitiveness and opportunities of market participants.

2. Content

Characteristics, aims and causes of innovation failures Innovation chain Spatial and temporal spread of innovations The spread of innovations

3. Phrasing of lesson

3.1. Characteristics, aims and failures of innovations

According to Chikán (2008) the basic characteristics of innovation are the followings: consumer-orientation, novelty, uncertainty. In the aspect of consumer the novelty value is the accumulation of the new characteristics recognized by the consumer of the new solutions. The Oslo Manual (OECD-Eurostat, 2005) emphasises that product, process, marketing method or organisational solution must be new or significantly developed to the firma. Therefore innovations are not only those, which are primarily implemented in the world, but which are only new to firma.

The Oslo Manual determines implementation as other important characteristic of innovation. It means that a new product could be called innovation only when it is introduced to the market. New technology, marketing method, organisational solution becomes innovation when the firma introduces it to the business. The Schumpter-concept appears in the definition: the bearing of innovating intention is the certain firma (innovator), not the inventor or the tool owner.

The characteristics of innovations can be studied in Table 10. edited by Gábor Kozma.

I. Relative advantage		
1. economic advantage		
2. social advantage		
3. preventive innovation		
II. Compatibility		
1. social-economic values and threats		
2. previously created notions, experiences		
3. consumer demands on innovations		
4. name of innovation		
III. Complexity		
IV. Visibility		
V. Trialability		

Table 10: Characteristics of innovations



The aims of innovative firm are not eventually different from the aims of noninnovative firm. Therefore innovation is a tool, which enhances the profit and the value of the company. According to Davila et al. (2006) firms could not be grown by reducing cost or reregulating processes, since innovation is the most important tool of high growth.

Many authors make innovation associated to competitiveness. Porter (1993) considers innovation as series of little developmental steps, which provides opportunity to sustain competitive advantage permanently. Innovative firma spends significant part of their income for realizing innovation aims, R&D, developing new products, renewing the technology, widening the market or renewing the organisation. Rate of money for innovation varies from 0,5 % to 20 % of the income. Cost for innovation is only 4 % of income even in case of the most innovative economies. Of course these costs involve the marketing, design, information technological, educational and manufacturing costs as well. Costs could be very different up to sectorial, size and position of market.

The most frequented aims of innovation are the followings:

- 1. Improve quality
- 2. Discover new markets
- 3. Broaden assortment
- 4. Reduce wage costs
- 5. Optimize manufacturing processes
- 6. Reduce material demand
- 7. Reduce environmental pollution
- 8. Replace of recent product/supply
- 9. Reduce of energy consumption
- 10. Conformity to changing regulations

Causes of innovation failure:

Implementation of aims of innovation is not a simple task, since – according to experiences – the majority of innovation initiation will not be successive. Different researches supply differ data about success of innovation. According to Philip Kotler (1998) the rate of successful innovation investigations is only 10 %. From 3000 new product idea only 4 could be realized, which are introduced to market, moreover only one will be successful. Unsuccessfulness is inevitable in case of innovation, so risk-taking is necessary for success. It could be seen contradictory that despite of high failure why do enterprises realization innovations? The answer is very simple: if there is not any innovation, the probability of bankruptcy is 100%.

We can experience that potential good projects are not realized in case of larger enterprises due to certain considerations. Bureaucracy, average-level management have interest in stability and unchanging, so they are incline to refuse new ideas reference to budget or not collated to the strategic goals of the company. Open-organisations try to facilitate it by early appraising of opportunities, common negotiating of problems, learning from failures.

Failures are often derived from external causes, not from internal, but organisational culture could be mentioned as internal cause. O'Sullivan (2002) identified the followings as internal causes of failure of innovation:

- 1. Weak management
- 2. Weak organisation
- 3. Weak communication

4. Weak abilities

5. Weak knowledge management

According to the process of innovation, several failure factors can be appeared. For example:

1. Non-cleared goals - not all of the project participants know the goals

2. Weak synchronisation of actions, which could refer to synchronisation problems of management

3. Weak team work – behaviour of team members are not appropriate, responsibilities and decision-making are not clear

4. Lack of following results

5. Weak communication and information (Baranya Megyei Vállalkozói Központ, 2007)

3.2. Innovation chain

The concept of spatial diffusion and innovation are connected inseparably. In this context innovation means novelty only in sense of general, moreover it does not cover the technical fields only. Any material product, immaterial novelty, social institution, organisational form, solution can be mentioned as innovation in diffusion research. Nowadays this wide-sense interpretation is generally adopted. It seems to be not so easy, that the concept of innovation is shifting to a complex process, where there are elements with very different characteristics and quality (mainly in the aspect of spatial marks). This process is the innovation chain that has four typical elements, which are inseparable from themselves: invention (idea), innovation (marketable product, etc.), diffusion (diffusion, spread), adaptation (application, utilization). There is no innovation without invention, but diffusion, application do not become real innovation without adaptation.

 Invention depends on personality; thereby its appearance could be random in the space. This chain segment is the emergence points of big ideas, inventions, which can be analysed by the birth, origin place of famous persons, moreover by drawing talent maps. This analysis are frequented in the international practice, but have got risks at the same time, since several social-cultural factors could modify the "density of talent". Language is one of these factors, creators using world languages have multiple advantages comparing to creators using smaller languages. Hereby it is worth selecting languageneutral groups (for example musicians) in the international comparative talent analysis.

- Well defined, favourable social conditions (for instance organisational background, capital) are necessary to become innovation from an idea. These conditions are even segregated in a regional aspect, typically in larger social centres. The Silica-valley of California is rather the concentration zone of capital, not of talents.
- Diffusion networks, channels are new elements in the diffusion of innovation. On the one hand these are informational systems and mechanisms about the product (from rumour to mass-communication), on the other hand networks, that provide diffusion in the sense of physics.
- When "product" reaches the potential users, a newer factor comes into view: the adaptation ability of adaptor that depends on culture (Nemes Nagy, 1998).

3.3. Tools of spatial and temporal spread of innovations

Model of Table 4 demonstrates the temporal and spatial spread process generally and relatively simply. Three axis's (variables) of model are the following: time (t), distance (d) and the acceptors, that are owners of analysed innovation (P). The outstanding point of model is the start point of spread, the innovation centre (O), since it overlaps the temporal start point of spread (O). It means that the simplifier condition of the model is that it contains only one spread centre.

The spreading curves can be defined mathematically as well, since the spreading processes could be – in majority of the cases –described by logarithm:

$$W(t) = \frac{1}{1 + ce^{-at}}$$

W(t): rate of owner certain innovation,

t: time,

c, a: constants

e: basis of naural logaritm (Nemes Nagy, 1998)



Figure 4:Model of spatial production (Source: Nemes Nagy 1998)

Innovations are determined by spatial and temporal connection of social and economic processes. Also diffusion of innovation could be analysed in time and space. The temporal aspect of diffusion of innovation could be demonstrated by product life cycle (Figure 5.).



Figure 5. Certain periods of product life cycle (Source: Kozári, 2009)

1. In introduction stage the connection is close between innovator, producer and consumer for the sake of successful innovation. Sale is low, price elasticity is enough low as well – since

the new product is not known in the market – the unit cost of product is high. In this state the profitability is negative maybe slightly positive – due to low turnover and high distributional and promotional costs. Prices are high.

2. The growth is characterized by increasing (slow or fast) of turnover of product. Volume of sale and price elasticity are growing, the early copiers appear. Since new competitors enter to competition – who consider attractive the wider, profitable market – the market becomes oligopoly. Competitors introduce new product characteristics, more distributional channel appears, more differ consumer demand segments are emerged. Prices remain on previous level or decrease softly. This phase is characterized by exponential growing incomes and high profit.

3. In the maturity stage the demand on product is growing, while the market is saturated. Competitors do not find profitable segments; also they are pressured to give discount. Optimization and introduction of product characteristics are quickened (more efficient R&D). Volume of sale reaches the maximum; the price elasticity is the strongest. Unit cost reaches the maximum due to mass-production; in addition the greatest profit is realized in this phase. Creation of direct sale-network is carried out in sale. Product development focuses on longer life cycle; it could be achieved partly by alternative products (creating a new product) and partly by market expansion (new consumers and consumption habits appear).

4. The decline state is where the market share is decreasing; the volume of sale is falling back. Decline could happen quickly or slowly, but the low degree of sale could be remained for years. Market is characterised by capacity superfluous, depressed prices, decreasing profitability as result of declining demand. Unit cost is increasing, the production capacity fitting to maturity stage has not utilized and production becomes progressively lossmaking. Emphasise focuses on service-supply, manufacturing spare parts, utilization of formed distributional channels is recommended. The run-out has to be addressed in product-policy; it is worth strengthening the new product development started in maturity stage.

According to Nikodémus (1991) four typical stages could be distinguished in spatial diffusion of innovation:

- In introduction stage the innovation has impact only in the core area. The level of acceptance is low; phenomenon has not effect places that are far from core area.
- In the diffusion stage the actual diffusion process begins. Centrifugal forces generate innovation centres far from the starting point; regional differences decline.

- In densification stage novelty is present everywhere in space due to space former effect of innovation.
- In maturity phase innovation is known everywhere, spatial diffusion is getting slowly.

"The propagation of innovation waves" of Hägerstrand was published in 1952, which gave primarily model-like explanation for geographical diffusion of technical, social, institutional innovations from innovative centrums to acceptor or interfering areas. Hägerstrand established that the innovation ability of novelty applier is different. Probability of obtaining information even decreases away from the place of innovation-exhaust. Modelling phenomenon Hägerstrand established that diffusion of novelties can be described by increasing number of applier who are following a logistic curve (named acceptance curve), which has a normal distribution (Figure 6.) (Kozári, 2009).





Diffusion of innovation can be:

1. Expansion diffusion - according to neighbourhood impacts

Innovation diffuses through personal relations; the diffusion mark is passed by direct or indirect touch to each other.

- by t1 time: concentrically around centrum
- by t2 time: expansion

• t3 time: decline

Social diffusion process carrying out by indirect touch is double, since innovation has an individual carrier: the information. Before any individual or social group would have any innovation, it is preceded by diffusion of information (news) relating to the innovation. That follows the actual ownership if its conditions are given. Marketing, advertisement is based on recognizing this double character. This type of diffusion could be considered as a temporary type among the social and natural diffusion processes.

2. Hierarchical expansion

It is univocally the part of social systems. Such processes belong to here, where the starting point (the innovation centrum) is generally a larger centre, city; the process moves down the stairs of settlement hierarchy. It is about diffusion of neighbourhood not in geographical space, but in internal social space, where settlement classes are next to, close to each other; the weight and proportion of social groups, that are able to accept novelties vary in each hierarchy levels. Hierarchy can be manifested in the mentioned process of decreasing function of settlements: process is bottom-up, it starts with the smallest villages to up.

Diffusion processes are typically realised in combination of neighbourhood and hierarchy type. (Nemes Nagy, 1998).

3. Relocation diffusion

Persons carrying innovations, information are separated in space.

- t1 time on first place
- t2 time on second place
- t3 time they appear in a third place with different decreasing intensity.
- (For instance the black population of USA, industrial corn production etc.)

4. Combination diffusion

It is the interlacement of expansion and combination diffusion. Diffusion areas slip on each other.

- t1 zone is the core area, which has a common boundary with
- t2 a moderate zone,
- t3 a decreasing diffusion index.

Novelties build on each other (for instance the Hungarian diffusion of abroad investments). The investments settled primarily in Győr-Budapest axis, in Budapest, later along the main transport roads, in the end in the regional centrums.

Another dimension of spatial diffusion of innovation is the way it follows the hierarchy of urban network. Innovation appears in places with centrum functions, from where it diffuses toward settlements in lower hierarchy. (Four-stairs hierarchy model of Christaller).

Studying diffusion processes alternative directions of innovation oriented regional development policy could be considered. More characteristic direction of development (which improve the faster diffusion of innovation – could be worded according to the model:

- One of the directions wants to quicken spread by creating local innovation centres. The placement of new innovation cores could be a dynamic factor in underdeveloped districts, but the results depend on several other factors.
- Another development direction tries to fasten the diffusion by developing the relationships (communication, transport etc.) between the spontaneously formed economic core areas relating to innovation centrums and theirs closer, peripheral areas.
- A conception could be considered as a separated development direction, which realises the
 acceleration of innovation diffusion not by decreasing the "distance friction", but by
 increasing the adaptation ability. For instance when acceptors are tried to be made openminded through education, development of cultural fields,

3.4. Diffusion of innovations

Some general thesis can be worded for creating strategy of region- and settlement development, diffusion of innovation.

- Innovative islands and core points are the carrier and catalysts of spatial diffusion of novelty, which can be based on the former urban network. Certain elements of urban network can fulfil in varying degrees this favourable expectation depending on what kind of traditions they have and what kind of development or re-development effects they had in the past decades. (There are many towns in Hungary with an aborted or interrupted development that are having insufficient function due to that reason).
- Different method of treatment is necessary nowadays for a town having innovative environment and potential of innovation, as for a town having a peripheral situation,

which cannot solve region-organisational function, moreover having an aborted development.

In first case the state "intervention" strategy have to focus on "no intervention". It means that central managed and financed programs have to be reduced for a minimal-degree; in addition local actors have to obtain more facilities – more local level generated budget and more local tasks. Development of formed and quickly developing cities has to be carried out by themselves and organisational development should be generated by their environment.

In second case the local generated budgets are not enough for solving local tasks, so direct state intervention is necessary. Tenders for forming certain city-function, moreover direct allocation budgets have to be provided.

Realization of principles has many difficulties. On the one hand the formed and slowly changing redistributive state and treasury logic gives less money for planning and realizing spontaneous development, where it is an efficient and practicable development model. (This problem generates further problems in urban networks, which has serious structural problems. Towns, which have considerable and mobile own property are having a more favourable situation, so by preserving the initiatory situation they strengthen the characteristics of present structure.) On the other hand there is a serious individual pursuit between settlements and towns, which do not help the co-organisation, cooperation, development of relationships. Divorce the relationships between settlements is derived from proper and other pressure relationships, governmental act – which makes opportunity for creating individual settlements – of previous decades (Várnai, 1999).

4. Questions

- 4.1. Make list about the important characteristics of innovations!
- 4.2. What kind of elements do innovation chain consists?
- 4.3. How do innovations spread?

LESSON 4: STRATEGICAL PLANNING (EXPEREINCES OF CREATING AND APPRAISING REGIONAL INNOVATION STRATEGY)

1. Objective

Statues fix the main goals and operation fields of project realization organisations, but at the same time this organisations need to have modern elements of direction based on predictable planning. Strategic goals are social, communal, cultural, economic, financial, environmental protectoral and resources objectives of organisations, which are pursued to be realized. Strategy is the method by which organisation wants to achieve these goals. This chapter will give help and examples for young geographers for creating strategy.

2. Content

The process of strategic planning Regional innovative strategies

3. Phrasing the lesson

3.1. The process of strategic planning

The non-profit and the government sector in Hungary have adapted the method of strategic planning from business sector. Necessity for planning has become unequivocal among Hungarian organisations, since they need a long-term strategy, and in addition the basic of their operation could be a clear mission and a relating plan.

Determination of strategic plan

Strategic plan is a written document which determines the directions of organisation for a long term (3-5 years). Plan has to be a result of such a process that answers to the following basic questions:

- Why does the organisation exist?
- What does the organisation do?
- What kind of direction should the organisation follow?

• How does the organisation reach it?

Structure of strategic plan

A successful strategic plan has to involve the followings:

- I. Vision, mission, values of organisation
- II. Audit about their environment, the previous experiences
- III. An organisation audit involving the appraisal of strengths and weaknesses of the organisation and a survey of who are interested in the existing organisation etc.
- IV. Goals phrased forward for some years, determination of tasks and their scheduling
- V. Method of appraisal of work

The ready written strategic plan is even an important document, but the process that makes it complete is almost as important.

I.1. VISION

Visions of all organisations can be spoken at length, but it is worth wording the essence in a sentence. This sentence is generally called determination of vision, or just vision. The first important step of strategic planning is to clear this sentence. Majority of organisations have not got problem about wording the sentence describing the vision – which is accepted for everybody – but there are some of them that have problems with it.

Wording of vision is characterized by:

- it shows to the long-term future,
- very short,
- available for everybody,
- static,
- more organisations could agree with it.

I.2. VALUES AND ORGANISATIONAL CULTURE

Although vision expresses the central values of organisation, have you ever thought what do you consider as value of your organisation, how do the others think about it? Have you thought what does your organisation converge? It is worth wording and writing the organisational values sincerely, but they have benefit only if the concerned people respect them and behave according to them every day.

I.3. MISSION

The wording of mission is just as important as clearing the vision. Mission distinguishes the certain organisation from other organisation having similar vision. As there are more routes to Mecca, an imagined future can be achieved in different ways. The mission sentence indicates which way the non-profit organisation has selected towards the future. It is worth determining it clearly, with the agreement of colleagues, since it helps the agreement and common work.

Characteristics of mission:

- it gives answer for the following questions: who are we, why does we work (probably: how do we work, where do we work)
- it explains and summarizes the overall goal of organisation
- information about values of organisations
- shorts (2-3 sentences) and dynamics
- it is typical for one organisation only
- created for reacting to the environment
- it could be reassessed or modified now and then (even per every year or every second year)
- emphasises on target audience
- focuses on outcome, not on operative activity

II. SITUATION ANALYSIS

Generally the situation of an organisation is described perfectly by colleagues, partners, voluntaries or the management during a conversation in an informal situation, when everybody can tell free their opinion. These conversation have to be taken seriously, needed to be taken into consideration when creating a strategic plan.

It is worth thinking about that who and what kind of institutes are concerned in the operation of organisation, who is interested in its present and future. The role of this concerned cannot be underestimated, since they could influence the life of the organisation. Analysing the background and motivation of the stakeholders we can decide the way we should take into account their opinion and critics. Stakeholders could be for instance the supported enjoying work of organisation, clients, members of commission, local government, rival suppliers, the other non-profit organisations, supporter of organisation, colleagues etc. Of course the list is very different in every organisations, but it is important, that everybody would consider the stakeholders.
III.1. SWOT ANALYSIS

Planning cannot be realized without appraising the internal and external environment. SWOT analysis is a simple method which helps carrying out this analysis. SWOT is a concept derived from four English words (*Strengths, Weaknesses, Opportunities, Threats*). The first two member of the concept emphasise the internal capacity of organisation, while the last two analyses the opportunities and threats of external environment.

III.2.PORTFOLIO ANALYSIS

Programs realized by the organisation have to review basing on appraisal of the internal and external environment. Portfolio analysis helps in deliberation of present activities. The main aspect is how the program connects to the mission of organisation and how it takes the environmental conditions into consideration.

IV. STRATGIC AIMS

Determining the mission of the organisation, appraising the organisation and its environment, strategic questions are to emerge and the answers – or decisions – lead to wording of the strategic aims. There are not good or bad strategic aims, since which one is appropriate for the organisation, it could be totally strange for others, even when their missions are similar to each other.

Strategic aims are different for every organisation, since they mark the way of activity using the internal knowledge and taking into consideration the potential alternatives, appraising the conditions. Strategic aims – in an ideal situation – are the followings:

- clear direction is shown
- realistic
- focusing on output.

V. TASKS

After determining strategic aims it is easy to word tasks. (Unfortunately some organisations begin here the planning while they miss the previous steps, and because of that they wander from project to project, which could lead to confusion, moreover to the lapse of the organisation.) Tasks have to connect to strategic aims like the aims to the mission, and the mission to the vision. The previous example demonstrates that an organisation could have

more strategic aims. More tasks could connect to a certain strategic aims. These tasks are written in a detailed action plan. Characteristics of well worded tasks:

- well defined
- realistic
- having deadline
- correct
- measurable

VI. APPRAISE

It is particularly important when the organisation wants to carry out an objective personal appraisal. It is worth holding a personal and program-like appraisal at the end of programs and the year. Now it is uncovered, whether the organisation operates as planned, what could have been reached by the programs, do the tasks have strong connection to the mission. Appraisal could be carried out the cheapest way within organisation, but in interest of objectivity, usually an external and neutral expert does this job (Török, M. 1997)

3.2. Regional innovative strategies (RIS)

Creating regional innovation strategy is a process which joins forces, encourage common thinking and cooperation of the actors who are interested in research- and technology development (delegate of business and governmental sector, technology-transfer institutions, organisations providing innovation supply etc.) The conversation among stakeholders, the workshops and professional consultations make the emphasis on identifying the demands of enterprises activating in the region. They seek the answer how enterprises could more conform to changed conditions and what actual project could help the organisations that are interested in innovation incentive. Agreement has an important role in creating strategy, in addition the participants have to get consensus about framework programme of the innovation development in the region (Dőry—Rechnitzer 2000).

The goal of regional innovation strategy is to contribute the competiveness, to increase the innovation capacity of the region by considering its special characteristics and processes.

IRE (Innovating Regions in Europe) network carried out an RIS/RITTS (regional innovation strategy/regional innovation and technology transfer strategy) method, which is

appropriate for elaborating European regions' innovation, technology-transfer or research and development strategy, according to practical experiences.

STEP 0: DEFINITION OF PROJECT

The most important result of step zero is to create consensus among the actors of strategy. Consensus is important, because the priorities, actions of regional innovation strategy have to be determined commonly, involving the actors of regional innovation system.

SWOT analysis is a well applicable decision support document, which goal is to locate the innovation strategy into social-economic environment.

Analysis regarding to innovation have to expand to demand and supply of innovation at least, while collecting information about funding of innovation, mapping the knowledge base of the region, the governmental rate of R&D expenses (and efficiency of utilization) would be an advantage.

The methodological proposal deals with "golden rules", which are advised for composition of project organisation relating to strategy. The organisation has to be transparent, responsibilities, rules have to be univocally defined, in addition, the aims of the strategy have to be communicated to the stakeholders.

The most important aim of the phase is to create a regional consensus about the innovation strategy. Clear communication is necessary to realize it, moreover the regional innovation strategy has to build in the consciousness of society, its important tool is the creation of communication strategy. Communication strategy consists of the following elements:

- targeting;
- identification of stakeholders, exploration of their role;
- identification of methods, which are necessary to involve stakeholders;
- actual determination of tools, which are necessary to involve stakeholders;
- determination of the necessary time frame.

STEP 1. ANALYSATION PHASIS

The aims of the first phase of RIS are to identify the critical fields of regional situation relating to innovation, innovation activities of the economic actors in the region, which have to be optimized, in addition action plan has to be made. Besides the international relations of

the region have to be discovered and that makes the international environment important by the analysis of the region as well.

The first stage of strategy making is obtaining information, for that demands of enterprises of the region are surveyed, while the technological development directions and supply side of innovation are discovered.

Survey of demand of enterprises in the region (demand analysis):

This kind of demand-survey helps to determine what kind of support relating to innovation is necessary for enterprises in the region. The methodological proposal offers a questionnaire survey for carrying out the analysis. It is worth involving not only the SMEs, but the larger enterprises at the same time, because these organisations are important innovation actors of the region, since they are presented as technology-suppliers, moreover they have broad information about business of the region.

Survey of supply:

In order to get a complete picture about the innovation system, the investigation of supplier side (also institutions supporting innovation, research centres, higher educational institutions, financial institutions) has to be realized. Organisations dealing with innovation have to be classified in the survey. In this sense two groups could be distinguished: one group involves organisations, which manufacture technology and provide innovation competencies (also research centres, higher educational institutions), the other group involves organisations, which help to spread the technology and innovation (also technology- transfer centrums, scientific parks, regional development institutions, financial supplier etc.).

2. STAGE OF REALIZATION - DETERMINATION OF REGIONAL PRIORITIES

All of the background information is available in the present stage of the project, which is necessary for defining strategic priorities. The complex surveys and analysis of the previous stage help to create the regional innovation system and the development of environment in the realization stage. The aim of the current stage is to plan the regional innovation strategy, which contains proposals for priority, in addition to create an action plan in order to realize the aims.

Determination of strategic frame and priorities:

According to the analysis, the strengths, insufficiencies, demands and opportunities of innovation system in the region become apparent. The first step for creating strategic frame is to determine the aims and priorities of the region. Priorities have to have the following characteristics:

- they have to be clear for every target groups
- we would rather determine some priorities, not a wide and unfocused "wish-list;
- the way to achieve aims has to be clearly defined;
- region-specific priorities have to be defined;
- aims have to be ambitious, but realistic;

Creating action plan, starting pilot projects:

Action plans have to define the actual priorities, target groups, actions, responsibilities, resources and the time-horizons necessary for realisation. Action plan defines the necessary activities, activity steps, which contribute to realize the aims of strategy. The experts of IRE network advise the realization of pilot project for testing the action plan. Unfortunately there are limited funding, but their efficiency is significant. The importance of pilot projects is based on the fact that they advertise the efficiency of RIS; moreover they could be the preparation for projects having larger volume.

Creating of appraisal and monitoring methods:

Efficiency of implementation of strategy can be appropriately controlled, if the monitoring system had been previously created. The system helps on the one hand to already see the intervention points in the process of realization, and on the another hand to take into account the direct and medium-term effects of implemented actions (Dél-Alföldi Regionális Innovációs Ügynökség, 2011).

4. Questions

- 4.1. How would you build a strategy plan?
- 4.2. What are the main elements of regional innovation strategies?

LESSON 5: INNOVATION PERFORMANCES AND POLYCIES. THE ROLE OF REGIONAL INNOVATION IN CREATING KNOWLEDGE BASED ECONOMY

1. Objective

The European Union has got 20 years Union-level innovation policy, with considerable results and failures. In the meantime the innovation performance of Europe has been getting better, but it is not easy to keep up with competitors in the quick changing world. It could be experienced in Hungary as well, since Hungary faces big challenges in sense of innovations. Opportunities of innovation performances and policies are demonstrated in this chapter.

2. Content

Innovation performances in the European Union and Hungary Innovation policies in the European Union and Hungary Role of regional innovation in creating knowledge based economy

3. Detailed exposition

3.1. Innovation performances in the European Union and Hungary

Due to variety and complexity of economic activities the planning of different innovation solutions, following of changes is possible only by having the appropriate information – inputs, performances, efficiency indexes. Measurement of innovation activity has a short past in statistic. The European Union regulated it with two decrees of 2004 and prescribed obligatory for members that what kind of method – with determined frequency – have to be applied for surveying innovation performances.

Appraisal system called European Innovation Scoreboard was created, which qualifies the strengths and weaknesses of European economy according to 17 indexes; 26 innovation performance conditions are considered in five groups, indexes expressing the efficiency of innovation, moreover it compares the members' " actual level" to the economic performance of USA and Japan.

The complex innovation index appraises the environmental conditions of acting innovation (higher education, life-long learning institution, situation and utilization wide scale, regulation conditions) for each country, moreover it examines the knowledge performances (R&D inputs in proportion of GDP, operation of knowledge centres, share of high-tech sector), analyses the operation of business sector ready to innovation (updating act profile, professional and financial management of innovative projects, development of ITC sector), and in the end it qualifies in a complex way the extent that innovative aspect and behaviour contribute to the optimization of economic performances.

The innovation index provides a relatively reliable picture about the innovation performance of a certain country for a given time, moreover about strengths and weaknesses of the examined country. The components of innovation efficiency index indicate that the innovation pursuits could be judged realistically by the interaction of the examined component and as a result of a longer process (See: rate of persons having higher educational degree, cooperation of enterprises and universities, changing of export structure). There is growing attention on investment of innovation performances in the view of temporal change against static approach. Examined indexes are similar to the previous, but the analysis focuses on temporal change (through three or more years) of indexes (direction, rate, structure). Linking the static and dynamic indexes, a new appraisal system opportunity can be created. Examined countries can be classified into four groups according to the innovation performances and the dynamic of the temporal change:

Finland, Sweden, Denmark, Germany and England can be listed in the group of leading ones among the European countries, but among the competitors, Japan and the USA belongs to this group as well.

Austria, Belgium, Cyprus, Estonia, French, Ireland, Luxembourg, the Netherlands and Slovenia belong to the group of following countries with average performance.

Czech Republic, Greece, Hungary, Italy, Lithuania, Malta, Poland, Slovakia and Spain belongs to the third group, which have chance to catch up – having an innovation index below average, but with a relatively fast changing rate.

Bulgaria, Latvia, Romania are the least developed countries. These countries have innovation ability below average; they change slowly comparing to low level performances (Figure 7.) (Pitti 2009).

Hungary provides relatively better performance compared to average in indicator group of economic effects; worst in indicator group of innovators, finance, support and utilization of intellectual property. The greatest improvement could be experienced in the case of indicators of economic effects and intellectual property, particularly the EU trade marks (11,7%), the EU-design (9,7%), the export of knowledge intensive supplies (12,1%), sales of

new products in market (17,0%) has increased. The value of index has decreased in finance and support of innovation and innovators indicator groups.



Figure 7. The European Innovative Index. The ordinance of countries according to aggregated innovation index (Source: EIS, 2009)

Certain elements of Hungarian innovation system are undeveloped and/or inefficient in the international comparison, and moreover the quality of intensity of connection and cooperation is not adequate. It is necessary to provide new frame conditions resulting national economic "driving force", and to statue basic principles.

The scientific, technology and innovation policy is treated in all of the most developed country of the world as an integrant part of economic policy. Consequently it gets high level representation in government and significant weight in the budget. These countries all without exception have increase the R&D inputs and innovation efforts reacting to economic crisis.

The proportion of R&D&I to corporate value-added value increased continuously in OECD countries in the 1990's, but it has stagnated in the EU countries since 2000 (about 1,8%), while for instance in Japan it has increased to 3,7% in 2007 and it reached 3,1% in the USA. This value is 1,15% according to data of KSH (2009) in Hungary, which is hardly more than half of the average of the EU27 (Figure 8.).



Figure 8. Rate of corporate R&D inputs comparing to corporate value-added (Source: Új Széchenyi Terv, 2011)

Researchers have key-role in national innovation system. Number of corporate researchers has increased faster since 1980's than the number of industrial employees. 4 million researcher were employed in the middle of the decade in OECD countries, also there are 7,4 researchers from 1 000 employee (while it was only 6,2 in 1997). There are more than 10 researchers from 1 000 employee in Finland, Sweden, Japan, USA. This rate was 5,3 in Hungary in 2009. While 40 % of researchers in the USA and two-thirds of researchers in Japan worked in the corporate sector, this proportion is only 50 % in the EU and 40 % in Hungary.

Innovation does not play such a role in the everyday activities of the majority of enterprises like in the majority of EU members. Every fifth enterprise is innovative among enterprises employing at least 10 persons, although their proportion exceeds the one third everywhere in the old members of EU (Figure 9.).

Researchers having PhD are the key actors of research works. The most PhD is obtained in technical and scientific fields in the OECD countries. Hungary does not reach the level of countries that are considering the technical development important (Figure 10.) (Új Széchenyi Terv, 2011).



Figure 9. Rate of innovative enterprises (Source: Új Széchenyi Terv, 2011)



Figure 10. Rate of scientific and technical PhD in percentage of all PhD (Source: Új Széchenyi Terv, 2011)

3.2. Innovation policies in the European Union and Hungary

The European Commission published the proposal concerning new European innovation policy in 2003 (Innovation policy: Updating the Union's approach in the context of the Lisbon Strategy, COM 2003). The key element of new approach is that innovation has to be considered as a multi-dimensional conception, a driving-force presenting in all fields of

economy, which exceeds over technological innovation for instance to restructuring enterprises, marketing and product development as well. Basic characteristics of new conception are that the enterprise is considered as being in the focus of innovation, not the science (not denying the importance of the role of research).

Support of innovation is not an aim in itself among EU policies 2007–2013, but the only chance to brake for Europe to increase knowledge content of the product, thereby to use the achievable market advantage. Seventh Framework Programme and the Europe 2020 Programme reflect on this recognition.

Main communal tools and institutions of innovation policy are:

- Innovation Studies: analysis about different aspects of innovation policy.
- European Trend Chart: it collects, analyses, spreads information of EU members relating to innovation

It has three branches:

- European Innovation Scoreboard measurement of innovation performances;
- Correspondent Network appraisal of national innovation policy of members;
- Innobarometer poll about challenges of innovations among entrepreneurs.
- Mediation Centres for Innovation Network: it is the largest network of Europe supplying transnational technology-transfer (it works in 33 countries, 71 local mediation centres); its primarily targets are the technology-oriented SMEs, but exceeds to research centres, universities, technological centres, innovation agencies;
- Innovative Regions in Europe Network;
- CORDIS: Community Research and Development Information Service, also it is the online information centre dealing with R&D and innovation of Committee;
- PAXIS: Pilot Action of Excellence on Innovative Start-ups;
- Gate2Growth Initiative;
- Community Innovation Survey: it provides date about innovation indexes based on data of EUROSTAT and surveys of national statistical offices (Pitti, 2009).

The Hungarian innovation policy has to solve the two following missions nowadays:

 R&D intensity of Hungarian economy has to be increased by supporting innovative enterprises – having high increase potential – acting in manufacturing and service sector; by increasing of innovation and absorption capacity of SMEs; by developing innovative clusters; by making connection to national and international knowledge bases and markets; • Damaged knowledge infrastructures has to be strengthened (research institutes, universities) and their abilities have to be improved so that they could contribute to the realization of national economic strategy;

The reallocation of EU foundings for economy development is a further important aspect primarily in the case of high-tech, innovative enterprises. The being of own funds is a condition for utilizing them, which is limited in Hungary in state and corporate level as well. Solution has to be found – coherently to critic external analyser and unlike to the practice since 2002 – in order to national SMEs have not competitive disadvantage against the foreign intruder enterprises (Csizmadia, 2010).

Main strengthens of Hungarian innovation system are the followings:

- Heritage of dynamic and lasting growth of production and productivity. General efficiency of economy has increased significantly in the past 15 years.
- High degree of openness. Hungary has become one of the most "internationalized" economies of the world in a relatively short time, significant quantities of foreign working capital has arrived into the country.
- The improving frame conditions of innovation. Institutions and frame conditions developed quickly and it probably helps the innovation. The regulation of competition policy was strengthened, conformed to EU standards.
- Good level of research performance in certain fields. The general performance of Hungarian science is relatively good. Significant results are achieved in certain fields of basic and applied research – for instance in the fields of physics, mathematic, biology, chemistry, clinical medical science and technical sciences.
- Relatively high "research productivity". Publication per one researcher and the standard measured by reference indexes of publications are close to the EU average in spite of the amount of finance.
- Solid legal basis of science, technology and innovation policy. Hungary's scientific, technology and innovation policy (STI) is based on solid legal basis.
- Varying support programmes helps the basic and applied research.
- The policy decision-makers recognize the significance of support of science, technology and innovation.

Main weaknesses of Hungarian innovation system are the followings:

- Low level of performances of R&D and innovation activities, particularly among SMEs, it is indicated by many indexes.
- Low R&D intensity, more lower the business R&D input (BERD), in addition patent activity is weak. Moreover there is only relatively little R&D activity; it is concentrated in foreign-owned companies, acting in only some industries. Consequently certain industries based on R&D are not able to sustain their competitiveness that could limit the absorption ability of economy in order to utilize the knowledge derived from abroad.
- High regional concentration of R&D activity. R&D is concentrated in Central-Hungary.
- Investments with non R&D goals are relatively low in international comparison (for instance there are only few inputs to obtain machines, equipment, license, know-how in favour of introducing new technologies, processes) in spite of the rate comparing total cost of innovation is even high.
- The weight of innovative SMEs is low in the economy. Majority of the SME sector work with low productivity, having lack of entrepreneurial and innovation ability, its activity targets the local markets, moreover it does not build into the global value-chains. The innovation willingness of enterprises is much lower in Hungary, than in the majority of EU members.
- Deficiency of mobility and cooperation among actors. Cooperation between enterprises, the connection between industry and science is not enough intensive.
- Public funded research institution including universities, institutions of Hungarian Scientific Academy – are getting slowly accommodated to requirements of knowledge based society.
- The specialist output is not enough for science and technology. There are lower rate of scientific and technological specialists among graduated in Hungary, than in the majority of OECD countries.
- Deficiency of STI policy. The most important achieved results of STI policy are not efficient (NKTH, 2009).

3.3. Role of regional innovation in creating knowledge based economy

There are strong correlation between innovation ability and favourable economic processes of regions in today's "knowledge based" and "learning based" economy. By

learning and innovation ability, the regions obtain hard-to-imitate, unique resource, which helps them to do well in spatial competition.

Conception of regional innovation system (similar to international innovation system) derives the innovation performance of region to elements, which are more or less presented in every region, only their performances and density of interactions between elements are different.

Operation of regional innovation systems cannot be measured only by analysing the relationship between actors (market or R&D relationship). Investigation of networks is necessary within the innovation system, but not adequate for understanding knowledge-based organisations. Several classifications of subsystems of knowledge-based economy are known; for instance the Triple Helix model describes the relationship of university, economy and Government – where the three sector shape each other (Bajmóczy, 2008).

By connecting to national and international knowledge bases and networks universities and research institutes appears as potential knowledge base for enterprises around them, in spite of that the universities do not generally embed into their regional environment; they prefer usually national, international cooperation (Koschatzky–Sternberg 2000). Higher education has an impact on internal regional development by its role in R&D sector, moreover by teaching specialists, who manufacture the technological developed products and organise competitive supplies and sales. Universities can be developed to knowledge production organisation having the greatest potential in regional level. Results of surveys show that impact of universities on business sector is almost small.

Universities and companies are both organised by their different logic, cultural, organisational limits, that makes the cooperation difficult (Figure 11.).



Figure 11. Cultural and organisational limits between companies and universities (Source: Gál, 2005)

There are three spatial development pathways that are shown in Hungary according to the synergies of regional innovation systems:

1. Budapest as metropolis,

2. Northwest part of Hungary, which has integrated as a partner into European Union,

3. South and east part of Hungary, where the characteristics of old structure could be already found.

When Hungary entered from planned economy to market economy, it was too late to build a synergetic national innovation system. Hungary faced with challenges of transitional period and globalisation. Foreign-owned companies probably confused the knowledge-based organisation of the Hungarian economy; companies having medium technology were torn from their geographical environment. In this sense "creation with destruction" carried out by foreign-owned companies has a significant effect into the university-economy-Government relationships. Budapest is the only exception, where integration has reached a higher level due to urbanisation-agglomeration advantages. (Lengyel–Leydesdorff 2008).

4. Questions

- 4.1. How can innovation performance be characterized in Hungary?
- 4.2. What kind of tasks has the innovation policy of Hungary?
- 4.3. How could you characterize the regional innovation potential of your district?

LESSON 6: REGIONAL POLICY (TRADITIONAL REGIONAL POLICY. INNOVATION-ORIENTED REGIONAL POLITCY)

1. Objective

The reduction of regional differences is one the main goals of regional policy. Our students come from underdeveloped regions on a large scale, also it is justifiable to study the innovation-oriented regional policy detailed, in order to our students could carry out efficient region-manager works in realizing projects.

2. Content

Definition of regional processes and regional policy Traditional regional policy Innovation-oriented regional policy

3. Detailed exposition

3.1. Definition of regional processes and regional policy

Region is a definition used even frequently nowadays; we can generally say that it is a spatial category, a high-organised spatial unit.

The origin of regions is characterised by two directions. Coherent system of durable factors stands behind the background of bottom-up regionalism, resulting systems based on local factors, having large internal coherency (Patkós 2005) (Table 11.).

Regional development or regional policy focuses on the reduction of negative regional differences due to economic (and other) processes (unemployment, differentiation of incomes, different life-standards), and besides it discontinues the limits of innovation and development of economy (Horváth, 1998).

The goal of regional policy is to contribute the realization of social political aims by conscious forming of regional system. The conscious influence is concerned to the regionaleconomic structure in order to the structure of national economy can differently develop as it could have happened according to market-economical processes. On one hand the interventions have economic-political contents, but on the other hand the operation of the regional system is influenced; they attempt to restructure its circumstances and conditions. Resulting regional policy is more than the restructuration of spatial economy-structure.

Regionalism	Regionalisation	
Lasting coherent system of social-economic-	it is created as a result of political process	
cultural factors, connection based on	managed and regulated in institutional level:	
geographical rules	planning-statistical regions (OTK)	
Homogenisation can be created between	Institutional regulation and political control,	
"elements" in spite of existing centrum-	hierarchic construction is determinative.	
periphery relations		
Horizontal integration. Equal connection	Vertical integration (Non-equal connections).	
based on common interests (between micro-		
regions and towns and their environment)		
Boundaries are elastic. (Continuous changing	Administrative boundaries are limited, it	
characterizes its spatial expansion)	consists of administrative units. (It is	
Characteristic: continuity.	characterized by certain degree spatial	
	"permanency". Aborted "process".	
	Settlement micro-region (district)	
	county region.	
Functional coherency provides the internal	Political interest provides the "unity" of	
cohesion of the region (Importance of centre).	region. Federalist or decentralised state.	
Form of regionalism: functional regions	Basic form: administrative region. (NUTS II.	
	in the EU).	

Table 11. The dual nature of regional phenomena, processes

Source: Süli-Zakar I. 2003

It involves

- Setting and renewal of factors of production (work, capital); therefore can be considered as regional economic policy;
- Modification of operation fields (network systems, institutions); therefore can be considered as the spatial enforcement of sectorial and horizontal policy;

 Consequence of interventions the activation of spatial resources (relations, facilities); therefore can be considered as local development policy (Rechnitzer – Smahó, 2006).

According to Berey the general aim of regional policy is the improvement of efficiency of social reproduction, life standard and life quality by modifying the spatial structure of society and economy (Berey, 1997).

Regional development involves the following activities expanding county- and regionwide:

1. Observation and appraisal of social, economic, infrastructural and environmental spatial processes, the determination of necessary intervention;

2. Determination of development strategies for short and long terms, conceptions and plans, harmonisation of programmes, realisation of plans.

Land-use planning involves the following activities expanding county- and regionwide:

1. Exploration of resources, determination of load of landscape, making and appraisal of forecasts;

2. Determination of spatial, technical and physical system of development conceptions and programmes, harmonisation of development objectives;

3. Statement of perspective spatial structure, method and directives of landscape- and land use (Laczkó, 1988).

3.2. Traditional regional policy

If we review briefly the history of regional policy, we can see that the significance of role of State has strengthened between the two World Wars, when the spatial differences of industrial development have resulted even greater social differences. The crisis of 1929-1933 particularly justified and strengthened the state intervention. Support of regions has come into view after the temporary weakness that followed the Second World War, and it even became a political question. Traditional regional policy origins from these times, that wanted to reduce the spatial differences achieved by developments based on industry. The areas for development have gained significant capital support, which were spent for large industrial investments and infrastructural developments. Traditional regional policy based on quantitative indexes treats the importance of material production as priority.

According to the review of state regional policies, Horváth (1998) established that the modernisation strategies worded by individual national regional political aims compensating

different scale indifferences of spatial-structures of certain countries. There were several similarities in the case of applied tools. Keynesian economic – centralizing and reallocating incomes – preferred primarily the increase of demand and efficient size of large enterprises. The typical tools are the followings:

- financial initiatives (for example capital support, budgetary supports),
- central regulation (for example redevelopment and replacement of activities, designation of development fields),
- Infrastructural investments (for example traffic network, building of energetic system) (Dőry 2001).

Advantages of traditional regional policy:

- It pays attention on regional differences.
- It creates the opportunity for transportation and communication connection between certain regions.
- It could be not unconditionally listed to the advantages, but due to the neglect of regional resources, the regions have reserved many social-economic factors which could come again into view.

Disadvantages of traditional regional policy:

- It is controlled by centre, does not take local initiations into considerations (lack of logic of "bottom-up" structure).
- The centrically-nature of sector strengthens the emergence of mono-structures, which results the stability of local economies.
- It pursues to the unilateral utilization of natural resources, which results often ruthless exploitation.
- Reduction of differences between underdeveloped regions is based on external; consequently it pulls back the exploration of internal resources (endogen potential), the start of self-supporting processes.
- It does not take the ecological factors into consideration; it causes occasionally larger harm in levels of society that the profit derived from development of economy.
- Quality aspects are fallen behind.
- Spatial separation of corporate functions is typical: the planning, research, development, marketing and commercial functions remain in centres.

• Its decentralized institution network focuses on only the harmonisation of central programmes.

3.3. Innovation-oriented regional policy

It was evident for the end of 1970's that the post-Fordism system changes the Fordism production system, relating to the state control, corporate organisations and market relations have changed as well as the world of human work (Rechnitzer – Smahó, 2006) (Table 12.).

The directions of regional policies have changed in the post-Fordism production systems. The support of enterprises, micro economy, infrastructure and conditions of economic environment has not been forth typical, but the help of diffusion of innovations, development of human resources, foundation of regional production cooperation and networks (Table 13.).

Paradigm is based on SMSEs instead of Fordism large plans; orientation of regional policy has changed after the expansion of postmodern business. The initiation of economic restructuration has got into focus of economic policy. By reduction of budgetary funds, emergence of new dynamic economic sectors (business services, electronics and communication technologies) forced the central Governments to reappraise the traditional regional policies. "The traditional solutions (significant role of State, centralised regional policy, up-down initiation system, capital investments) have lost their economic and political motives, outlines of new regional strategies have outlined." (Horváth 1998).

After understating the specificity of up-down controlled regional policy and causes of direction-change, we can get to postmodern development policies based on endogen sources. Regional potential has the key role that means the aggregation of endogen sources of a certain region (Rechnitzer 1993).

Fordism (1920-1970)	Postmodern economy (1970-)		
Economy i	n generally		
national economies	global economy		
Economic	e structure		
industrialism	high-tech		
revolution of third sector	quarter sector		
Social s	tructure		
dividing the classes	wide middle class		
labour (educated, cheap)	marginalisation		
migrations	higher educational degree		
Corporative organisation			
large companies	SMEs		
vertical integration	vertical disintegration		
mass production	elastic production		
Technology			
mechanisation, chemicals	informatics		
technical miracles	short product life cycle		
long, predictable product life cycle			
Market			
market broadened production	market determines production		
mass consumption	diversified consumption		
Spatial or	ganisation		
national economic places	new economic places		
community places	global, regional space structures		
agglomeration advantages	basing factors: labour force		
basing factors: raw material, carriage,			
cheap labour force, market	information centres		

Table 12. Changing of economic space

(Own edition based on Enyedi Gy.)

Consequently different regional policies have to incite creation of economy that provides the high degree sustainably employment, high living standards, conditions of competition and innovation in corporate sector. National and regional political steps and tools are also needed to enhance innovations. Following the main goals of innovation-oriented regional policy can be worded:

• strengthen of endogen potential is needed to innovation;

- improvement of structural renewal of regions;
- improvement of innovation potential;
- initiation of creating new workplaces in knowledge-demanding sectors;
- Enhancement of regional competitiveness;
- Improvement of site facility, active region-marketing (Dőry 2001).

Characteristics	Modern	Postmodern	
Basic direction	Dichotomy (developed/underdeveloped)	Multilateral (different regional structural deficiencies)	
Strategy nature	Regional increase	Regional innovation	
Organisational from	Centralised, supported and controlled by the State	Decentralised; role of local and regional level is determinant	
Approach	Interregional reallocation	Mobilisation of internal regional sources	
Main development directions	Material capital, innovation, information, technology	Increase (quantitative factors) Flexibility (quality elements)	
	Manufacturing	Services, relations between sectors	
	Projects	Programmes	
	Some large companies and project	Many SMEs and programmes	
Fields for inventions	Problem-area delineated geographically	Quick changing, continually forming problem-area	
	"Planned" increasing centres	"Spontaneous" local funding mobility	

Table 13. Main determinations of modern and postmodern regional policy

(Forrás: Rechnitzer – Smahó, 2006)

Exploration of internal (endogen) resources

Internal resources involves the capital potential (existing production bases and property), attitudes of labour (education, qualification), status of infrastructure, geographical situation, status of environment, market relations (demand factors), socio-cultural attitudes, factor groups of power system (Rechnitzer 1993).

It is important to mention the definition of regional identity that actually covers a new concept; it is one sort of identity related to space.

Identity is part of concept of region, its dominant element, since the common identity, harmony and unity between region and its residents is what distinguishes the region from the

simply physical space (Raagmaa 2002), and also it gives "personality" for the certain region. Common identity derived from social, regional, historical, cultural roots (Paasi 2003), could appear in theories, cultural elements, unequal dialects, traditions, and natural-landscape and built environment, even in economic successfulness (Nárai 2009).

Paasi emphasises the importance of regional identity by analysing the region as structured by society, which is considered to have an outstanding role in initialization of the region. Region creation is a process, and he distinguished four steps of it:

- 1) Creation of regional structure,
- 2) Formation of common symbols,
- 3) Creation of regional institutions, relations,
- 4) Creation of regional identity (Paasi 2000).

Activation of human capital:

Only the new interpretation of knowledge, deep study of creation and utilization of knowledge can lead to understanding "New Economy", although knowledge and learning have nowadays a determinative role in economic activities. If we consider the interpretation of innovation, we could word as the recombination of existing knowledge(elements), that leads to new products and services. In order to the recombination process could be carried out efficiently and quickly, the actors of process have to get to extensive and large amounts of knowledge quickly, simply and cheap. Information and communication technologies (IKT) and Internet improve that process (Dőry 2001).

Social-human attributes of region have to get an outstanding emphasis through the region and settlement development, since the activation of social-human capital of local residents and conceptions based on it are the basic of economic development. The social partnership and communal cooperation have to be enhanced in case of intervention fields resulting complex sustainability, moreover the adaptation ability and knowledge of residents has to be improved. Education based on modern knowledge and traditions is very important; it also provides the complex knowledge useful in theory and practice of qualified labour. Besides understanding widely the essence of life-long learning; the appropriate proportion of global and local knowledge has to be found and applied.

Tools of stimulation the business environment

We are going to demonstrate the industrial parks and similar formations.

Industrial parks give place for the spatial concentration of enterprises, moreover they provides services for them. The first part of ascertainment is evident. Foundation, maintenance of industrial park and providing services for in-settled enterprises are the objectives of economic political action of support with the adequate emphasises fitting to speciality of certain country, world economic region. Also economic policy considers industrial park as a help frame of economic development. Simultaneously three impact-directions are prevailed in economic development carried out by industrial parks:

- The economic development functions of parks is related generally to promotion of innovation, utilization of research and development results, dissemination of new technologies. In developed countries support is provided almost exclusively for facilitates carrying out the dissemination of scientific and technological results.
- Parks are considered as placement of SMEs, providing strengthen of their developmentability and competiveness. The in-settled SMEs are the final beneficiary of supports from public funds for investments of parks, improvement of services provided for enterprises working in the park. Conscious and systematic utilization of synergies based on cooperation and clustering is an important inspiration of innovation.
- The industrial park is a tool of regional economic improvement for reducing the differences in case of less developed areas (Ipargazdasági Kutató és Tanácsadó Kft. 2007).

Classification of industrial parks based on national characteristics could be a help for investor's premise-selection (Table 14.).

Facilities similar to industrial parks was attempted to classify in the European Union; it concerned facilities that are based on share of different research results and realisation of technology transfer. The following listed types were defined at the end of 1990's underling the most important activities (core businesses):

- Science park,
- Research park,
- Technology park,
- Innovation centre,
- Business park and
- Business incubation centre.

Nature of	Main characteristics	Examples
industrial nark		Examples
Totally greenfield	- basic infrastructure is built in the	Sonron Győr Sóstó Alba és Déli
nark	planned method	Inari narkok Székesfehérvár
Park	- foundation of industrial premise	Marcali Elevtronics Sárvár és
	- foundation of industrial premise	Zalagorszog Nagyatád
	call be selected relatively file,	Zalacgeiszeg, Nagyalau,
	- Involvement of larger reserve lands	Dulhaujvalos, Kackeve, Keisag,
	is possible,	Salgoiaijaii, naivaii, Szikszu,
	- there is no environment ponution	LISZAUJVAIUS, INYIIEgyilaza,
		Debleccii (ulbali), wiezoiui,
		Bekescsaba, Kalocsa
Parks that	- basic infrastructure was built with	Szombathely, Szentgottnard,
integrates acting	completion- or broaden-nature,	Esztergom, Kaposvar (urban),
in the previous	- foundation of industrial premise	Eger, Sátoraljaújhely, Miskolc-
area of industrial	can be selected relatively free,	Alsózsolca, Orosháza, Szentes,
park, with	- involvement of larger reserve	Csongrád, Hódmezővásárhely,
significant	lands,	Berettyóújfalu, Szeghalom,
greenfield lands	- enterprises acting there helped the	Jászfényszaru
	formation of professional image	
Ex-military	- renovation, completion was	Pápa, Dombóvár, Dunaföldvár,
fields, with	needed in case of basic	Air Industrial Park, Veszprém
significant	infrastructure, it was founded with	
greenfield lands	broaden-nature,	
	- foundation of industrial premises	
	can be selected conditionally – there	
	are obligations;	
	- significant renovation and	
	wrecking works had to be done	
Ex-industrial	- renovation, completion was needed	Ganz Zalaegerszeg, VIDEOTON
areas, mainly in-	in case of basic infrastructure,	Székesfehérvár, DIGÉP Miskolc,
moved	- foundation of industrial premises is	Ózd, Kálvária és SZEKO Industrial
enterprises,	possible next to obligations,	Parks, Szeged, Mezőhegyes,
empty industrial	- significant renovation and	Sarkad, VIDEOTON, Kaposvár,
buildings	wrecking works had to be done	Törökszentmiklós
Agricultural-	- basic infrastructure is built in the	Mórahalom, UNIVERSITAS
nature industrial	planned method,	Debrecen, Pacsa
parks	- foundation of industrial premise	
1	can be selected relatively free,	
	- involvement of larger reserve lands	
	is possible,	
	- there is no environment pollution,	
	- it has significant agricultural land,	
	- it could accept enterprises acting in	
	field of food industry and processing	
	industry	
Industrial parks	- basic infrastructure is built in the	TRANSZ-SPED Debrecen,
derived from	planned method,	Rozália Induatrial Park,

logistical centres	- foundation of industrial premise	Biatorbágy, Üllői Industrial Park,
_	can be selected relatively free,	Harbour Industrial Park Budapest
	- involvement of larger reserve lands	
	is possible,	
	- there is no environment pollution,	
	- logistic activity determines the	
	professional image of industrial park	

Scientific Park:

It is close to higher educational institutions or developed research centres, moreover keeps daily operative contact with them. Its aim is to promote the foundation and growth of enterprises that are based on new technologies. It has active mediator role in the process of technology transfer between scientific and research-developments institutions and enterprises acting in the park. Its role often expands to the realization of property development aims, which makes attractive for new activities or research-development divisions of larger enterprises regarding to closeness of universities and research centres.

Research Park:

It usually works next to universities and research centres. Its main activity is rather the basic research, not the development. Research centres, NGOs operate in research parks as well, but not any large corporal divisions.

Technology Park:

It accepts enterprises, which deal with utilisation of developed technologies (hightech) for commercial purpose, involving R&D, production, sale and services. Due to importance of production activity Technology Park is different from the scientific and research park.

Innovation centre:

It focuses on fulfil demands of start-up enterprises dealing with development and marketing of new products and technical processes. These enterprises have a relatively large market risk; they need for local network of financial organisations, enterprise-developer agencies, research institutes, not only for business support and administrative advices to successful improvement. Main goal of innovation centre is to promote the creation of new enterprises based on developed technology. Its special objective is the support of SMEs that works as an element of a larger project (for example scientific park).

Business Park:

It provides quality ambience for working business activities, for instance for manufacturing, assembly, sale (trade, logistic) and administrative activity. The closeness of scientific institutions does not play role in settling of enterprises or in foundation of Business Park.

Business Incubator Centre:

The business incubator centre provides place for starter and developing SMEs for limited time. Its aim is to improve their developing opportunities and survivor rates by providing premise for start (real estate) and discount business services. Thereby the local development and workplace creation are motivated mainly; role of technology could be marginal. It is known as incubator house in Hungary (Lengyel et al. 2002).

4. Questions

4.1. What are the main differences between processes of regionalism and regionalisation?

4.2. What are the main tools of traditional regional policy?

4.3. How could you adopt the tools of innovation-oriented regional policy in favour of development your region (district)?

LESSON 7: PROJECT MANAGEMENTS I. (PROJECT LEADING. PROJECT ORGANISATIONS. PROJECT PLANNING I.)

1. Objective

Knowledge relating to project management is the basic of successful operation in the region manager profession. Basic theoretical knowledge of projects and project management will be demonstrated in this chapter. In addition the certain chapters of project planning (3.5 and 3.6. subchapters) will be described, while the practical realisation will be demonstrated in the seminars.

2. Content

The project Concept of project management, its importance The goal-combinations of projects Project organisation Logical frame matrix Project cycle management

3. Detailed exposition

3.1. The project

The expression of project derives from Latin word of "proiectum", which means "preplaced thing". Concept of project has evolved by development of organisation theories. Technically the concept could be distinguished in wider and closer sense.

In a wider sense it is a defined field, work-field in every economic, social and cultural, etc. organisation, also limited by its management and tasks. All project has objectives, resources, time-limitations (start, end) and other content characteristics relating to organisation (its quality, monitoring, control system, etc.). Human life technically consists of series of projects. Our everyday life comprises of system of goals, tools, activities, which is typical for projects.

In the closer sense the project is interpreted among economic organisations. It is one determine field of today management sciences, which are determined by objectives, management and resources. According to Mihály Görög, the definition of project in economic organisations covers all activity that means a simply and complex task for an organisation, which term (start and end) and cost of fulfilment are defined and aims to the achievement of a certain result (goal).

According to Aggteleky and Bajna: "projects are limited in time, concerned practical or abstract plans, which cannot be solved efficiently by routine solutions of management due to the consequence of their size, complicacy, newness, significance."

3.2. Concept of project management, its importance

Project management is the aggregation of manager functions and relating technics and tools needed to carry out projects. Project management can be interpreted among corporate-institutional organisational frames as SMEs, Association, public institution (Figure 12.).

More definition of project management is known. According to the definition of Aggteleky and Bajna: "...project management on the one hand is the aggregation of management functions, organisations, technics and tools transacting project; on other hand it is a project planning and realisation management process and principle, which can be characterized by flexibility, penetrating force, creativity in case of complex problems, when the solution demands aim-oriented, comprehensive approach and optimality if the coordination of subfields is necessary."

In the opinion of Görög projects are even essential tools for keeping organisations due to acceleration of globalism and change of market economy, therefore his definition is the following: "it is management activity evolved in leading of organisations and autonomous field of management science, which deals primarily with the fulfilment of one-off complex tasks derived from organisational strategy, differently from continuous, routine direction of operative activity of an organisation."(BMVA, 2007)

Tematikai összefoglalás

forrásokkal

Projekt Projektmenedzsment saját szervezettel. a különböző szervezeti egységeket sajátos folyamat során, integrálja. elő- és utóélettel, kockázattal is munkájának célja, terve, szakemszámol, valamint berei vannak és a változást memeghatározott cél, idő, költség, nedzseli, minőség jellemzi a siker záloga Életciklusai kezdeményezés Célmeghatározás probléma felismerése problémák Logframe Mátrix projekt célok segítségével vezetői döntés elvárás pontosítása feladatok és ütemezésük megvalósíthatósági tanulmány erőforrás szükségletek minősítés, döntés célok mérhetőségének meghaszemélyek és csoportok tározása igényfelmérése terv Végrehajtás tevékenység, struktúra, felelősség terv szerinti munka ellenőrzése ütemezés, időterv váratlan események kezelése crőforrásigény projekt dokumentálás tőkeszükséglet tájékoztatás költségvetés Értékelés lezárás projekt komplettálás problémák, eredmények átadás a megrendelőnek új javaslatok, jelentések elszámolás a költségekkel, erőpartnerek értékelése



eltérések időben, költségekben,

értékekben

Significance of project management is increasing world-wide, because the representatives of governmental, private and non-governmental sector can solve their complex tasks by using the benefits of globalisation by the application of project management only. International statistics indicates the significant increase of project management posts in the

following decent. International tendencies could be followed well in the Hungarian economicbusiness-scientific life. Growing interest is shown by increasing number of professional organisations and their events. Project management takes place among strategic and operative management technics (Table 15.).

Aspects of	Strategic	Project management	Operative management
comparison	management		
Term of decision	long-term	medium-term	short-term
Effect on whole organisation	significant in long-term	significant in medium-term	significant in short-term
Determinant factor of	expected future	defined result, cost and time	existing resources and/or actual
function	environment	limitations	situation of market
Nature of activity	complex, innovative	complex, innovative	routine-activity, regulated
Nature of practice of activity	continuous	one-off, returning	continuous
Margin of operation	organisation as a whole	organisation as a whole or more functional division	one-one functional division

Table 15. Place of project management among planning forms

(Source: Görög, 1999)

3.3. The goal-combinations of projects

The goal-combinations of projects – accepted widely in literature – consist of the combination of the following three elements that limited by certain organisational circumstances.

- Deadline: Project organisations mean a temporary created organisational form next to the primarily organisational formation. Operation comes back to the original organisational formation after achieving or passing the project objectives, therefore it is necessary that every project has to have a start and an end date, also the term of fulfilment of the objectives.
- Budget: All organisational functions so the project processes as well utilize resources, which have their own cost. Paralleling the business organisations aim to profit maximisation and cost minimizing, thereby it is evident that the goal-combination contains the hold of budgetary frame.

• Result: There are two dimension of target relating to project having close correlation: the aspect of quantity and quality. The quantitative target parameter is connected mainly to the volume of the results of the project, entirety of the achievement of the aims, while the quality targets are connected to the fulfilment levels of requirements relating to the project. This two-sort of targets have to meet at the same time to consider the project being successful (BMVA, 2007).

3.4. Project organisation

The organisation and human resources are the first order resources of a project. Efficient project organisation and project manager is a necessary condition for running a successful project.

One of the most important tasks of work running in project system is the creation of responsibilities of leaders, since it influences processes, decision mechanisms and work culture.

- Project Sponsor: the top-level initiator, supporter of project. Project sponsor provides resources, operation conditions needed for realisation; he/she is one of the senior managers providing the control of project participants.
- Project Leading Committee: Decision-maker and control board influencing the work of project through life cycle; members are selected by Project Sponsor.
- Project Leader: he/she is responsible for functioning project and managing the work of project members. In addition he/she is responsible for the adequate quality and professional realisation, provident of progression and the successfulness of project. The Project Sponsor designates. Responsibility of Project Leader:
 - Allocation and control of resources,
 - Planning of project, determination of processes,
 - Involvement of interest-groups, fulfilling the demands of patron,
 - Shadowing of progression, control of budget, treatment of risks, provident of quality.

The efficient managements of these factors are the criteria of success.

• Project work-team: Group has been created for realizing the project, achievement of objectives asked by Project Leader and/or Project Sponsor; supply of project tasks. They carry out their function by direction of Project Leader.

• External members: Participation of members, who are out of the head of the organisation (external members or organisations), but they are allowed to take part in the project organisation. We have to take into account in case of involving external members that the permission of leader of delegator institution is necessary to involve them. This leader has to be assigned and competent in the certain theme. Involving external member can be happened out by the permission of Project Sponsor (NFGM, 2008).

3.5. Logic frame-matrix

Logic frame is a methodology, which helps in planning; in addition if we can use it efficiently, we can apply it in planning of other programmes. Filling the logic frame is very difficult, if we do it subsequently. But if we take it into consideration in the begging of project planning – treating not as obligatory supplement – it will help us. When we have a good idea and find the appropriate tender opportunity, let us make the logic frame-matrix and try to build and plan it!

Frame having 16 fields fixes the important aspects, which logic consideration is necessary for the realisation of a successful project (Figure 13.).

1. Framing of long-term objectives

We find the appropriate tender for our idea, programme, if our long-term objectives are harmonised with objectives of tender. Realisation of our project does not mean the realisation of long-term objectives, but it definitely shows in this direction.

2. Framing of actual objectives of project

The objective of our project demonstrates why the project has been created, what will be its expected effect. We have to aim to word actual objective!

3. Framing of expected result

Wording the expected results, we have to seek answers for the following questions: "What kind of actual results are needed to achieve our actual objective (products, services manufactured in project)?" "What kind of actual benefit will our project have?" "What kind of change, improvement will our project result?"

4. Determination of activities

We have to note here the kind of activities which have to be carried out in order to realize the expected results.

Our project was demonstrated and described in the first 4 step. Several conditions have to meet for realisation that we cannot influence (external factors). We have to take them into consideration, and we have to make plans in order to avoid certain dangers and risks. We fill the column of "Assumptions and risks" by bottom to up, taking notice of written in column of "Project description", so we move on upwards like in a stair to the long-term objectives.

5. Thinking of pre-conditions

Our first task is the thinking of pre-conditions; therefore we have to guess which factors are absolutely needed for starting the project. If these are passed, it is not worth starting the realisation. If these pre-conditions are met (5.), the realisation can be started (4.). (For example: having own fund needed for the tender).

6. Thinking of assumptions and risks

There are the external factors, which contribute to the achievement of expected results (3.), next to activities (4.). When the point 4 and 6 are realised, the written in point 3 is available.

7. Framing of further assumptions and risks

Going downward on the stairs! What kind of assumptions should the expected results meet out (3.) in order to the objective of our project could be realised (2.)? When the point 3 and 7 are realised, the written in point 2 are available.

8. Thinking of necessary conditions needed for realisation of long-term objectives

What kind of external conditions have to meet over the realisation of the actual objectives of our project (2.) in order to the long-term objectives (1.) could be realized as well? When the points 2 and 8 are realised, our project contributes to written in point 1. The first 8 filled fields – created considering the reality conditions – constitute the framework of our project. After making the framework, the development of details are next.

9. Determination of necessary tools

What kinds of resources are necessary for realizing the activities (4.) (For example: technical tools, human resources, etc.)?

10. Determination of information sources

We have to represent here, what documents will be appropriate to justify the realization of activities (4.), the progression of the project (pl. agreements, project plan, etc.)

11. Determination of result indicators

Fields 11 and 12 are concerned to expected results (3.). There are indexes, which are appropriate for measuring the realisation of expected results. The exact quantification is

important. (For example: more recipients with 50%, 25 young fulfilling their exams, 1 piece of developed lesson).

12. Denotation of sources of indicators

What are the information sources of indexes written in field 11? (For example: result of poll)

13. Determination of objective indicators

Fields 13 and 14 are concerned to actual objectives (2.). We have to answer to the following questions: "What kind of quantitative and qualitative indexes do indicate that we could achieve the actual objectives of the project, moreover on what extent?" (For example: the employment rate of training participants has increased with 25%.) The exact quantification is important in this case as well.

14. Providing the sources of indicators

What kind of existing and available information do we have for justifying the written of field 13, in addition how can we obtain them?" (For example: data of surveys, results of polls)

15. Determination of effect indicators

Fields 15 and 16 are concerned to general, also long-term objectives. The question has to be answered is the following: "Which main indexes are appropriate for measuring the realisation of our long-term objectives?" (For example: changing of the number of employees, number of women's business)

16. Providing the sources of indicators

Where can we obtain the data written in field 15? These could be data provided by organisations, institutions (for example KSH data), probably results of surveys and researches. After filling the 16 fields, it is worth controlling our work. It could be efficiently done by reading the contents of fields following the direction of arrows, beginning with field 5. Logic failures emerging through control can be now corrected (Híd Egyesület).

Projekt leírása	Objektíven értékelhető eredményességi muta- tók/indikátorok	Ellenőrzés forrásai és eszközei	Felté telezések és kockáza- tok (külső tényezők)
l. Általános (hosszú távú, átfogó) célok	15. Hatás indikátorok	16. Az indikátorok forrá- sai	
2. Projekt konkrét célkitű- zése	13. Cél indikátorok	14. Az indikátorok forrá- sai	8. Feltételezések és kocká- zatok
3. Várt eredmények –––––	11. Eredmény indikátorok	12. Az indikátorok forrá- sai	7. Feltételezések és kocká- →zatok
4. Tevékenységek	9. Eszközök	10. Információforrások	6. Feltételezések és kocká- zatok
1. ábra			5. Előfeltételek

Figure 13. Logic frame-matrix (Source: Híd Egyesület)

3.6. Project cycle management

"Project cycle management" (PCM) is the aggregation of project planning and management tools based on logic frame-matrix method. PCM aims to improve project or any type of programme management of activities by providing better understand in case of essential questions and existing conditions during the planning and implementation period of programmes and projects.

The professional preparation of project, the project generation demand special attention, practical experience – extending to EU methodological knowledge – and special skill. When a project idea is born and we firstly try to create a project spore from the idea involving the interest, after that a conception, later a plan, several seemingly simply, practical questions are emerging. Relating to that it is not enough to know the methodised, professional and accurate answer, but we have to write them structured and in adequate order. Demonstration tables are often necessary to understand the connections (Figure 14.) (Kovács, 2006).




Lockyer and Gordon distinguish four phase of project life cycle – partly separated from each other (Figure 15.).

Conception: It could be considered as the most important phase because the organisational commitment in project is evolved in this phase. As long as the project managements misses a fail selecting project ideas in this opening stadium, its harmful consequences will be seen through the whole project or project-stoppage, since bad decision could become the source of inefficiency in the organisation. Therefore the process has a significant importance, which provides the selection for the most appropriate project conception from all opportunity according to criteria system previously given fitting to certain business situation. For supporting comprehensive feasibility a study has to be done, which contains all versions with the same structure, details and requirements. The followings have to be defined in the feasibility study:

- Person of project manager, functions within organisation, external suppliers, division of work among members in case of consortium;

- The final price of product, its schematic specification, requirements, time-frame, cost types, budget, core abilities of organisation, opportunities and frame conditions.

The strategic decision-makers select the appropriate version of realisation according to these planning documents; at the same time the next project cycle phase begins.



Figure 15.Four phase of project (Source: Lockyer – Gordon, 2000)

- Planning, organisation: The theoretical support decision does not mean that the conception realises in the organisation. We can say something sure only after making the detailed plans. Now the most important tasks are connected to the detailed planning of new outputs of project (product, process, organisation, etc.), temporal connection of partial activities, actions and definition of its time-frame, in addition the expected resource demand and theirs cost calculation. The project manager directing the actual realisation can be chosen now and the project team can be founded. The planning and theoretical contest closes by accepting the detailed project plan; at the same time the actual realisation written in plan documentation has started. There are situations, when the project probably will be not realised: as long as there is unequivocal information through planning, which refers to the impracticability of project; the project becomes impossible due to the changing of organisational internal or external environment during planning; the realisation risk grows inordinately that the management cannot even accept.
- Implementation (realisation): Now the realisation fitting to project plans is carried out. A report system has to be created because of continuous control, which provides information per calendar period or close of partial tasks for operative project management, senior management, owners, probably the purchaser about the progression of project, achievement of difference between plan and fact data, the risks and uncertainties of realisation, utilization level of resources and foreseeable unfavourable business events and expected effects of decisions. A detailed, actual, comprehensive documentation basis and register have to be made about the project. By carrying out project tasks, there is opportunity for closing the project as well.

Finishing: It can be understood as the last phase of implementation. Now the above mentioned project reports, partial fulfilments and end products are analysed in a final protocol, which contains the efficiency analysis of applied methods, the appraisal of performance of project leader and team-members, the reliability of partner organisations, probably the financial accounting method applied with external patron and the document about legal close of the project (Lockyer – Gordon, 2000).

4. Questions

- 4.1. How can we define the essence of the definition of project?
- 4.2. What kind of connections can be seen between project and project management?
- 4.3. Show the goal-combination of projects!
- 4.4. Show the effective project organisation!
- 4.5. Make the logical frame matrix of a planned project by your own!
- 4.6. What kind of questions can we ask by planning a project?

LESSON 8. PROEJCT MANAGEMENT II. (PROJECT PLANNING II. PROJECT CONTROL)

1. Objective

The project planning and its main elements will be demonstrated in the beginning of this chapter (3.1, 3.2, 3.3), finally the demonstration of project control will be carried out. In this case, the theoretical parts will also be interpreted in the seminars.

2. Content

The limitation of length and content of project results The time, resource and cost planning of projects The appraisal and treatment of project risks The project fulfilment strategy. Prequalification and competition Project control Implementation of project, monitoring The project closure

3. Detailed exposition

3.1 The limitation of length and content of project results

In the planning session it is an important aim, that the limitation concerning project results (length, ability for operation, completeness, quality, etc.), timeframe, and budget – which are partly negatively and positively defined as well – should be fixed. The task of the planning is to support the management in the decision among theoretical project varieties, making comparable the certain project alternatives by making different plans. The document that is made for each project variants is called feasibility study, which has more types.

• The essential aim of Technical Feasibility Study is to identify the tools, technologies and infrastructural circumstances, which are appropriate for producing the expected project results.

- The Environmental-Ecological impact study analyses how the project conception can fit for the legal requirements. This kind of analysis expands on the implementation and the operation of result.
- The aim of the Stakeholder analysis is to uncover the existing and evolving interest groups relating to the project, to identify the direction of their interests (supporting, neutral and adversary) their expected behaviour (active or passive) and their force on project.
- The Market impact study analyses the expected market acceptation of the end product and services of the project based on the statements of input and profit calculations.
- The Financial feasibility study expands on the analysis of volume of capital investment needed for project results, temporal change of demand on capital, composition of financial sources, and on the estimation the expected scale of result.
- The aim of the Risk analysis is to uncover and appraise the risk factors, which influence the implementation of primarily project objectives, its expected scale and to define the uncertainty factors in the case of success of the project.
- The Sustainability study analyses the conditions of technical and financial sustainability as well.
- Analysing the place of implementation could become important, if the achievement of the project result can be brought off in more potential places. In this case the adequacy of the place and the criteria of making it adequate can be the subjects of analysis (BMVK, 2007).

3.2. The time, resource and cost planning of projects

The aim of time planning is to determine the timescale of project and its critical activities, thereby to make the risks threatening the time period of implementation conscious. Time planning is based on activity planning, since activities determine the necessary time demand. The demonstration of activities and its schedule is subserviently made according to the activity inventory, the Gantt-diagram or the table of project planning program.

The process of planning:

 establishment of activities, establishment of order of the activities, fixation of orders of activities following each other, marking of activities conditioning from each other (for example: one activity can be started, if the other has been finished yet),

- marking of activities carrying out in parallel,
- fixation of expected, obligatory observation deadlines, the determination of start and end time of certain subtasks, activities (taking into consideration the parallel or interdependent activities),
- corrections if necessary (Kovács, 2007).

Project resource covers any determinant variable which is necessary for implementing an activity; and which is the close cross-section of the implementation of the project. These are contained by the categories of so called 4M: Man, Material, Machines and Money (in some cases the space necessary for implementation, energy and know-how can be defined as a resource). According to the tenability, two types of resource can be distinguished:

- Non-storable resources, which are not used in a certain period, they are lost, destroyed, namely they cannot be carried in a later period. For instance the working ability of employees or the implementation time of the project.
- Storable resources, which are available continuously till their depletion, for instance machines or commodities (BMVK, 2007).

The essential aim of the project budget is to determine in advance the cost types emerging during the implementation, marking the schedule of expenses. Several types of cost have to be taken into account; the followings are the most typical:

- wage of employees working in the project for the period, when they are employed in the project;
- the levies of wages (for example social insurance) and other contributions mostly the defined percentage of wages – which have to be accounted for the working hours of project participant employees;
- the cost of materials used in the project, which could be particularly significant in the facility projects (for example building materials);
- the cost of tools, equipment, office supplies using in the project; if their lifetime is longer than the project, the cost has to be accounted in proportional;
- if the project demands on tools, what are needed to be rented, the rental fee has to be written in the budget;

- the cost of management and the different administrative expenditures, cost of secretariat activities (for example: telephone, post cost, management of procurements, accounting, etc.); it is generally the certain percentage of the total cost;
- in case of profit oriented projects "success fee" granted for successful completion of the project, which is generally the certain percentage of the total cost.

The full implementation of projects means the solvation of several smaller subproblems having less significance at the same time. These task groups divide the implementation of the process and provide opportunity for the management and controlling so that they can control the development of work during the implementation of subtasks. Summarizing the "beacons" relating to implementation phases of the project are called as milestones of the project, which are related to the following key-importance events:

- The closure of more important phases of the process, or
- expected occurs of unequal events having determinant importance, or
- the more important decision points in the aspect of project, or
- accounting periods, or
- time of expected and actual finish of the project.

In Lock's opinion, further expectation towards milestones is that they should contain at least two data, namely:

- the expected date of reaching the milestone and
- the resource-demand and/or the measurement of budgetary expenditure concerning adequate task box (Lock, 1998).

3.3. The appraisal and treatment of project risks

The projects bring change, which is full with uncertainty due to novelty, and the uncertainty generates risk. Since the risk disturbs the project and makes the implementation of objectives difficult or impossible, the project manager is responsible for uncovering the risks relating to the projects – determination, categorization, analysis and appraisal – and creating the adequate treatment policy. The risks can be derived from the followings:

• Temporal – which can be derived from internal (for example from applied activity), and external sources (for example from last payment of subcontractor) as well. Employee having last payment can be belonged to the risk derived from internal sources. For instance

temporal risk is, if the temporal implementation of project is carried out in parallel with another project, so the late of partner project endangers the efficiency of our project.

- Technology which is based on that the newer the technology is, the larger the successful finish,
- Relating to human resources since every working employees or specialists are considered as uncertain elements in the aspect of implementing the project. The uncertainty can be reduced by developing the training, defining the tasks clearly and providing continues and efficient communication.
- The financial risks follow not only the project but the whole operation of organisation. The financial risk consists of the accumulation of two uncertainty elements in the project and organisational level as well: transgression of implementation of project budget and default of expected cash flow from the project.
- Risks relating to politics the national and international politics can have a significant effect on the success of project; communication channel has to be made with the local and international organisations, commercial advisers for reducing uncertainty (BMVK, 2007).

It is generally accepted, that risk analysis consists of four steps:

- Identification of risk
- Appraisal of risk
- Treatment of risk
- Communication of risk

In the case of the above listed four steps relating to risk analysis applied in projects can be characterized with the followings:

- Identification of risk The risk derives from the thing that the costs (and values) in financial analysis of certain projects are relating to activities for implementation through the project period, and if these activities would change because of internal or external factors the costs (and values) will change at the same time. These changes can be even as large as they could threaten the project in the aspect of operation.
- Appraisal of risk The sensibility is a method, which is appropriate for analysing the effects of changes on the financial profile of the project, but even other technics are applied as well.
- Treatment of risk According to the pre-calculation about the effects of the changes on project, the project manager will know the impacts of changes when they happen, and he

will have some idea what to do for compensating. The risk treatment and notes can help the evaluative that the risks have been taken into consideration and are qualified as manageable.

The communication of risks – Since these are risks relating to projects, they have an influence only on internal leadership at the beginning – although they can derive from external causes –; communication within project is needed. The communication helps the evaluative to make the Appraisal Report.

The treatment of project risks can be bilateral: the management can pursue avoiding certain risks, for instance in planning documentation or by changing the applied methodologies in implementing the project. If it is not possible, a risk-reducing strategy can be carried out which aims to minimize the risks by the help of the following tools:

- modification of goals,
- applying alternative technologies and project management methodologies,
- minimizing the independency of activities,
- increasing the resources,
- avoiding difficulty by increasing the organisational flexibility.

3.4. Project fulfilment strategy (Pre-qualification and competitive)

The project fulfilment strategy is the tool for allocating responsibilities and risks relating to project result and time of fulfilment in the fulfilment phase. Its elements:

- type of contract
- method of financial accounting
- pre-qualification
- type of competitive

Two types of contracts are known and accepted in the Hungarian practice for implementing a project: the traditional and ready-to-key contract type.

In case of traditional contract all responsibility and risk remain by the owner and that is the reason why many colleagues have to deal with implementing the project. The owner controls everything, which provides the flexible for necessary modification through implementation (including modifications relating to budget). In case of applying ready-to-key contract the prime contractor has all responsibility and risk, consequently the number of employees dealing with implementation can be reduced in a significant scale.

Two types of financial accounting method for implementing projects are known and accepted in the Hungarian practice: the price-based and cost-based accounting.

The essential of price-based accounting is that the value received debit is determined by fixing the flat prices or in gross (lump sum) of the activity to fulfil by the external cooperator. The flat price can be concerned to a unit quantity, if it can be univocally made numerable (for example the build of 1 m^2 product area); or unit quantity of necessary activities for fulfilment (for example the training of one user).

The essential of cost-based accounting is that the project owner pays the costs according to the bills, and pays the cooperation fee for the implementer. The cooperation fee can be determined as a fix amount of money or in the percentage of costs. The serious disadvantage of the last solution is that the implementer has direct material interest in an even more expensive purchase, which makes the implementation of the project expensive in a causeless and unscheduled way.

The pre-qualification is the qualification process before potential co-operators' offer according to fixed criteria system in order to the appropriate co-operator organisations can become selectable.

Type of competitive: the tool for selecting external co-operators, it helps in the selection of actual co-operators from appropriate co-operators according to project fulfilment strategy (type of contract and financial accounting method). The circumstances determine the type of competition as it is related to pre-qualification, thereby the competition could be:

- open,
- selective,
- two-level,
- invitation.

The two-level competition: it is a competition type, when the offer is not bonded to obtaining pre-qualification, but the offer is carried out in two separated steps, where the first step has a pre-qualification function.

The invitation competition: it is a competition type, which is not connected to prequalification, but an offer can be given by anybody, who is asked for giving.

The open competition: it is a competition type, where the offer giving opportunity is not bonded to obtaining pre-qualification, thereby every interested can tender, who have bought the call for offer.

The selective competition: it is a competition type, where the opportunity for offer is bonded to a pre-qualification obtained in a separated step.

3.5. Project control

The fulfilment of a project can be considered successful and efficient, if it has contributed to the achievement of the strategic objectives of the organisation, while the project objectives have been implemented as well. The project control activities contribute to the objectives can be realised in synchronised to the project plans.

Control tasks in the project planning phase:

It is the special characteristic of activities of project planning, that the works of implementation has not begun in this phase yet, thereby there is nothing to take under control. Of course, this statement is not correct, since it is necessary to analyse the economic indicators of the emerged project alternatives through the planning. The task of controlling is the creating and involving measures for the planning documentation, which make the project processes and the results measureable.

Control tasks through project implementation:

When the actual project activities have begun, the controllers are responsible for following the changes of project events and the economic environment around the project. It is a quite complex activity packet, which contains the detailed control of fulfilling project activity, the analysis of utilized resources though implementation, change of costs – taking into account the financial budget provided project budget – and the comparison of actual events with planned data.

Control tasks in the project closure phase:

The project closure could suggest for the superficially interested, that controlling has no more task, since there is nothing to collect. This statement is not correct, since in this phase the controlling collects efficiently the experiences obtained through the implementation. By that the internal project closure report can be made, which analyses the faults and correct solutions through planning and implementation in an objective way, thereby provides a general appraisal about the whole project for senior manager and owners, at the same time it helps the application of the project experiences in implementation of projects of the future (BMVK, 2007).

3.6. The project implementation, monitoring

All actors of project have the interest whether the objective has been implemented through the project fitting to the plans, in the determined time period and among the frame of inputs and budget.

If the implementation and its main phases are analysed, it can be univocally established that the realisation of the project goal is carried out in the phase of project implementation. The physical creation of the project is carried out here. The realisation of tasks determined in the beginning of the project starts here by concentrated loading and utilization of resources. It is an important aspect, that there is the last chance for the accidental modification of project plans or stopping the project in case of critical cases.

If the resources are not ready in the appropriate time and in the appropriate quantity, the inefficient organisational work can endanger the fulfilment of subtasks for deadline, which can have a negative effect on the deadline of the project and its successfulness. The project implementation is the most critical phase of the project. The high-scale and concentrated resource-fixing and its organised provident, the treatment of costs, the requirement of fulfilling parameters prescribe for the project management to follow the realisation efficiently and to instruct and appraise the necessary inventions.

The implementation of project management, activity directing fulfilment is called project monitoring.

The project management has to follow continually that the activities could be realized to the deadlines, and the resources and costs used in the previous could make possible the realisation of further activities between planned frames. As long as differences are shown, which endanger holding the deadline; or it results significant cost overruns, the project manager, leader has to take the correction steps.

The specialists of project management carry out the decision-management work of project monitoring management activity by collecting continuously the fact data of implementation, comparing them with plan data, analysing the differences and providing information about them. Thereby the project management is able to make updated and based decisions in critical situations.

The main steps of project monitoring activity can be determined as the followings:

- registration of plans and its data;
- collecting the fact data of project implementation;
- comparing the fact data with the plan data;
- making decision-management about differences and
- making the correction decisions (KIKK Egyesület, 2007).

3.7. The project closure

The importance of project beginning is indisputable in the aspect of success of the project; it is the same thing with the importance of project closure. The project closure realizing among regulated circumstances has an effect on the finished project and on new project of future as well. In case of project for closing, the follow-up, completing, modification and upkeep works have to be regulated. The negative project closure has a lasting influence generally on the whole project and makes a negative impact on all participants (from the consignor through user to project team as well). However the positive project closure increases the quality of project results; moreover it could have a positive effect on further projects in case of considering experiences and carrying out an efficient experiencetransaction. The benefit of an appropriate project closure and the necessary of detailed closing analysis have to be recognized.

The project closure not always means a date, but it could be a longer period as well; therefore it is an independent project stage. The closure expanding on everything and happening in a defined way is necessary is every projects, but its length depends on the scale and significance of the project. This phase has to be taken into account in the planning, like all other phases as well (KIKK Egyesület, 2007).

4. Questions

- 4.1 Which facts have to be taken into consideration when making a feasibility study?
- 4.2. Characterize the time, resource and cost planning of projects!
- 4.3. What is the difference between risk appraisal and risk treatment?
- 4.4. Characterize the project fulfilment strategy!
- 4.5. Demonstrate the main characteristics of project control!
- 4.6. Which factors have to be taken into consideration through project monitoring?
- 4.7. Characterize the project closure!

LESSON 9: THE ROLE OF CSR IN PROJECTS

1. Objective

The CSR activity (Corporate Social Responsibility) has not a generally accepted Hungarian name yet. Corporates acting in Hungary spend yearly 130-160 billion Hungarian Forints for supporting objectives that they find useful in the aspect of society according to careful estimates, but this actual number could be its double as well according to less careful estimates. We find practical to teach about CSR: students can get known to its concept, characteristics and they can use them during their projects. The learning of CSR is particularly important, because the protection of physical and geographical environment is essential task for all projects.

2. Content

The concept of CSR Physical (environmental) and social sites of CSR The connections of CSR and projects

3. Detailed exposition

3.1. The concept of CSR

The corporate social responsibility is a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis (European Commission, 2001).

Four different fields of social responsibility:

- Economic responsibility: efficiency, strong competitive position, efficient operation among legal frames legal responsibility.
- Ethnic-social responsibility: Activities and practices, which are not codified, but the society expects them. Correct and equitable operation, avoiding and minimising the harms concerned.
- Environmental responsibility: the protection of environment.

• Philanthropic responsibility.

The CSR is an economic behaviour that goes beyond the legal expectations. The corporates undertake it voluntary, because they think that it is their long-term interest. It connects to the concept of sustainable development: enterprises integrate their economic, social and environmental effect into their operation. It is not a selectable "ingredient" of their economic activity, but one way of corporate management.

Corporate social responsibility is the method how business sector takes into consideration the *social, environmental and economic effects of their operation, how minimalizes the results and the negative consequences. It is a voluntary activity, what goes beyond regulation meeting the requirements of* growth of enterprise and wider social requirements.

It is the management of organisation's effect on almost concerned. It is a unit, which is directed by the enterprise itself, fulfils its mission, operations by its values, cooperates with its stakeholders, measures its own effects and makes a report about its activity. A stakeholder of an enterprise is every group or individual, who can influence the realisation of enterprise's objective or influenced its operation.

Three characteristics of stakeholders determine that whom interest takes a corporate into consideration:

- power,
- legitimacy,
- urgency (Vállalati Felelősség Tanácsadó Kft.).

Companies are created for making profit for their owners. They have obligatory to observe acts and rules, for instance paying taxes. They think that is all about social responsibility, but even more think that the responsibility of an enterprise extends to social and physical environment, where the enterprise operates and supplies. There is no agreement in Europe-wide about what scale the corporate responsibility should be obligatory- and voluntary-nature. If something is obligatory, we cannot talk about CSR. Voluntariness is the essence of modern civilian solidarity. We think either about social responsibility or investment in sustainability; it is always about that certain plus. It is not codified, not involved in employment job description, not fixed in any regulation, but that is the reason why a company is really successful and special. In Hungary the novelty is applied initially by an innovative, resolute pioneer - it is equal about new technology or new corporation organisational method. When it becomes massive, it begins to do unpleasant feelings that we can drop out. Let us think about internet, when e-mail and web ware considered as strange fad

and as a technical experiment. Then let us think about who does not use internet nowadays. This example demonstrates properly that it is the trait of civilisation's process – like the health has become evident. We hope that even more multinational enterprises will feel responsibility for existing and unchanged social and environmental problems (Ligeti, 2007).

3.2. The physical (environmental) and social sides of CSR

"Triple optimization" has to be demonstrated in the begging of subchapter (Figure 16.). The conception of "triple bottom line" is derived from John Elkington (1997). In a closer sense the concept is a framework for measuring and reporting, which contains parameters concerned to physical (environmental), social and economic performance of the enterprise. In wider sense it fixes the values, which companies should deal with to minimalize the damage caused by them so they can produce physical (environmental), social and economic values. The essence of physical and social side will be demonstrated in detail.

The demonstration of physical (environmental) side:

The responsibility felt for saving nature should be the most important behaviour factor. Unfortunately the changing of Earth climate is even far for the majority of people, it could be derived to unchangeable causes. Most people think that the consequences of wrong political decisions, hunger for profit and increasing consumption of developing countries cannot be prevented by spreading of environment-awareness behaviour. Although the most environment protectoral organisation comes from the non-governmental sector, several political organisations represent world-wide the idea of environment protection. Several large corporations do steps in interest of saving environment by enhancement the idea of corporate responsibility.



Figure 16. The concept of triple optimization (Triple Bottom Line) (Source: Train4CSR, 2011)

People fighting for environment and nature protection sometimes do their fight in a very hard way, unfortunately there are some, who expect political benefit – this makes a lot of people afraid of this issue. Unfortunately already 1% of the GDP is spent for harms relating to drastic climate change. Even more enterprises recognize how their activity can contribute to sustain biodiversity. For instance the CO_2 exhausting is an important question, which is concerning all enterprises, one-member or family firma.

There are more methods for appraising the environmental effect of a product during its whole life (for example: plastic bottle). Ethical questions are created from themes – determined carefully – for instance frankness of company in costumers; or wider social, philosophic questions, like the enterprises' responsibility for environment reservation and protection of their employees. Many ethical problems are derived from the fact that interests of corporate owners, its consumers, and the community around the enterprise are different. Leader has to find balance demands between the idea and practice, considering the demands of shareholders of the company on equitable profit, the honesty in business practice, the safety of workplaces and the growing need of environmental protection. The different sectors of society, business, governmental and non-governmental sector cannot be separated from each other.

Since the different social roles are merged in individual level, the civilians do not accept from the companies that they should consider only their own interests. If civilians are willing to make sacrifices for environmental protection, then they will not accept companies restraining themselves in this aspect. The things, which were feds or isolated civilian initiatives in the recent past became fashionable for today, and they would become definitely expected and to be followed for tomorrow. The large enterprises pay even more attention to cause even less environmental damage by their operation. The perceptible pressure of civilians and the responsibility of decision-makers working in companies derived from their citizenship stand in the background.

The basic element of conscious shopping is that the consumers use less plastic bags or they bring the previous ones, so they do not have to buy newer in the cashier. People pay even more attention to avoid the product of such companies, which are told to be made by the work of children or slaves.

We should prefer products, which were developed without animal cruelty – it belongs to the conscious shopping habits (for instance cosmetics and clothes). You can find information about it in the websites of Fauna Association and Noé Animal Shelter in Hungary. The second foundation tries to restrain people heart-rending from buying products made of animal pelts.

Finally we have to mention the Association of Conscious Shopping, which aim is to make popular and support the environment-awareness shopping behaviour in Hungary, the ethical shopping (environmentally and socially responsibly), the corporate activity and knowing rights and duties of purchasers. The association tries to influence more people with the idea that they should make decisions as purchaser carefully, taking care for example about the environmental and social results of the producer, the ecological characteristic and effects of the product on consumer's health. Influencing the purchasers' behaviour they would like to contribute to make a positive change for the society and environment through the change of the business sector and the consumers' attitude.

The demonstration of social side

The basic of social responsibility is the common value producing. An enterprise should feel obligatory due to its positions, size and abilities to work responsible, ethic and sustainable. They have to have a significant positive effect among communities where they work, because companies have enormous responsibility. It has key-importance that their services, products are distributed responsibly, and deal with their employees rightfully. The social responsibility of an enterprise presents in the market, since when we buy a product, the consumers expect quality, which meets their taste and requirements. The social responsibility presents in workplaces as well, which is important – as long as the certain enterprise aims to social responsibility – because the workplace is more than a building, where we go day by day. Enterprises provide opportunity for people to value producing, catering of colleague relations, and when they go home satisfied in the end of the day and tomorrow they would work even harder, which can contribute to the profit production as well.

Many enterprises base their image-creation on social responsibility. For instance the Starbucks international café-network advertises definitely the value of fair-trade, which means that they do not buy ingredients produced by work of children. Of course this kind of responsibly behaviour – as the above mentioned aim of ethical purchase– cannot be the primarily solution of image creation. Although the communicational value is not the most important in the aspect of CSR, but later the more company joins the society-awareness companies, the less possibility will be for that, since CSR becomes even widespread from month to month.

The most classic forms of social responsibility will be demonstrated above:

One of them is philanthropy. In Hungary the corporate philanthropy is getting more popular, when the company support specific issues with cash. This is the most traditional form of CSR. At the same time even more company feel the need to move to a strategic approach by focusing a certain theme, and bend the philanthropic activity to the main business objective of the company. For instance the KÜRT Zrt. supports mentally handicapped children as a result of vote among his clients and colleagues. In this long tradition, the company has given presents this time through its donation activity – after asking its direct environment – for 138 residents of Special Education Institute of Borsod-Abaúj-Zemplén county, Nursery, Elementary School, Specialised School and Student Hostel of Girincs.

Let us see the sponsorship. The social responsibility means just the sponsorship in Europe today. Sponsorship is the part of communal charity: the company gives direct support in money or in nature. The best example is a Hungarian enterprise, which sponsors several events and issues (culture, sport, equality, health). The concept of social responsibility is related strongly its name. This enterprise supports a sport club, which minority of fans – but even determinate part – is the symbol of Hungarian extreme left-side. This fact makes questionable the sense of sponsorship.

Sport and culture could not stay alive and would be available for less people without material support of enterprises. At the same time we have to know that the sponsorship is

business, not only charity, since the enterprise buys marketing-surface. Relating to this, it is worth thinking about that what kind of connection does an enterprise acting in field of telecommunication or oil-industry have with sport except traditional sponsorship. In case of supporting an issue, the enterprise provides material support (cage promotion), gives natural contribution or helps with other organisation resource (for example with voluntariness) the enhancement of awareness or help the progression of an issue.

In our opinion the representation and practical realisation of principals of social responsibility contributes successfully to the efficient operation of an enterprise, achievement of long-term objectives and provident of social honour.

3.3. The connection of CSR and projects

Hungarian companies select mostly popular, conflict-free CSR themes relating to their own operation or activity. Carefulness is the general attitude, themes intensively focused by media are avoided; also it is understandable that certain fields are not concerned. It is rational to build projects in the way that by the help of CSR activity we could find support and cooperation partners among enterprises, probably among Local governments.

The most popular CSR themes are the following:

- Support of direct environment, local communities: it could be efficient, because the charges of enterprise's operation have effect on its own direct environment, but the enterprise seeks labour force in local, also balancing has to be done. The support of local community is a good idea, because people show interest mostly for their micro-environment.
- Support of children: it means generally symptomatic treatment; for instance food donation and toy collection in Christmas, organisation of school programmes, help of orphans, patients and handicapped.
- Environment protection: this theme is mainly integrated in long-term objectives of all enterprises; on the other hand there are acts, which force enterprises to observe environmental protectoral principles.
- Support of employments: it is mainly used as a tool of obtaining loyalty; there are programmes in theme of health, sport, security and equality. Non-governmental organisation preferred by employees gets the Christmas donation of enterprise in many

cases. It is worth thinking about it for all organisations, since it is always favourable if a colleague is to be relied on long-term; on the other hand a satisfied employee diffuses the goodwill of the enterprise.

- Education: this programme is realised generally in local level and focused on little children. It is a long-term useful and responsible activity. Although it means long-term thinking, but children can support the goodwill of the enterprise.
- Cultural aims: unfortunately it is a neglected field, since the judgement of culture is subjective in many cases; otherwise it is difficult to find themes, where the enterprise is considered to be a rescuer (venna.hu).

4. Questions

4.1. How can you word the substance of CSR?

4.2. What kind of connections do you see between the physical and social approaches of CSR?

4.3. How would you join your project to CSR activity?

LESSON 10. DEMONSTRATION OF NATIONAL AND INTERNATIONAL CASE STUDIES

1. Objective

Two international case studies will be primarily demonstrated in this chapter, and then we will have a view to the work of two national non-governmental organisations.

2. Content

Case study: Chalmers School of Entrepreneurship Case study: MdBioLab mobile biotech laboratory The strategic plan of a non-governmental organisation (Kurt Lewin Foundation) The project plan of a non-governmental organisation (Agria Geográfia Foundation)

3. Detailed exposition

3.1. Case study: Chalmers School of Entrepreneurship (CSE) – entrepreneur university
 – and the Goteborg International Bioscience Business School (GIBBS) – international biosciences business school in Goteborg (Sweden)

CSE offers a unique action-based education, where students are allowed to be in the frontier of innovation development. Similar programmes run for example in Helsinki and Trondheim as well.

The CSE and GIBBS support each other:

- There are specialised Masters programmes in Chalmers and Shalgrenska Universities, which prepares the students with Master-level education to the challenges of knowledge economy applying the latest business theories in order to create real business. Teachers from the different sectors of business help the students.
- The schools of CSE and GIBBS are composed by structured and focused business environment (pre-incubator), which is directed by the professional management of CSE Incubation and Holding.

The CSE Incubation leads the projects by material, experimental and network support with experienced members of board, business specialists and mentors. In the end of the year companies that are judged liveable – generated by the project – move to the property of CSE Holding and other investors. The wide-spectral services enhance the business support, for instance the patent offices, management, legal advisors and technical controlling services.

The actual result achieved by CSE/GIBBS after 9 years operation are very impressive:

- total value of enterprises derived from incubator is 66 million euro
- the total turnover of portfolio enterprises overruns 14 million euro
- enterprises employ 220 people and have 66 authorized patents
- 5,8 million risk capital in investments
- more than 90% of projects are continued in innovation system after spending one year in pre-incubation it is the highest value of all time.

The total tax is five times the annual cost of training derived from new economic activity of university programme after 9 years. According to economic calculations this investment means about 5 and 7 times payback for tax-payers.

3.2. Case study: MdBioLab mobile biotech laboratory (USA)

The largest mobile biotech laboratory of USA, the MdBioLab was founded in February of 2003 in the state of Maryland. According to the website of the programme (http://techcouncilmd.com/mdbiolab/) in the years of 2008-2009 there was a sold out, but there was an opportunity for subscribing for the waiting list. The 18-wheel mobile laboratory was developed by a partnership of MdBio Inc., a private non-profit organization, with two cutting-edge research centres: TIGR, a non-profit research institute, and the University of Maryland Biotechnology Institute (UMBI). Donations from Fisher Scientific International Inc. and The Foundation for the National Institutes of Health provided all of the laboratory equipment.

The lab on wheels beside the research offers different communication opportunities (video conference), and makes online database available for secondary school students and their teachers. MdBioLab can accommodate entire classes up to 32 students at once. The biotech bus reaches 20 000 students and hundreds of teachers a year in the frame of a non-profit programme. The objective of the project is to strengthen quality of the bio scientific

trainings among secondary school students, to increase students' and teachers' interest in bio sciences by carrying out basic experiments in a laboratory equipped high-technology.

The lesson plan of laboratory, which contains molecular biology, genome and connecting fields, was made by the training programme of UMBI SciTech, the CityLab of the Boston University Medical School and the training division of TIGR. For instance diagnosing anaemia, studying DNS fingerprints are taught in problem solving lessons.

After the bus left the school, the teachers can provide equipment tried in the bus in the frame of lab loan-programme. The lessons and other useful information are available in the website of the programme (for example: teachers, networking, list of teacher training programmes, etc.).

The Pittsburgh University has started a similar programme in 2008 for western-Pennsylvanian secondary school students.

3.3. The strategic plan of a non-governmental organisation (Kurt Lewin Foundation)

The strategy of Kurt Lewin Foundation is demonstrated in this subchapter, which is an appropriate example for young geographers to make a strategic plan. The foundation provides the enhancement of democratic society based on personal responsibility and cooperation, the head of its Board of Trustees is György Liget, the national specialist of CSR. We demonstrate the strategic plan of the organisation accepted in Budapest in 2010 without changes.

1. INTRODUCTION

The Kurt Lewin Foundation organised its work in the previous year according to the strategy of 2006-2009. Closing this period they rethought the future and mission of the 15-year-old organisation, reworded their objectives, values, and thought about the efficiency of connected tools.

Making the strategy was based on own experiences and approaches, moreover on demands and reactions of external environment. The enhancement of conflicts among groups and within the group, losing confidence in democratic institutions, and distortion of democratic debate is experienced considering the present Hungarian society. We summarized in our strategy, what kind of answers will be given in the following years to these challenges.

2. WHO ARE WE?

The Kurt Lewin foundation is independent, non-profit, non-governmental organisation; its colleagues are specialists dealing with social sciences.

In their organisation

- the ideas, opinions, arguments and cons of colleagues are channelled in the frame of democratic debate into the professional work and decision-making,
- everybody feel and know that his daily activity is for achievement of objectives,
- there is a workplace atmosphere, which makes attractive the common work despite the difficulties,
- the high-level work is expected,
- there is opportunity for professional development,
- colleagues are open for constructive critics of others and from outside,
- the voluntaries, trainees and the subcontractors are honoured colleagues; calculable and correct conditions for common working is provided for them,
- colleagues can be proud of their work.

Our central values:

- variegation
- cooperation
- critical thinking
- innovation
- professionalism
- transparency
- optimism

3. OUR VISION

We imagine a Hungary, where the members of the society

- think that the transparency and legality is a value and an expectation,
- represent their own opinions, interests and able to review them,
- pursue to know their closer and wider environment and the social facts,
- open-minded for understanding the others' interests and accepting opinions and constructive critics,
- pursue to word common objectives and their implementation.

Summarizing the members of the society create a mutually beneficial cooperation, where everybody takes part as an active and interested citizen. By that they have created such

a community, where the members take responsibility for themselves and each other, and are able to do anything for their happiness.

4. OUR MISSION

The Kurt Lewin Foundation provides the enhancement of democratic society based on personal responsibility and cooperation.

5. OUR OBJECTIVES

The aim of the Kurt Lewin Foundation is to strengthen the social dialogue, to increase the citizens' activity and to promote social investments by

- collecting objective social and citizen knowledge and spreading them widely,
- knowing and treating social prejudices,
- uncovering the problems of communities involving the stakeholders, identifying the possible solutions,
- promoting the assertiveness of underprivileged groups,
- facilitating meetings having positive output among different members of society,
- supporting cooperation among groups and sectors,
- developing the efficient and democratic operation and communication of different organisations.

The Kurt Lewin Foundation has not a goal, which focuses on:

- occasional advocacy,
- excluding of anybody,
- taking part in actions for political party aims.

6. OUR TARGET GROUPS

Our direct target groups:

- specialists and persons acting in organisations, who have multiplier effect, primarily
 - o school citizens (teachers, persons, pupils)
 - o heads of business organisations,
 - o heads of non-governmental organisations,
- responsible, active citizens, opinion-formers, who are ready for community-level democratic cooperation.

Our indirect target groups are people who are concerned by the above mentioned activities, primarily

- students of higher education,
- colleagues of business organisations,
- colleagues of non-governmental organisations,
- members of underprivileged groups.

7. OUR TOOLS

Research:

Utilizing the toolbox of social scientific research we carry out examines based on focus group, interview, observation, and questionnaire. Surveys focus on uncovering social phenomena, with particular regarding problems of underprivileged groups. These methods are applied for monitoring programmes, controlling organisations, uncovering the characteristics of organisational operation. Our research programmes support the developmental opportunities in the analysed field.

Tuition, development:

Our tuition programmes (training, caching, further training, lesson development, organisation and community development) are concentrated primarily to the fields of democratic cooperation, communication, conflict treatment. We try to achieve to find solutions for the organisational problems commonly by involving participants, channelling their opinion in order that communities could work in a pleasure atmosphere efficiently. *Communication, awareness:*

Social scientific facts are relayed in a user-friendly way by our websites, broadcast, and publications. Besides that we put emphasis on the demonstration of different aspects, values and interest. Our programmes offer opportunity for crashing the different opinions in the frame of democratic debate and the channelling of feedbacks of media consumers.

Tenders:

Our tender programmes make the processes transparent and democratic, which determine the method of selection partners and services, and support activities. Our method is based on our decades of experience in the Hungarian non-governmental and business sector and our relationship system, which application is based on demand survey in every case.

We pursue to apply the above mentioned tools building on each other and connecting, thereby make our work more efficient (Kurt Lewin Foundation, 2010).

The planning participants: Cake Baly Olivio, Gábor Héra, Márton Illés, Julianna Kiss, György Ligeti, Judit Mocsári, Ágnes Oravecz, Mónika Paulik, Angéla Sánta, Angéla Szabó, Katalin Széger.

3.4. The project plan of a non-governmental organisation (Agria Geográfia Foundation)

The title of the tender: Young voluntaries with renewable energies for the society of the future

The justification of the programme:

Nowadays the renewable energies even get into the focus of attention of the society, but there is a little accurate information about the utilization possibilities.

The majority Hungarian citizens in the Carpathian basin would like to care about their future and utilize the energy resources in an environment-friendly way.

The renewable energies are determinant in the aspect of sustainability, moreover we have to take into consideration that many workplaces could be generated. It is worth noting that the key field of social-economic catching up could be the conscious utilization of renewable energies in the underprivileged rural areas.

The young generations could have a determinant role in spreading the renewable energies and the non-governmental sector can contribute significantly to the environment-friendly developments.

Preludes:

30 young voluntaries of our foundation have begun the work called "The cooperation programme of the most underprivileged micro-regions and higher education" in 2010, where our students carry out rural development work with the help of 3 young teachers in the Abaúj-hegyköz micro-region.

The main aim of the work: the contribution of development implementing in the microregion, strengthening the connection between micro-region and social networks.

The voluntaries have implemented more successful programmes and they had a conclusion that:

- the voluntary work should begin in other micro-regions;

- cross-border areas having Hungarian residents should be involved into the work;

- the increase of utilization of renewable energies should helped by scientific and practical work.

Objectives:

The main aim of the programme is to organise events in theme of renewable energies, consequently contributing to reducing the differences between social-economic underprivileged regions and analyse with scientific methods the way how the non-governmental sector can contribute to build the nation by making renewable energies popular.

The voluntary work is carried out in 3 target regions (Abaúj-hegyköz micro-region, underprivileged settlements of Eger micro-region, Nagykapos area in Felvidék) and it is publicized in the whole Carpathian basin.

Accurate goals:

- 3 promotional events in the complex theme system of renewable energy resources, professional and practical education of youth (practical work), rural development and non-governmental sector.

- the renewable energy sources of 3 target regions will be uncovered by voluntary work of young people, and they will find out how further utilization could be made more popular by the help of non-governmental sector.

- 4- day- long preparation for voluntaries

- a questionnaire survey sample from 750 persons among non-governmental sector in the 4 target region

- making the importance of energy saving into the focus of attention by informing

- 8 scientific work in the theme (conference participation, article)

- making 1 publication about the connection among non-governmental sector and renewable energies

- 3 media appearances

- rising the attention of representatives of non-profit and local voluntaries in the 3 target regions, involving them to the programme

- education

- ability development

- nature and environment protection

Schedule

04 May 2012 - 30 August 2012

The preparation of programme; the share of participants' tasks

01 September 2012 - 31 January 2013

The beginning of actual work;

Holding a four-day-long preparation in Eger for young voluntaries to make the work more efficient (24 participants) - topic: the non-governmental sector and renewable energies;

The renewable energies of target region are registered, documented by the voluntaries of our foundation with local and cross border voluntaries; moreover they make interviews with local prominent persons, photos and database. The composition of civilian questionnaire; discussion about events in the autumn.

01 February 2013 - 31 May 2013

In- and cross-border events in 4 places:

in Eger (in the end of September)

in Nagykapos (in the begging of October)

in Heves (in the end of October)

in Gönc (in the begging of November)

We hold a complex event in all places with the name of "Importance of renewable energies and non-governmental sector", which consists of the following parts:

- promotional presentations in local schools (on Friday morning)

- professional presentations in the theme (on Friday afternoon)

- visiting the "producers" of renewable energies and more important places (on Saturday)

The hosts and the project partners are invited in all cases besides the active participation of voluntaries of Agria Geográfia Foundation. Besides the local and surrounding representatives of NGOs, the local residents (mainly the youth) are involved.

Processing the questionnaire survey.

Writing scientific articles based on results of previous events and works.

Presentations on conferences, the demonstration of our programme results.

The determination of content of publication, the evolving of final content with common work. Press work. Parameters: 64 pages (32 are coloured), 165x235 mm size, it is made in 750 copies, all supporting organisation can get and spread it. The publication helps the dissemination activity as well. The publication is published in electronic format as well.

Summarizing the results of the project.

Handing of publications.

Demonstration of good examples.

Closure of programme, appraisal.

We pursue efficient dissemination activity through the programme.

Actors involving into implementation:

The Agria Geográfia Foundation has been founded in 2009, its main aim is to take part in development of settlement and human resources, and to contribute the social-economic equality of underprivileged regions.

The teachers of Department of Geography of Eszterházy Károly College and geographer students are the voluntaries of foundation. The activity of the foundation is connected strongly to the education of geography, thereby the nature and environment protection, region and settlement development, application of modern professional methodology in education get a significant role through the work.

The Luminosus Association directs the works in Felvidék. They have carried out several EU tenders, they are working with many schools, and their main profile is the rural development. Several NGOs, schools take part in the program, we pursue the presence of media.

Expected results

The programme draws attention to the efficient utilization of renewable energies.

The representatives of youth and NGOs are activating.

The creation of a network initiated by youth has realized.

Results are demonstrated by scientific work as well, it strengthens the innovative events.

Underprivileged rural areas and settlements gain opportunity for developing.

The programme in numbers:

3 complex events (1 is over the border, 2 in Hungary) – directly 300 participants, indirectly 3.750

1 publication in 750 copies

1 four day length preparation

12 NGOs are involved
3 media appearances
registration of more dozen of utilization possibilities for renewable energy
8 scientific articles
4 conference presentation

The sustainability aspect is taken into view through the work. We carry out active CSR activity, and we want to make common cross-border EU tenders (for example HU-SK, Mobilitás).

We are expecting the strengthening of economy based on renewable energies in the Carpathian basin in a long term, and the youth cooperating with the non-governmental sector carrying out active community building in a sustainable way.

4. Questions

4.1. Search similar international innovation programme by the help of the Internet!

4.2. Search similar Hungarian innovation programme by the help of the Internet!

4.3. Make a strategic plan for an informal group created by students!

4.4. Make project plan for an informal group created by students!

LESSON 11. PROJECT APPROACH IN THE HUMAN GEOGRAHICAL FIELD TRIPS

1. Objective

The aim of the chapter is that the Readers could get a view about field trip works organised by the Department of Geography of Eszterházy Károly College, where the presence of geographical and project approach is determinative. Several place supported by national or EU (moreover by our own) funds are visited in the field trips, where the students can obtain practical knowledge. The key competences which are developable in field trips will be demonstrated after the demonstration of Department of Geography.

2. Content

The importance of project approach The importance of geographical approach in field trips The Department of Geography of Eszterházy Károly College The competencies Human geographical field trip and its requirements Observation of projects in the places of field trip

3. Detailed expression

3.1. The importance of project approach

Essential requirement through the education subjects of human geography, regional and settlement development – carried out in the school in a theoretical way – is supported by field trips, where the formerly realised projects can be studied. The observation carried out in field trips is necessary for knowing the dynamically changing social, economic and infrastructural changes, connections and principles; moreover the work can help the students in the early stage of employment and the searching for workplace.

Several successful (and unfortunately not successful) projects are visited through the field trips, where specialists having practical knowledge speak about successes, failures and edification of realisation of projects. Project means individual task realisation out of everyday

routine activity, which is carried out by a group created for the task. Project participants come from different divisions (probably from different organisations), and their association is temporary relating to an actual task and period. Project has separated fund, generally has own budget. Due to its characteristics it demands new type of work, work organisation and management approach from employees and management as well (Kovácsné, 2012.). The project approach (Table 16.) is necessary for the realisation of project objectives, which can be studied by our students in field trips.

Regular session and direction	Project approach and
practice	direction practice
repeat (routine)	uniqueness
continuity	limitation (start and end point)
continuous change	revolutionary changes
balance	imbalance
balanced aims	imbalanced aims
permanent resources	temporary resources (limited)
stability	flexibility
economy	efficiency (actual goals
	among actual conditions)
role orientation	goal orientation
experience	uncertainty

Table 16. The differences between normal and project approach

(Source: Kovácsné, 2012.)

3.2. The importance of project approach in field trips

Due to the complex geographical approach, a region can be determined by the composition of more aspects: physical, social-cultural-political, economic and technical-infrastructural. The field trip participants have to have updated geographical approach to obtain theoretical and practical skills, which are necessary for a complex appraisal of an area; consequently having practical knowledge about the system and operation of the system of geographical environment.

Through the tuition and field trips it is important, that the students can appraise the physical, social and economic resources applying the geographical approach, namely

- Phenomena are interpreted in the coherent system of geographical environment (physical, social, economic and technical environment) (Figure 17.);

- See the space without losing time;

- Phenomena are interpreted sectorial and regional aspect at the same time;
- The system-approach always has to come into view (TÓTH, 2001);



Figure 17. The coherent system of geographical environment (own edition)

In the coherent system of geographical environment, it is necessary to interpret that what kind of objectives the system has, namely what can be positioned in the focus of the system of geographical environment. Unfortunately it has been experienced many times in Hungary that certain regions, settlements function and operate by the demands of a close interest group. It would be correct if the geographical environment would operate with the communities for communities (family, community of a house, a street, settlements, microregions-districts etc.) by making sustainability aspects coming into view.

The aim of environmental education realised in field trips is to contribute the development of environment-awareness, behaviour and life-style of geographer students. Consequently the growing generation will be able to probate this knowledge and approach in all activities, decisions. The pedagogical practice of sustainability assumes the life-long learning supported by field trips, thereby informed and active citizens are growing, who have

creative, problem-solving mentality, know the issues of nature, society and economy way around; and they are responsible for their own and common acts.

3.3. The Department of Geography of Eszterházy Károly College

The Department of Geography of Eszterházy Károly College educates geographers specialized in regional and settlement development, renewable energy and teachers in BSc level; besides that geography teachers and geographers specialized in resource and risk analyser and region manager in MSc level.

The physical and human geographical filed trips are the essential part of the training, the last ones will be detailed demonstrated in this chapter (field trip has not been organised yet in the case of geographer MSc and geographer specialized in renewable energy in BSc level). Students take part in "Human geographical field trips" obligatory through their BSc studies. Optionally they can take part more times in "Regional development field trip" organised in an underprivileged micro-region.

In the bachelor studies the aim is to educate geographers, who are able for selfsufficient learning in their field due to their updated scientific approach and foreign languageknowledge. The students learn the theoretical, practical and methodological basics, which are necessary understating the physical, social-economic and settlement environment; and obtain knowledge about the physical and social-economic environment. Furthermore they have adequate theoretical knowledge to continue the education in the second cycle.

In the geography teacher MSc the aim is to prepare students for educational, pedagogical, planning and development tasks in public education, training and adult education, furthermore for continuing studies in PhD education. The specificity of education is that the students' skills and knowledge are developed through many activities carried out in real places, which are provided by varied terrain and settlement circumstances of Mátraalja and Bükkalja. Furthermore it is worth mentioning that the students' knowledge can be broadened and their approach can be formed through the several filed trips carried out in Zemplén-mountain and places over the border (Felvidék, Transcarpathia, Subcarpathia).

The field trip participants are the geography teachers of the future, who probably will be the organisers and leaders of school trips. They can contribute the reservation of physical health by well-organised study tours and trips beyond the demonstration of values and beauties of closer and widen environment. A successful school trip, a memory of a wonderful landscape from a look-out tower can make the pupil to have a healthy, active recreation like
hiking, being nature-friend and protecting it as an adult. The geography teachers have a determinative role in this process (ÜTŐNÉ V. J., 2002).

Unfortunately the elementary school teachers apply the field trips in geography lessons rarely, although it is the best opportunity for young people to obtain practical experiences. Many researchers appraise the followings as an example for the complex learning process: controlled information collection (actual experiences), study of these information (analysis), transmission of information (conceptualisation), examination the connection between concepts (synthesis), whether could be appropriate to apply in other fields (active application). Still many teachers hesitate to try it (PAJTÓKNÉ T. I., 2007). In the Eszterházy Károly College our important aim is that the above mentioned hesitation does not characterize the teachers educated by us.

In the case of geographers specialized in resource and risk analyser and region manager the aim is to train certificated specialists, who are ready to understand the essential geographical principles presenting in essential physical, environmental, social phenomena, consequently to develop and apply original professional solutions (involving research as well), to the demonstration of results and to the communication towards specialists and appliers.

The observations, measurements and works carried out in field trips are a determinate part of a geographer's training. Its aim is the objective situation observation, demonstration, description, summarization of conclusions, activities and the contribution of emotional, motivational effect and approach-forming.

The higher education as a part of the educational system has an outstanding role in the creation of environment awareness, value and behaviour (NÉMETHNÉ K. J., 2006). The training of geographers – as a part of these – focusing on environment and nature protection can particularly do a lot for realising the sustainability aspects.

3.4. Competencies

Since the globalisation has faced the society with newer challenges, everybody, thereby the field trip participants will need widespread key competencies in order that they will be able to accommodate flexibly to the quickly changing and bonding world.

Due to the four roles of education and field tuition (physical, social, economic and technical), it plays and important role that students would learn the key competencies, which are necessary for these changes.

The following listed important competencies, which are developed through the field trips, are worded by the suggestion of European Parliament and Commission. All key competencies have to be considered equally important, since all can contribute to the successful life and work path in the knowledge-based society.

1. Basic competences in science:

Competence in science refers to the ability and willingness to use the body of knowledge and methodology employed to explain the natural world, in order to identify questions and to draw evidence-based conclusions. Competence in science involves the understanding of changes caused by human activity and responsibility as an individual citizen. 2. Mathematical competence:

Building on a sound mastery of numeracy, the emphasis is on process, activity, and knowledge. Mathematical competence involves the ability and willingness to use mathematical modes of thought (logical and spatial thinking) and presentation (formulas, models, constructs, graphs, charts) in different levels.

3. Digital competence:

Digital competence involves the confident and critical use of Information Society Technology (IST) for work, leisure and communication. It is underpinned by basic skills in ICT: the use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via Internet.

4. Communication in the mother tongue:

The student can express and interpret concepts, thoughts, feelings, facts and opinions in both oral and written form, and to interact linguistically in an appropriate and creative way in a full range of social and cultural contexts; in education and training, work, home and leisure.

5. Sense of initiative and entrepreneurship:

Sense of initiative and entrepreneurship refers to an individual's ability of student to turn ideas into action. It includes creativity, innovation and risk-taking, as well as the ability to plan and manage projects in order to achieve objectives. This supports individuals, not only in their everyday lives at home and in society, but also in the workplace in being aware of the context of their work and being able to seize opportunities, and it is a foundation for more specific skills and knowledge needed by those establishing or contributing to social or commercial activity. This should include awareness of ethical values and promote good governance.

6. Social and civic competencies:

These include personal, interpersonal and intercultural competence and cover all forms of behaviour that equip students to participate in an effective and constructive way in social and working life, and particularly in increasingly diverse societies, and to resolve conflict where necessary. Civic competence equips individuals to fully participate in civic life, based on knowledge of social and political concepts and structures and a commitment to active and democratic participation.

7. Cultural awareness:

Cultural knowledge includes an awareness of local, national and European cultural heritage and their place in the world.

8. Learning to learn:

Learning to learn is the ability to pursue and persist in learning, to organise one's own learning (of course he can demand the help of the teacher), including through effective management of time and information. This competence includes awareness of one's learning process and needs, identifying available opportunities, and the ability to overcome obstacles in order to learn successfully. This competence means gaining, processing and assimilating new knowledge and skills as well as seeking and making use of guidance. Learning to learn engages learners to build on prior learning and life experiences in order to use and apply knowledge and skills in a variety of contexts: at home, at work, in education and training. Motivation and confidence are crucial to an individual's competence (OFFICIAL WEBSITE OF EUROPEAN UNION, 394/10 - 394/18).

3.5. The human geographical field trip and its requirements

The goal of the field trip is that the students can broaden the human geographical knowledge by the help of practical examples, which were learnt earlier in theory. The students can personally study the population, settlements, economy, infrastructure, institutional system and historical geographical values of Zemplén-mountain and its surroundings through the field trip of EKF. The students are the active participants of practice: everybody prepares his or her own presentation in a certain theme.

Knowing the route plan the students have to prepare to the field trip: bringing back theoretical knowledge is necessary. Every students have to make a presentation in a forward given theme concerning to the micro-region or settlement. The students have to pay attention to the reports of practical specialists in the field places; they have to contribute the deeper cognition of problems of visited enterprise or unit by their questions, opinions. The students have to summarize their experiences in a diary, which is controlled by the leading teachers.

There is an opportunity for complex human geographical situation analysis of five micro-regions of Borsod-Abaúj-Zemplén County through the field trip (population, religions, situation of employment, investments, industrial parks, regional development tenders, infrastructure development, etc.). The build-up of subdivisions, suburbanisation, build-up of urban neighbourhoods' commercial, service, logistical zones, the dynamical effects of highway constructions and environmental risks provide themes in urban areas, which are worth processing. The depopulation, integration difficulties and discrimination of gypsies, the situation of agriculture, change of land-use, (cultural) landscape protection, the protection of natural and cultural heritage, rural and eco-touristic initiatives, the emergence of holiday villages provide themes in rural areas, which are worth processing.

3.6. Observation of projects in the places of field trip

The field trip is three-day long; its central places are the settlements of Zemplénmountain. The "field places", which are determinant in the aspect of environmental education, will be demonstrated in this chapter.

First day:

In the beginning of the trip the young regional developers of the local Bükk-Miskolc LEADER Action Group (BÜKK-MAK LEADER) hold a presentation in the shadow of windpower plant found in the south border of Bükkaranyos. The specialists demonstrate the main problems of agglomeration of Miskolc: the unemployment, the lack of value-making work, the lack of adequate professional skills, complex problems of gypsy residents. The students obtain knowledge about the organising communal and individual energy production and applying clean technics and technologies. The important place of environmental education is Bükkaranyos, where the sustainable development of local LEADER community is tried to be realized by complex and environment-friendly utilization of renewable energies (it is unique in Hungary), consequently they try to make basis of the communal income generation.

Our second station is the Geoproduct Gyógyító Ásványok Kft in Mád, which is the exemplary family enterprise of Dr. Mátyás Ernő and his sons. According to our present knowledge, 28 of the 87 natural elements play a determinant role in the evolution of life. The 10-12 million year old volcanism of Tokaj-mountain has accumulated these elements, covered over the area of the mountain; the volcanic and post-volcanic processes have resulted that

volcanic molten material brought these elements into surface from the depth of 30-35 km. The enterprise produces 13 types of mineral resources in the 9 mine fields in the surroundings of Mád. Utilizing these resources, they distribute 127 types of goal-oriented mineral products produced by their own receipt and technology. We visit the mines by the lead of the Mátyás brothers (the cultivation activity is demonstrated detailed in their presentation), obtain information about the characteristics of technical instruments (the enterprise buys more than 100 year old Hungarian machines instead of modern ones) and we can get a view to the secrets of environment-friendly process and marketing. The family-friendly environment of the employees of the enterprise can be considered, we visit the "camping" made for the children of workers, where the young can get known the natural environment in summer camps. The students experience by the visit that the environment-friendly processing and utilization of local products and values can develop a little community's life. They compare consequences and effects of activity of a local Hungarian enterprise and a multinational enterprise operating in the neighbourhood field.

Out next station is the water power plant in Gibárt. The main stations of the building (1901) of power plant and operation are demonstrated; furthermore the important systemcontrol role of water power plants are presented – it is an important factor in the aspect of the efficient operation of electricity system. Our guides demonstrate the residues of the flood in 2010 and compare it with the experiences of previous years (causes of flood are analysed by the help of specialists).

After visiting monuments of Vizsoly, we go to Telkibánya, where the head of the Touristic Destination Management organisation gives us a presentation about the rural tourism of the region in the garden of Aranybánya Pension. He demonstrates the supply and demand side of tourism and the eco-tourism local facilities emphasizing the environmental aspects. After the presentation we visit the Family Eco-Adventure Park and go to the former gold mine fields to discover the tunnels from the Middle Ages.

Second day:

We visit a little "farm" in Nagybózsva in the early morning, where boars are bred. The helpful owner provides nature-close life circumstances for the boars and follows the animal health regulations strictly.

Thereafter the caretaker of Füzér castle presents a quite meaningful presentation about the history and changes of land-use in Hegyköz.

When visiting the museum in the China Factory of Hollóháza, we visit the factory at the same time. The students obtain knowledge about the natural integrant of china, the process

of ceramic manufacturing and the economic and market conditions which are getting worse today. More than 1 000 employees worked in the 1970's in the factory; it was the most significant actor of the labour market in Hegyköz. Nowadays the factory has only some dozen of employees. The students can think about the causes and factors leading to reduction.

When visiting the Károlyi-mansion of Fűzérradvány we pay the students' attention to the riches of the former residents of the village and we hear a presentation about the formerly magnificent, but nowadays neglected arboretum, which were the most beautiful and largest park of Borsod-Abaúj-Zemplén County. It was even Europe-wide known, but after the 1930's it has been forgotten.

The last station in the day is Pálháza, which is the smallest town of Hungary. Our former pupil and one colleague of local LEADER community welcome us and hold a presentation about the rural development of Hegyköz. The rural tourism provides livelihood for a few people in the Hegyköz, while agriculture and industry (the largest perlite mine of Central-Europe can be found in Pálháza) is able to employ less number as well comparing to the previous times, consequently large migration can be experienced, mainly in the case of young generations. The activity of Polyán Association is outstanding among the local initiatives, it works for the creation of economy cooperating with the nature and a sustainable village programme in Mikóháza. The association works in the reintroduction of economic forms, where human cooperates with living systems, its activity fits to natural processes of landscape, enriching its diversity. Visiting the association will be the part of our programme this year.

Third day:

We start our last day in the capital of Zemplén, in the industrial park of Sátoraljaújhely. The former director of the facility introduces the settled companies and tells about the benefits of industrial parks and the rules of environmental protection. Thereinafter we hear some about the renovation of the city centre, then we visit the Zemplén Adventure Park, where we reach the top of the Sátor-hills with the longest seat-lift of Hungary. There is a wonderful view to Zemplén Mountains, city of Sátoraljaújhely, Hegyalja, Bodrogköz from the look-out tower of Magas-hill. The leader of the tour holds a physical and human geographer presentation and we speak about a potential Zemplén National Park.

Our way from Sátoraljaújhely leads to the Felvidék, we visit the birthplace of II. Rákóczi Ferenc in Borsi, then we visit the earthwork in Borsod and the local Greek Catholic priest tells us about the past of the settlement and the importance of religions. We arrive to the settlement of Karos from the Felvidék side of Bodrogköz, where Dr. Kovács Antal (who was born in Eger) holds a presentation wearing an authentic cloth about the historical geography of Hungary in the National Cemetery of Hungarian Settlements. The students are told that our settlement-founder ancestor arrived into the Carpathian basin orderly and well-organised, and they lived close to the natural environment. We get some information about the importance of local values and products in Karos besides the environment-friendly and traditional way of life.

After the short visiting of the castle of Sárospatak, we arrive in Ruthenian Komlóska, where our former pupil – the Mayor of the village – welcomes us. We visit the littlest but nit the most modern primary school of Hungary, where 8 children learn in a most familiar and environment-friendly school. We get information about the society of the settlement (curiosity, that greatest voluntary fire fighter association of Hungary can be found in the village, it has got 100 members – comparing to the population of 250 of Komlóska, it is very laudable) and the developing self-management economy next to visiting the Greek Catholic church and country house. The village has modern planning and can provide work for the residents of neighbourhood settlements. They have exactly surveyed the potentials of natural resources and would like to create the first eco-industrial park of Hungary, where the settle of enterprises using clean technologies is expected.

The meaningful and laborious three-day field trip is finishes in Bodrogkeresztúr, in wine-cellar of Rozgonyi family (our former students). We hear a presentation about the social and economic conditions of the production of world-wide known Tokaji wine during the wine tasting.

4. Questions

4.1. Demonstrate the differences between normal and project approach!

4.2. Tell about the essence of geographical approach!

4.3. How can the role of field trips be characterized in the Department of Geography of EKF?

4.4 What kind of key competencies do you consider to be important in the aspect of realizing a project?

4.5. What are the main requirements of the human geographical filed trips?

4.6. Demonstrate successful projects from the places of geographical field trips!

LESSON 12: PROJECTWORK IN FIELD TRIPS FOR REGIONAL DEVELOPMENT

1. Objective

The field trip for regional development is one of the best examples of practical realization of something which was theoretically studied, where the students of the college carry out work in a project by their own. After the demonstration of field trip, the carried out project work will be demonstrated, then the success, failures and main proposals of field trip will be introduced.

2. Content

Professional demonstration of field trip Demonstration of project works Main conclusions of a certain project work

3. Detailed exposition

3.1. The professional demonstration of field trip

"The cooperation programme of most underprivileged micro-regions and higher education" is a pilot programme, which concerns the 33 most underprivileged micro-regions of Hungary. The National Development Agency (NFÜ – comes from the Hungarian name) has started it and the coordinator is the Hungarian Touristic and Regional Development Non-profit Association (MITE – comes from the Hungarian name).

Micro-region – higher educational institute partners has been formed, that carry out the professional work with the contribution of MITE, which will be realized in three semester. Colleagues' of non-governmental organisations acting in the region and the Kárpátikum Non-profit Association help our outdoor work.

The cooperation agreement between the Abaúj-hegyköz Micro-region and Department of Geography of Eszterházy Károly College concerning the realization of programme concluded in the autumn of 2009.

Main aims of higher education and micro-regions partnership programme:

- support and analysis of development realizing in micro-region;

- create a long-term connection between the micro-region and the College;
- direct the normal activities of College to the micro-region;
- strengthen the connection between micro-region and social networks;

The geographer students of Eszterházy Károly College take part in the field trips voluntary, their main tasks are:

- Surveying of micro-regional demands;
- Exploration of the individual and communal performances and resources of the micro-region;
- Exploration and development of the local products and touristic attractions of the micro-region;
- Writing thesis and OTDK papers relating to the micro-region;
- Organisation of events in the micro-region (summer/winter camp, etc.);
- Organisation of professional practices relating to the micro-region;
- Exploration of opportunities of CSR (Corporate social responsibility);
- Invitations of specialists, communities of micro-region to events and forums in the micro-region (by the aim of changing experience and building relation);
- Reports have to made every half a year occasionally out of turn in case of request;
 the leader teacher is responsible for that;
- Continuous consultation with the NFÜ about the tasks; the leader teacher is responsible for it.

The programme provides help for universities and colleges teaching social, economic disciplines by creating connection with the underprivileged micro-regions to give opportunity for their students to recognize the Hungarian rural reality, while the costs of organising professional practices could be reduced by creating local relationships (HERCZEG B. AND NÉMETH N., 2010).

Our premier aspect through the theoretic foundation of practical work was that we worked fitting to the demands of specialists of the micro-region. Our principle, that the certain programme elements has to be realized in a certain settlement by cooperating with Mayor and local actors. The planning phase of work starts with the creative ideas of students and tasks for realization is created by the lead of the teacher. Students generally arrive with teacher control in the 90 % of cases and carry out the work in little groups. The control of work could be realized at the end of each day, or when they arrive back to Eger.

3.2. Demonstration of project works

Students collected data relating to the fields of regional and settlement development in the beginning of the work, and these was used for statistical analysis of local society and economy. The www.hegykoz.hu website was created for dissemination purposes, when we developed the digital competencies of our students. Uploading the website with content is continuous. The website provides detailed information about Abaúj-hegyköz in spite of rudimentary. The website is operated with an integrator-nature, so we have links to direct our readers to the website of NFÜ, MITE and two important portals of Abaúj-hegyköz.

The exploration and development of local products and touristic attractions is an important element of the field trips. The list of local products has been made, where souvenirs, mineral grindings, wines, wooden and carpenter works, graven eggs, headboard, honey, brandy, carpets can be found. The students recognize the traditional works of micro-region, theirs products, which are the elements of traditional-social environment. We discuss the importance of their reservation, protection.

Students made local product questionnaire, which were filled by prominent and local residents. Besides the identity-analysis was made, we can also establish that local people bound rather to their settlement and Hungary, but less to the micro-region. They consider themselves guest-friend – that is very important supply factor in tourism – but less environment-friend (Figure 18.).

There is a huge demand on popularization and visiting the hike routes of the microregion, although local organisations have not enough capacity for it. The following routes have been already mapped: Boldogkőváralja-Arka-Mogyoróska, Mogyoróska-Regéci vár-Regéc, Hejce-Gönc, Hejce-Mogyoróska, Fony-Hejce, Telkibánya-Regéc (green sign), Telkibánya-Regéc (yellow-blue sign).

The visit of hike route can be divided into two parts:

First category involves sections that are simply hiked. Route report was made that can be downloaded from our website.

Students meet several problems in the case of second category: there are no signs, consequently the hike route has to be mapped accurately, and then the next step could be the documentation work.





By the previous work we want to show the hike roads of Abaúj-hegyköz Zemplénmountain for Nordic walkers and "boot tourism", and we are going to do the basics of a later "fieldwork" as well. Students of the college facilitate the realization of environmental education by present acting, and they take part in the development of the educational environment, too.

Creating touristic short movies has been started about the 24 settlements of Abaújhegyköz and generally about the micro-region. The scenarios of the short movies were made by the cooperation of Media-technology Institute of Eszterházy Károly College. We made films about 17 settlements of micro-region, and a long and 17 short image films have been already finished. There are two variation of the movie called "The demonstration of Abaújhegyköz Micro-region": one has subtitle, the other is synchronised.

Scenarios were made with geographical approach; the environmental viewpoints are come into view in case of cuts and final formation. Films can be downloaded from the Youtube, and they are popularized in Facebook as well. Some pilot versions of films were introduced to some prominent of the micro-region, who help our work with some piece of advice. By the help of the movies we drew attention to a wonderful landscape, which has traditions and values in spite of underprivileged social-economic situation. Our main goal is to contribute the local touristic development and to increase the number of tourist-arrivals.

Demand on creating touristic programme-packages was shown in the micro-region. Prospectuses were made in three themes by cooperating with the Touristic Destination Management Organisation acting in Telkibánya: Values of history of religions in Abaújhegyköz, Mansions in Abaúj-hegyköz and Castles in Abaúj-hegyköz.

The pilot project has started – financed by NFÜ – with the relationship of three most underdeveloped micro-regions and higher educational institutions. First experiences are positive, the NFÜ wants to continue the programme as well, and they are to expand further micro-regions and higher educational institutions. The programme wants to involve further non-governmental organisations, churches, different enterprises and institutions by cooperating with the coordinator-organisation. (HERCZEG B. & NÉMETH N., 2010).

The Department of Geography of Eszterházy Károly College held the sustainability oft the programme, important, consequently tender funding was created for continuation of work by the help of Agria Geográfia Non-profit Association. Our students planned two projectideas relating to their practical work; and besides that further practical tasks were realized successfully.

Results of regional development work are demonstrated several times for the interested, the following two are outstanding among them:

The image films were demonstrated in the frame of "Researchers night" programme in 2011 in Eger and competitions were organised for pupils from Abaúj-hegyköz.

The prominent persons of the micro-region were visited during a four-day bicycle camp (in Mogyoróska) organized by the Hungarian Touristic and Regional Development Association in the end of September of 2011 by a little group of College volunteers and they gave report about their work here.

The field trips for regional development demonstrate the complex geographical environment and the development opportunities of a certain regional unit in the Carpathian Basin for the students. The field trips could be divided into two parts: the first when the students recognize the practical application of theoretical knowledge by the presentations of local specialists, observations and relating tasks (Lesson 11), in the second case there is a value-creating work based on the creative ideas of students, consequently the students carry out social-economic development relating to natural environment of the micro-region.

3.3. Main conclusions of a certain project work

In this chapter the leader report will be demonstrated, which presents the main positives and negatives in the case of a certain project, moreover the most important proposals are mentioned.

SUCESSES

- 20 students of Eszterházy Károly College are permanently present in Abaúj-hegyköz micro-region; they carry out practical work determined by the demands of the representatives of the micro-region; they work utilizing their theoretical studies and the teacher's advice – it is the biggest success;
- The "micro-regional work" obtained financial funding in November 2010 and in the end of April 2011, so the planning of programmes and camps in Abaúj-hegyköz could begin and more have been already realized;
- The uncertainty due to one-year delay of signing the contract has ceased;
- Connection has been created with enthusiastic non-governmental organisations, who give more help in work, than the representatives of local governmental sector;
- The representations of tourism support our initiation and help our work with their ideas and advices;
- Local demands was worded, what are realistic, but the capacities of micro-region do not make it possible; our students can help by their work;
- Revealed that who are those students, who work seriously and in a professional way (9 third-year students)
- Newer students has applied one year ago and begun to work (6 second-year and 2 first-year students one of them lives in Encs);
- 5 new people applied for working half year ago;
- Students has "appeared" in the settlements of micro-region and carry out actual works;
- Work of students become even known and recognized in the College and the microregion as well;
- The <u>www.hegykoz.hu</u> website is broadened in the aspect of content, a simply structured surface was created, it is appropriate for further development;
- There are/will be tenders, which are appropriate to broaden the works of project, moreover the dissemination activity tend to strengthen;

 Region manager master training will be started in the autumn in the Eszterházy Károly College (previously the College had disadvantage comparing to universities, because students spent only 3 years – instead of 5 years – in our college, and students involved into practice had not got such professional and methodological experiences, like students learning in universities);

FAILURES

- Students' sense of duty and their attitude of work make problems many times (if something is not obligatory, one does not begin it or gives it up); students are allowed to decide free to join to the work.
- Former Mayor of micro-regional centres do not consult about programmes;
- Interest cannot be experienced about programme by Abaúj-Hegyköz Multi-purpose Micro-regional Association;
- We often experience in collations that we discommode for micro-regional prominents;
- There is not any contact person in micro-region, who could help, coordinate the work;
- The personal meeting of leaders of partner institutes has not benne realized yet;

CONCLUSIONS – PROPOSALS:

- Overall works are defined, which are demanded by micro-region and the students can realize;
- More work process have begun, there are results that the micro-regional actors could not produce;
- Planning and implementation is easier having financial support (one and half month delay of second part of support concerned the efficiency of work badly);
- The process of subsequent financing makes problem, since a department in higher education has not got independent budget, so pre-financing would be suggested in case of tenders of non-profit organisations;
- We have to take into account that programmes demanding larger financial support can be realised in the summer time;
- Regarding to organising trip works, we have to take into consideration that the majority of settlements of Abaúj-Hegyköz can be reached from Eger in 5-6 hours, so less number of travels have to be provided so that more time can be spent on the area (availability of neighbourhood settlements is extremely problematic when being lack of cars);

- Collation is necessary in case of programme's website: it is created in our own edition, but certain quality-esthetical, content criterions could be worded nowadays, thereby the programme participants' opinion should be summarized for continuation (for instance an official website creator firma was mandated in case of editing-design);
- Dissemination activity has to be strengthened in the direction of micro-region and College;
- It is expedient to demonstrate the micro-region and its settlements with a positive image in the media a creation of positive image should be contributed (Vilmány can be mentioned as an example of negative image: the settlement had not got enough money for heating the school, it generated an enormous media reflection);
- Two work programmes were admitted among local prominent persons and tourists:
 - Image films had a great attention already in shooting; favourable opinions were received, when the probe version were demonstrated.

• The hikers of Zemplén enjoyed the initiation, when the hike roads were visited. Previous programmes are planned to be realized in other micro-regions in the future.

4. Questions

4.1. Demonstrate the advantages of field trip for regional development in a view of the given district!

4.2. Which programmes does the social-economic development of micro-region contribute among the given examples?

4.3. What kind of edifications does the demonstrated leader report provide in the aspect of project management?

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