

PODNIKOVOHOSPODÁRSKA FAKULTA V KOŠICIACH

ACTA OECONOMICA CASSOVIENSIA

Scientific journal

ISSN 1337-6020

Vol. V, 2012 No. 2 The aim of the journal is to publish the papers concerned with developing of new knowledge in the field of economic theories and its application in business practice. The scope of the journal covers the wide range of research problems of business economics, management, marketing and finance, knowledge economy, innovation policy, etc. The journal contains empirically (experimentally) founded studies, survey studies, contributions to "Discussion" (personal views and attitudes on controversial issues in economics as science, as a professional practice, etc.) and reviews. Integrative studies documented by relevant data from central and east European regions and member countries of European Union are specially welcomed. All papers are peer reviewed. The journal is published twice a year.

Editorial board

Chairman Dr. h. c. prof. RNDr. Michal Tkáč, CSc.

Members

doc. PhDr. Mgr. Alena Bašistová, PhD.
prof. Ing. Vanda Lieskovská, PhD.
prof. Ing. Bohuslava Mihalčová, PhD.
doc. Ing. Martin Mizla, CSc.
doc. Ing. Peter Mesároš, PhD.
doc. Ing. Matej Polák, PhD.
doc. Ing. Petr Suchánek, PhD.

Editorial advisory board

Dr. h. c. prof. RNDr. Michal Tkáč, CSc. – University of Economics in Bratislava Dr. h. c. prof. Ing. Jozef Mihok, PhD. – Technical university in Košice prof. Ing. Igor Liberko, CSc. – University of Prešov

Editor-in-chief

doc. Ing. Peter Mesároš, PhD.

The grammar and language style of papers is not reviewed and corrected.

Editor's office

University of Economics in Bratislava Faculty of Business Economics with a seat in Košice Tajovského 13, 041 30 Košice Tel.: 055/722 3111, fax: 055/623 06 20 E-mail: acta@euke.sk http://www.euke.sk

Ministry of Culture reg. Nr.: 3239/09

ISSN 1337-6020

Copyright © PHF EU Košice, 2012

CONTENTS

SURVEY AND RESEARCH STUDIES

PROJECT MANAGEMENT MATURITY SELF-ASSESMENT MODEL Martin MIZLA – Pavol MIZLA	4
DECISION – MAKING IN THE PROCESS OF INNOVATION Vojtech FERENCZ – Peter MESÁROŠ – Jaroslav DUGAS – Dagmar PRIVIDI	17
BUSINESS ITELIGENCE REPORTING Cecília OLEXOVÁ – Vladimír SUŠKO	35
CREATIVITY, INNOVATIVE EDUCATIONAL METHODS AND TECHNOLOGIES – REFLECTIONS ON THE INTERACTION OF THEORY AND PRACTICE Martina FERENCOVÁ – Jana JURKOVÁ	45
DOES THE PERSONALITY MATTER? TALENT MANAGEMENT IN LIFE INSURANCE ORGANIZATIONS – FUTURE PERSPECTIVES Andrzej JANOWSKI	55
THE VALUTION OF MAKING – DECISION AND CREATIVITY AS ONE OF THE MANAGERIAL COMPETENCIES Lenka PČOLINSKÁ – Daniela ROMANOVÁ	77
EVALUATION OF SIMULATION GAME IN COURSE OF LOGISTIC Patrycja PUDŁO – Lýdia STANKOVIČ	84
FOREIGN DIRECT INVESTMENT IN SOBRANCE DISTRICT. WHY AND WHERE TO INVEST? Lenka PČOLINSKÁ – Sergej STRAJŇÁK – Albína KOSTKOVÁ	93
METHODS OF EVALUATING THE REGIONAL DEVELOPMENT OF OUTDOOR ACTIVITIES Jiří SKOUMAL – Vladimír HOBZA	107

PROJECT MANAGEMENT MATURITY SELF-ASSESSMENT MODEL

MODEL SEBAHODNOTENIA ZRELOSTI PROJEKTOVÉHO MANAŽMENTU

Martin MIZLA – Pavol MIZLA

Abstract

In current turbulent business environment, the effective use of project management (PM) became the one of organizational competitive advantages. PM maturity models provide a tool for continual improvement, integration and sustainability of PM processes faster and more effectively to achieve positive results by projects. The paper briefly describes and analyzes several PM maturity models and CAF model as a basis for proposed PM Maturity Self-assessment Model. The aim of the model is to be a simple and easily applicable tool for PM maturity assessment in an organization to be able to help to develop a strategy for performance improvements.

Keywords: project, project management, maturity, maturity model, self-assessment

Abstrakt

V súčasnom turbulentnom podnikateľskom prostredí sa efektívne využívanie projektového manažmentu (PM) stalo jednou z podnikových konkurenčných výhod. Modely zrelosti PM poskytujú nástroj pre kontinuálne zlepšenie, integráciu a udržateľnosť procesov PM rýchlejšie a efektívnejšie za účelom dosiahnutia pozitívnych výsledkov prostredníctvom projektov. Tento článok stručne opisuje a analyzuje niektoré modely zrelosti PM a CAF model ako základ pre navrhovaný Model sebahodnotenia zrelosti PM. Cieľom modelu je byť jednoduchým a ľahko aplikovateľným nástrojom pre ohodnotenie zrelosti PM v podniku nápomocným k určeniu stratégie pre zlepšenie výkonnosti.

Kľúčové slová: projekt, projektový manažment, zrelosť, model zrelosti, sebahodnotenie

Introduction

In the third quarter of the last century, many organizations used advantages of PM for variety of improvements and problem solving. Increasing number of projects required increasing demands on project effectiveness and coordination as well. The absence of extended project organization structure and processes caused that the project success depended mostly on individual performance. This approach did not guarantee long-term organizational performance sustainability. Experience shows that successful implementation of PM methods requires more than just educating project managers. Increasing performance effectiveness above all requires processes, technologies, politics and standards for PM integrated with other managerial systems in organizations. The goal of this paper is to provide simple concept of assessing PM maturity to be able to help organizations to develop strategy and plans for maturity and performance improvements.

1. Maturity models

PM systems are evolving all the time. Integration requires PM to be interconnected to organizational strategy, goals, programmes and culture. PM maturity models help to integrate project and programme activities of key areas in organization more effectively to achieve positive results more quickly.

In general, maturity model represents structured systems of elements which describes characteristic of effective processes. Simply said maturity model may provide (Wikipedia, 2012):

- a place to start,
- the benefit of a community's prior experiences,
- a common language and a shared vision,
- a framework for prioritizing actions,
- a way to define what improvement means for the organization.

Maturity model may also serve as criteria for more objective comparison of different organizations.

Widespread maturity models are mostly derived from existing PM methodologies. Currently there are many PM maturity models like Project Framework Maturity Model, PRINCE2 Maturity Model, Project Management Maturity Model (PMMM), Capability Maturity Model (CMM), Six Sigma Maturity Model, Organizational Project Management Maturity Model (OPM3), Portfolio, Programme and Project Management Maturity Model (P3M3), Berkley's Maturity Model, NATO NEC Maturity model, etc. A few of them will be briefly described below.

1.1 CMM (SEI - Software Engineering Institute)

Capability Maturity Model was one of the first widely spread project management maturity model. His 5 levels of maturity were taken over by lately developed models as well. CMM was designed to help software oriented organizations to determine strategies for process improvements by determining current process maturity and identification critical problems in the software quality area and process improvements. Focusing on limited amount of activities, the organization could continuously improve its software processes and therefore contribute to sustainable capability software processes improvements (Paulk et al., date unknown). The purpose of the model was the creation of methodological and operational framework (questionnaires) as a set of recommended practices of key process areas for maturity and software process improvements (Humphrey. 1989; Paulk et al., 1991; Weber et al., 1991).

CMM main contributions could be summarized to (Podpěra, 2002):

- creation of the project overview and its management,
- better timing due to individual developing steps analysis,
- project members' roles specification,
- improved documentation,
- quality improvement,
- continual cost reduction and effectivity increase,
- performance measurement.

1.2 OPM3 (PMI - Project Management Institute)

(based on: OPM3, 2003; Chui, date unknown)

OPM3 was designed to help organization to consistently and predicatively transform strategy into successful output. It represents application of knowledge, skills, tools and techniques to achieve organizational goals via projects. The degree of application of such tools is referred to as organizational PM maturity.

The model is consists of three basic elements:

- 1. **Knowledge** maturity as an existence of Best Practices measured by Key Performance Indicators (KPI).
- 2. **Assessment** methods, processes, practices and tools used to measure PM maturity, its weaknesses and strengths with regards to Best Practices.
- 3. **Improvement** processes for organizational maturity improvement through the list of capabilities which needs to be improved.

OPM3 construct:

Continuous improvement

Control



Construction of OPM3 model consists of:

- **Stages of process improvements** (standardization, measurement, control, continuous improvement),
- **Domains** (project, programme, portfolio management),
- **Project management process groups** (initiating, planning, executing, controlling, closing).

OPM3 contributions could be summarized to these points:

- reinforces the relationship between strategic planning and realization (predicative, credible and consistent project outputs are correlated to organizational success),
- identifies Best Practices which support implementation of organizational strategy through successful projects,
- identifies specific Capabilities which generate Best Practices and relationship among them.
- applies Best Practices and Capabilities in project, programme and portfolio processes concept,
- allows to asses organizational maturity considering Best Practices and Capabilities,
- provides the basis for maturity level improvement, advisory and model application flexibility,
- contains experience of hundreds of experts and consultants in PM area.

1.3 PMMM (Kerzner, PM Solutions)

(based on: Kerzner, 2001; PM Solutions, 2010)

Project Management Maturity Model (PMMM) measures PM maturity in organization and provides a guide to achieve PM improvements and performance in steps. After identification of initial level of maturity and improvement areas it provides logical path for progressive development and strategic planning of improving PM in organization.

PMMM is based on CMM while it applies Best Practices from OPM3. It contains of:

- Maturity levels (Initial, Repeatable, Defined, Managed and Optimized),
- PMI PMBoK (2004) knowledge areas (project Integration, Scope, Time, Cost, Quality, Human Resource, Communication, Risk and Procurement management).

Kerzner briefly describes maturity levels with possibility of overlapping

as:

- 1. **Common Language** understanding the importance of PM and the need of understanding of basic knowledge of PM including terminology.
- 2. **Common Processes** recognition of possibility to apply processes in various projects and realization of possible application of PM principles also on other methodologies used in organization.
- 3. **Singular Methodology** recognition of synergies from united PM methodology used in organization.
- 4. **Benchmarking** understanding the essence of continuous process improvement for maintaining competitive advantage (benchmarking as a tool for comparison).
- 5. **Continuous Improvement** continuous improvement of united methodology based on information obtained from benchmarking. PMMM main contributions could be summarized to these points:
 - identifies important practices from PMI OPM3,
 - contains essential best practices organization through PMBoK knowledge areas,
 - assesses current maturity level assessment,
 - develops effective improvement plan for PM maturity,
 - measures maturity level improvement,
 - increases project realization effectivity.

1.4 N2C2M2 (NATO - North Atlantic Treaty Organization)

NATO NEC Command and Control Maturity Model is a response to information age, effective use of IT and cooperation of coalition partners. The model emphasizes the need of command and control (C2) in terms of acquiring, controlling, sharing and using of information supporting individual and collective decision making. More mature C2 covers the ability to recognize situation changes and choose the right managerial approach needed for change realization - C2 agility (Alberts - Huber - Moffat, 2010a; Alberts - Huber - Moffat, 2010b; Schlichter - McEver - Hayes, 2010).

Model consists of 5 maturity levels which cover the ability of entity (e.g. team) to effectively lead focused operations from military (from tactical to strategic) as well as civilian (from team to organizations) point of view. Table 1 shows C2 approaches and short description in C2 Approach Space through (Alberts - Huber - Moffat, 2010a, p. 64; 83):

- allocation of decision rights to the collective,
- pattern of interactions among participating entities,
- distribution of information among entities.

It is needed to say that entity belonging to the higher level of maturity is able to operate on lower maturity level as well. However, the higher maturity level does not guarantee effective goals accomplishment therefore the key ability is to recognize the maturity level needed for successful (effective) goal accomplishment in current situation.

	٨	Maturity levels	Allocation of	Patterns of	Distribution of
		and C2	decision rights to	interaction	information (entity
		approach	the collective	among	information
				participating	positions)
/	1			entities	
) r	1.	Not explicit, self-	Unlimited,	All available and
		Edge C2	allocated	as required	relevant information
			(emergent, tailored		accessible
			and dynamic)		
	ť	2.	Collaborative	Significant,	Additional information
	jili	Collaborative	process and shared	Broad	across collaborative
	aç	C2	plan		areas/functions
	C2	3.	Coordination	Limited and	Additional information
	-	Coordinated	process and linked	focused	about coordinated
		C2	plan		areas/functions
		4	Established	Very limited,	Additional information
		De-Conflicted	constraints	sharply focused	about constraints and
		C2			seams
		5.	None	None	Organic information
		Conflicted C2			

Table 1	Variable	Defining	Collective	C2 Apr	oroach and	C ₂ Agility
I abit I	v al labic	Duming	concentre	C2 API	n oach anu	C ₂ Aginty

Source: Alberts - Huber - Moffat (2010a, p. 64; 83)

1.5 PM maturity models comparison

Mentioned PM maturity models are internationally recognized and proved to be effective tool allowing successfully manage projects. Many models use deep analysis of functional areas or extensive questionnaires for organization (or entity) evaluation. Usually as recommendations, the more or less detailed instructions or a set of best practices are used (e.g. OPM3 contains over 600 best practices). On the other hand it is needed to say that "maturity models are tools. In the hands of a competent assessor, you are likely to get good results whether you use a well-known, public model or a proprietary approach" (Duncan, 2009).

PM Maturity models looks at projects and project management from different perspective, areas and criteria which are more or less extensive or compatible. Their mutual comparison is therefore rather difficult; e.g. maturity models based on PMI's PMBoK (like PM Solution's and Kerzner's PMMM, Berkley's Process Maturity Model, OPM3) assess PM through 9 knowledge areas, model based on Six Sigma use 10 criteria, "Sun wheel" model as an

integrated maturity model recognizes 28 areas, model CAF (described below) thorough 5 enabler and 4 result criteria.

Extensiveness and the level of detail of maturity models as well as high number of practical applications, feasibility studies and positive feedback confirms that models are able to identify gaps in the use of project management and at the same time to implement continuous improvements. However, "it is a long journey that requires commitment from all levels of the organization long-term" (Bourne, 2006). Successful application of maturity models depends on the size, complexity and initial maturity of the organization. Thoroughness of the assessment, the character of organizational goals and the amount of available sources has also an impact on the estimation of needed time and commitment (OPM3, 2004).

Disadvantages of mentioned models could be their complexity, time requirement, the cost of the analysis and following implementation of improvements which could be problematic for larger as well as smaller and less resourceful organizations.

Table 2 contains comparison of several PM maturity models based on 16 criteria, their brief description, feasibility, weaknesses and strengths, etc.

	OPM3	APM/	PM Solutions -	Kerzner's	Berkley's
		PMMM	PMMM	Model	Process
					Maturity
		2.5	_	_	Model
Levels	Percentage	3-5	5	5	5
Knowledge	PMBOK	Prince II,	PMBOK	PMBOK	9 areas/
Areas		P3M3/OGC			PMBOK
Analysis	Arithmetic,	Statistical	Arithmetic	Singular	Statistical
Techniques	computer	analysis	analysis	method,	analysis,
	prog. output			statistical	correlations
				analysis	®ression
Best Practices	Very detailed	Specific	Specific	Detailed	Very
Identification					detailed
Flexibility	Low	Medium	High	Low	Low
Assessment	Nominal,	Likert	Likert	Likert	Likert
Questionnaire	Yes/No				
Scale					
Repeatable	Fair	Fair	Good	Fair	Fair
Assessment					
Benchmark	Yes	Yes	Yes	Yes	Yes
with Industry					
Applicable	Universal	Universal	Universal	Universal	Universal
across					
industries					
Certified	Yes/No	Yes	No	No	No
Consultant					
Required					
Projects,	Combined	Separate	Separate	Possible to	Possible to
Program and	assessment			separate	separate

 Table2 Brief comparison of some PM maturity models

	OPM3	APM/ PMMM	PM Solutions - PMMM	Kerzner's Model	Berkley's Process Maturity Model
Portfolio					
Assessment					
Report	Hard	Medium	Simple	Very Hard	Very Hard
Analysis			_	-	
Comments for	Very detailed	Concise	Concise	Detailed	Very
Improvements					detailed
Results	Detailed	Concise	Concise	Detailed	Very
					Detailed
Ease of	Hard, 151	Hard, 10+30	Medium, 30-40	Hard	Hard
Application in	questions	questions +	customized		
a Large		structured	questions		
Survey		interviews	_		
Process Area	3	5	5	6	5

Source: Al-Ahmad (2009, p. 68)

1.6 CAF/EFQM model

The Common Assessment Framework (CAF) represents a tool of total quality management. It is based on the assumption that organization exceptional achievements in performance, in relation to customers, employees and organization are accomplished through leadership, strategy and planning, employees, partnerships and processes (CAF Slovak, 2006).

The model assesses the organization through 9 criteria (fig. 1). As a tool of Total Quality Management, CAF subscribes to the fundamental concepts of excellence as defined by EFQM (CAF Slovak, 2006, p.15):

- results orientation,
- customer focus,
- leadership and constancy of purpose,
- management by processes and facts,
- involvement of people,
- continuous improvement and innovation,
- mutually beneficial partnerships and corporate social responsibility.

It assumes that exceptional achievements could be accomplished only by maximizing the satisfaction of external customers and own employees with respect to the environment conditioned by precise process management, suitable strategy, excellent resource management and partnership building.

CAF model of excellence provides (Zetagroup, 2009):

- structured approach for organizational improvements,
- methodology applied to all organizational levels,
- improvement focused on weak points,
- self-assessment based on facts,

- educational tool for employees,
- a tool to support employees' initiative,
- teamwork support,
- diagnostic and performance assessment tool,
- benchmarking,
- independent feedback for organization.



Innovation and Learning

Figure 1 CAF model

Source: Managementmania, 2012

2. PM maturity self-assessment model

In general, maturity models assess current organizational maturity and their capabilities via extensive questionnaires which provide snapshot of their current status. Maturity in this way is determined through the existence of specified PM processes. Suggested PM maturity self-assessment model represents simple and easily applicable tool for PM maturity assessment in an organization. Maturity is not assessed through high number of questions as it is in mentioned maturity models but through simplified description of maturity levels via selected areas and criteria.

The model is composed of 4 maturity levels. The main level distinction is visible in different application of standardization, integration, adaptability or process improvements in the organization.

The basis for selected assessment areas was CAF model. The reason of using the quality management model was a link to possible use of selfassessment methodologies in ISO 900x standards or EFQM methodology in organizations. The assumption is that many organizations already have an experience with ISO quality norms and standards application and self-assessment as well.

Suggested assessed areas are based on Enablers part of CAF model:

- 1. Leadership
- 2. Strategy and planning
- 3. People
- 4. Partnership and resources
- 5. PM Processes

Organizational PM maturity is assessed through maturity criteria in each area. The sources of the criteria are mentioned maturity models, model CAF and information acquired by interviews. Table 3 contains selected criteria.

The decision on maturity classification is on the organization-itself. However, it is required to emphasis the rule used in EFQM assessments. It is always necessary selected maturity level not only declare orally but also demonstrate by real evidence. If a real evidence does not exist then maturity level should be lower by a level (does not apply to level 1).

Area	Criteria
1. Leadership	PM support
2. Strategy and planning	• Project and strategic goals alignment
	• Integration of PM in organization / existence
	of project office or centre of excellence
	• Planning
	Organizational structure
3. Employees	• PM education
	Motivation
	Compensation
	• Talent management
4. Partnership and	Stakeholder management
resources	Financial management
	Knowledge management
5. PM processes	• Methods techniques and tolls of PM
	Risk management
	Communication

Table 3 PM Maturity Self-Assessment Model criteria

Source: Authors

Brief characteristic of suggested PM maturity levels is mentioned below:

Level 1: Management has only a little or no interest in PM. PM processes are not developed or are incomplete, non-standardized and mostly not documented. Projects are managed ad hoc by individuals with a great variability

in performance and a little chance in repeating. Project success is strictly dependent on individual skills of project leader and mostly is accomplished by budget and time overruns.

Level 2: the Organization pays more attention to PM. Basic PM practices are used; organization creates basic PM processes which are being developed. Individual projects are managed by individual processes with minimal degree of coordination among them. Projects are lead by rather qualified individuals, and the organization is able to repeat previous project successes. Projects are managed, realized and controlled by documented plans. However, PM in the organization is not centralized; definitions, responsibilities and goals of individual projects may not have to be aligned with organizational goals. PM experience and know-how is small.

Level 3: the organization management recognized advantages of PM, its roles and the need of supporting common PM methodology in the organization. It actively supports spreading of PM in the organization; provides information and support. PM processes are standardized, documented and integrated in the whole organization. Simple project office or the group responsible for following and improving processes is established in the organization. Processes are mainly set in a pro-active way with a possibility of improving and adjusting them to actual needs in line with guidelines and directions. PM education follows education programs in line with pre-defined guidelines, standards and norms with the goal of improving qualification level of employees and thus decreasing required time for adaptation in new project teams.

Level 4: the organization management actively supports the need of increasing organizational effectiveness and potential, looks for innovative ways to achieve goals. PM processes are strategic part of the organization and are optimized to be effectively used in the whole organization. They are regularly quantitatively and qualitatively evaluated and adjusted to ensure alignment with strategic goals; and to be adopted without decreasing the quality. Project office or centre of excellence is integral part of the organizational structure which is mainly focused on projects' coordinated planning, prioritization and realization with a stress on organizational performance and goals.

Conclusion

Project management is a response of organizations to constantly increased needs of changes and adaptation to external changes in business environment. The paper describes proposed PM self-assessment model based on systematic literature review and analysis of several PM maturity models, CAF Total Quality Management based model and interviews in organizations. The model represents simplified and easily applicable tool for PM maturity assessment in organizations and provides a current status and the level of organizational maturity. For more effective maturity assessment and following the progress in maturity it is recommended to assess the maturity regularly in line with prespecified time table.

References

- 1. Al-Ahmad, A. 2009. Evaluation of Project Management Maturity: The Role of Organization Influences in GCC Countries. Dissertation thesis. ESC-Lille University, Lille, 2009, 273 p.
- Alberts, D.S. Huber, R.K. Moffat (NATO SAS-065 Co-Chairs). 2010b. NATO NEC C2 Maturity Model, CCRP Publication Series, U.S. DoD Command and Control Research Program, 2010.
- 3. Alberts, D.S. Huber, R.K. Moffat, J. 2010a . NATO NEC C2 maturity model. 2010. ISBN 978-1-893723-21-4 (alk. paper).
- 4. Bourne, L. 2006. A Maturity Model That's Right and Ready OPM3 Past, Present and Future. PMINZ Conference, 4-6 Oct. 2006.
- 5. CAF Slovak. 2006 Príručka modelu CAF 2006, Zvyšovanie kvality organizácií verejnej správy samohodnotením podľa modelu CAF 2006. Spoločný systém hodnotenia kvality, Bratislava 2006, 183 p., ISBN 80-7160-223-X.
- 6. Chui, K. date unknown. OPM3. [online]. date unknown. [cited 2009.02.01]. Available at: http://www.hkcs.org.hk/doc_journal/OPM3_050607_HKCS.pdf
- Duncan, B. 2009. Komentár. [online]. 2009. [cited 2011.12.10]. Available at: http://www.linkedin.com/answers/business-operations/projectmanagement/OPS_PRJ/476506-5148223.
- 8. Humphrey, W.S. 1989. Managing the Software Process. Addison-Wesley, Reading, MA, 1989. 512 p. ISBN 0-201-18095-2.
- Kerzner, H. 2001. Strategic planning for project management using project management maturity model. Toronto: John Wiley & Sons, Inc., 2001. 272 p. ISBN 0-471-40039-4.
- 10. Managementmania, 2012. [online] 2012. [cited 2012.08.25]. Available at: http://managementmania.com/en/efqm-excellence-model.pdf
- OPM3, 2003. Project Management Institute. OPM3: organizational project maturity model. Knowledge foundation. Newton Square, PA: Project Management Institute. 2003.
- 12. OPM3. 2004. Project Management Institute. An Executive Guide to OPM3. Newton Square, Pennsylvania. 2004.
- 13. Paulk, M. C. et al. 1991. Capability Maturity Model for Software. Software Engineering Institute. 1991. CMU/SEI-91-TR-24, ADA240603.
- Paulk, M.C. et al. date unknown, The Capability Maturity Model for Software. [online]. date unknown. [cited 2010.05.01]. Available at: http://sunnyday.mit.edu/16.355/cmm.pdf.
- 15. PM Solutions. 2010. PMMM. [online]. 2010. [cited 2010.05.02]. Available at: http://www.pmsolutions.com/maturity-resource-center/
- PMBoK. 2004. A Guide to Project Management Body of knowledge. 3rd ed. Project Management Institute. 2004. 388 p. ISBN 193069945X.
- 17. Podpěra, D. 2002. Jak se udržet naživu při řizení projektu. [online]. 2002. [cited 2010.05.02]. Available at: http://www.zive.cz/clanky/jak-se-udrzet-nazivu-pri-rizeni-projektu/sc-3-a-108646/default.aspx.

- 18. Schlichter, J. McEver, J. Hayes, R.E. 2010. Maturity Frameworks for Enterprise Agility in the 21st Century. [online]. 2010. [cited 2011.02.10]. Available at: http://www.opmexperts.com/nato_opm3.html.
- 19. Weber, C. V. et al. 1991. Key Practices of the Capability Maturity Model, Software Engineering Institute, CMU/SEI-91-TR-25, ADA240604, 1991.
- 20. Wikipedia. 2012. Capability Maturity Model. [online]. 2012. [cited 2012.08.20]. Available at: http://en.wikipedia.org/wiki/Capability_Maturity_Model.
- 21. Zetagroup, 2009. CAF. [online]. 2009. [cited 2010.10.30]. Available at: http://ssk.zetagroup.net/index.php?zobraz=ehtml&idmenu=79.

About the authors

doc. Ing. Martin Mizla, PhD.

University of Economics in Bratislava Faculty of Business Economics with Seat in Košice Tajovského 13, 041 30 Košice Slovakia E-mail: mmizla@euke.sk

Ing. Pavol Mizla, PhD. E-mail: pmizla@gmail.com

DECISION-MAKING IN THE PROCESS OF INNOVATION

ROZHODOVANIE V INOVAČNOM PROCESE

Vojtech FERENCZ – Peter MESÁROŠ – Jaroslav DUGAS – Dagmar PRIVIDI

Abstract

Selection of the most favourable innovation strategy or innovation project is an important tool in each process of innovating, presenting an intricate and also highly significant multi-criteria decision-making process. Decision-making on the innovation project optimal alternative is a strategic decision-making, and hence it should be paid appropriate attention to, and despite the usually involved time distress no simplified procedures should be given preference to. The basis of successful solution is a rational connecting of various economic-mathematical methods, logical considerations, and often also of the intuition of the manager based on their knowledge, skills and experience.

Keywords: innovation, innovative strategy, innovation potential, enterprises, management

Abstrakt

Dôležitým nástrojom v každom inovačnom procese je výber optimálneho variantu inovačnej stratégie alebo inovačného projektu. Ide o zložitý a zároveň o veľmi dôležitý viackriteriálny rozhodovací proces. Rozhodovacie procesy najčastejšie chápeme ako procesy riešenia problémov s viac než jednou alternatívou riešenia. Rozhodovanie o optimálnom variante inovačného projektu patrí ku strategickému rozhodovaniu, a preto by sa mu mala venovať primeraná pozornosť a aj napriek časovému stresu by sa nemali uprednostňovať zjednodušené postupy. Základom úspešných rozhodnutí je racionálne spájanie rôznych ekonomickomatematických metód, logických úvah, ale často aj intuície manažérov vychádzajúce z ich vedomostí, zručností a skúseností.

Kľúčové slová: inovácie, inovačná stratégie, inovačný potenciál, podniky, riadenie

Introduction

Decision-making processes are most frequently taken for processes that involve resolving issues that have more than only one solution alternatives.

Each decision-making includes:

- 1. Considering various options, suggestions and variants;
- 2. Foreseeing results of each proposal, with special emphasis on subproblems each proposal can entail;
- 3. Criteria-based evaluation of results.

1. Activities constituting decision-making process

Mutually dependent activities that make up the decision-making process can be, in general, broken down into the below phases:

- 1. Identification of the problem:
 - a)General specification of the decision-making problem (recognition of nature of the problem),

- 2. Phrasing of the decision-making situation.
- 3. Specifying the objectives.
- 4. Selection of the problem-modelling mode.
- 5. Specifying possible alternatives for attaining specified objectives.
- 6. Selection of the method for determining the optimal alternative/variant.
- 7. Selection of decisive criterion and determination of their significance.
- 8. Selection of the optimal alternative: *a)Determining real values of decision-making criteria; quantification of qualitative criteria,*
 - b)Determining normative values of the criteria,

c) Comparing real vs. normative values, unifying comparisons in an ordinal or cardinal valuation scale.

- 9. Risk analysis prognosticating consequences of selecting individual alternatives at various possible changes in predominantly outside conditions.
- 10. Formulating of the decision.
- 11. Implementing the decision:
 - a) Setting methods of acting upon (changes introducing) executors,

b)Motivating the executors,

c) Order to realize a specific alternative of decision,

d)Realizing the decision,

- e) Quantification and keeping record of the realization results.
- 12. Evaluation of the decision implementing:
 - a) Comparing reality against the decision implementing programme,
 - b)Revision and correction of the decision,

c) Applying the corrected decision.

The above fragmentation is not mandatory for each individual decisionmaking process. A real-life progress may differ from the above break-up by differing sequence of phases, possibly by skipping some phases or, to the contrary, by their more detailed or tighter linking. Individual phases are interconnected by feedbacks, which allows that the decision-making proceeded in specific cycles and that it would be of iterative nature. It is on the management to consider what tasks are in play within a decision-making

b)Analysis of elements and determining the problem type (standard, wellstructured, poorly structured or unstructured problem).

process, and consequently to apply a simpler model if advantageous.

Adopting managing decision may have the form of:

- Automatic decision-making;
- Routine decision-making;
- Interpretational decision-making;
- Programme decision-making.

Decision-making on the innovation project optimal alternative is a strategic decision-making, and hence it should be paid appropriate attention to, and despite the usually involved time distress no simplified procedures should be given preference to. Up to now, neither in theory nor in practice exists a cohesive opinion on the most useful sequence of activities in the decisionmaking process. The basis of successful solution is a rational connecting of various economic-mathematical methods, logical considerations, and often also of the intuition of the manager based on their knowledge, skills and experience.

2. Identifying the Decision-making Process

The issue of decision-making can be identified upon two mutually equipollent related planes, when in question if the selection of:

- a) Optimum innovation strategy, and
- b) Optimum innovation project alternative



Figure 1 Identifying the decision-making process Source: Original design

When deciding on selecting an optimum innovation it should be noted that in question is a strategic management issue. That is currently considered to be a ceaseless, continuous process focused on sustaining the capability of a company to flexibly respond to changes in its environment, whilst its objective is to maintain the company as a whole in an appropriate harmony with its environment. Such a view goes way beyond the idea of strategy as an infinitely valid and unchanging document. Rather, it reflects the objective actuality that the modern economy is a process involving abrupt changes, turbulences and uncertainties, the one survive or "make it" within which can only those who manage to adopt themselves and to learn how to make the most out of the opportunities the uncertainty brings about. In sequential models, the strategic management is being depicted as a ceaseless, continuously ongoing iterative process that gradually experiences individual phases and steps that are mutually interlinked through feedbacks (Demjanová, 2006).

When it comes to specifying the strategic management fundamental phases no significant differences can be found in the literature. Thus, for example both Certo and Peter are stating the below outlined principal phases (Vavrinčík, Dugas, Ferencz, 2011):

- Analysis of the environment;
- Determining direction of the organisation (specifying mission of the organisation and formulating strategic objectives);
- Formulation or phrasing of the strategy;
- Strategy implementation;
- Strategy follow-up and checks.

An integral part of the strategy formulation is developing draft basic scenarios of complex company strategies, elaboration and fine-tuning of the functional strategy alternatives falling within which are also the innovation strategy and selection of the optimum variant. The decision-making issue stands for selecting an optimum solution in the procedure of processing the innovation project, whilst the process of innovation represents a summary of mutually interconnected analytical, creative and deciding activities performed with the aim to attain or arrive to a desired status of the innovation subject, be it a product, technology or organisational change along all phases of its existence. For example: innovation of products starts with research and development, proceeds with manufacturing, then with utilisation or use of the product by the final user and concludes by suggesting manner of the product disposal once its service life ends. The decision-making issue can be conceived as finding the best way to the destination, when more than a single route can reach the end point.

3. Formulating the Decision-making Situation

Any decision-making processes are at all times accompanied by a decision-making situation that illustrates the conditions under which is the decision-making entity adopting decisions, whilst it also reflects the fact that it is exactly the level of awareness of the subject or entity at the decision-making time that is of decisive influence upon progress of the entire decision-making process.

In general there are three basic types of decision-making situations:

- a) Decision making under certainty, where the decision making body knows with certainty (with probability equal to 1), which state of the outside world will result,
- b) Decision making under risk, where decision-making is being performed under probability (stochastic) conditions and the decision maker is aware as of the probability distribution of future conditions of the outside world so of consequences of the decision making variants considering individual criteria,
- c) Decision making under uncertainty, where the decision making body is aware of both of consequences of individual decision making variants and possible conditions of the surrounding world, but is not aware of the probability of their occurrence.



Figure 2 Types of decision-making situations Source: Original design

In majority of cases, decision-making under certainty pertains solely to resolving detail issues in technical systems, and typical for strategic decisionmaking are rather the other two decision-making situations. Thus, the usually management strives to transfer tasks from *under uncertainty* to *under risk* conditions so that, for example, it will succeed in obtaining:

• Expert judgment expressing subjective probability;

Or:

• Supplementary data allowing establishing at least some probability.

Utilised in case of failure should be the methods of optimum alternative selection that do not require knowing probability of the surrounding world conditions.

4. Determining Principal Objectives

Establishing the primary goals that must be reached when resolving whatever issue presents the most significant phase of decision-making process. Such goals or objectives must be set in detail whereas to an enormous extent, selection of the best way of arriving to them depends on this phase. Setting of objectives inherently entails creation and quantification of the decision-making criteria. A large number of objectives present criteria as well and the max value of objectives represents also the normative value of the given criterion.

The first one decision-making issue, i.e. selection of the optimum innovation strategy, cannot be resolved in isolation from the process of creating higher hierarchical level strategies.

Individual hierarchic levels are:

Strategy of company – focusing upon developing the company as a whole.

Strategy of strategic business unit (Strategic Business Unit – SBU) – is the strategy of in–company organisational unit such as e.g. a division that operates relatively independently within a delimited area (branch of production or services, defined market, etc.).

Functional strategies focus upon three principal functional spheres of the company. Falling under the most significant are: innovation strategy, marketing strategy, financial strategy, production strategy, etc. Functional strategies have to closely connect to the higher hierarchy strategies though at a time they have to be harmonised horizontally as well.

When developing company strategies for individual hierarchical levels one can advance either top-down or bottom-up or in a combination of the two. Formulation of the long-term oriented system of objectives presents the decisive component of creating the overall company strategy, SBU strategy and also the functional strategies. Strategic objectives reflect a future company condition the company intends to attain, and these can be the expression of fundamental orientation of the company in general, qualitatively, and through them is one getting near to formulating the company mission. On the level of functional strategies in question are in more detail specified objectives as from the material, time-related and quantitative points. Importance of the adopted strategy is considerably dependent on that to what extent would it be possible to mutually harmonise individual objectives. The very objectives creating process plays coordinative, control and assessing functions in the strategic management, whilst objectives have varying time horizons, may be identical, complementary, competitive or indifferent, and hierarchically arranged. In the literature, the long-term time horizon is specified vaguely though it is reported to fall within the period of 18 months to some 3 or 5 or even more years. Turbulent intensity of the competitive environment of today, astounding pace of changes in the outside environment and also the high rate of the future development uncertainty suggest rather shorter periods even though objectives of the highest hierarchy such as mission of the company or its acknowledged values should be of longterm nature. In general but we can, without going into details as to the time horizon, divide objective amongst long-term and short-term ones.

Mission of a company expresses why and for what purpose has the company been formed, and the mission includes information such as: types of products or extent of services the company primarily provides; what will be the company attitude to certain technologies, which are its most precious values, etc. Mission can also be also a more vague or more specific representation on general direction of the company.

Tightly following the company mission is formulation of both long- and short- term objectives, when all of them have to be mutually consistent - Figure 3.



The company mission scheme is based on respecting the below outlined sequence of steps pertaining to the company direction be it creation or improving assumption:

A. Accepting the environment analysis results

The environment analysis provides an abundance of relevant information the management can or should take into consideration at creating or modifying their objectives. The information should be of help also when analysing interrelations of objectives along both vertical and horizontal axes.

B. An appropriate company mission proposal

Matter-of-factly processed set of information resulting from the environment analysis provides a quality base through use of which are top executives able to build up an appropriate mission of the company. In this regard, often used is also the "vision" term, and then the mission is deemed to be an integral part thereof.

C. Proposal of appropriate objectives of the company

Once the company mission has been worded established can be a consistent system of objectives that would reflect the company mission.

Once the strategic objectives have been worded it is recommended to adhere to specific principles, and hence the objectives should be:

- Well specified;
- Attainable within the deadline;
- Flexible;
- Quantifiable;
- Mutually consistent;

And should be calling for a desired extent of effort to motivate the personnel.

In the system on objectives, some conflicting situations may arise even when adhering to all recommended procedures. This usually manifests on the level of functional strategies that emerge relatively as isolated and that prefer their specific goals. Joseph D. Blackburn (1994) has illustratively expressed inherent inconsistency of the marketing and production strategies in his message: "Diversity and complexity result in strategic dilemma whereas they present two faces of a coin. Diversity is blessing for marketing and doom for production."

Analysing consistency of objectives and overall harmonising of competing objectives is an arduous task. Used at its resolving, if just as an aid, can be the below procedure:

1. Arrange objectives into a hierarchic system. Such an arrangement will be influenced by as subjective view of the manager for it will be based on their opinions and visions and also by impartial assessment of the given situation through quantifiable criteria or will be based on the decomposition principle applied. An appropriate method is the one called the tree of efficiency.

2. Examine if some of the postulated objectives are not just sub-objectives used to attain other objectives. If they are, exclude them.

3. Consider possible variants of relations among objectives. Reviewed within this step should be compatibility of objectives in vertical direction, and considered if hierarchically lower objectives result from hierarchically higher ones. Similarly, considered at individual hierarchic levels should be if attaining a single objective simultaneously means more appropriate performing of another one (complementariness of objectives), if meeting an objective will or will not influence attaining another objective (neutrality of objectives), or if attaining an objective will prevent attaining of another one (conflicting objectives).

4. Attempt integrating objectives that are identical in their principal features. Select the most important ones from among multiple objectives. Optimising decision-making regarding multiple objectives is always extremely arduous. A starting point may be determining optimum value for the primary goal and putting some restrictions on the rest of objectives. If, for example, quality level of an innovated product is defined to be the primary goal, the goal cannot be attained with unrestricted increase in costs or laboriousness.

One of the methods used for unifying objectives is the so-called *problem diagram* that is based on such a way of posting questions that allows responding to by "yes" or "no" only, whilst utilised is the decision tree principle. In this way, disintegration progresses until reached is the level that allows pinpointing acceptable solutions. Set of files containing appropriate questions can be, in various forms, found both on the Internet and in professional literature. Porter (1994), for example, offers a test for analysing internal consistency of questions:

- Are the objectives mutually attainable?
- Are key operative solutions objective-directed?
- Are individual key measures operating mutually enforcing?
- Do strategic issues include questions regarding direction of the organisation?
- Is the company mission straightforward and complex?
- Does the company mission adequately reflect its environment?
- Do objectives of the company strategy appropriately reflect the company mission?
- Have proper types of objectives been used?
- Are objectives set for each area that is crucial for success of the company?
- Are the objectives appropriately hierarchically arranged, and are they appropriately specified?



Source: Original design

5. Selection of the Problem Modelling Technique

On this stage, decided on should be an appropriate such method that allows creating model of the problem within or through which applied could be the decision selecting methods. Again, listed in the literature is a large number of techniques such as verbal models, graphic models, economical-mathematical models, systems analysis, an so forth. As to the strategic decision-making available are portfolio analyses, SWOT analysis, analysis using SPACE diagram, etc., and intended for the innovation creation field are the project managing methods, primarily but network diagrams or flowcharts.

6. Producing Viable Alternatives of Attaining Defined Objectives

Within either the innovation strategy process or a specific innovation creation formulated can be a host of alternative solutions – by a combination of

depth and width of innovative changes; based on available amount of the cost of innovation; considering pace and frequency of innovative changes introducing; or based on other parameters produced can be a large number of the innovation strategy alternatives.

For the most part, used at establishing principle alternatives of innovation strategies are the below four criteria:

- Depth of innovation and the innovation level;
- Amount of resources available for the innovation;
- Width of the innovated range of product or services;
- Rate and time of innovation.

We are working on the presumption that each criterion may be found on three levels (developing, stabilising or attenuating strategy; long-termed, medium-termed or short-termed deadline, etc.). Consequently and accordingly, developed can be 81 principal alternatives of the innovation strategy.

From amongst functional strategies, innovation strategy is most closely related with the marketing strategy.

And, considered for the basic marketing strategies are:

- *Intensive marketing strategy* (high price of the product, high marketing costs),
- *Selective penetration to the market strategy* (relatively high prices, high quality product, low marketing costs),
- *Broad penetration strategy* (low price of the product, high marketing costs),
- *Passive marketing strategy* (low price of the product, low marketing costs).

Through subsequent combining these with the principal innovation strategy alternatives obtained can be 324 basic alternatives or variants. The variants are produced by a horizontal combination, and vertical combining can further expand them – by their connecting to basic variants of a higher hierarchy strategies. The number of combinations can be expanded through considering further parameters, through their more detailed partitioning or by condensing multiple kinds of functional strategies. In practice, however, it is unthinkable to create such an enormous number of variants. Developing alternative solutions in the innovation project creation process is enhanced by properly applying the methods that support inventiveness of the company. Falling into the category are e.g. rules for seeking out new stimuli based on the experience utilisation of which makes finding a new solution more probable; mutual associations; transfer of analogies; combinations; variations; inferring the material content; comparing similarities; comparing functions; aggregation and dis-aggregation, and many more.

Yet another set of method is made up of systemic-analytical methods

falling amongst are: the problem-solving tree; mathematical-logical modelling methods; the morphological analysis methods; methods of alternative questions; checklist methods, etc. Then, there is the group of intuitive methods: brainstorming, brain-writing, method of J. W. Gordon, synectic method, and some more.

7. Selecting the Method for Determining an Optimum Variant

The optimum variant selecting methods should facilitate solving the problem from two principal viewpoints:

- a) *Material* in question is searching for the optimum solution on the basis of criteria that are specific for the given subject (strategy, product, technology, organization),
- b) *Economic* securing harmony between the material solution and the economical effectiveness requirements.

Developed for this decision-making process have been a large number of methods, when the most useful ones are the multi-criteria assessment method, value analysis methods or value engineering, operational analysis methods, and a number of other methods.

From an economic viewpoint, for the decision on adoption and implementation of a specific innovation project or of an innovation strategy important are indicators of economic efficiency. Most commonly used are assessment methods based on the following criteria:

- *Return on capital* profitability of capital, inclusive of shareholding capital, equity or overall capital;
- *Payback period* settlement period or payback period,
- Discount-based criteria, namely:
 - Net present value;
 - *Profitability index*;
 - Internal rate of return.

The method selection is conditional on material nature of the problem, the innovation project solution level, availability of information, technical equipment, time constraints, costs, personnel, etc. Yet, any and all opted for methods should possess the ability to assess suggested variants from both sides: material and economical.

8. Selecting the Decision Criteria

When on the selection of decision criteria level holding are numerous of the set of principles set out in the objectives setting section. Most frequently, included amongst desired properties of individual criteria are:

- Ability to express quantity (quantification);
- Ability to express quality (material content);
- Relevance attach-ability both to objectives and to suggested alternatives or variants;
- Metrics the ability to measure both differences between variants and their delimitations (upper and lower limits);
- Operationalism, which expresses the requirement that each criterion should have clear-cut and definite meaning and that it should be fully comprehensible for the decision-maker.

Usually, falling within the set of criteria of required properties are: *entireness, decomposability, hierarchy, aggregability, minimum extent, non-redundancy.* Less frequently, however, occurring is information on specific shape of the selected criteria. An instruction enabling resolving the issue is, for example, the matrix of universal criteria that can be utilised in the process of designing industrial products.



Figure 5 Matrix of universal criteria utilizable in the process of designing industrial products

Source: Original design

Optimum variant selecting methods, mainly then the multi-criterion

decision-making methods, take into account weights of the criteria. The weights present a quantified measure of such criteria and express the intensity with which are they able to influence overall evaluation. And then, precision of the resulting value depends to a considerable extent on precision of defining the weight.

Methods for determining weights of the criteria are most frequently based on the below principles:

- *Probabilistic principle* –weight reflects a probability that the criterion will attain a normative value;
- *Value-based principle* weight is function of costs that have to be expended to attain requested value of the defined criterion;
- *Expertise principle* is applied with majority of methods and the principle is that values of weights of individual criteria are determined as an averaged opinion of specialists assessing the contemplated object;
- Combinations of above principles.

Mentioned in the literature as the basic methods that can be applied at determining weights of criteria are:

- Method of free evaluation/assessment;
- The ordinal scale method;
- The deviation scale method;
- The comparison matrix method;
- The pair-based evaluation method.

9. Applying the Chosen Optimum Variant Selection Method

In question within this decision-making phase is applying chosen methods for selecting the optimum variant or alternative. Selected procedures are specific for individual groups of methods, though whereas usually in concern is multicriteria decision-making, the purpose is to come to some resulting values that would be synthetically reflecting both the weight and the level of satisfying defined evaluation criteria.

Falling amongst most widely used ones, and the simplest at a time, are the so-called *point scoring methods* (figure 6.). The optimum variant selection procedure is based on establishing of a "verbal-numeric" evaluating scale quantified according to which are all considered criteria. Presently, a set of such methods presents also the most widely used way of quantifying qualitative Results scoring decision-making criteria. of point are subsequently mathematically evaluated primarily as a weighted average or they are represented graphically in an appropriately constructed table in the form of profile lines (figure 7). The set of comparison methods is based on a common fundamental principle, i.e. on comparing the calculated value of decisionmaking criteria against a selected comparison zero base, and transforming of all values to common evaluation scale that is either ordinal or cardinal; subsequently, exerted is effort to fix the final evaluation through a single synthesizing number. Belonging to this group of most popular methods are e.g. the basic variant method and the ELEKTRE III method.

Another important group is made up of methods of multidimensional statistical analysis such as e.g. multi-factor analysis, cluster analysis and many more. Some methods are nowadays widely software supported, and hence their use is relatively cheap, simple and, mainly, very fast.

Worth mentioning are also some potential risks that derive from the possibility not to arrive to the anticipated objective, as this can be an integral part of the decision-making criteria, and then the risk are within the adopted method processed with identical procedure as the rest of the criteria. Risk analysis can be performed also by using different methods, and the results will be included into the decision adoption phase.



Branch

Figure 6 Point scoring method

Source: Original design

ITEM	Considerable weakness	Slight weakness	Neutral weakness	Slight strength	Considerable strength
Production originality					
Production costs					
Market share					
Prestige of the brand					
Satisfaction of customer					
Layalty of customer					
Control over distribution					
Level of services					
Extent of integration					
Other					

Figure 7 Graphical method w/ use of profile lines Source: Original design

Conclusion

Decision-making methods, be it verbal – e.g. the scenarios method, graphical or mathematical, provide only poor basis for the decision maker for adopting a decision. Neither those most detailed methods can cover all the aspects that are or will be of influence upon attaining the postulated objective. Due to this, the role of the manager, his or her skills, knowledge, foresight, leadership and other properties are indispensable at this stage. Thus, proper selection of a just decision must be performed by a manager of the pertinent management level post considering all results of the formal decision-making procedure that may offer him or her initial basis for his/her deciding.

And implementation of the decision, checks of its performing, motivating the executives, and possible corrections of the decision, as well as further activities that arise within the decision-making final stage present integral parts of managerial functions at controlling the process of innovating.

References

- 1. BLACKBURN, D. J. 1994. Závod s časem. Praha : Victoria Publishing, 1994.
- 2. CRAWFORD, C. M. 1996. New product Management. Boston : Irwin, 1996.
- DEMJANOVÁ, L. 2006. Formy systému strategického pozorovania a ich implementácia v podnikovej praxi. In: Acta Oeconomica Cassoviensia, roč. 1, 2008, č. 1, s.52-61, ISBN 1337-6020.
- 4. FERENCZ, V.: Stratégie zvyšovania inovačnej výkonnosti MSP. In: Transfer inovácií č. 12/2008. SjF TU v Košiciach, 2008, s.13-16, ISSN 1337-7094
- 5. FERENCZ, V.: Metódy a nástroje pre zvyšovanie inovačnej úrovne MSP v dodávateľskom sektore automobilového priemyslu, Dizertačná práca, 2010
- 6. FERENCZ, V., MIHOK, J.: Dodávateľský sektor a finančná kríza. In.: Automotive Industry, č. 4, 2008. ISSN 1337-7612
- 7. FREEMAN, C. 1985. *Desempleo e innovación tecnológica*. *Un estudio de lan ondas largas y el desarrollo económico*. Madrid : Ministerio de Trabajo y Seguridad Social, 1985.
- 8. HEČKOVÁ, J. HUTTMANOVÁ, E. 2011. *Poznatkovo intenzívne služby a ich význam pri generovaní a difúzii poznatkov*. Dostupné na internete: http://www.pulib.sk/elpub2/FM/Kotulic7/pdf_doc/huttmanova.pdf
- 9. HIDALGO, A. ALBORS, J.. 2004. *New Innovation Management Paradigms in the Knowledge Driven Economy*. Madrid : Universidad Politdcnica de Madrid, 2004.
- HOLLANDERS, H. 2008. Measuring Services Innovation: Service Sector Innovation Index. Six Countries Programme Workshop "Non-technical Innovations - Definition, Measurement & Policy Implications". Karisruhe : UNU-MARIT - Maastricht University, 16 - 17 October 2008. Dostupné na internete: www.merit.unimaas.nl
- 11. HRAZDILOVÁ BOUČKOVÁ, K. 2010. Současný inovatívny marketing. In *Ekonomické rozhľady*. ISSN 0323-262x, 2010, č. 3, s. 430 439.
- 12. JÁČ, I. RYDVALOVÁ, P. ŽIŽKA, M. 2005. *Inovace v malém a středním podnikáni*. Brno : Computer Press, 2005. 173 s. ISBN 80-251-0853-8.
- 13. KAO, J. 2009. Navigating the New Geography of Innovation. Keynote Presentation. May 19, 2009. Dostupné na: http://frontendofinnovation.blogspot.com/2009/05/keynote-presentation-from-johnkao.html
- KOTLER, P. TRIAS DE BES, F. 2004. Inovativny marketing. Jak kreativním myšlením vítězit u zákazníků. 1. vyd. Praha : Grada, 2004. 200 s. ISBN 80-247-0921-X.
- 15. KOVÁČ, M. JAHNÁTEK, A. 2010. Technologická podpora inovácií. In *Mihok, J. a kol.: Podpora inovácií. Stratégie, nástroje, techniky a systémy*. Košice : Centrum inovácií a technického rozvoja, 2010. 296 s. ISBN 978-80-970320-0-5.
- MIHOK, J. a kol. 2010. Podpora inovácií. Stratégie, nástroje, techniky a systémy. Košice : Centrum inovácií a technického rozvoja, 2010. 296 s. ISBN 978-80-970320-0-5.
- 17. VAVRINĆÍK, P. DUGAS, J. FERENCZ, V. 2011. Základy manažmentu inovácií. Bratislava : Vydavateľstvo EKONÓM, 2011, 228 s. ISBN 978-80-225-3184-9

About the authors

Ing. Vojtech Ferencz, PhD.

Ekonomická univerzita v Bratislave, Podnikovohospodárska fakulta v Košiciach Katedra marketingu a obchodu Tajovského 13, 041 30 Košice Slovensko Tel.: +0421(0)55 / 722 31 11 Fax.: + 0421(0)55 / 623 06 20 E-mail: vojtech.ferencz@gmail.com

doc. Ing. Peter Mesároš, PhD.

Výskumný ústav stavebnej informatiky, s.r.o. Garbiarska 5, 040 01 Košice Slovensko tel.: +0421(0)55 / 633 98 02 e-mail: peter.mesaros@vusi.sk

Ing. Jaroslav Dugas, PhD.

Ekonomická univerzita v Bratislave, Podnikovohospodárska fakulta v Košiciach Katedra manažmentu tel.: +0421(0)55 / 722 31 11 fax.: + 0421(0)55 / 623 06 20 e-mail: jaroslav.dugas1@euke.sk

Ing. Dagmar Prividi, PhD.

SWEP SLOVAKIA, s. r. o., INDUSTRIAL PARK Kechnec Kechnec 288, 044 58 Seňa Slovensko E-mail: prividiova@yahoo.com

BUSINESS INTELLIGENCE REPORTING

BUSINESS INTELLIGENCE REPORTING

Cecília OLEXOVÁ – Vladimír SUŠKO

Abstract

Reporting is one of the analytical components besides the OLAP and Data Mining that is built into an overall BI architecture and mostly used by end-users. From the managerial point of view, reporting is one of the business intelligence tools with the greatest importance for managers as the end-users of business intelligence solutions. The form of reporting depends on precise and practical requirements on the reporting from the end-users, the managers. The aim of the paper is to describe the position of reporting in business intelligence architecture and to present the process of investigation of the requirements from BI users on business intelligence reporting in a selected retail chain, from business point of view. The paper brings the suggestion of business intelligence reports and dashboards required for the retail chain, in relation to OLAP cubes.

Keywords: business intelligence, reporting, dashboard, retail chain

Abstrakt

Najčastejšie používaným analytickým komponentom vo všeobecnej koncepcii architektúry Business Intelligence je pre konečných používateľov okrem OLAP a Data Mining aj reporting. Z manažérskeho hľadiska je reporting najdôležitejším nástrojom pre manažérov, ktorí predstavujú konečných užívateľov Business Intelligence v podniku. Výsledná podoba reportingu závisí od čo najpresnejších požiadaviek manažérov na jeho formu, s ohľadom na praktické využitie informácií získavaných pomocou reportingu. Cieľom príspevku je z manažérskeho hľadiska opísať postavenie reportingu v architektúre Business Intelligence a prezentovať proces získavania požiadaviek na reporting od koncových používateľov v sieti maloobchodných predajní. Súčasťou príspevku je aj návrh konkrétnych reportov a dashboardov Business Intelligence pre vybranú sieť predajní, vytvorených nad OLAP kockami.

Kľúčové slová: Business Intelligence, reporting, dashboard, maloobchodná sieť

Introduction

Business intelligence (BI) plays an important role in the work with up-todate information for the strategic and operative decision-making. Reporting is one of the business intelligence tools with the greatest importance for managers as the end-users of business intelligence solutions. The final form of the reports and dashboards depends on precise requirements from the managers, to get useful, adequately detailed data. The paper is focused on the position of reporting in BI architecture from managerial point of view, the process of preparing the requirements from BI users on business intelligence reporting in a retail chain and final list of BI reports in relation to OLAP cubes, containing the selected KPIs and a periodicity of reports.

1. Position of reporting in business intelligence architecture

Management portfolio as the set of electronic tools used during the decision-making process emphasizes its value as an effective information analysis tool. An alternative term for the same concept is business intelligence platform, because appropriate support hardware and software infrastructure is necessary to provide business managers with a powerful and flexible analysis capacity (Golfarelli and Rizzi, 2009).

The term business intelligence described Howard J. Dresner, a Gartner Group analyst as "a set of concepts and methods to improve business decision making by using fact-based support systems" in 1989 and this usage was widespread (Power, 2007). Wixom and Watson (2010) define business intelligence as "a broad category of technologies, applications, and processes for gathering, storing, accessing, and analyzing data to help its users make better decisions". It includes both getting data in (to a data mart or warehouse) and getting data out (through technologies or applications that meet some kind of business purpose). Wixom and Watson underline the processes as an important part of BI – e.g. processes for extracting, loading, and storing data; maintaining metadata for IT and users; and prioritizing BI projects. Some of these processes are the responsibility of the BI staff, while others are the joint responsibility of the BI staff and the business units. According to Foley and Guillemette (2010), BI is "a combination of processes, policies, culture, and technologies for gathering, manipulating, storing, and analyzing data collected from internal and external sources, in order to communicate information, create knowledge, and inform decision making. BI helps report business performance, uncover new business opportunities, and make better business decisions regarding competitors, suppliers, customers, financial issues, strategic issues, products and services."

Business intelligence architecture is a framework for organizing the data, information management and technology components that are used to build business intelligence systems for reporting and data analytics. The underlying BI architecture plays an important role in business intelligence projects because it affects development and implementation decisions.

The data components of a BI architecture include the data sources that corporate executives and other end users need to access and analyze to meet their business requirements. Important criteria in the source selection process include data currency, its quality and the level of detail in the data. Both structured and unstructured data may be required as part of a BI architecture, as well as information from both internal and external sources.
Reporting is one of the analytical components besides the OLAP and Data Mining that is built into a BI architecture, as the part of the layer for data analysis (Čarnický – Mesároš, 2009).

There is plenty of options and modes of generation, definition, design, formatting and propagation of the reporting. A successful reporting platform implementation in a business intelligence environment requires great attention to be paid from both the business end users and IT professionals. The fact is that the reporting layer is what business users might consider a data warehouse system and if they do not like it, they will not use it. The problem is that the report generation process is not particularly interesting from the IT point of view as it does not involve heavy data processing and manipulation tasks. On the other hand, "most of the users do not care about the source of the data; they want a plain simple report for decision making from accurate information. Executives need summary information to steer the business while commercial customers need account reports via a secure portal" (Nemati et al., 2010).

Two kinds of reports can be distinguished:

- Standard report is subject oriented, reported data are defined precisely before creation. Examples of standard reports are "reports on sales volume, production, or other data significant from point of view of the conduct of business operations, concerning, for instance, different periods, responsibility centres or geographical areas" (Nesterak Ziębicki, 2012).
- Ad-hoc report is created by the end users on demand, the report is designed from scratch or using a standard report as a template.

Reporting supports the managers by creating the regular supporting documents (reports, surveys etc.). From a technological point of view, the reporting tools access directly the operational data warehouse or database of source systems. The most widely used reporting platforms are IBM Cognos, SAP Business Objects and Crystal Reports, Microsoft Business Intelligence (SQL Server Reporting Services), Oracle Hyperion and Siebel Analytics.

Other possibilities are dashboards and scorecards. Dashboard contains high-level, aggregated company strategic data with comparison and performance indicators and uses lots of graphic, charts, illustrations. It is often visualised in a slick, simplified user interface (UI).

Dashboards do not often drive direct decisions; they rather let individual users get a feel for general performance, such as sales, inventory turn, customer complaints... Dashboards may also include trends – such as day-by-day sales figures compared with goals or plans.

Dashboards are useful because they can help new and less-experienced users quickly start taking the advantage of the data in a data warehouse – or even the data in a transactional processing system, such as an order-entry application (Čarnický, 2011). Business intelligence dashboard, like the dashboard of a car, indicates the status at a specific point in time.

There are three types of dashboards, according to their application (Balažovič, 2010):

- Strategic dashboards for strategic decision-making. The granularity is higher than in other types of dashboards. Actualisation is usually on monthly basis.
- Analytical dashboards are for the work with the data. They are usually from data sources OLAP. They have the data separated into different fields, e. g. sales, customer, human resources, etc. If what analysis are included in these dashboards.
- Operative dashboards for daily monitoring of mostly on-line information, for example from call centres, from assembly lines, information systems etc.

The parameters of good dashboards are the following (Balažovič, 2010):

- integrity managers should have key information needed for the work,
- clarity information must be definite, without the ambiguity in a display, in the definition of separate figures,
- display information have to be on one single screen or sheet of paper, or mobile phone display, to ensure high visibility,
- readability information displayed have to be readable, without overlapping, hide context, etc.

In addition to the dashboards, other tools that broadcast information are corporate portals, digital cockpits, and other visualization tools (Turban, Sharda and Delen, 2011).

The scorecard is also an useful visualization. This custom UI links internal and external data to the organization's goals. Basically, it displays progress over time towards specific goals.

The dashboards and scorecards serve a similar purpose, and some BI solutions present them in such a way that there is no practical difference. If needed to make a distinction between them, a dashboard usually shows the facts in absolute terms; a scorecard shows the position in relation to the goals. Both are useful, and both may be presented in a "dashboard-style" UI (Čarnický, 2011).

The dashboard and scorecard designs are increasingly converging. For example, some commercial dashboard products also include the ability to track progress towards a goal. A product combining elements of both the dashboards and scorecards is sometimes referred to as a scoreboard.

2. Process of requirements specification of BI reporting in selected retail chain

The end-users of BI are the middle and top managers of a sport-fashion multibrand chain operating its retail stores in two countries. Its vision is to become a leader in sporting retail in Central-Eastern Europe.

The managers faced up to tremendous growth of the company data and problems to get relevant, exact information that supports the decision making. Business intelligence holding the commercial information of the company was implemented. From the managerial point of view, reporting of the results is the most important area of the BI applications for the use of business intelligence.

According to the managers of the retail chain, the criteria of good reporting system are the speed and the flexibility.

The process of defining requirements on BI reporting consists of following steps:

- 1. Requirements: The managers of the retail chain were asked to prepare the business intelligence reporting requirements, using the following questions:
 - What do you need to measure?
 - How often do you want to measure it?
 - What is the granularity of all the measures?
 - Why do you want to measure it?
 - Do you have all the data needed to measure it?
 - How can you use the measures in managing processes you are responsible for (organizational performance, sales, purchases, human resources...)?
- 2. Decision on key performance indicators to be reported: By the help of the answers the managers worked out the detail list of KPIs including their:
 - definitions,
 - calculation,
 - input data and
 - influence of each KPI on company performance.
- 3. Preparing the deliverable list of reports demanded by managers: the list of reports was prepared, containing the selected KPIs, periodicity of reports, and end users of the reports, in the cooperation of all the managers.
- 4. Requirements of dashboards for top managers to display the KPIs and decision on the periodicity and functionality (e. g. filtering, drill-down functionality users can see the next level of detail after clicking on a data point...).

Attributes for KPI are (supported with the illustrative example):

- name: e.g. sales by product
- measure: sale

- instant dimension: product ID
- visualization axis: product ID
- preferred visualization: The end-users could choose a visual representation to display BI results geographically, multidimensional scatter plots to view data statistically, type of charts, graphs, tables and more.

3. Suggestion of business intelligence reporting for the retail chain

As the result of the process of gathering the BI reporting requirements, the end form of reporting was worked out by the managers as the end-users, company's IT manager as the coordinator of the BI implementation project and IT professionals from an external IT company who were well equipped to translate business requirements into actions enabled by BI.

Reports

Four functional areas have been identified:

- Sale.
- Shopping cart.
- Customer turnover.
- Export.

The facts and dimensions have been defined over the each functional area, for the purposes of reporting:

- **Facts:** In retail chain, the following fact tables with numerous data which are interpreted for each functional area were defined: credit note (actual), export (actual), shopping cart (actual), enters (actual), turn round (actual), sale (actual), employee productivity (actual), export (plan), shopping cart (plan), turn round (plan) and sale (plan).
- **Dimensions:** There are following dimensions on a reporting layer of data warehouse (text information that describe and categorize the facts in details): supplier, record, calendar, country, leaflet, currency, measure, customer, document sales slip, shop, product, stocks, kind of sale and employee. For every dimension, hierarchy must be defined.

The managers prepared list of following reports to get the data needed for making decisions:

- category manager (CM): individual report/plan; individual analysis, personal evaluation (BSC)
- price / item
- leaflet performance
- model performance
- top 30
- slow movers, last pieces
- brand results
- seasonality of stock
- productivity
- KPI stores: management, week day
- space management
- trends: stores, CM
- store performance / plan
- central stock house analysis
- turnaround stores versus benchmark

Each functional area is represented by an OLAP cube and defined reports. The following table presents the part of reports required, in relation to OLAP cubes, within the mutual relations (Table 1).

List of reports	OLAP	OLAP cube				Periodicity
	sale	turn	shopping	export		
		round	cart			
Category manager (CM) – individual	х	х			day	week, month
report / plan						
Price / Item	Х				day	month
TOP 30		Х	х		day	week
Slow movers		x			day	1. and 15. day in a month

Table 1 Reports required, in relation to OLAP cubes - example

Source: Internal company material

Presented reports are made over OLAP cubes. Granularity and periodicity are defined for each report. It is also necessary to map the reports for all dimensions (Table 2).

List of reports	Dimension						
	calendar	product	country	store			
Category manager (CM) – individual report / plan	day	brand	X	X			
CM – individual analysis	month	item	Х	Х			
Price / Item	day	brand		Х			
TOP 30	day	activity		Х			
Slow movers	day	brand	Х	Х			

 Table 2 Mapping of the reports for dimensions - example

Source: Internal company material

The example of mapping of the reports for the measures (e.g. sales, margin, margin abs., pieces...) is in table 3.

List of reports	Measure	Measure						
	sales	margin	margin abs.	pieces				
Category manager (CM) – individual report / plan	Х	Х	X	X				
CM – individual analysis								
Price / Item	Х	Х	Х	Х				
TOP 30	Х	Х	Х	Х				
Slow movers				X				

 Table 3 Mapping of the reports for measures - example

Source: Internal company material

The measure calculation is defined in the data dictionary.

Dashboards

Business intelligence dashboards as data visualization tools display the current status of KPIs for the managers. Every single screen is tailored for a specific role and displays KPIs targeted for the managers in a customizable interface and is able to pull real-time data from multiple sources.

In the retail chain, three single dashboards have been designed: for CEO, chief commercial officer and retail operation manager, to facilitate presentation of information to top-level decision makers of the retail chain.

The layout of a conceptual dashboard was prepared by the system developers together with three managers. Relevant KPIs were specified separately by each of the managers.

For example, the capability of the dashboard for chief commercial officer is visualization of total sales on daily base and monthly base compared to the plan and to the last year, as well as the current and historical brand results – two brands with the highest share in the portfolio and private labels in total. Bar charts are the preferred form of KPIs' visualization. For retail operation manager, most important KPIS are store performance and productivity of stores from geographical perspective. CEO focuses the attention mostly on total sales, profit and trends.

Conclusion

Timely and exact data and knowledge are crucial for the purchase and sale and in improving business operations in any retail chain. Business intelligence reporting is a tool of BI using by the managers as the end-users of BI. The ideal solution is to tailor the specific reports required by the managers. BI dashboards enable the graphical visualization of the most important information in a customisable format. The project of the implementation of the BI reporting tools to their practical use should be planned carefully (Mesároš et al., 2011).

BI reports and dashboards allow managers to work with accurate and upto-date information what helps to improve the quality of their strategic and operative decision-making process.

References

- 1. BALAŽOVIČ, I. 2010. Správny dizajn dashboardu je dôležitý. In *Infoware*. 2010, No. 12, p. 32.
- ČARNICKÝ, Š. 2011. Business intelligence tools and application possibilities in midsize companies. In *Business intelligence : theory and practice / scientific editorial Štefan Čarnický, Kazimierz W. Krupa, Pavlo Skotnyy*. Rzeszow ; Košice : Faculty of Economy University of Rzeszow : The Faculty of Business Economics Košice, 2011. ISBN 978-83-7338-692-1. pp. 343–382.
- 3. ČARNICKÝ, Š. MESÁROŠ, P. 2009. *Informačné systémy podnikov*. Bratislava : Vydavateľstvo EKONÓM, 2009. 266 pp. ISBN 978-80-225-2676-0.
- 4. FOLEY, E. GUILLEMETTE, M. G. 2010. What is Business Intelligence? In *International Journal of Business Intelligence Research*. IGI Global. eISSN 1947-3605, 2012, Volume 1, No. 4, pp. 1-28.
- GOLFARELI, M. RIZZI, S. 2009. Data Warehouse Design : Modern Principles and Methodologies. Bologna : McGraw-Hill Companies. pp. 458. ISBN 978-0-07-161039-1.
- 6. Internal materials of the company.
- LUHN, H. P. 2008. A Business Intelligence System [online]. 2008 [1. 12. 2010]. In IBM Journal. Available from: http://www.research.ibm.com/journal/rd/024/ibmrd0204H.pdf>

ACTA OECONOMICA CASSOVIENSIA, Vol. V., 2012, No. 2 ISSN 1336-6020

- 8. MESÁROŠ, P. a kol. 2011. *Základy projektového manažmentu*. 2. doplnené vydanie. Košice : Vydavateľstvo VÚSI, spol. s r. o., 2011. 218 s. ISBN 978-80-89338-11-5.
- NEMATI, H. EARLE, B. –AREKAPUDI, S. MAMANI, S. 2010. Do Users Go Both Ways? BI User Profiles Fit BI Tools. In *International Journal of Business Intelligence Research*. IGI Global. eISSN 1947-3605, 2010, Volume 1, No. 3, pp. 15– 33.
- NESTERAK, J. ZIĘBICKI, B. 2012. Business Intelligence and Business Performance Management as systems supporting controlling in the enterprise (Business Intelligence a Performance Management ako systémy podporujúce controlling v podniku) In *Acta Oeconomica Cassoviensia*. ISSN 1337-6020, 2012, Vol. V., No. 1, pp. 19-31.
- 11. PAREEK, D. 2007. Business Intelligence for Telecommunications [online]. [Retrieved 18. 3. 2008] CRC Press, 2007. pp. 294. ISBN 0849387922. Available from: ">http://books.google.com/?id=M-UOE1Cp9OEC>
- PEDERSEN, E. R. SUDZINA, F. 2011. Which Firms use Measures? Internal and External Factors Shaping the Adoption of Performance Measurement Systems. In *International Journal of Operations and Production Management*. ISSN 0144-3577, 2012, Vol. 32, No. 1, pp. 4-27.
- POWER, D. J. 2007. A Brief History of Decision Support Systems [online]. 10. 3.
 2007 [Retrieved 11. 11. 2010]. DSSResources.COM, World Wide Web. Available from: http://DSSResources.COM/history/dsshistory.html
- RANJAN, J. 2005–2009. Business intelligence: concepts, components, techniques and benefits. In *Journal of Theoretical and Applied Information Technology*. 2005-2009, pp. 60–70.
- TURBAN, E. SHARDA, R. DELEN, D. 2011. Decision Support and Business Intelligence Systems. 9th ed. New Jersey : Pearson Education, Inc., 2011. 696 pp. ISBN 978-0-13-245323-3.
- WIXOM, B. WATSON, H. 2010. The BI-Based Organization. In *International Journal of Business Intelligence Research*. IGI Global. eISSN 1947-3605, 2012, Volume 1, Issue 1, pp. 13–28.

About the authors

Ing. Cecília Olexová, PhD.

Department of Management, Faculty of Business Economics with Seat in Košice, University of Economics in Bratislava Tajovského 13, 041 30 Košice, Slovakia tel: +421-55-6223814, fax: +421-55-6230620 e-mail: cecilia.olexova@euke.sk

Ing. Vladimír Suško

EXIsport, s. r. o. Opatovská cesta 14, 040 01 Košice, Slovakia e-mail: vsusko@gmail.com

CREATIVITY, INNOVATIVE EDUCATIONAL METHODS AND TECHNOLOGIES – REFLECTIONS ON THE INTERACTION OF THEORY AND PRACTICE

KREATIVITA, INOVATÍVNE VZDELÁVACIE METÓDY A TECHNOLÓGIE - ÚVAHY O INTERAKCII TEÓRIE A PRAXE

Martina FERENCOVÁ – Jana JURKOVÁ

Abstract

Within the recent years creativity has been emphasised among employers' requirements of their potential employees in job advertisements on selected web portals. It is a managerial capability, an ability to notice new relations between objects and to use them meaningfully in an unusual way. This contribution aims at seeking the opinion of respondents – secondary school students and the students of a selected faculty of a higher education institution – on teaching methods influencing development of creativity as well as at their identifying within process pedagogical approaches used at selected schools.

Keywords: creativity, innovative teaching methods, innovative educational technologies, process pedagogical approaches

Abstrakt

V poslednom období je kreativita jednou z dôležitých požiadaviek zamestnávateľov na ich potenciálnych zamestnancov. Ide o manažérske schopnosti, schopnosť všimnúť si nové vzťahy medzi objektmi a používať ich zmysluplne novým, neobvyklým spôsobom. Tento príspevok sa zameriava na hľadanie názorov respondentov (študentov stredných škôl a vybraných študentov vysokej školy) na vyučovacie metódy ovplyvňujúce rozvoj kreativity, ako aj na ich identifikáciu v rámci prístupov pedagogického procesu používaných na vybraných školách.

Kľúčové slová: kreativita, inovatívne metódy výučby, inovatívnych vzdelávacích technológií, spracovanie pedagogické prístupy

Introduction

Globalisation, variability of the world economy, the increased number of competitors, a continuous development of technologies, innovative processes, speed, availability and complexity of information are the attributes that significantly influence the success of enterprises, firms as well as their managers. Those are increasingly brought under the pressure of a dynamic and unstable environment. Their success is measured by the quality of their outputs and to a great extent it depends on their capabilities.

Managers occupy a vital role in creating social atmosphere in the field of interpersonal relationships and they affect their employees and employee's performance by their actions and attitudes. Therefore, it is more often emphasised that they should have professional expertise as well as personal capabilities inevitable for their work. The process of identifying, developing and measuring selected capabilities required by practice is thus important during tertiary education study

Education institutions differ from one another by different approaches, forms as well as an organisation of an educational process, which has a significant impact on their competitiveness. This is especially true of using the differentiation strategy allowing for education with an added value and in an original way (for more details see Štefko, 2003, p. 116). For example applying the innovative educational methods within process pedagogical approaches – one of the tools of marketing instrumentarium of higher education institutions contributes to its distinguishing from its competitors.

1. Selected managerial capabilities in the context of innovative educational methods and technologies

Managerial capabilities may be understood as a complex of those activities that improve managerial practice and are an asset to it (cf. Mesárošová, 2008). Management theory lists a number of classifications and categorisations of managerial capabilities. According to Majerčák and Farkašová (2005) those include independence (the ability to make decisions based on one's own judgments), initiative (the ability to invent and set goals as well as to seek appropriate means for their achievement), prudence (the ability to make decisions after careful analysis), decisiveness (the ability to choose from various alternatives), strong-mindedness (the ability to organise, coordinate and check thoroughly), responsibility (for oneself and one's employees), consistency (the ability to overcome obstacles, monitor the course of actions, describe plans in great details up to achieving set goals), optimism (the ability to think positively, and to direct one's thoughts to positive things), emotional balance (the ability not to give in to lower feelings, negative emotions such as anger, envy, rage, jealousy etc., as well as creativity - the ability to come up with new ideas and thoughts. Required managerial capabilities also include flexibility - the ability to react to requirements flexibly, the ability to adjust (Bělohlávek, 2003), and/or the ability to change a procedure on the basis of new data and information (Khelerová, 2010) which is closely related to creativity.

Mesárošová (2008) divides managerial capabilities according to aims and relations into five categories, one of them is a capability to learn – those include self-confidence and self-knowledge, learning from work experience, activities and creativity. She lists creativity among the most significant managerial

capabilities like Lojda (2011). It may be defined as the ability to get to know subjects in new connections and in an original way (originality), to use them meaningfully in unusual ways (flexibility), to see problems where they are not apparent (sensitiveness), to diverge from accustomed patterns of thinking and embrace nothing as constant (changeability), simply the ability to create something new that enriches society (Nakonečný, 1995).

Surveys of and research in managerial capabilities conducted in Slovakia confirm that creativity currently belongs to the top fifteen capabilities required by employers of their potential employees. In August and September 2012 we investigated over 200 job advertisements published on selected web portals (www.profesia.sk; www.tobjobs.sk; www.smepraca.sk; www.mojapraca.sk; www.ponukaprace.com; www.grafton.sk) offering positions suitable for higher education institution graduates of an economic and managerial orientation. We found out that organisations most often require communication capabilities, independence, and responsibility, the ability to manage teams, flexibility, organisational capabilities and creativity of their potential employees. These facts should be taken into account when preparing students for their future profession. Capabilities required by practice may be identified, developed and measured within process pedagogical approaches by using innovative educational methods which are an integral part of those processes (for a more detailed account see Ferencová, 2011). Students with required capabilities have a better chance for their assertion in the labour market.

2. Objectives and methodology

The conducted survey aimed at identifying teaching methods with an influence on students' creativity in selected target groups (students of secondary schools and of a selected faculty of a higher education institution). Primary data were collected through questionnaires and students responded to inquiry in a written form in the course of a month at the beginning of 2011/12 academic year.

The first respondent group was formed by the students of secondary schools located in Košice and Prešov region. A population was made up of all secondary school students. A sample consisted of 132 students in total. Table 1 shows their structure according to gender, a type of a secondary school and a region.

	Frequency	Percent	Valid Percent	Cumulative Percent
male	35	26,52	26,52	26,52
female	97	73,48	73,48	100,00
grammar school secondary specialised	66	50,00	50,00	50,00
school	66	50,00	50,00	100,00
Košice Region	44	33,33	33,33	33,33
Prešov Region	77	58,33	58,33	91,67
others	11	8,33	8,33	100,00
Σ	132	100	100	X

 Table 1 Sample structure – secondary schools

Source: own processing

For the purpose of comparison students at a selected faculty of a higher education institution were also inquired. A population in this case consisted of students of the selected faculty at a total number of 170 respondents. The sample consisted of 148 respondents. Questionnaire return rate was 87,06 %. The sample structure according to gender, the type of the secondary school where students had studied is presented in Table 2.

	Frequency	Percent	Valid Percent	Cumulative Percent
male	110	74,32	74,32	74,32
female	38	25,68	25,68	100,00
grammar school secondary	67	45,27	45,27	45,27
specialised school	81	54,73	54,73	100,00
Košice Region	56	37,84	37,84	37,84
Prešov Region	80	54,05	54,05	91,89
others	12	8,11	8,11	100,00
Σ	148	100	100	X

 Table 2 Sample structure – a selected faculty of a higher education institution

Source: own processing

3. Results and discussion

Disseminating and improving the influence of innovative educational methods are closely related to implementing innovative educational technologies into teaching practice. They reflect political and economic changes in the global world and its regions. They also mirror major school reforms and restructuring of faculties of higher education institutions with an emphasis on the use of information and communication technologies

When innovating process pedagogical approaches a great emphasis is placed on developing digital competences and the terms digital learning and digital education are inflected (Castro, 2001). Increased flexibility in on-line education and a web-enabled environment is predicted. Research shows that virtual learning environments, e-learning/ distance learning, the internet/ websites, hypermedia/multimedia/software, image/audiovisual media/ video applications etc. are currently most frequently used in the world (cf. Coutin -Gomes, 2006). In the middle Europe platforms such as Itslearning, Moodle, Tutor2000, uLern, IBM Lotus Learning Space, eDoceo, WebCT etc. are common examples of the use of innovative educational technologies (cf. Matušíková – Šambronská, 2012). Some of those are designed to manage websites and to support education via on-line courses on in several language (Moodle _ Modular **Object-Oriented** Dynamic Learning mutations Environment), some of them are tools for administering user data of educational character, as well as data on the courses and as tools for promoting courses to a wide range of students while monitoring the course of study and study results of users (eDoceo). Others manage and evaluate e-learning courses and offer a wide range of tools for communication and collaboration of students and lecturers (Tutor2000). We may also mention uLern environment - informationeducational system for educating through the internet. It enables users quick creation of teaching materials on the internet and it is accessible to users with basic level of computer literacy.

In Slovakia several secondary schools and higher education institutions provide distance learning. The so called TelePresence network at the Technical University of Košice reflecting the development of new information and communication infrastructure at universities is a unique example. Via the so called 'High-Tech' videoconference communication centre based on Cisco TelePresence technology and on implementation of other advanced information and communication technologies it enables users to communicate and collaborate with academic institutions around the world. Opening the network of TelePresence centres a new innovative communication environment has been created and it provides a platform for further cooperation with industrial and business sphere in regions without High-Tech communication and presentation technologies (for a more detailed account see www.tuke.sk). Interconnection of an academic field and practice via innovative educational technologies seems to be inevitable and it may be beneficial to the involved parties.

Encouragement and development of creativity are related to using innovative educational methods and technologies during a study. As our survey has confirmed students themselves are well aware of this fact and they clearly express their opinion on it.

According to 26 respondents (students of a selected higher education institution; 17,57 %) teachers rarely use methods stimulating creativity in a teaching process. The option often was selected by 68 respondents (45,95 %)

and very often by (48 respondents, 32,43 %). Only two respondents (1,35 %) indicated the option never and four the option always (2,70 %).

Secondary school students indicated that their teachers at grammar schools and secondary specialised schools rarely (24 respondents; 18,18 %), often (66 respondents; 50,00 %) and very often (39 respondents; 29,55 %) used methods encouraging their creativity None of the respondents selected option never and three students indicated option always (2,27 %).

Graph 1 compares the intensity of using methods encouraging creativity in the pedagogical process according to the opinion of two groups of students (secondary school students in relation to the teaching process at their schools and the students of a selected faculty of a higher education institution and pedagogical process at this faculty).



Figure 1 Methods used in a pedagogical process stimulating creativity – comparison (%) Source: own processing

The respondents also commented on what traditional and innovative methods stimulate students' creativity in their view. They listed mainly games simulating real work and life situations, creative projects, games for developing managerial skills and role-plays among the methods stimulating students' creativity. A lecture, seminar, and demonstration that are traditional teaching methods belong to those methods which least stimulate creativity according to the responses of those surveyed.





Source: own processing

According to students creative projects, games simulating work and life situations, games for developing managerial skills and role-plays were listed among the interactive teaching methods encouraging creativity. Traditional teaching methods belong to the least emphasised methods in secondary school students' view.



Figure 3 Methods encouraging student's creativity in a pedagogical process – secondary school students Source: own processing

Figure 3 compares the opinions of the selected target groups on the use of methods encouraging creativity. The biggest difference exists with regard to case studies that are emphasised by the students of a selected higher education institution.

Using methods encouraging students' creativity is an integral part of a teaching process in the respondents' opinion (secondary school students and students of a selected faculty of a higher education institution). Each of the surveyed traditional and interactive methods contributes to creativity; however, to a different extent. None of the methods was described as a method which does not have this aspect. However, interactive methods for example games simulating real work and life situations, games developing managerial skills, role-plays or creative projects were most frequently emphasises.

Innovative educational methods are counterpoints to traditional teaching methods in which the primary aim is to provide information (a lecture, seminar, training, discussion, demonstration etc.). Contrary to them innovative methods aim at developing a personality, creativity, independence and a student, future employee, prospective manager's performance. Case study (stage, situational method), simulation, role-plays, learning by playing, workshop, brainstorming and its variations (Brainpool, Hobo method, Gordon method and the like), Phillips 66, the method of thinking hats (for a more detailed account see Bašistová, 2010), as well as experiential learning (Ferencová – Birknerová, 2010), problem solving tasks, creative projects or simulation managerial games aimed at stimulating real work and life situations or developing managerial skills, etc. belong to them.

Scientists and teachers agree that teaching based on unconventional approaches and game principles can motivate students and mobilise their creative potential. Moreover, young people find these methods suitable as they help them discover abilities which would not have been fully developed using traditional teaching methods (for a more detailed account see Ali Taha –Tej, 2010).

Conclusion

The appropriate combination of methods and technologies in the field of education helps to identify and measure capabilities required by practice as well as to systematically develop them. The question is whether knowledge, capabilities and habits gained during the educational process will be applied to real work situations. Whether bright students will become executive managers.

One of the ways of using and presenting creativity in theory and practice is to write a final thesis (especially a diploma and doctoral thesis) at universities and higher education institutions. Innovative teaching methods and technologies will prepare students for seeking research problems, defining objectives in a theoretical part of the thesis and then for selecting appropriate research methods (quantitative or qualitative research methods) in an empirical, research part of the thesis. It is this combination of several methods that provides the room for solving concrete practical problems and that may guarantee the application of research results to practice. Solutions meaning competitive advantage are a final product. This trend has been known and studied worldwide since the beginning of the 20^{th} century (cf. Kurt, 2009) and it may enable higher education institution graduates smooth transition from the higher education institutions to enterprises and firms – to practice.

This contribution is the result of GAMA/11/4 grant task Investigating the opportunities for making the tools and means of promotion more effective and redefining target audience of selected education institutions in the area of e-communication.

References

- ALI TAHA, V. TEJ, J. 2010. Nové prístupy vo vzdelávaní manažérov verejného sektora ako forma motivácie študentov. In *Ekonomický a sociálny rozvoj Slovenska. Komunálna reforma – spravovanie a manažovanie – trendy vo verejnom živote – regionálny rozvoj.* Zborník príspevkov z medzinárodnej vedeckej konferencie [online]. Bratislava : Vysoká škola ekonómie a manažmentu verejnej správy v Bratislave, 2010. 805 s. Dostupné na internete: <http://www.crr.sk/crr/aktualne/Entries/2010/11/ 23_Zbornik_prispevkov_z_medzinarodnej_vedeckej_konferencie_files/Ekonomicky_ a_socialny_rozvoj_Slovenska.pdf>. ISBN 978-80-970495-4-6. s. 673-682.
- 2. BAŠISTOVÁ, A. (2010). *Metódy využívané v sociálnej práci*. Košice: VÚSI, spol. s r.o., 2010. 116 s. ISBN 978-80-89383-12-2.
- 3. BĚLOHLÁVEK, F. (2003). *Desatoro manžéra*. Brno : Computer Press. 2003. 90 s. ISBN 8072268732.
- 4. COUTINHO, C. & GOMES, M. (2006). Critical review of research in educational technology in Portugal (2000-2005). In E. Pearson & P. Bohman (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2006* (pp. 2679-2686). Chesapeake, VA: AACE.
- FERENCOVÁ, M. (2011). Use of Innovative Teaching Methods as na Integral Part of Process Pedagogical Approaches. In: *Marketing a marketingová komunikácia* (vybrané aspekty, pohľady a trendy). Prešov: Fakulta manažmentu Prešovskej univerzity v Prešove, 2011. S. 104 – 115. ISBN 978-80-555-0277-9.
- FERENCOVÁ, M. BIRKNEROVÁ, Z. (2010). Experiential Learning of University Students. In: *Conference AMTP IV*. Košice 2009. Bratislava: Ekonóm, 2010. ISBN 978-80-225-2926-6.
- 7. KHELEROVÁ, V. (2010). *Komunikační a obchodní dovednosti manažéra*. Praha: Grada Publishing a.s., 2010. 144 s. ISBN 978-80-247-3566-5.
- 8. KURT, A. A. et al. (2009) Current Trends in Research in the Field of Computer Education and Instructional Technologies. In: Recent advances in applied mathematics

and computational and information sciences, Vol II., 2009, p. 338-343. [online]. [cit.13-10.2012]. Dostupné na internete: http://www.wseas.us/e-library/conferences/2009/houston/AAMCIS2/AAMCIS2-13.pdf> ISSN: 1790-5117.

- 9. LOJDA, J. (2011). *Manažérske dovednosti*. Praha : Grada Publishing a.s., 2011. 182 s. SBN 978-80-247-3902-1.
- MAJERČÁK, P. FARKAŠOVÁ, V. (2005). Osobnosť riadiaceho pracovníka v súčasných podmienkach modernej trhovej ekonomiky. [online]. [cit.11-01.2012] *Manažment v teórii a praxi*, roč 1, 2005, č. 2. Dostupné na internete: http://casopisy.euke.sk/mtp/clanky/2-2005/majercak.pdf. ISSN 1336-7137.
- MASOOD, M. (2004). A ten year analysis: Trends in traditional educational technology literature. Malaysian Online Journal of Instructional Technology (MOJIT), 1(2), 1823-1144.
- MATUŠÍKOVÁ, D. ŠAMBRONSKÁ, K. (2012). E-komunikácie a ich využitie v procese vysokých škôl. In: Marketing a marketingová komunikácia – prepojenie teórie a praxe. Prešov: Fakulta manažmentu PU v Prešove, 2012. 8 s. ISBN 978-80-555-0539-8.
- MAUCH, W. (1999). World Trends in Adult Education Research Report. Germany, Hamburg : UNESCO Institute for Education, 1999. 282 s. [online]. [cit.13-10.2012]. Dostupné na internete: http://www.unesco.org/education/uie/online/468rep.pdf.
- MESÁROŠ, F. MESÁROŠOVÁ, M. MESÁROŠ, P. (2011). Model for Assessment of Key Competencies for Knowledge Society in University Students In: *International Journal of Arts and Sciences* 4(5): 252-259 (2011) CD-ROM, Vol. 4, 2011, No. 5, pp 252-259. ISSN: 1944-6934 © International Journal.org.
- 15. MESÁROŠOVÁ, M. a kol. (2008). Komunikačné a manažérske spôsobilosti pre prax. Košice : VÚSI, 2008. 274 s. ISBN 978-80-89383-00-9.
- 16. NAKONEČNÝ, M. (1995). *Psychologie osobnosti*. Praha: Academia, 1995. 336 s. ISBN 80-200-0525-0.
- 17. Otvorenie unikátnej teleprezentačnej siete slovenských univerzít. [online]. [cit.15.10.2012]. Dostupné na internete: < http://www.tuke.sk/video/spravy/otvorenieunikatnej-teleprezentacnej-siete-slovenskych-univerzit/>.
- 18. ŠTEFKO, R. (2003). Akademické marketingové inštrumentárium v marketingu vysokej školy. Bratislava : R. S. Royal Service, 2003. 262 s. ISBN 80-968379-5-8.

About the authors

PhDr. PaedDr. Martina Ferencová, PhD. et PhD. Ing. Jana Jurková, PhD.

University of Prešov in Prešov Faculty of Management Department of Marketing and International Trade Konštantínova 16, 080 01 Prešov E-mail: martina.ferencova@unipo.sk jana.jurkova@unipo.sk

DOES THE PERSONALITY MATTER? TALENT MANAGEMENT IN LIFE INSURANCE ORGANIZATIONS – FUTURE PERSPECTIVES

ZÁLEŽÍ NA OSOBNOSTI? PERSPEKTÍVY ROZVOJA TALENT MANAŽMENTU V ŽIVOTNÝCH POISŤOVNIACH

Andrzej JANOWSKI

Abstract

The aim of this article is to show the empirical relation between the insurance agents' specified personality traits and the efficiency of life insurance companies in context of future perspectives of development, basis on meta – analysis proceed in the three domestic and one international scientific projects in years $2007-2012^1$. In this paper it is also shown the motivators of most efficient insurance agents and opportunities / threats related to provision driven rewarding system and its consequences.

Keywords: agents, effectiveness, insurance, management, personality, provision

Abstrakt

Cieľom tohto príspevku je poukázať na vzťah medzi osobnostnými črtami poisťovacích agentov a efektivitou životných poisťovní v kontexte budúceho perspektívneho rozvoja. Analýza je vykonaná na troch domácich a jednom medzinárodnom vedeckom projekte v období 2007-2012. V tomto článku je tiež poukázané na motivátory najúčinnejších poisťovacích agentov a príležitosti i hrozby súvisiace s poskytovaním riadeného systému provízneho odmeňovania vrátane jeho dôsledkov.

Kľúčové slová: poisťovací poradcovia, efektívnosť, poistenie, manažment, osobnost, provízia

1. Insurance in the context of business activity

Every economic activity in present reality operates in conditions of uncertainty which cause various random events. These mentioned conditions are consequence of existing threats, including risks, which organization is unable to avoid and foresee in the strategy schedule. However there is the possibility of protection oneself before financially negative results of realization such events. In present social-market relations, particularly these leaning on market mechanism, there are two ways of possible conducts: to accumulate financial

¹ Sicentific projects: "Identification of talent management dissemination level in life insurance companies",

[&]quot;Identification of competency management dissemination level in life insurance companies", "Identification of efficiency ratios implemented in level in life insurance companies".

means on covering financial losses caused with realization of risks or transfer on specialized, qualified company.

The part of society at an unproductive age, cannot rely on desirable financial protection from the government, so they purchase insurance policies, first of all life and pension ones, therefore insurance business become unusually important social device, enabling solution for many problems of the aging societies. There is high probability, according to existing demographic prognoses, that the situation mentioned above, in the coming years relates to Poland. In references to the necessity of executing the operating activity by insurance companies driving through the mediators, from which clients on Polish insurance market, require higher and higher competencies. That causes many problems to gain over the men's cooperation with desirable competencies.

1.1. The insurance mediation

The insurance mediation depends on executing by mediator for reward of actual actions or the legal connected form including actions or the realizing the contracts of insurance. Insurance mediation can be realized by insurance agents exclusively or insurance brokers understood as economic activity in the articles of law. Insurance mediator realizes: the action on behalf of insurance company, named "agency actions", including: the logging the customers, doing the preparatory aiming to the contracts of insurance actions, the contracts of insurance, also in matters about damages, and also on organizing, the supervising of the agency actions; the action on behalf of the customer looking for the insurance protection, called "the broker's actions", including: containing or the bringing to inclusion of insurance contracts, doing the preparatory actions to inclusion of insurance also in matters about damages.

The executing on basis of the agency included contract agency, activity from institution of insurances company is the insurance agent written to the insurance agents' register. Agency actions can be realized by the natural person exclusively, who fulfils requirements defined by law regulations, on the contrary, insurance agent it is a undertaker in Poland with all the situational issues.

1.2. Distribution channels using by life insurance companies

The insurance companies must sell their services with the following channels of distribution: the direct sales², agency sales³, brokerage⁴.

The registered insurance agents	31.12.05	31.12.06	31.12.07	31.12.08	31.12.09	31.12.10	21.12.11	
Exclusive agents	22900	23000	24600	23300	23400	22700	20900	
Multi agents	12700	13800	14700	15300	16400	15100	14500	
Agents Total	35600	36800	39300	38600	39800	37800	35400	

 Table 1
 The number of registered agents

Ref.: Committees of Supervision Insurances and Pension Funds - www.knf.gov.pl

The direct sale by workers of insurance companies, although it characterizes the considerable quantitative volume, does not reflect the efficiency of sales - the actions of mediation is realized by - except the people working for insurance companies - bank employees, travel agents, and even the postmen. However, that channel of distribution, will stay the least expensive source of gaining over sale of insurances⁵, insurance agents' part of the whole distribution of life insurance products is very high⁶.

2. The significance of personality theories for insurance companies' effectiveness

The Aristotle (Locke, 1824) understood the personality as a potential of human being. Many years later, in 1912, F. Allport (Allport, 1912: pp. 6-40), during hid searching for the "personality" definition attempts noticed, that this term is very difficult to define in the quantitative context. According to his opinion, the only suitable criteria were qualitative ones, and, what is particularly important, related to human environmental activity. The similar assumptions were identified in the works of the M. May and H. Hartshorne (May, Hartshorne, 1928: pp. 395-411), also G. Manson (Manson, 1926: p. 72) or A. Roback (Roback, 1927: p. 128). Althought the term of personality is used in many different meanings, it seems to be authorized to divide them in two categories (Hall, Lindzey, 2006: pp.8-10): skills and dexterity in relations with

² Provided by "fulltime workers"

³ Sales by insurance agents

⁴ The sales provided by insurance brokers

⁵ The agent should be paid commission, even 90% of the first year premium

⁶ Economization is important when running an insurance business, particularly when it is life insurance. According to statutory provisions, insurance companies, in order to distribute products, are obliged to use the services of insurance brokers. So it is the quality of the agents' work, stemming from their competences, that constitutes the chief effectiveness factor for life insurance companies, seen both in economic and social terms. Therefore the factors conditioning the effectiveness of actions conducted as part of operational activity of life insurance companies may be factors which are a set of elements constituting economy's potential and its organizational efficiency, as well as psychosocial factors.

other people in social contacts⁷, or the most clear impression one makes on the others⁸.

In the relation of interpreting difficulties, the number of personality definitions arose. In 1937, G. Allport in his literature review (Allport, 1937) identified over 50 different definitions, which were categorized in two notion types, biographic and biosocial approaches⁹. According to the other approach it is postulated to construct one common cumulative definition that described personality in the context of quantitative ratios¹⁰. The next ones focused on integrating or organizational personality function (Watson, 1927: pp. 73-87) and suggested that the personality it is the main factor that puts in order and coherence all the individual human activities. C. Dowd claims the significance of personality in the process of one's adaptation to the external environment, shows these individual characteristics that differ an individual from others.

2.1. Personality trait perspective

Taking into consideration fact, that all the scenarios for personality evaluations¹¹, actually evaluate personality traits it should be proceeded the more precise analysis. The researchers opinions related to trans - situational behavior compatibility (Mischel, 1968: p. 46), trait measurement tool accuracy (Fisze, 1974: p. 1-11), and even their objective existence (Schweder, 1975: pp. 455-484), caused, in 70-ties of XX century the crisis of trait approach confidence, but the spectacular process in 50 years and Big Five model implementation made possible the understanding of numerous specific personality traits (Costa, McRae, 1980: pp. 65-102)¹². As the result, many theoreticians changed their opinions and positions complying empirical conducted research data.

⁷ The individual personality is evaluated under circumstances of one's ability to create posotive reactions to others in different occassions

⁸ "Agressive personality", "indulge" or "anxiety". In each of examples the observer chooses the trait or preference which is highly characteristic for an individual and which is probably the important part of overall impression. The personality is reflected in that.

⁹ The bio-social definitions are close to current understanding "personality". An individual has only personality that reflects in other people reactions. Allport stood at opposition against this proposition and claims that the biophisical are suitable, where the persoanlity has a strong background in traits and preferences of an individual. Referring to mentioned definitions, the personality consists of both organic and perceived aspects and can be related to specified individual preferences, which are possible to describe and measure

¹⁰ In this application the term of personality icludes all the traits assigned to an individual by the evaluator, enumerated terms, which are the most important in the description and claimes that the personality consists of them

¹¹ Despite of its theoretical background

¹² The developmental psychology of full life cycle showed the specific resonance throughout exhibition the real meaning and existence of solid disposals, so the changes took place in the area of theory and research

2.2. BIG Five Model

Many of personality theories there were results of the explanation attempts driven to clinical phenomena such as hysteria (Breuer, Freud, 1955: p. 172) or adaptation issues (Rogers, 1951: p. 166), this is why the assumption of personality traits constancy, proclaimed by R. McCrae and P. Costa (McCrae, Costa, 1996: p. 51-87) was met the incredulity¹³. This observation became the foundation for two new theories¹⁴ - D. McAdams (McAdams, 1992: p. 299-313) claimed, that personality should be understood as threefold structure¹⁵. He admitted, traits were mostly constant, but simultaneously noticed that personal involvements¹⁶ and life histories¹⁷, were under changes in the context of situation and life cycle¹⁸, P. Costa and R. McCrae (McCrae, Costa, 1994: pp. 21-40) proposed the different model, which implemented differentiation between constant and changing personality elements. Finally, these elements were treated as related personality system components (Mayer, 1995: pp. 819-878)¹⁹.

In FFT model the biological foundations in external influences there are "entries" which represent common interactions of personality, organism and environment. The objective biography it is "the exit" – all the one's activities, thoughts, feelings for whole life²⁰. Three central components are:

- basic tendencies,
- characteristic adaptations,
- self estimation²¹.

The significance of the model there is differentiation between basic tendencies and characteristic adaptations, enabling the explanation of personality constancy. The basic tendencies there are one's abstract abilities and predispositions, on the contrary, characteristic adaptations there are specific acquired structures²². The basic tendencies mentioned above can be constant but characteristic adaptations cannot (McAdams, 1992: p. 303)²³.

¹³ According to the authors' opinion, the main difference lays in the personality definition, where trasits were differ from relations, habits, selfestimations etc.

¹⁴ Presented in 1992 during the symposium of American Psychological Association "Is personality possible to change?"

¹⁵ Traits as disposals, personal involvements, life histories

¹⁶ Current goals, plans, etc.

¹⁷ Self estimation

¹⁸ McAdams claims that these levels are independent each other. Each of them should pe perceived independently (McAdams, 1992: p. 302)

¹⁹ The autors claimed the set of postulates describing common relations of these elements. The whole structure hab neen called five element personality theory (FFT), because of its empirical origins, similar to fife factor model. At the same time J. Mayer has constructed personality model based on system theories

²⁰ Of course, it differs from a narrative life history, which is subjective so it can be inaccurate and selective

²¹ The self estimation is included in characteristic adaptation but it is the different sociological subjest

²² Which are created in the results of one's interaction with environment

²³ Although FFT is focused on personality traits, the basic tendencies include cognitive abilities, artistic talents, sexual orientation and also the whole organization of human being, based on studying, perception and other psychical functions. All the learned skills there are characteristic adaptations, like habits, interests, attitudes,

2.3. Trait origins

The postulate of FFT institutes the trait existence as endogenic, basic tendencies but excludes any environmental influence (McCrae, Costa, 2000: pp. 173-186). The basis of this assumption there is a personality constancy. Taking into consideration that traits can be modified with environment, they should change with time, but the authors noticed small ones so - it is unproved so far.

2.4. Genetic background of personality

The human resource management science has at disposal the huge set of data related to genetic factors of personality traits, from adoption research (Loehlin, 1992: p. 142), through twins in the same family examples (Jang, 1996: pp. 575-591), and finally the twins severed after their birth (Bouchard, 1990: pp. 263-292). All mentioned research are characterized with high fidelity. The lack of common environment, perceived as a determinant that created personality was underlined by the behavioral geneticians in eighties of last century (Plomin, 1987: pp. 1-16). There were undertaken efforts driven to negative verification explanation (Pike, 2000: p. 96-114), yet, the results did not enable to proper inference. It was assumed that if the half of the variance is explained in genetic background of human being and common environment influence meet almost zero, the mentioned situations can be determined by other factor²⁴. J. Harris (Harris, 1998: p. 42) even suggests, the family influence does lesser effect the peers' activities. Although it is a hypothesis, the positive verification probability is very high, there are problems to evaluate it.

Additionally there is one more interpretation of specific environment compatible to FFT – all the personality measurements include the certain level of random errors, which is reflected in reality²⁵ of the test. Moreover, the mentioned measurements include systematic errors, which can lead to incorrect data interpretation (McCrae, Jang, 2001:pp. 511-535). The other approach is claimed by C. Finch and T. Kirkwood (Finch, Kirkwood, 2000: p. 132). In their opinion the coincidence takes the significant role in human biology²⁶. Genes construct the strategy but in the process of real development²⁷ this strategy is not strictly fulfilled. Mutations, hormones (Resnick, 1993: pp. 323-329) and other factors make an effect on final product. This is why "identical"²⁸ twins never are

convictions and internal psychical aspects. Some of characteristic adaptations, such as the language, can last very long, other, as personal involvement, which McAdams placed the second, can be fading

²⁴ In the technical sense, the mentioned determinant is called the specific environment and some of the

researchers interpreter it as all the formative events, which differ one child from other within the same family ²⁵ Or its lack

²⁶ Ibidem

²⁷ Particularly in embryon's growth

²⁸ Monozygotic

completely identical²⁹. C. Finch and T. Kirkwood underline, there is no reason to think, this relation is different in The context of personality traits.

2.5. Personality traits in the context of organizational effectiveness – FFM implications

Till 90-ties of the last century, the utility of personality tests was perceived rather negatively³⁰, probably as the result of R. Guiona and R. Gottier's conclusions and their quantitative conclusions (Guion, 1965: pp. 135-164). The similar opinion was claimed by N. Schmitt, R. Gooding, R. Noe and M. Kirsch (Schmitt, Gooding, Noe, Kirsch, 1984: pp. 407-422). They proved that personality tests used for employee selection had very low utility to evaluate future efficiency and suitability of workers³¹. But, in the next years it was possible to notice more optimistic opinions (Behling, 1998: pp. 77-86). The authors say that the real predictive value of personality tests was not considered because the lack of common organizational trait structure (Barrick, Mount, 1991: pp. 1-26) - the researchers, in early 90-ties began to create and adapt the FFT rules to selection oriented ones (Dunn, Mount, Barrick, 1995: p. 500-509).

The successive research indicated that, in the managers' opinions, the significance of personality traits are equally important as overall intelligence. Additionally, the great number of meta-analysis (Barrick, Mount, 2001: pp. 9-30) helped to understand the theoretical and empirical nature of personality composition relations³², and job efficiency. The FFM implementation enabled to give the precise explanations, referring to the nature of personality processes, identified on the basis of log term accumulated data. The meta-analysis proved the authenticity of positive correlation of two model traits³³, as predictors of future occupational success of employees. The mentioned traits describe the availability of an individual to follow the management instructions or increase the efforts to goal achievement³⁴, as well as the ability to relocate resources to accomplish tasks³⁵. As a consequence, these two traits can be used as motivation at work ratios (Schmidt, Hunter, 1998: p. 262-274).

The mentioned research showed the applicability of the remaining traits³⁶ as job efficiency predictors, but this thesis is suitable only particular kinds of work³⁷. The author demonstrated the existence of the relation between the level of extrovertion and efficiency in these jobs, which are focused on client

²⁹ Even in the context of purely phisical attributes, such as: height, fingerprints

³⁰ Employment, promotion

³¹ Ibidem, p. 420

³² Particularly traits in Big Five Model

³³ Conscientiousnes and emotional stability

³⁴ Conscientiousnes

³⁵ Emotional stability

³⁶ Extrovertism, agreeableness, openness to experience

³⁷ M. Barrick, 2001

influence or power and status oriented ones (Barrick, Mount, 2005: pp. 359-372)³⁸. On the contrary the high level of agreeableness is particularly important in the jobs, where the human interaction intensification is crucial³⁹. In that case – the agreeableness can be the most representative ratio of work success (Barrick, Mount, 1998: pp. 145-166). Finally, the openness to experience is the basis of efficiency in the jobs, which require the creativity and change adaptation (George, Zhou, 2000: pp. 563-593).

The researches focused on work efficiency problems proved, the one's personality determines many work related behaviors and results important both for organization and management (Johnson, 2003: pp. 83-120). It was noticed that there was a relation between the personality traits and unproductive behaviors, such as: absence, sluggishness, job satisfaction, safety and effectiveness (Barrick, Mitchell, 2003: pp. 362-364). K. DeNeve and H. Cooper also proved that a similar relationship there is between personality traits and individual life quality, marriage happiness and length of life, what could be the ultimate criterion. What is additionally important, the similar relations were not be proved in the intellectual capability area (Friedman, Tucker, 1993: pp. 176-185). Yet, these skills may determine the perception level of information and knowledge (Zimbardo, 2006: p. 239).

3. The effectiveness of the most talented insurance agents – research results

In life insurance industry, according to the complexity of life insurance product, the role of first contact personnel is crucial as well as in the rest of service sector. Therefore, the result of insurance company success can be determined by the insurance agents' traits (Rogoziński, 200: p. 19).

Referring to scientific projects 2007-2011 it is authorized to claim that there is a strong relation between intermediary's traits and job efficiency, although this influence is different in the context of particular trait. The openness to experience, distinguished in the FFT model is not seen at the same extent in all insurance companies' coworkers.

³⁸ In majority in management and sales, being social, assertive, energetic, and abitious there is the main criterion of job efficiency

³⁹ Under the circumstances tat the job needs cooperation with others

Incurrence componer	OI	Amount		
insurance company	Below standard	standard	Above standard	Amount
CU	31	161	39	231
CU	13,42%	69,70%	16,88%	100%
AIC	12	39	12	63
AIG	19,05%	61,90%	19,05%	100%
NINI	7	35	7	49
1111	14,29%	71,43%	14,29%	100%
	26	62	0	88
PZU	29,55%	70,45%	0,00%	100%
	18,64%	65,23%	16,13%	100%
Denem	128	479	103	710
Kazem	18,03%	67,46%	14,51%	100%

Table 2 Openness to experience - dispersal

Ref.: Own research

Nobody of PZU agents reached results above the standard and in the rest of companies, the percentage is accordingly from 14,29% (NN) to 19,05% (AIG). However, in the context of results "below standards" the PZU agents are "leaders" – with the score of 29,55%, where, in other conducted companies from 13,42% (CU) to 19,05% (AIG). In this part of research PZU agents has reached the scores which are statistically different from other companies.

This analysis, according to results of agency work efficiency, perceived as the number of appointments before the finishing the life insurance contract⁴⁰, allows unambiguously to confirm that the openness to experience defined by R. McCrae and P. Costa, determines the insurance service effectiveness.

Incurance Company		Amount			
insurance Company	1	2	3	>=4	Amount
CU	194	89	20	8	311
CU	62,38%	28,62%	6,43%	2,57%	100%
	4	38	18	2	62
AIG	6,45%	61,29%	29,03%	3,23%	100%
NTNT	39	78	12	15	144
1111	27,08%	54,17%	8,33%	10,42%	100%
DZU	110	91	52	26	279
PZU	39,43%	32,62%	18,64%	9,32%	100%
Amount	347	296	102	51	796
	43,59%	37,19%	12,81%	6,41%	100%

Table 3 The number of appointments before dealing the contract – dependence research

Source: Own research

Agents of Commercial Union, where the "openness to experience" trait was identified most rarely below the standard, usually close their insurance contract during the first appointment and the percentage of agents' who need more than four appointments to sell insurance policy was the lowest - 2,57%.

⁴⁰ This ratio relfects in market shares practically, year premium per one agent, the number of active agents



Figure 1 Relation "openness to experience" trait and 1-st and 4-th appointment contract sales Source: Own research

The "openness to experience" trait was not seen in PZU agents population at above standard level, yet "below standard" one was reaches twice as much as in the Commercial Union population. The percentage of one appointment deal was lower than in CU and forth deal was almost twice higher than in CU.

Therefore the efficiency as the one of market oriented functions of insurance companies is determined with "openness to experience" at the level, which is perceived as average in organizations.

Insurance company	Openness to experience							
	average	average bias	Q25	median	Q75	number		
CU	44,77	19,48	30	47	53	231		
AIG	41,48	19,91	30	41	59	63		
NN	42,78	19,63	30	41	59	49		
PZU	31,27	14,35	20	35	41	88		
Amount	41,40	19,31	30	41	53	431		
Levene's Test	0,0654							
variance analysis	0.0	0000						

 Table 4 Trait "O" – variance analysis

Ref.: Own research

The projects' results additionally imply that "openness to experience" trait in average quantities in organizations involved in life insurance sales is very significant too. It enables the goal achievement at the extent similar to "openness to experience" highest level institutions.



Figure 2 The relation between "O" trait and the percentage of 2-nd appointment deals Source: Own research

Both AIG and NN companies, in which the openness to experience is very high, insurance agents fulfill the organizational goals during the second appointments, however the efficiency of CU is much higher. On the contrary, the "openness to experience" trait has the lowest value in PZU.

There is the similar situation in the context of extraversion according to the organizational effectiveness.



Figure 3 The relation between the extraversion and efficiency Source: Own research

The sales organizations, in which the extraversion among agents is widely seen, reach the higher level of efficiency in the opposition of introversion predominated ones. Yet, it was noticed that there is possibility of negative extraversion results existence in life insurance companies.

	Extraversion						
Insurance company	average	standard bias	Q25	median	Q75	number	
CU	59,53	20,16	42	59	79	231	
AIG	71,71	21,78	70	74	86	63	
NN	69,51	16,27	53	70	86	49	
PZU	55,43	17,28	42	59	64	88	
amount	61,77	19,68	48	64	79	431	
Levene's test	0,0	400					
Variance analysis	0,0	000					

Table 5 "E" trait – variance analysis

Source: Own research

Referring the research results in the context of AIG agents, the variation of social actions quality, when exceed 21,5%, causes effectiveness negatively – the agents need more appointments to deal the life insurance contract. Further analysis implies, the growth both consciousness and agreeableness, neuroticalness, are usually the next factor of efficiency decreasing.



Figure 4. Relation "C" and "A" traits and 1,2-nd appointment deals Source: Own research



This differentiation is probably the derivative of the phenomenon described by Yerkes and Dodson, according which the more increasing of motivation the higher efficiency. This situation continues till achieves a certain point. After crossing that, the relation becomes invert (Hurtz, Donovan, 2000: pp. 869-879)⁴¹.

⁴¹ Aousal is a major aspect of many learning theories and is closely related to other concepts, such as anxiety, attention, agitation, stress, and motivation. The arousal level can be thought of as how much capacity you have available to work with. One finding with respect to arousal is the Yerkes-Dodson law (first observed by Robert M. Yerkes and John D. Dodson (Yerkes, Dodson, 1908: pp. 459-482). It predicts an inverted U-shaped function between arousal and performance. A certain amount of arousal can be a motivator toward change (with change



Figure 6 Yerkes-Dodson law Source: Yerkes, Dodson, 1908: pp. 459-482

Assuming the research results it seems authorized to claim that there is directly proportional between the insurance agents' efficiency and the personality traits such as :openness to experience" and extraversion. Yet, the mentioned relation according to the "consciousness", agreeableness and neuroticalness is valid only in a specific range. After exceeding the efficiency collapses. In that way, it is possible to make an impact on individual competencies.

4. The role of competencies in organizational strategies

The individual competencies and key organizational ones are closely related each other: the organizational competencies form through integration and coordination of individual competencies⁴².

Organizational competencies as well as individual ones, there are relations between knowledge, abilities and individual virtues. Therefore, this is very important for organization to manage individual competencies effectively, both present and potential. If the competencies are the employee virtue, they generate profits for whole organization that hired him. This matter is widely discuss by strategic management specialists⁴³.

in this discussion being learning). Too much or too little change will certainly work against the learner. You want some mid-level of arousal to provide the motivation to change (learn). Too little arousal has an inert affect on the learner, while too much has a hyperactive affect. Also, there are optimal levels of arousal for each task to be learned. The optimal level of arousal is normally: lower for more difficult or cognitive tasks (the learners need to concentrate on the material), higher for tasks requiring endurance and persistence (the learners need more motivation)

⁴² The organizational competencies are defined as knowledge, abilities, team skills on the organizational level (McLagan, 1997: p. 40-47)

⁴³ "... The fact, that management does efforts to financial asset division instead of individual competency management, which are the key organizational competencies" (Pralahad, Hamel, 1990: p.79-91)

Despite of competencies, necessary for organizational operation, that is also important to possess "distinctive competencies", enable to reach a competitive advantage⁴⁴. These competencies are the "competency organizational weapon" (Itami, 1987: pp. 78). The same opinion like H. Itami, have G. Stalk (Stalk, Evans, Shulman, 1992: pp. 57-69), E. Lawler (Lawler, Mohrman, Benson, 2001: pp. 146). The authors underline that the distinctive competencies will be the main part of competitiveness process in a future.

There is also popular the argumentation, that, in a view of organizational effectiveness, this is very important to focus on development of these competencies, which lead to new products and services creation (Hamel, Prahalad, 1994: pp. 122-128). In United States of America, there was the first attempt to define notion of competency, during sketching the "competent" manager profile, basis on research sample of 2000 managers for American management Association⁴⁵. The research results indicate, that the "American notion" of competency is very wide⁴⁶. The competency express the difference between an average and most efficient contractor –it is a profile of the individual, who does his job effectively⁴⁷.

In the opposition to American approach, the British one proposes to define competency as the set of precisely specified characteristics of an individual comparing to empiric standards, assigned during conducted research⁴⁸.

This approach identifies the existence the competencies and activities relations relation, showed as particular results. These results were grouped as a formal system of National Management Standards for specified management levels.

	American approach	British approach
Requirements in skills and behavior	General	Particular
Competency definition	Wide	Narrow
Establishing the level of	The difference between average and most	Based on empirical established
competency	efficient employee	standards
~ <u>111</u>		

Table 6 The definition differences of competencies – British and American approach

Source: own study basis on (Boyatzis, 1982: pp. 16)

⁴⁴ For example: market share, number of clients

⁴⁵ The duty of managers it was to write, which, in their opinion, characteristics distinguish the most effective managers (Boyatzis, 1982: pp. 14)

⁴⁶ It includes such formulation as: trait, sill, imaginary aspect, social role and individual knowledge

⁴⁷ The specified job position competency, this is "a set of traits, to let the individual accomplish effectively tasks related to her job (Klemp, 1980). "Competencies, according to realized job, which consists of such elements as: motivation, personality traits, skills, self-estimation, and using knowledge" (Boyatzis, 1982: pp. 16). The similar sense of competency is in A. Gick i M. Tarczyńska's paper. The authors define competency as knowledge, skills, behaviors, virtues, attitudes characterized these, who do their job property and efficiently. The competent employee does his job very well, and his skills are crucial for result achieving (Gick, Traczyńska, 1999: pp. 45)

⁴⁸ Conducted in National Research Project. According to the definition used in this program, the competency is perceived as an ability to accomplish job or function, according to requested standards. A competency is defined as an ability to transfer skills and knowledge to new situations, referring to practicing job.

Both approaches – American and British are based on similar assumptions. They underline efficiency aspect. The difference is that American approach defines skills and attitudes in general sense, but there should be positively correlated with high productivity. In the British one there were specified requirements in higher level of precision in the context of skills and attitudes⁴⁹.

The profit oriented organizations try to develop or maintain the key competencies usually⁵⁰. They undertake the activities⁵¹, which increase their market value. Other activities are supported with external resources or give the unprofitable areas up. The firms develop these kind of competency portfolios, that drive to the biggest profits or market shares. However these activities cause threats – all the market participants⁵² want to maximize their profits. At that time it is very probable to face collision of interests and further activity become more difficult. Moreover, the possibility of losing profits gets higher⁵³.

The latest competitive analyses emphasize the role of key competencies in the global economy, characterized with technological progress velocity (Porter, 1990: pp. 69-129).

The organizational competency has to consist of three components:

- enables to enter the different markets,
- assures the cooperation with clients,
 - be difficult to copy (K. Pralahad, G. Hamel, 1990).

A.H. Church (Church, 1995: pp. 63-74) adds, these priorities are simultaneously difficult to follow and very important, when the extremely long economical crisis and increasing competition, produce limitations of employment and deep restructuring processes. These changes, related to human resources are justified with the will to decrease costs, but do not take into consideration competency inactivation and its consequences. That also explains, why decreasing the number of employed doesn't produce expected positive results in the area of productivity and workability of organizations⁵⁴. R. Reed

⁴⁹ The notion of competency is positively correlated with some of aspects of possessed knowledge, required to accomplish desired effects, in the context of established Job situation. Yet, the competencies implicate a new type of employee. According to homo economicus of Taylor, there was widely accepted opinion, that occupational activity is determined with his will to maximize his salary. The interpersonal relation theory created homo sociabilis – the employee, who is emotional. Temporary, in management literature, it is possible to find the term - homo competens – the individual, who is motivated with the extension if his competency list (Alaluf, Stroobants, 1994: pp. 12-24)

⁵⁰ The key competencies of organization are "what an organization can do best", key competencies related to job position are the most important to accomplish organizational goals, employee key competencies are identical with his strenghtenes, used in his work (Delamare Le Deist, Winterton, 2005: pp. 27). In the beginnings of 90-ties there were begin to use the term of "core competencies" (Prahalad, Hamel, 1990: pp. 79-91)). These competencies are determined with the set of skills and technology, which enable organization to deliver special advantages to clients, and more efficiently compete.

⁵¹ The elements of value chain

⁵² Competitors

⁵³ Demand/Supply assumptions

⁵⁴ Ibidem

and R. DeFilippi (Reed, DeFilippi, 1990: pp. 32-46) claim, the actual economical and technical conditions focus on individual competencies. Therefore, organizational strategies are the more efficient, the more focus on strong relations of three aspects: individual competencies, knowledge and technical skills and organizational management culture (Klein, Edge, Kass, 1991: pp. 1-15). There is the exact correlation between conditions mentioned above. As a consequence, the individual competencies can be described through repertoire of "go on" procedures in economical activity, yet, the organizational ones express themselves in efficiency and trade results⁵⁵. But, the individual competencies management it is the major aspect of human resources management, which are the priority to organizational management. It is clearly confirmed by P. Herriot and C. Pemberton (P. Herriot, C. Pemberton: 1995, pp. 74), who claim, that the organizational existence depends on the ability to create knowledge and skills and ability to use them, what constitute the human beings - because only humans are able to predict the future and create it. The organization manages its human resources - it consists of them⁵⁶.

4.1. Insurance talents' competencies – research results

As mentioned above, an insurance agent there is one-person institution in Poland. The insurance company only supports the product, so there are limited possibilities to control one's action, especially if the sales is being proceed at client's home without any third party involvement. In 2003 there began the law suits against the life insurance companies and numerous resignations, as a results of unethical activities of insurance agents. On the contrary the insurance companies which paid commission to their agents have reached the largest market share and highest level of effectiveness. PZU Życie is still the largest player on the polish life insurance market, yet its market share fall down from 100% in 1990 to 29,6% in 2010. The other life insurance companies reached the result, as follow:

- TUnŻ Europa 12,5%,
- TUnŻ WARTA 8,0%
- TUnŻ ING 6,4%
- TUnŻ Nordea Polska 6,2%
- TUnŻ AVIVA⁵⁷ 6,1%.

⁵⁵ The individual competencies are identified with the behavior analyses, organizational ones – through market analyses method and project evaluations method. Individual competencies diagnoses can establish the added value, collected by the member of organization to accomplish his mission. The organizational competencies establishing enables to identify the market segment, which an organizational activity can be effective in short and long run. The individual competencies are the characteristic preferences of a human, organizational ones are commonly develop by organizational members but they are the property of an organization. ⁵⁶ Ibidem

⁵⁷ Former Commercial Union

The six biggest life insurance companies have collected near 70% of whole market – the concentration level is very high – according to the conducted research it seems to be authorized to claim, that the result of mentioned situation is the approach to competency management. But even implementing this process will not guarantee avoiding problems - the main, competency based problem, there is both misselling and asymmetry of client and agent knowledge ((Janowski, 2008: pp. 295-302) and causes a lot of billion dollars damages in United States of America. Additionally, the insurance agent, as an entrepreneur prefers the bigger provision for his successful sales, so perceives the strategy of represented insurance company selectively. Referring to research results, the level of management orders executing⁵⁸ differs in studied insurance companies.

······································					
Incurance component		Total			
insurance company	None	selected	Most	All	Total
Commencial Union	42	156	24	9	231
Commercial Union	18,18%	67,53%	10,39%	3,90%	100%
AIC Amplica Life	9	47	7	0	63
AIG Amplico Life	14,29%	74,60%	11,11%	0%	100%
Nationala Nathanlandan	8	35	4	2	49
Inationale Inetherranden	16,33%	71,43%	8,16%	4,08%	100%
D71 Žuojo	18	68	2	0	88
PZO Zycle	20,45%	77,27%	2,27%	0%	100%
Total	87	369	147	107	710
10181	12,25%	51,97%	20,70%	15,07%	100%

Table 7 Strategy acceptance – agents' opinions

Source: own research

PZU agents more often ignore all the strategy directives that the others. The research results show the significant differences between PZU agents and other companies ones. The selective acceptance there is a result of provision system rewarding⁵⁹. For insurance companies, the first two years of insurance policy are unprofitable⁶⁰ – so they prefer, in the context of effectiveness to life insurance policy last longer than mentioned period, when both the costs of risk and mediation are low. Yet, the agents are not financially interested to maintain the relations with clients over two years⁶¹.

This situation is confirmed in the field of insurance agents motivators – who have to cover all the activity related expenses⁶², and, additionally proceed the high uncertainty level job in the area of future income.

⁵⁸ Strategy acceptation

⁵⁹ For succesful sales the insurance agent receives very high, even reached 120% of first – year premium provision. In following years the payment is smaller (from 12,5% to 2% of premium)

⁶⁰ The most of collected premium they have to pay as a provision to agents

⁶¹ In AIG and PZU, atter 6 years of the insurance agreement, the agents do not gain ane provision

⁶² The principal insurance company doesn't participate

0							
Motivator	losing job possibility	new challenge	personal development	money			
Percentage	9,8%	18%	16%	48%			
Source: own research	h						

Table 8	The most	effective	insurance	agent	motivators
I HOIC U	I ne most	CHICCUIVE	moutance	agente	mourators

Source: own research

The insurance agents claim the lack of provision system transparence and the numerous changes of their contracts. This is why they are "short-seeing".

4.2. Insurance agents' competencies in the context of life insurance sales efficiency

Weber's approach to competencies, where it is claimed that competencies mean authority only, had stopped competency driven activities. Yet, the competency management is in constant progress, particularly in life insurance companies, which perceive competencies as the derivatives of skills, which are determined with personality traits, attitudes and knowledge. The latter it is the reflection of qualifications and experience (Rakowska, Lutek, 2000: p. 17). It is underlined that the competency management fulfils 18 of 21 human resource management functions (Oleksyn, 2006: p. 188) - the main expectation of competency management system it is to increase both organizational effectiveness and employees' satisfaction. According to the life insurance sector development, the competency management it is the process of acceleration overall development. Is it authorized to claim that the degree of mentioned acceleration is not the same, depends on the kind of the service. It is particularly seen in life insurance organizations.

5. Competency management in life insurance companies – opportunities and threats

As the result of conducted research of the insurance agent's competencies (Irons K.: 1997), there is affirmed existence of positive correlation of insurance agent competencies profile and his efficacy. In A. Janowski opinion (Janowski A.: 2006), the difference of assimilating the individual competencies between agents reaches even 46%.
Table 9 Profile 17 competencies of agents



Source: own research

This was the legal interdiction for operating activity through foreign life insurance companies in Poland till the year 1990 – that is probably the reason of PZU Życie S.A. superiority. The data analysis from 1991-2011 as well as the results of conducted investigations, implies the conclusion that the loss of 77% shares of life insurances market in considered period by PZU Życie S. A. on behalf other – new on polish insurance market companies, seems to be the derivative of lacks of competencies both institution and the agents. Therefore the competency management, according research results, will be the main criterion of gaining the competitive advantage for life insurance companies in the future. Although the mentioned assumption, in the context of other unpredictable circumstances, cannot be completely certain, the lacks in the competency management area will be an axiom of company economical disorder. In opinion of B. Balewski (Balewski, 2011: pp. 67), this situation is also characteristic for other business branches.

References

- 1. ALALUF M., STROOBANTS M., *Moviliz la competencia al. Obrero*, in Revista Europea Formacion Profesional (BERLIN, CEDEFOP), 1994, no. 1
- 2. ALLPORT F, ALLPORT G., *Personality traits: their classification and measurement*, Journal of Abnormal and Social Psychology, 14, 1921
- 3. ALLPORT G., Personality: A psychological interpretation, New York: Holt, 1937
- 4. BALEWSKI B., JANOWSKI A., Human Performance: Competencies, Effectiveness and Talent Management, Wyd. UMK Toruń 2011
- 5. BARRICK M.R. MOUNT M.K., *The FFM personality dimensions and job performance: Meta-Analysis of meta analyses (special issue)*, International Journal of Selection and Assessment, 9, 2001
- 6. BARRICK M.R., MITCHELL T.R., Situational and motivational influences on trait behavior relationships, San Francisco, Josey-Bass, 2003
- 7. BARRICK M.R., MOUNT M.K. *The Big five personality dimensions and job performance: A meta-analysis*, Personnel psychology 44, 1991

- 8. BARRICK M.R., MOUNT M.K., Personality predictors of performance in jobs involving interaction with others, Human Performance 11, 1998
- 9. BARRICK M.R., MOUNT M.K., Yes, Personality Matters: Moving on to More Important Matters, Human Performance 18(4), 2005
- 10. BARTKOWIAK G., Społeczna odpowiedzialność biznesu w aspekcie teoretycznym i empirycznym, Wyd. Diffin, Warszawa 2012, ISBN: 978-83-7641-505-5
- 11. BEHLING O., Employee selection: *Will intelligence and conscientiousness do the job*?, Academy of Management Executive 12, 1998
- 12. BOUCHARD T.J., MCGUE M., Genetic and rearing environmental influences on adult personality: An analysis of adopted twins reared apart, Journal of Personality, 58, 1990
- 13. BOYATZIS R., The competent manager, New York, Jon Wiley, 1982
- 14. BREUER J., FREUD S., Studies on hysteria, v. II, London, Hogard Press, 1955
- 15. COSTA P.T., MCCRAE R., Still stable after all these years; Personality as a key to some issues in adulthood and old age, 1980, New York, Academic Press
- 16. DALE M., ILES P., Assessing Management Skills, a Guide to Competencies and Evaluation Techniques, Kogan Page, 1993
- 17. DELAMARE LE DEIST F., WINTERTON J., *What is competence?*, Human Resource Development International, march 2005, v. 8, nr 1
- DUNN W.S., Relative importance of personality and general mental ability in managers' judgments of applicant qualifications, Journal of Applied Psychology 80, 1995
- 19. FINCH C.E. Finch, KIRKWOOD T.B., *Chance, development, and aging*, New York: Oxford University Press, 2000
- 20. FISZE D.W., *The limits for the conventional science of personality*, Journal of Personality 42, 1974
- 21. FRIEDMANN H.S., *Does childhood personality predict longevity*?, Journal of Personality and Social Psychology 65, 1993
- 22. GALLART M.A., JACINO C., *Competencias laborales: Temas clave an la articulation educacion trabajo*, in Education y trabajo: Boletin de la Red Lainoamericana de Education y Trabajo (Buenos Aires), 1995, vol6, no 2
- 23. GEORGE M.J., ZHOU J., When openness to experience and conscientiousness are related to creative behavior: An interactional approach, Journal of Applied Psychology 86, 2001
- 24. GICK A., TRACZYŃSKA M., Motywowanie pracowników, PWN, Warszawa, 1999
- 25. GUION R.M., Validity of personality measures in personnel selection, Personnel Psychology 18, 1965
- 26. HALL C.S., LINDZEY G, CAMPBELL J., *Teorie osobowości*, Wydawnictwo Naukowe PWN, Warszawa 2006
- 27. HAMEL G., PRAHALAD C.K., *Competing for the Future*, Harvard Business Review: Boston, July-August, 1994
- 28. HARRIS J.R., *The nurture assumption: Why children turn out the way they do*, New York, Free Press, 1998
- 29. HARTSHORNE H., MAY M.A., *Studies in the nature of character*, t.1: Studies, New York, Macmillan, 1928
- 30. HERRIOT P., PEMBERTON C., *Competitive advantage through diversity*, Sage, Londres, 1995
- 31. HURTZ G., DONOVAN J.J., *Personality and Job Performance: The Big FIVE Revisited*, Journal of Applied Psychology, 2000, vol.85 No 6

- 32. CHURCH A.H., Organizational downsizing: what is the role of the practitioner?, The Industrial-Organizational Psychologist, 1995, nr 33
- 33. IRONS K., *The World of Superservice. Creating profit through a passion for customer service*, Addison-Wesley, 1997
- 34. ITAMI H., Mobilizing Invisible Assets, Cambridge: Harvard University Press, 1987
- 35. JANG K.L., *Heritability of the Big Five personality dimensions and their facets: A twin study.* Journal of Personality, 64, 1996
- 36. JANOWSKI A., *Marketing usług profesjonalnych-usługi bogate w wiedzę*, Wydawnictwo AE Poznań 2006
- JANOWSKI A., Prowizyjny system wynagradzania agentów ubezpieczeń na życie narzędzie motywacji czy patologia, Wydawnictwo Uniwersytetu Łódzkiego, Łodź 2008
- 38. JOHNSON J.W., Toward a better understanding of the relationship between personality and individual job performance, San Francisco, Josey-Bass, 2003
- 39. KLEIN J., EEGE G., KASS T., *Skill-based competition*, Journal of General Management, 1991, nr 16
- 40. KLEMP G.O., *The assessment of Occupational Competence*, in: *Report to the National Institute of Education*, Washington 1980
- 41. KOPALIŃSKI W., Słownik Wyrazów Obcych, Wiedza Powszechna, W-wa 1999
- 42. LAWLER E., MOHRMAN S., BENSON G., Organizing For High Performance: Employee Involvement, QM, Reengineering, and Knowledge Management in the Fortune 1000, San Francisco: Jossey-Bass, 2001
- 43. LOCKE E, The Works of John Locke in Nine Volumes, 2 (12th ed.), Rivington, 1824
- 44. LOEHLIN J.C., Genes and environment in personality development. Newbury Park, CA: Sage, 1992
- 45. MASON G.E., A Bibliography of the Analysis and Measurement of Human Personality up to 1926, N.Y.: Harcourt Brace, 1926
- 46. MAYER J.D., A framework for the classification of personality components, Journal of personality, 63, 1995
- 47. MCADAMS D.P., *Levels of stability and growth in personality across the lifespan*, symposium presented at the American Psychological Association Convention, Washington D.C., August 1992
- 48. MCCLELLAND D.C., *Identifying Competencies with Behavioral-Event Interviews*, Psychological Science, 1998, n. 9.
- 49. MCCRAE R., COSTA P.T., Toward a new generation of personality theories, theoretical contexts of The Five-factor model, New York: Guilford Press, 1996
- 50. MCCRAE R.R., COSTA P.T., *Nature over nuture: Temperament, personality and lifespan development.* Journal of Personality and Social Psychology, 78, 2000
- 51. MCCRAE R.R., COSTA P.T., Set like plaster"?: Evidence for the stability of adult personality, American Psychological Association, 1994
- 52. MCCRAE R.R., JANG K.L Jang, Sources of structure: Genetic, environmental, and artifactual influences on the covariance of personality traits, Journal of Personality, 69, 2001
- 53. MCLAGAN P., Competencies: The Next Generation. Training & Development, 1997
- 54. MERRIAM WEBSTER, Dictionary, Springfield, Massachusetts, 1989
- 55. MISCHEL W., Personality and assessment, New York, Wiley, 1968
- 56. OKOŃ W., Nowy słownik pedagogiczny, Żak, Warszawa 2004
- 57. OLEKSYN T., Zarządzanie kompetencjami. Teoria i praktyka, Oficyna Ekonomiczna, Kraków 2006

- 58. PIKE A., A genetic analysis of differential experiences of adolescent siblings across three years, Social Development, 9, 2000
- 59. PLOMIN R., DNAIELS D., Why are children in the same family so different from one another? Behavioral and Brain Sciences, 10, 1987
- 60. PORTER M., The Competitive Advantage of Nations, Free press, New York 1990
- 61. PRAHALAD K., HAMEL G., *The core competencies of the corporation*, Harvard Business Review, 1990, nr 90
- 62. RAKOWSKA A., SITKO-LUTEK A., *Doskonalenie kompetencji menedżerskich*, PWN, Warszawa 2000
- 63. REED R., DEFILIPPI R.J., Causing ambiguity, barriers to imitation, and sustainable competitive advantage, Academy of Management Review, 1990, no 15
- 64. RESNICK S.M., GOTTESMAN I.I., Sensation seeking in opposite-sex twins: An effect of prenatal hormones? Behavior Genetics, 23, 1993
- 65. ROBACK A., The psychology of Character, N.Y.: Harcourt Brace, 1927
- 66. ROGERS C.R., Client-centered therapy, Boston: Houghton Mifflin, 1951
- 67. ROGOZIŃSKI K., Nowy marketing usług, Wyd. AE Poznań, Poznań 2000
- 68. SCHMIDT F.L., HUNTER J.E., *The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings*, Psychological Bulletin 124, 1998
- 69. SCHMITT N., Meta-analyses of validity studies published between 1964 and 1982 and the investigation of study characteristics, Personnel Psychology 37, 1984
- 70. STALK G., EVANS P., SHULMAN L.E., Competing Capabilities: The New Rules of Corporate Strategy, Harvard Business Review, March-April, 1992
- 71. SYMONDS P.M., What is an Attitude? (abstract), Psychological Bulletin 24, 1927
- 72. SZTOMKA P., Socjologia. Analiza społeczeństwa, Znak, Warszawa 2004
- 73. SZWEDER R.A., *How relevant is an individual difference theory of personality?*, Journal of Personality 43, 1975
- 74. TAYLOR F., The Principles of Scientific Management, New York, Harper, 1911
- 75. TETT R.P., Personality measures as predictors of job performance: A meta-analytic review, Personnel Psychology 49, 1991
- 76. WATSON G.B., A Supplementary Review of measures of personality, Journal of Educational Psychology, 1927, 18
- 77. WHIDDETT S., HOLLYFORDE S., A practical guide to competencies: how to enhance individual and organiational performance. 2nd ed. London: Chartered Institute of Personnel and Development, 2003
- 78. YERKES R., DODSON J., *The Relation of Strength of Stimulus to Rapidity of Habit-Formation*, Journal of Comparative Neurology and Psychology, 18, 1908
- 79. ZIMBARDO PH., Psychologia i życie, PWN, Warszawa, 2006

About the author

Andrzej Janowski, Ph.D.

Wyższa Szkoła Kadr Menedżerskich w Koninie Ul. Zagórowska 3a, 62-500 Konin, Poland Tel: +48 609 061 038 email: andrzej.j@poczta.fm www.andrzejjanowski.pl

THE VALUATION OF MAKING-DECISION AND CREATIVITY AS ONE OF THE MANAGERIAL COMPETENCIES

HODNOTENIE MANAŽÉRSKYCH KOMPETENCIÍ PRE ROZHODOVANIE A KREATIVITU

Lenka PČOLINSKÁ – Daniela ROMANOVÁ

Abstract

The competency "making-decision" is one of the basic managerial competencies that measures creativity of the students. This competency has been proposed by Organisation for Economic Co-operation and Development as one of the three main competencies named "problem-solving", needed for professional development of each student. The goal of this article is to examine competency "making-decision" on the second year students of engineering degree studying at the Faculty of Business Economics in Košice (University of economics in Bratislava) and to correlate the results with the score acquired during the "Sales and Vending Strategy of the Company" course.

Key words: creativity, problem-solving, making-decision, managerial competencies

Abstrakt

Kompetencia rozhodovanie je jednou zo základných manažérskych kompetencií, pomocou ktorej sa dá merať kreativita študentov. Táto kompetencia bola navrhnutá Organizáciou pre hospodársku spoluprácu a rozvoj ako jedna z troch kompetencií patriacich pod manažérsku kompetenciu riešenie problémov, ktorá je nevyhnutná pre profesionálny rast každého študenta. Hlavným cieľom tohto článku je ohodnotiť kompetenciu rozhodovanie na študentoch druhého ročníka inžinierskeho štúdia na Podnikovohospodárskej fakulte a výsledky korelovať s ich dosiahnutými bodmi zo zápočtu z predmetu "Odbytové stratégie podniku".

Kľúčové slová: kreativita, riešenie problémov, rozhodovanie, manažérske kompetencie

Introduction

Making-decision, system analysis and design, and trouble shooting are generic problem solving structures that capture important aspects of everyday and real personal life, analytical reasoning that will assess in the assessment programme. To what degree is a student able to confront a particular problem and begin to move towards a solution? What evidence does the student offer to understand the nature of a problem, characterise the problem through the identification of variables and relationships, select and adjust representations of a problem, move to a solution, reflect on the work or communicate the results? OECD raised these questions, when it has started to realize a big project, called "the Programme for International Student Assessment" in 1997. To date students represented more than 70 countries and economies have participated in the assessment. We were inspired by its issue, therefore our purpose was to find out, whether students have assumes to be good managers, when they were studying managerial discipline for four years.

The assessment of problem solving in OECD/PISA should require students to apply their knowledge and skills in some new way, to transfer their capacities from one setting to another; and to use their knowledge in handling decision making, system analysis and design and trouble shooting problems. As such, the cross disciplinary problem solving work will, in many cases, approach the notion of "life skills'. The problems will usually be embedded in real-life settings associated with personal life, work and leisure, or community and society (OECD, 2003).

1. Making-decision and creativity as one of the managerial competencies

To make decisions is an important day-to-day activity for people like managers. We need to gain the competency from infancy, during education even to today. There is an obvious association between the key competencies and lifelong learning (Klepáková, 2011). There is a lot of theory about mentioned competence. We incline for the theory that considers making-decision and creativity the synonyms. Why? Because every person, who want to be a manager, should dispose with diferent ideas on various occasions. The more ideas they have, the more they creative are. Modeér (2012) describes in his article that industry need more and more educated workers and engineers, but the amount of them is not primary aspect for assessment of the success. Competencies are the main problems. There have been three requirements from the part of employers:

- knowledges (professional and temporal),
- abilities (to have complex view, personal growth, initiative and creativity),
- social competencies (customer, language, cultural and comunication skills, team work).

We can see that Modeér integrated creativity into the classification too.

According OECD making-decision problems require students to understand a situation involving a number of alternatives and constraints, and to make a decision that satisfies the constraints. For example, in Problem Solving Unit 1: Say No To Pain, students are asked to decide which of a selection of pain killers is the most suitable one, considering the patient's age, symptoms and other medical conditions. Making-decision tasks such as the above typically involve comprehending the information given and the demands of the task, identifying the relevant features or constraints that must be met, creating a representation of the problem or alternatives, making a decision that meets the constraints, checking to see that the solution meets the constraints and then communicating or justifying the decision. In decision making tasks of this type, the student needs to select an alternative from a number of given ones. In doing this, the student must usually combine information from a number of diverse sources (combinatorial reasoning) and select the best solution. A making-decision problem will be more difficult if it is more complex. For example, the decision to buy a car becomes more difficult when the amount of information to be analyzed increases, the information involves a number of different representations that must be linked, or a greater number of constraints must be attended to. Some students may be able to deal with easy making tasks but fail when the complexity of a task increases (OECD, 2003).

Many authors deal with the problem of definition of creativity and problem solving as a domain-general – applicable to all disciplines or domain specifics and tasks, or domain-specific – tailored to specific disciplines and tasks. The question of interdisciplinarity has been among the most interesting and controversial aspects of the nature of creativity (Plucker, Zabelina, 2009).

According to Plucker et al. (2004) creativity is the interplay between ability and process by which an individual or group produces an outcome or product that is both novel and useful as defined within some social context.

Sweller emphasizes that knowledge and randomness have big impact in the problem solving as well as in creativity thinking. Humans are creative while solving problems and, from a given knowledge base, the randomness as genesis principle with its reliance on random generate and test may provide the only available mechanism for generating novel moves, ways of doing something. If so, the randomness as genesis principle provides the basis for human creativity (Sweller, 2009).

Creativeness is not an uniform feature. Different people have different views on the things and so, we can say we know different creative styles. Kirton (1976) contributed to the theory of the different styles of people to be creative. He proposed an adaptation-innovation continuum, in which individuals who are located on one end of this continuum are adaptive, while those who are on the other end are innovative. Both innovators and adaptors are equally creative, the only difference being how they express their creativity. Adaptors operate within a framework of systems and are associated with sufficiency of originality, efficiency and rule-group conformity whereas, innovators break away from the existing framework of systems and are associated with high interest levels in terms of originality of ideas, less concern for efficiency and rulegroup conformity. Adaptors prefer to create change by improving on the existing structure and favour staying in groups (Kirton, 1994). In addition, they maintain cohesion by following the accepted ways and prefer to solve problems in a disciplined, methodical and predictable manner (J. Ee, T. O. Seng, N. A.

Kwang, 2007). On the other hand, innovators often come up with many new and practical ideas and are risk-oriented. They prefer to stay as individuals and create change by altering the existing paradigm (Kirton, 1994).

2. Sample and applied methods

Sample

The students of the second year of engineering degree studying at the Faculty of Business Economics were the samples of the research. 113 students were analyzed and we will consider that sample as the basic group. The students were anonymous for the research. The research was performed in 2012.

Methods

The duty of the students was to write a terminal work. Only one student could write one terminal work. The name of the course on which the research was conducted is Sales and Vending Strategy of the Company. It was very interesting to find out, how the students are able to apply acquired knowledge to chosen business, because knowledge is one of the main factors to be successful. Main aim of students was to detect internal and external background of business.

The demands of the syllabus of given subject for working-out of the assignment were as follows: Essay must solve some of the problems – theses of the course. It must be consisted of own introduction to solving problem, generalization of current situation, own working-out – solving with clear conclusion and literature – sources by which knowledge or information was applied. The students finishes the essays with summary, in which findings and results are formulated clearly, and the opportunities for next working will be described there as well. (Syllabus, Sales and Vending Strategy of the Company, 2011).

The terminal work says about competency "making-decision". It was each student's decision, to what depth he works out analytical part and whether he is able to perceive and determine problem correctly in chosen business. Very important part of the terminal work was particular proposals.

Regarding classification on points, we needed two scores for each student. The first score – creativity - we climbed as follows: Total score that students could gain was 10. From that, 4 points they gained for fluency, 2 points for sensibility, 2 points for elaboration and 3 points for originality. These named factors are the general factors of creativity.

For the second indication for calculation of the correlation we used total scores from the course "Sales and Vending Strategy of the Company". Our aim was to examine students within their creativity and also find out, whether the correlation between mentioned variables exists. The calculation was realized in the statistic program SAS.

For that reason we deduced main research hypothesis:

We suppose that there exists the correlation between making-decision (creativity) and total scores from course Sales and Vending Strategy of the Company at the students of the second year of engineering degree studying at the Faculty of Business Economic. By other words, we suppose that students who gain upper score from the course, they dispose more by the competence "making-decision" and vice-versa.

3. Results of research

In the next chapter, the results that we have gained by data processing in statistic program SAS are displayed. We used this program for calculation Pearson Correlation Coefficients between two variables – score from making-decision (creativity) and total score from course Sales and Vending Strategy of the Company. This chapter contains two tables from SAS.

In the first table, we can view basic descriptive statistics in which the number of *observation* is 113 – we scored 113 students. Students could gain minimum points from course - 21 and maximum points - 40. The value minimum a maximum describes what points students gained during our testing. We can see mean and standard deviation too.

Simple Statistics						
Variable	Ν	Mean	Std Dev	Minimum	Maximum	
Score	113	32.75221	3.67795	22.00000	39.00000	
Making-decision/Creativity	113	3.69912	1.90809	0	10.00000	
0 11						

Table 1Simple statistics

Source: own table.

The next table shows Pearson Correlation Coefficients 34,17 %. It means that positive correlation between our two variables exists. Hypothesis is acknowledged, students who gained upper score from the course, they disposed more by competence making-decision.

 Table 2 Correlation coefficients between two variables

Pearson Correlation Coefficients, N = 113 Prob > r under H0: Rho=0				
	Making-decision/Creativity			
Score	0.34170			
Score	0.0002			

Source: own table.

Proven correlation between variables is shown through the scatter plot with 95 % prediction ellipse. The axis x shows making-decision (creativity) and

on the axis y, scores from course "Sales and Vending Strategy of the Company" are shown. Figure is the output from statistic program SAS too.



Figure 1 Scatter plot Source: own picture.

Conclusion

The aim of the article was to find out, whether the correlation between student's points from study Sales and Vending Strategy of the Company and their creativity exists. This correlation was validated. We correlated competency making-decision and we replaced this term with the word creativity. These two terms are synonyms. OECD has tested this competence on chosen schools from 1997 in such a way as we did in our research. OECD has classified the competency "problem solving", as well as competency "making-decision" as necessary "attribute" of individuals to be successful within labor market.

It is necessity to develop managerial competency at schools. Our results point out to the development of competencies during studies. Students obtained high score, they shown ability in making decisions in business, suggesting new solutions, solving different problems and so on.

References

- 1. EE, J. SENG, T.O., KWANG, N.A. 2007. Styles of creativity: Adaptors and innovators in a Singapore context. In: Asia Pacific Education Review. Volume 8, Number 3, p. 364-373. ISSN 1876-407X
- 2. KIRTON, M. J. 1994. A theory of cognitive style. In M. J. Kirton (Ed.), Adaptors and innovators: Styles of creativity and problem-solving (pp. 1-33). London: Routledge.
- 3. Kirton, M. J. 1976. Adaptors and innovators: A description and measure. Journal of Applied Psychology, 61, 622-629
- KLEPÁKOVÁ, Adela. 2011. Rozvoj kľúčových kompetencií študentov univerzít. In Key competencies in knowledge society: today's trends, methods of development and researches : [recenzovaný vedecký zborník z medzinárodnej vedeckej konferencie, 23. - 24. november 2011, Košická Belá]. - Brusel : EuroScientia, 2011. ISBN 978-90-818529-5-1, s. 124-134.
- MODÉER, C. 2012. Competence Demands for Today and Tomorrow: Quality Progress. [online]. Stockholm : Federation of Swedish Industries. [cit. 2012-02-01]. Dostupné na internete: http://www.oecd.org/dataoecd/35/55/2101670.pdf>.
- OECD, 2003. The Pisa 2003 Assessment Framework Mathematics, Reading, Science and Problem Solving Knowledge Skills. OECD, 2003. [online]. [cit. 2011-04-05]. Dostupné na internete: http://www.oecd.org/dataoecd/63/35/37464175.pdf>.
- 7. PLUCKER, J. A., BEGHETTO, R. A., Dow, G. T. 2004. Why isn't creativity more important to educational psychologists? Potential, pitfalls, and future directions in creativity research. In: Educational Psychologists. vol. 39, p. 83–96. ISSN 0046-1520
- 8. PLUCKER, J. ZABELINA, D. 2009. Creativity and interdisciplinarity: one creativity or many creativities? In: International Journal on Mathematics Education. vol. 41, p. 5–11
- 9. SWELLER, J. 2009. Cognitive Bases of Human Creativity. In: Educational Psychology Review. vol. 21, p. 11 19. Springer. ISSN-1040-726X

About the authors

Ing. Lenka Pčolinská, PhD.

Departement of marketing and trade The Faculty of business economics with the seat in Košice University of Economics in Bratislava Tajovského 13 041 30 Košice Slovak Republic Tel: +0421(0)55/722 31 11 Email: lenka.pcolinska@euke.sk

Ing. Daniela Romanová

Department of management The Faculty of business economics with the seat in Košice University of Economics in Bratislava Tajovského 13 041 30 Košice Slovak Republic Tel:+421948098909 E-mail: daniela.romanova@euke.sk

EVALUATION OF SIMULATION GAME IN COURSE OF LOGISTIC

HODNOTENIE PEDAGOGICKEJ HRY V RÁMCI PREDMETU LOGISTIKA

Patrycja PUDŁO – Lýdia STANKOVIČ

Abstract

Article present result of evaluation of simulation game called "planning of sales". Simulation game was tested in Faculty of business economy in Kosice on logistic course. Result of survey conducted after course showed that, 65% of all students prefer logistic course with simulation games. Almost 80% of students agreed that, using simulation games provide them to better understand theory. It is also necessary to add that using simulation games increase student's creativity and give them opportunity of develop them capacity and skills.

Keywords: simulation games, experimental teaching, quality of teaching

Abstrakt

Článok predstavuje výsledky hodnotenia simulačnej hry "Plánovanie odbytu". Simulačná hra prebiehala na predmete podniková logistika vyučovaným na PHF v Košiciach. Výsledky dotazníkového prieskumu uskutočneného po ukončení hry ukázali, že 65% s všetkých študentov preferuje výučbu podnikovej logistike vo forme simulačných hier. Skoro 80% študentov konštatovalo, že využite simulačných hier na predmete podniková logistika pôsobilo na lepšie pochopenie teórie. Zároveň treba podotknúť, že využite simulačných hier v procesie výučby vyvíja študentskú kreativitu a dáva študentom možnosť cvičenia a rozvoja manažérskych spôsobilosti.

Kľúčové slova: simulačná hra, zážitkové metódy výučby, kvalita vyučovania

Introduction

Rapid development of tertiary education also brings the requirements for a growth of autonomy of the universities and their self-governments, higher participation of society in management as well as the requirements for the declaration of quality of a provided education and research (Gavurová, 2011). In today's unstable market economy, individuals have to be skilled to work efficiently in constantly changing and complex situations. Thus, graduate students have to be trained to cope with unpredictable situations before they enter the workforce. They need to exercise occupational skills, such as leadership skills, during higher education. Simulation gaming open up possibilities for active learning of the leadership and other occupational skills needed in complex work environments (Siewiorek, Saarinen, Lainema,

Lehtinen. 2012). BSGs enable students to practice making decisions in a virtual environment, accumulate experience in application of strategies, and train themselves in modes of decision-making (Yu-Ling Lin, Yu-Zu Tu, 2012). Leadership skills are increasingly important in many professions. However, it is a challenging task to teach and learn these skills in a formal educational context. But it is much harder to support the development of students' concrete leadership skills (Morrison J.L., Rha J., Helfman A., 2003.). Even more difficult is the development of adequate methods to train the leadership skills needed in distributed and virtual organizations (Lähteenmäki, Saarinen & Fischlmayr, 2007). Thus, developing effective trainings for preparing students to work in changing and unpredictable situations such as working in virtual organizations should be the goal of higher education (Siewiorek, Saarinen, Lainema, Lehtinen. 2012).

1. Using simulation games in education

Managerial simulation game represents an active teaching method of managerial skills of students and it also develops their strategic thinking, an ability to solve problems systematically (complexly) and it supports team work. It allows simulating certain decision taking processes and coherent impacts resulting from adopted decisions. Managerial simulation game simulates economic phenomenon and conditions (defined parameters of decision making) to which students have to take account of while running a virtual firm. Through the medium of managerial simulation game we experiment with an economic model, which shows a selected part of the real economic system (it only includes selected connections, links among components). Simulation game does not substitute practical activity in terms of decision making, but it allows the students to develop the knowledge of fundamental relations among economic quantities and to gain professional skills. At present managerial simulation games are used both in teaching (universities) and in managerial educational firms (Peterková, 2011).

Simulation games were first used in the United States army in the 50' in connection to war strategies, operational researches and information technology. Soon afterwards they were used by multinational companies in educating their own employees and employing new working force (Owens, Swift, Cook, 2004). Having proved themselves valuable and beneficial to the army and management, their usage in the education started to increase significantly in the 70' of the last century (Parasuraman, 1980). The interest for simulation games in education is increasing on yearly basis (Adobor, Daneshfar, 2006); and this because students' are more and more pragmatic and wish to participate in class as a consequence to their knowledge in information technology and use of computers (Aldrich, 2005). Furthermore, professors themselves follow new trends, thus they use the

blackboard and the graphoscope less and less as opposed to various applications and programs that are swiftly gaining their ground (Zoroja, 2010).

As we can see simulation games are a very popular tool in teaching business courses. Based on the result of a study, 30.6% of professors in business schools use simulation games in teaching (Faria & Wellington, 2004). The objective of a simulation game is to encourage students to apply knowledge obtained from study materials in a simulated situation and thereby help them understand the content, increase their experience, and even increase their software skills. The study shows that factors that lead to student satisfaction in a simulation game is the level of control in the game, the student's need for and the student's risk propensity (Walters, Coalter achievement, & Rasheed, 1997). It has also been found that simulation game performance was influenced by team heterogeneity, opportunistic practices, and hypothesis-driven thinking of players (Anderson, 2005). Although simulation games are used extensively in business school courses, some argue that it is not a very effective tool if used improperly and there are still doubts as to its effect on student learning (Neuhauser, 1976). The case study is another tool used in teaching business. It has gained in popularity and is used extensively in many businessrelated subjects including accounting, finance, marketing, and human resource management among others (Swiercz, & Ross, 2003). Case studies help students learn in a real setting and encourage students to think critically and search for the truth by themselves, they are also effective tool when students work in a team. Case studies stimulating and tend to involve the concept of adventure and exploration. We need to add that recently case studies have been applied in quantitative analysis study (Pillay & Dugar, 2009). This recent development is called "Live Case Method", where students go into an organization and propose a solution to a real problem that is currently unsolved in that organization (Roth, & Smith, 2009). Although case studies are used extensively in business studies and in business simulation games, they do not always lead to successful learning. Numerous factors that lead to successful case discussion have been identified, (Smith, 2010):

- student preparation;
- multiple and diverse perspectives considered;
- quality, depth, and repetition versus quantity of coverage;
- energy, collaboration, and community in the classroom;
- maximum engagement of students;
- appropriate cases discussed;
- the student discovers a need for and finds value in the learning experience;
- environment of respect and support versus fear and intimidation;
- learning deep, life-long, applied, retained, and personal;

- emphasis on application, decision making, and development of an action plan;
- graphic presentation and use of technology;
- overcoming challenges of case discussion leadership.

It has also been found that there is a relationship between student perception of case relevance and student motivation. The reviews of literature above show that there is no definitive study showing that simulation games and case studies are effective tools that help students learn better. There are also few studies (if any) that investigate the effectiveness of these tools when they are used at the same time (Nopadol, 2011).

2. Evaluation of the simulation game called "planning sales"

Simulation game called "Planning sales", was used in course of logistic in Faculty of Business Economy in Kosice. Game was a part of one year project called "Global Manager". The aim of project was to induct simulation games in the process of teaching in high schools. Planning sales was the type of the game which was based mainly on team building. Students had to communicate with them leader about optimization of rout of travel agent in company. They had to analyze changes in market and adapt rout to changes and the level of sale of rivals. The main goal of the game was to maximize profit. After game, students had chance to evaluate the game. We used on line survey¹, which had twelve questions, four open and eight closed.

Results of survey showed that:

- 65% of examined students declare that they prefer course witch simulation games than course with traditional methods of teaching.
- 78% of respondents claim that they would like to have two, tree or more simulation games during the course form logistic,

In opinion of students the most interesting in game "Planning sales" was:

- Beter understanding theory from area of subject 78%
- More transparent presentation of new subject 61%
- Possibility of training business skills during the team work 56%
- Simulation of real problem and real behavior of business participants 67%
- Entertaining of the game 60%

Using a simulation games in the teaching process allows students to learn and practicing of many universal skills necessary in life, and useful in farer education. This games are teaching mainly: respecting a roles of the game, being

¹https://docs.google.com/spreadsheet/viewform?fromEmail=true&formkey=dFZxbnNfdXpmWDFhRG5zUkMt WUtNdVE6MQ

patient, a skill of accept a defeat and victory, learning to accept a results of undertake decisions, and mistakes which were commit, logical thinking, and choosing the right strategies. Games are learning a cooperation, and activity of all players (team work), analyzing and select of information, leading of negotiations, creativity and elasticity of thinking (Pudło, 2008). Graph one shows skills which were trained by students during the game "Planning sales"



Graph 1 Skills trained in "Planning sales" game

Source: Own work

Simulation game "Planning sales" is type of the game based on team building, that's why 93% of answers show that students trained team work. In the group of main trained skill we have also: undertaking decisions 94% of answers, planning and organizing 93% of answers, communication 89% of answers and orientation on goal and results 83% of answers.

Result of survey also showed that, thanks to use simulation games (see graph 2,3,4):

- 72% of students learn accept the role of the game
- 57% of students learn more efficiently manage time
- 85% of students learn accept points of view partners of the game



Graph 2 Did you learn akcept rouls of the game thanks to use of simulation games ? Source: Own work



Graph 3 Did you learn more efficiently mange time thanks to simulation games Source: Own work



Graph 4 Did you learn accept points of view partners of the game? Source: Own work

Conclusion

A Chinese proverb states: tell me, I'll forget, show me, I'll remember, involve me, I'll understand. This short proverb shows the core of experimental teaching. One of the method used in experimental teaching is simulation game. Simulation games teach students how to cope with real conditions, they develop different skill, which are required from employers. Result of conducted survey showed that using simulation games prepares student to practice task, teach them team work and how to cope with stress conditions. Because emotions are involved, during the game, students learning faster and the course is not board.

Article is a part of project Mlada Veda nr. 2330264 "Global Manager".

References

- 1. ADOBOR, H., DANESHFAR, A., 2006. Management Simulation: Determining their Effectiveness, *Journal of Management Development*, Vol. 25, No. 2,
- 2. ALDRICH, C., Learning by Doing, Pfeiffer, USA, 2005, ISBN 978-0-7879-7735-1.
- 3. ANDERSON, J.R. 2005. The Relationship Between Student Perceptions of Team Dynamics and Simulation Game Outcomes: An Individual–Level Analysis, *Journal of Education for Business*, November/December, 85-90.
- 4. FARIA, A.J. & WELLINGTON, W.J. A. 2004. Survey of Simulation Game Users, Former-Users, and Never-Users, *Simulation Gaming*, 35, 178-207,
- 5. FOWLER, L. 2006. Active Learning: An Empirical Study of the Use of Simulation Games in the Introductory Financial Accounting Class, *Academy of Educational Leadership Journal*, 10, (3), 93-103,
- GAVUROVÁ, B. 2011. Determinanty hodnotenia kvality vysokého školstva na Slovensku. In: Improving quality of wducation at universities: materials of the International Scientific Conference: Užhorod (Ukraine) – Košice (Slovak Republik), March 25-27, 2011:special edition of collection of scientific papers: Geopolitics of Ukraine: history and contemporaneity: vol 6.- Užhorod: KPU, p 137-159. ISSN 2078-1431
- GRZEBYK M., FILIP P. 2012. Implementation of activating teaching methods in higher education business studies as case study, [w:] Didactics at higher education institutions. Efficiency of new methods of education, pod red. A. Pierścieniak, wyd. MITEL, Rzeszów, s.27-45, ISBN 978-83-7667-074-5
- 8. GRZEBYK M. Zarządzanie i jego główne funkcje. Wyższa Szkoła Gospodarki i Zarządzania w Krakowie Mielec 2012 ISBN: 978-83-62120-06-2 s.200
- 9. https://docs.google.com/spreadsheet/viewform?fromEmail=true&formkey=dFZxbnNf dXpmWDFhRG5zUkMtWUtNdVE6MQ
- 10. LÄHTEENMÄKI, S., SAARINEN, E., & FISCHLMAYR, I. C. (2007). Embracing the new leadership paradigm: gateway to building trust and commitment in virtual multicultural teams. In: *Proceedings of the eBRF 2007 conference, September 25–27, Jyväskylä, Finland*
- 11. LEGER, P. 2006. Using Simulation Game Approach to Teach Enterprise Resource Planning Concepts, *Journal of Information Systems Education*, 17, (4), 441-447,

- 12. MORRISON J.L., RHA J., HELFMAN A., 2003. Learning awareness, student engagement, and change: a transformation in leadership development. *Journal of Education for Business*, 79 (1) pp. 11–17
- NEUHAUSER, J.J. 1976. Business Games Have Failed, Academy of Management Reviews, 1, 124-129., KLEIN, R.D. 1984. Adding International Business to the Core Program via the Simulation Game, Journal of International Business Studies, Spring/Summer, 151-159.,
- 14. NOPADOL R. 2011. Using Simulation Games and Case Studies in Teaching Performance Measurement and Management. Journal of Higher Education Theory and Practice vol. 11(3).
- 15. OWENS SWIFT, C., COOK, R. W., 2004. Sales Management Simulation: Bringing Reality to the Classroom, *Proceedings of the Society for Marketing Advances*, Saint Petersburg, Florida, November 26,
- 16. PARASURAMAN, A., 1980. Evaluation of Simulation Games; A Critical Look at Past Efforts and Future Needs, Experiential Learning Enters the Eighties, Vol. 7,
- 17. PETERKOVÁ J. 2011. Best Practices in the use of Managerial Simulation Games-Based Learning. *Proceedings of the European Conference on Games Based Learning*;, p.457-464,
- 18. PILLAY, R. & DUGAR, A. 2009. Teaching Concepts of Probability: A Case Study Methodology for BSchools, *The IUP Journal of Management Research*, 8, (7), 34-44.
- PUDŁO P. 2008. Innovative approaches in students education Innovative approaches in students education. In Uplatnenie inovatívnych pracovných technológií v praxi : zborník príspevkov z odbornej konferencie v rámci projektu ITMS 11220100684 "Zlepšenie zamestnanosti cieľových skupín osvojením inovatívnych pracovných technológií". - Košice : VÚSI, 2008. ISBN 978-80-89383-01-6, s. 125-134.
- ROTH, K.J. & SMITH, C. 2009. Live Case Analysis: Pedagogical Problems And Prospects In Management Education, *American Journal of Business Education*, 2, (9), 59-66,
- SIEWIOREK, SAARINEN, LAINEMA, LEHTINEN. 2012. Learning leadership skills in a simulated business environment. *Computers & Education*. Volume 58, Issue 1, January 2012, Pages 121–135
- 22. SIEWIOREK, SAARINEN, LAINEMA, LEHTINEN. 2012. Learning leadership skills in a simulated business environment. *Computers & Education*. Volume 58, Issue 1, January 2012, Pages 121–135.
- 23. SMITH, R.A. 2010. Professors' Use of Case Discussion Leadership at Harvard and Darden MBA Programs: Characteristics of a Successful Case Discussion, *Academy of Educational Leadership Journal*, 14, (2), 13-3,
- 24. SWIERCZ, P.M. & ROSS, K.T. 2003. Rational, Human, Political and Symbolic Text in Harvard Business School Cases: A Study of Structure and Content, *Journal of Management Education*, 27, (4), 407-430,
- 25. WALTERS, B.A., COALTER, T.M., & RASHEED, A. 1997. Simulation Games in Business Policy Courses: Is There Value for Students?, *Journal of Education for Business*, January/February, 170-174, ,
- 26. YU-LING LIN, YU-ZU TU. 2012. The values of college students in business simulation game: A means-end chain approach. *Computers & Education* 58, 1160– 1170
- 27. ZOROJA J., Simulation Games and Their Use in Education at Economics Institutions in the Republic of Croatia The Business Review, Cambridge Vol. 15 * Num. 1 Summer 2010, p.114-119

About the authors

Mgr. Patrycja Pudło, PhD.

Katedra manažmentu Podnikovohospodárska fakulta v Košiciach Ekonomická univerzita v Bratislave Tajovského 13 041 30 Košice e-mail: patrycja.pudlo@euke.sk

Ing. Lýdia Stankovič, PhD.

Katedra manažmentu Podnikovohospodárska fakulta v Košiciach Ekonomická univerzita v Bratislave Tajovského 13 041 30 Košice e-mail: lydia.stankovic@euke.sk

FOREIGN DIRECT INVESTMENT IN SOBRANCE DISTRICT. WHY AND WHERE TO INVEST?

PRIAME ZAHRANIČNÉ INVESTÍCIE V OKRESE SOBRANCE. PREČO A KDE INVESTOVAŤ?

Lenka PČOLINSKÁ – Sergej STRAJŇÁK – Albína KOSTKOVÁ

Abstract

Article presents Sobrance district that is located in the eastern part of Slovakia, in terms of its economic situation and investment opportunities. The key to the progressive economic decisions is its analysis. Article highlights the strengths and weaknesses of Sobrance district, opportunities and threats that may affect its future development and empower the foreign direct investments in the area. At the end, it presents development opportunities that authors see mainly in the cooperation between the competent authorities (municipalities of the town of Sobrance and villages in the district of Sobrance, municipality of Košice region and cross border cooperation of regions), as well as in investment use of renewable energy sources and in tourism development in this area.

Keywords: Foreign direct investments, renewable energy sources, Sobrance district, strengths, weaknesses, opportunities, threats.

Abstrakt

Článok predstavuje okres Sobrance, ktorý sa nachádza vo východnej časti Slovenska v zameraní na jeho ekonomickú situáciu a investičné príležitosti. Kľúčom k progresívnym ekonomickým rozhodnutiam je analýza okresu. Článok poukazuje na silné a slabé stránky, príležitosti a hrozby okresu, ktoré môžu ovplyvniť jeho budúci rozvoj a posilniť priame zahraničné investície v tejto oblasti. V závere článok poukazuje na príležitosti rozvoja, ktoré autori vidia najmä v spolupráci medzi kompetentnými autoritami (samosprávou mesta Sobrance a obcami v okrese Sobrance, Úradom Košického samosprávneho kraja a cezhraničnej spolupráci medzi regiónmi), ako aj vo využití obnoviteľných zdrojov energie a v rozvoji turizmu v tejto lokalite.

Kľúčové slová: Priame zahraničné investície, obnoviteľné zdroje energie, okres Sobrance, silné stránky, slabé stránky, príležitosti, hrozby.

Introduction

Sobrance district situated in the east part of Slovakia belongs between areas with the highest unemployment in Slovakia. There is weak industrial base and lack of services of high quality. To discuss about sustainable development in this area, we need to analyse it from the view of macroeconomic facts and to evaluate it from its strengths and opportunities in order of using all sources that are in the area for its better economic situation.

1. Foreign direct investment

According to the IMF and OECD definitions, direct investment reflects the aim of obtaining a lasting interest by a resident entity of one economy (direct investor) in an enterprise that is resident in another economy (the direct investment enterprise). The "lasting interest" implies the existence of a longterm relationship between the direct investor and the direct investment enterprise and a significant degree of influence on the management of the latter (Duce, 2003). Foreign direct investment (FDI) reflects the objective of obtaining a lasting interest by a resident entity in one economy ("direct investor") in an entity resident in an economy other than that of the investor ("direct investment enterprise"). The lasting interest implies the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence on the management of the enterprise. Direct investment involves both the initial transaction between the two entities and all subsequent capital transactions between them and among affiliated enterprises, both incorporated and unincorporated (OECD, 1999).

The international business literature proposes that firms tend to consider FDI once they have developed certain competitive advantages that they feel they can more effectively exploit by engaging in a strategic location of production abroad, rather than export goods and services, but maintain their direct control over the process to minimise transaction costs, retain control over technological and other elements of the production process together with organisation knowledge (Morgan, 1997).

2. How can FDI be better applied to Sustainable Development?

a) Accessibility and stability of FDI

If FDI is to take a greater role in building developing country economies, further assessment of the factors which influence and are influenced by FDI flows is necessary. Foreign companies are thought to be attracted to recipient countries for a whole range of factors, e.g. political stability, market potential & accessibility, repatriation of profits, infrastructure, ease of currency conversion. Privatisation and deregulation of markets are seen as central means to attract FDI, however this can leave the poorest or most indebted countries open to destabilising market speculation (ECOSOC 2000). National legislation can support better investment security for local markets, fair competition and corporate responsibility through defining equitable, secure, non-discriminatory, transparent investment practices (WSSD 1995, Habitat II 1996). Whilst there is concern that increased regulation could deter new foreign investors, there is evidence, such as in Eastern Europe, that tighter regulation of corporate,

environmental and labour standards has not affected FDI growth (Strajňák & Blahovec, 2012).

b) Socially responsible investment

Ethical and socially responsible FDI can be encouraged through national, bilateral and international investment guidelines and regulation e.g. consumer rights, information provision, commercial probity, labour standards and corporate culture (Strajňák & Blahovec, 2012).

3. Trends in FDI

Until 1998 the inflow of FDI to Slovakia was under 1.7% of GDP annually. The first change came in 1998, when the volume of FDI rose in nominal terms threefold in comparison with the previous year. There were large privatization receipts in telecommunications (2000) and the electricity supply networks (2002). However, most FDI inflows were directed into the manufacturing sector and to a lesser extent into the financial sector where majority of banks are now foreign-owned. At the end of 2005 the total value of FDI equity capital plus reinvested earnings was SKK 457 billion, equivalent of around 31% of GDP (Štefaníková & Šiškovič & Valach, 2007).

4. Sobrance district and macroeconomic indicators

Sobrance district is situated in the east part of Slovakia, on the main road to the Ukraine border. Geomorphologically it is situated in the north-eastern part of the East Slovakian lowland and administratively it is located to the land of Košice region. The town Sobrance is the centre of the district. Sobrance is also the centre of Schengen border and the seat of the Directorate of the Border Police. At present, Sobrance has 6118 inhabitants and the district contains of 47 villages. The whole district has 23 213 inhabitants. Sobrance is the centre of wine region in the easternmost part of Slovakia. Sobrance spa, which is situated in the north of the town, is the one the oldest spa of Slovakia. Its potential in the tourism and healthing resorts is not yet developed. (Komunitný plán sociálnych služieb mesta Sobrance, 2010-2015)

Within Košice self-governing region, this region belongs to the area, where the number of inhabitants has increasing long-term nature. In Sobrance, development of the housing fund and small and medium enterprises stagnates, also activities within tourism are not yet contributive to the development. According the Programme of the economic and social development of Sobrance district, decisive factor of regional economic prosperity with respect to the natural atractiveness will be development of small and medium enterprises, agriculture, services and tourism development. These activities are conditioned by building, or by completing the technical infrastructure and support for rural recreation and tourism. (PHSR Sobrance - Profil územia, 2006)



Figure 1 Sobrance district Source: produced by authors, ArcGIS 10



ENST PART OF SLOVANUA

Figure 2 Eastern Slovakia Source: produced by authors, ArcGIS 10



Figure 3 Geographic view of Sobrance district Source: www.cdb.sk

Sobrance district is the one of the districts with the highest unemployment. In 2011 unemployment increased up to 22,33% (figure 4). Number of unemployed is increasing because this district stagnates for a long term in business activities, investment incentives and presentation of the area as the interesting area in tourism. (PHSR Sobrance - Profil územia, 2006) Figure 5 shows the number of jobseekers in Sobrance district by age groups. The largest group of jobseekers are inhabitants in the age of 35-49, which represents inhabitants in the working age.



Figure 4 Registred unemployment rate Source: Regdat SR, 2012



Figure 5 Number of jobseekers by age group Source: Regdat SR, 2012

In term of business subjects and law forms, the largest representation has tradesmen in the services area, but also business companies, mostly limited liability companies. (PHSR Sobrance - Profil územia, 2006)

The number of industrial plants in Sobrance district is decreasing during last years according available information. In 2010, regional database Regdat stated only 2 industrial plants in Sobrance district – in contrast to Michalovce district, were have been stated 32 industrial plants. This fact indicates the hard situation in the employment opportunities in Sobrance district. Many people leave this region and move for seeking job in other towns, or they move abroad. Sobrance district is according these indicators on the low development level, it lacks mainly business activities that could create capital and new job for local inhabitants.

Table 1 shows the number of employees in the particular economic activities in Sobrance district in 2009. According data from regional database Regdat, the most employees work in the public administration, in the business and education, and in the agriculture. Table 1 notes also, that industry, or construction is on the next levels. This situation is related with absence of the industrial plants and other business activities in the Sobrance district.

Employess in economy of Slovakia, by economic activities in the Sobrance district in 2009, by gender				
	2009			
	Total	Men	Wome	
A migulture forestry and fishing	674	504	n 170	
Agriculture, forestry and fishing	0/4	504	170	
Industry	308	200	108	
Construction	443	333	110	
Wholesale and retail, repair of motor vehicles and				
motorcycles	790	554	236	
Transport and storage	185	122	63	
Accommodation and food services	55	39	16	
Information and communication	17	12	5	
Financial and insurance activities	51	26	25	
Real estate activities	117	79	38	
Professional, scientific and technical activities	39	23	16	
Administrative and support services	61	45	16	
Public administration and defense, compulsory social				
security	926	704	222	
Education	763	205	558	
Health and social care	413	112	301	
Arts, entertainment and recreation	22	17	5	
Other activities	108	83	25	
Source: Regdat SR, 2012				

 Table 1 Employees in economy of Slovakia, according economic activities

5. Sobrance district analysis

SWOT analysis of the Sobrance district shows the view of the town Sobrance with adjacent villages and points mainly on the openness of the district for the investment projects – from the view of the human resources capacity and readiness of the region for inter-regional cooperation in tourism and renewable energy sources. Analysis explores strengths and weaknesses, opportunities and threats of the district. Particular factors are valued by strength and power of the factor and then points are assigned to the each factor. According total score of factors we consider the result of the analysis of internal environment (strengths and weaknesses) and external environment (opportunities and threats).

Sobrance district disposes by more strengths, that can be used for the other development of this region. Strengths are dedicated mainly to the development of business area in tourism, but also in using renewable energy resources, that could create new job opportunities. High unemployment in region, few job opportunities are the reason for leaving educated people to the other region, or abroad.

Strengths		Power	Points	
Cheap labor in region	7	7	49	
Low prices of services for businessmen	7	5	35	
Low prices of real estate	6	5	30	
Sobrance district and town has suitable area for industrial zone, unused capacity for investment project	10	10	100	
Natural and climate conditions of micro-region are favourable for tourism development – ecotourism	12	10	120	
Suitable climate conditions for use of renewable energy sources and creation of work positions	10	10	100	
Spa	5	6	30	
Natural and historical and cultural interests of region	6	7	42	
Wine region - Tibava, Choňkovce, Orechová	6	7	42	
Ideal multiculture position of the region	8	9	72	
Good transport position	9	9	81	
Preparation of the transport connection on the supra- regional level	5	6	30	
Adequate transport services, carriers	4	5	20	
Industrial zone is connected to the technical infrastructure, preparation of the reconstruction of technical infrastructure for the industrial zone	5	5	25	
Total	100		776	

Table 2 Strengths

Source: own processing based on SWOT of Sobrance district (PHSR Sobrance, SWOT, 2006)

Strengths emphasize mostly suitable geographical position, potential for investment projects in industry, tourism or at present supported renewable energy resources. Good transport position and close border with Ukraine is advantage of this district and could empower cooperation with Lviv region (Transcarpathian region).

Table 3 V	Veaknesses
-----------	------------

Weaknesses		Power	Points
Difficult economic situation in the region	4	5	20
Stagnant number of local entrepreneurs	5	6	30
High price of energy, of inputs for entrepreneurs	5	6	30
Low demand of investors for business in Sobrance and surroundings	8	9	72
Low purchasing power of inhabitants	4	5	20
Lack of exercise, attractiveness of job possibilities for university educated people	6	7	42
Outflow of educated people from the town, region	5	6	30
Passivity of local inhabitants, television culture, philosophy of life, low ambitions	7	9	63
Lack of specialized unit oriented on economic development and project preparation for financing from funds of EU	8	10	80
Lack of interregional networking and coordination, cooperation in tourism business	8	10	80
Weak cross-border cooperation with the Transcarpathian region of Ukraine	6	8	48
Bad technical state of local spa and cultural and historical monuments	4	5	20
Bad state of tourism services (information, accommodation, restaurants)	5	7	35
Lack of business development and tourism development conception, weak promotion of the region	9	10	90
Insufficient infrastructure and support of active leisure and supply for tourists	4	6	24
There is no detailed analysis of the region and mapping the current conditions of renewable energy resources for the business development	8	10	80
Absence of a motorway in the direction of Košice- Michalovce-Sobrance-Vyšné Nemecké	4	6	24
Total	100		788

Source: own processing based on SWOT of Sobrance district (PHSR Sobrance, SWOT, 2006)

Weaknesses of the district are mainly: lack of business development and tourism development conception and weak promotion of the region. Very important is also passivity of local inhabitants and there is no detailed analysis of the region and mapping the current conditions of renewable energy resources for the business development. Interregional networking and coordination and cooperation in business is also weak and in the complex view Sobrance district is low attractive for potential investors.

Opportunities	Strength	Power	Points
Realization of the industry park within development of	5	6	30
Košice self-governing region conception and			
realization of industrial incubator			
Orientation on the foreign direct investment	7	9	63
Potential of the influx of foreign direct investment –	8	10	80
new job possibilities			
Participation of the entrepreneurs on the presentation	3	5	15
of exhibitions			
Courses and seminars for local starting entrepreneurs	6	7	42
Support for local crafts	4	5	20
Use of the renewable energy sources in region	8	10	80
according character of local conditions connected with			
creation of jobs			
Potential for the tourism development, increase of the	9	10	90
use of EU structural funds			
Constraction of biofarms, ecofarms	8	10	80
Empowering position of the tourist information office	5	8	40
Promotion of the wine area for tourism development	5	6	30
Reconstruction and recovery of Sobrance spa	5	6	30
Realization of the road with regional significance – highway	4	6	20
Reconstruction of cultural centre in Sobrance,	6	7	42
establishment of the gallery for regional artists and			
permanent exhibition of the guitar museum in			
Sobrance			
Transfer of know-how, processes and subsequent	5	7	35
increase of the workforce competitiveness			
Construction of the recreation, culture and sport area	6	6	36
associated with reconstruction of the swimming pool,			
sports fields, an amphitheater in order to increase the			
attractiveness of the local environment			
Improvement of the services – restaurant,	6	8	48
accommodation, information			
Total	100		781

Source: own processing based on SWOT of Sobrance district (PHSR Sobrance, SWOT, 2006)

Opportunity of the district is mainly the orientation on inflows from abroad that could create new job opportunities for people in this region. Current european initiative oriented on the support of renewable energy resource use, can also create work opportunities. This area is suitable also for reinforcement of tourism, as the one of the pillar of increasing economic power of the region. Biofarms and ecofarms, or reconstruction of the Spa in Sobrance can be the initial solution. It could allow the growth of the economic opportunities for inhabitants in the locality.

Threats	Strength	Power	Points
Poor law enforcement	6	7	42
Deteriorating social situation of certain groups	4	5	20
Delay in the building of roads, especially motorways	4	5	20
Black economy, particularly in this region, which shares a border with Ukraine	6	7	42
Legislation in the field of tourism - low utilization of the selection of local taxes (such as local accommodation tax)	5	6	30
Weak interest in investment opportunities in the region by foreign investors	8	10	80
Cash outflow of local residents, issued to purchase cheaper goods in Ukraine	5	6	30
Anchoring of new investment, particularly in the western part of Slovakia	4	5	20
EU accession has brought an outflow of educated workers in developed foreign countries, brain drain	6	7	42
Inability to use existing resources	9	10	90
Aging, deteriorating social structure of the population	5	6	30
Development of the values in society, weakening of traditional family functions (leaving to work abroad)	8	9	72
Theft and weaker interaction between people, low involvement and interest in public affairs, volunteerism, etc.	9	9	81
Low innovativeness of companies	8	9	72
Slow uptake of new information and communication technologies in everyday life and commercial areas	6	7	42
Inability to cooperation between the competent authorities (state, county and local government, business, investment partners, financial entities, organizations in CR)	7	8	56
Total	100		769

Table 5 Threats

Source: own processing based on SWOT of Sobrance district (PHSR Sobrance, SWOT, 2006)

Threats in this locality can be divided into two areas: threats within its own locality, and threats from outside. Threats within the district of Sobrance primarily related to the inability of people to use the potential sources, weak interaction between people and involvement in public affairs, leaving the people to work abroad, or lack of communication between the competent authorities and weak innovativeness of firms. Threat that comes from the external environment is particularly weak interest in investment opportunities in the region by foreign investors. This relates to the ability of presenting and communicating the district Sobrance to present its strengths.



Figure 6 Final strategy

Source: produced by authors

The result of analysis – by an assessment of the internal environment (strengths and weaknesses of the district of Sobrance) and external environment (opportunities and threats), is adjust (alliance) strategy. For this district, it is the way to the union with the adjacent districts or cross-border cooperation with Transcarpathian region in Ukraine.

6. Investment opportunities in Sobrance district

According realized analysis, there are two areas of investment opportunities suitable for the district of Sobrance whose potential is not exploited: the tourism area and the renewable energy area.

6.1 Tourism

There are investment projects planned in tourism according to the documentation UPP, UPD and the documentation submitted by the Office of Košice self-governing region under the Act.24/2006 about the assessment of environmental impact in years 2007 - 2010.

Approval of the changes and accessories no. 2 of UPN of Sobrance: 16 September 2010. The aim is to build new rehabilitation complex of sanatoria on the property with parcel number KN 1164/1 to the south of the spa with a direct link to the historic spa. The border of the complex is the forest and the way III/050240 to the village Horňa. It is directly accessible from the road of 3^{rd}

class. The objects of the complex will be connected to the technical infrastructure. The proposed complex of rehabilitation sanatorium will include: rehabilitation sanatorium, fitness and accommodation pavilion (200 seats total). The provision of health care will provide an independent medical facility. In the future, there is expected an revitalization of the medical facilities used in the former spa (as defined in § 2. No. 10 of the Act. 538/2005 Coll.) (Investičný profil Košického samosprávneho kraja, KSK, 2010)

6.2 Renewable energy sources

Another investment opportunity in Sobrance district is the use of renewable energy sources. Renewable energy sources are important in order to energy need, since fossil fuels are reduced. Areas that are completely dependent on import of these raw materials are at risk of failure to supply the energy needs for commercial or industrial purposes.

Renewable energy sources are of extreme, almost existential importance for humanity. Due to their nature, in a matter of few years they will present the driving force of almost all individual economies whereas once the fossil reserves come depleted they will become one of the most important sources of energy.

The whole area is specific for its geomorphological division, which determines the orientation of the renewable energy source. From the primary renewable energy sources, such as water, sun, wind, biomass, has the greatest potential in this district biomass, solar and wind, but a detailed study mapping utility of renewable resources should be developed.

Wind-park between eastern Slovakia and western Ukraine

Sobrance district has sites which represents one of the best sites in Slovakia in terms of using wind energy. Specifically, the municipalities of Jenkovce, Bežovce, Lekárovce, Nižné Nemecké, Kristy and Tašuľa that are located directly on the Ukrainian border. The construction of wind turbines in this area would be in addition to the supply of electricity has also increased the attractiveness of the region in terms of tourism. It can be assumed that just because the wind turbines given site was busier than Slovak tourists as well as tourists from Ukraine, whereas that of the village is located directly in the largest border crossing in eastern Slovakia. From an international perspective, the construction of wind turbines in eastern Slovakia and western Ukraine (Uzhorod region, Lviv region), would be one of the most important investments regarding renewable earth resources in Eastern Europe between these two neighbours. An example is provided in Figure 7. (Strajňák & Jablonská, 2012; Strajňák & Jablonská & Kostková, 2012).



Figure 7 Selected areas for a wind park in Slovakia and Ukraine Source: produced by authors

Discussion

As shown in the SWOT analysis carried of Sobrance district, in order to increase employment opportunities, and thus the elimination of depopulation of the area and in terms of sustainable development in the region, it is necessary to create conditions for supply of the foreign capital, which can be an important starter of economic development in this area (whether in industrial activity, use of renewable energy or tourism development).

Another option is to activate the local population towards business activities in traditional crafts, to strengthen their relationship to the local needs and services of tourism. In this respect, political decisions are very important, but also the presentation of this area by the competent authorities. For this reason, cooperation of municipality of the district of Sobrance and surrounded villages with the county government is important. Also, creation of conditions for cooperation of the district with other small regions, especially in tourism should bring advantage. Not less important is the position of Sobrance district, which makes it suitable to the cross-border cooperation with Ukraine's Transcarpathian region.

Conclusion

Sobrance district is one of the areas in Slovakia that need to be strengthen by injection of foreign direct investments in concrete fields. High unemployment, people moving abroad and stagnation of the field of services are sufficient signs for its development need. Paper points to the solution for this region that is in the use of its own sources – renewable energy sources and increase of the tourism level. The way of the district progress and starting investment activities is in the cooperation of municipalities, cooperation with agencies of rural development and cross-border cooperation.

References

- 1. Databáza regionálnej štatistiky. Regdat. Available at: http://px-web.statistics.sk/PXWebSlovak/
- 2. Duce, M., (2003) Definitions of Foreign Direct Investment (FDI): a methodological note
- 3. ECOSOC (1999) Report on the seventh session, decision 7/3 Tourism and Sustainable development
- 4. Habitat II (1996) Istanbul, Section IV, Global Plan of Action
- Investičný profil Košického samosprávneho kraja. KSK Košice. 2010. Available at:http://zastupitelstvo.vucke.sk/Dokumenty/2010/07-2010/dokument1886%20vo3zast07bod09-4main.pdf
- 6. Komunitný plán sociálnych služieb mesta Sobrance, Sobrance. 2010-2015. Available at: http://www.sobrance.sk/download/komunitny-plan.pdf
- 7. Morgan, K. (1997), 'The Learning Region: Institutions, Innovation and Regional Renewal', *Regional Studies*, Vol. 31, pp. 491-503.
- 8. OECD (1999) D' EFINITION DE R 'EF'ERENCE DE L'OCDE DES INVESTISSEMENTS DIRECTS INTERNATIONAUX
- 9. PHSR Sobrance Profil územia. *In: Program hospodárskeho a sociálneho rozvoja okresu Sobrance*. 2006. Available at: http://www.sobrance.sk/dokumenty/dokumenty/samosprava/phsr/phasr-profil-uzemia.pdf
- PHSR Sobrance SWOT analýza. In: Program hospodárskeho a sociálneho rozvoja okresu Sobrance. 2006. Available at: http://www.sobrance.sk/dokumenty/dokumenty/samosprava/phsr/phasr-swotanalyza.pdf
- Strajňák S., Blahovec R., (2012). In: Geotourism and its implications : international PhD. conference 2012 : proceedings : Herl'any, 13th-14th March 2012. - Košice : TU, 2012 S. 137-141. - ISBN 978-80-553-0902-6
- Strajňák S., Jablonská J., (2012). In: RIED 2012 : 1st Scientific Seminar and 1st Symposium Synergy : Intercollegiate Sustainable Energy Network : 19-20 June 2012, Montreal, Canada. - [Montreal : ÉTS], 2012 P. 1.
- Strajňák S., Jablonská J., Kostková A., (2012) In: ICAST 2012 : 2nd International Conference on Arts, Social Sciences and Technology : 3rd. - 5th. March 2012, Penang, Malaysia. - Penang : University Teknologi MARA (UiTM) Kedah, 2012 P. 12084-1-12084-13. - ISBN 978-983-44499-1-9
- 14. Štefániková, N., Šiškovič, M., Valach, M., (2007) Foreign Direct Investment The Case of Slovakia
- 15. UNCTAD (1999) World Investment Report 1999. Foreign Direct Investment and the Challenge of Development
- 16. UNGA (1999) The financial Crisis and its impact on growth and development, especially in developing countries. Report of the Secretary General. Agenda item 97 (b)
- 17. WSSD (1995) World Summit for Social Development, A.CONF.166/9, 1995
- 18. www.tourist-channel.sk/obce/index.php3?lang=SK&pc=249
- 19. www.escan.sk/mapy/kosicky-kraj-byty-a-domy.html
- 20. www.cdb.sk/Files/Galleries/mapyokresov/sobrance.jpg?w=1300

About the authors

Ing. Lenka Pčolinská, PhD.

Ekonomická univerzita v Bratislave Podnikovohospodárska fakulta v Košiciach Katedra marketingu a obchodu Tajovského 13, 041 30 Košice tel.: +0421(0)55 / 722 31 11 e-mail: lenka.pcolinska@euke.sk

Ing. Sergej Strajňák

Fakulta BERG Technická univerzita v Košiciach Letná 9, 040 01 Košice tel.: 0903/420 480 e-mail: sergej.strajnak@student.tuke.sk

Ing. Albína Kostková

Ekonomická univerzita v Bratislave Podnikovohospodárska fakulta v Košiciach Katedra financií a účtovníctva Tajovského 13, 041 30 Košice tel.: +0421(0)55 / 722 31 11 e-mail: albina.kostkova@euke.sk

METHODS OF EVALUATING THE REGIONAL DEVELOPMENT OF OUTDOOR ACTIVITIES

METÓDY REGIONÁLNEHO ROZVOJA OUTDOOROVÝCH AKTIVÍT

Jiří SKOUMAL – Vladimír HOBZA

Abstract

This paper deals with the issue of regional development of outdoor activities. In the strategic management of territorial administrative units, an incorrect understanding of the support of outdoor activities can cause a conflict between economic goals on the one hand and ecological and social goals on the other. In creating a policy of supporting centers for outdoor activities it is essential to take all perspectives into account. Outdoor activities run by various organizations cover a broad range of activities and involve many sectors of the national economy, and for this reason it is very difficult to quantify the total economic benefits they bring to a particular region. The authors describe attributes in the approaches of managers to strategic management if territorial administrative units which is based on selected factors in the development of outdoor activities and resulting growth stimulation in the spirit of a healthy lifestyle among visitors to the particular region.

Keywords: strategic planning, life style, strategic management, regional politics, outdoor activities

Abstrakt

Príspevok sa zaoberá problematikou regionálneho rozvoja outdoorových aktivít. Pri strategickom riadení územných celkov môže nesprávne chápaná podpora outdoorových aktivít vyvolávať konflikt medzi ekonomickými cieľmi na jednej strane a ekologickými alebo spoločenskými cieľmi na strane druhej. Pri tvorbe politiky podpory outdoorových stredísk a stanovovaní cieľov je bezpodmienečne nutné zohľadniť všetky oblasti. Outdoorové aktivity prevádzkované rôznymi organizáciami majú prierezový charakter a zasahujú do mnohých odvetví národného hospodárstva, z tohto dôvodu je veľmi ťažké kvantifikovať ich celkový ekonomický prínos pre daný región. Tvorcovia popisujú atribúty v prístupe manažérov k strategickému riadeniu územných celkov, ktorý je založený na vybraných faktoroch rozvoja outdoorových aktivít a možnostiach následné (uvedené) rast simulácie regiónu v duchu zdravého životného štýlu návštevníkov regiónu.

Kľúčové slová: strategické plánovanie, životný štýl, strategické riadenie, regionálna politika, outdoorové aktivity

Introduction

Outdoor activities have been transformed from unorganized independent forms of entertainment into modern mass-produced commodities. If support for the development of outdoor activities is seen as a long-term goal of a region and evolving over time, and this support is intensified as a result of cultural and political processes, growth in the given region will be stimulated in the following areas:

- Coordination (coordination of social, economic, social needs)
- Stabilization (removal of public and private inequality)
- Dynamism (assuring regional and municipal development)

Support for the development of outdoor activities in a particular region should be based not only on the specific situation in the given region, district or larger territorial unit, but also on trends in regional development in the Czech Republic, and it should take into account the new approaches to the support of outdoor activities being used in the European Union as well.

Objective

The goal of this paper is to present methods of regional development of outdoor activities whose implementation can help in the social and economic development of regions. The proposed approach is designed to assist active political actors on the regional (local) level to understand the broader context of their work in implementing their everyday agenda. This paper cannot provide an instruction manual on how to deal with specific situations but should help in supporting economic growth in regions while protecting natural resources. It should assist in the social learning process.

Methods

In quantifying the economic benefits of individual investments into the development of outdoor activities and for a comprehensive evaluation of the benefits of these activities for a given region we used a variety of mathematical, statistical and economic methods of calculation (Grublová, 2010).

The basic framework of the research takes an interdisciplinary approach: from the theoretical-methodological approaches of kinanthropological disciplines (physical culture, sport) economics (subsidies, externalities), public economy and public economics.

The practical understanding of the effects of physical culture on a regional level is derived from research on the basis of individual levels of government where above all we used the methods of primary and secondary analysis of government documents, directives and guidelines. At the same time, as a part of the secondary analysis and statistical evaluation we used the methodological tables and spreadsheets of expert panels in the field of sports and physical education at the Ministry of Education. The basis for analysis of regional physical education policy came from:

• at the level of the ministry, from the methodological materials of the Department of Sport and Physical education
- at the level of the regions, from the analysis "Concept for Development of Sports and Physical Education ¹" (the Moravian-Silesian, South Moravian, Olomouc, Liberec, Hradec Králové, and Central Bohemian regions)
- at the municipal level, from the analysis "Concept for Development of Sports and Physical Education" of selected cities in the above-mentioned regions

The resulting conclusions are the result of multi-factor synthesis of findings from the field of economic theory, experience in implementing regional development conceptions of physical culture in the Czech Republic (and abroad) and model situations in individual selected regions of the Czech Republic, individual subsidy levels of administration with the use of constructivist methods.

1. Regional development of outdoor activities – the principle of QQS (quality-quantity-sustainability)

The various regions of the Czech Republic dispose of different natural potential. This potential represents a pillar for supporting the development of outdoor activities. The development of outdoor activities is conditioned primarily on the natural conditions and accessibility of natural areas. Natural conditions (wind, rocks, water, altitude ...) in themselves constitute a key factor effecting future growth in sports and recreational activities. In addition to the environmental quality, it increases the attractiveness of the locality (region), not only for businesses, but also for residents and potential visitors of the "quality outdoor environment." The components of which include:

- location
- aesthetic qualities
- accessibility
- safety

Enhancing the outdoor quality of the environment of a region leads to the development of sporting and recreational activities and results in an influx of investors as well as active residents from higher income groups seeking an attractive living environment. An attractive outdoor environment and quality living environment are also an important precondition for the development of tourism. The linking of the regional development strategies for outdoor activities and tourism can bring significant economic benefits for regions. They

¹Between the years 2002 and 1006 the Faculty of Physical Culture of Palacky University in Olomouc prepared a Concept for Development of Sports and Physical Education for five regions in the Czech Republic. A part of these concepts includes, among other things, analysis of the potential of sport and physical education in the given region, analysis of financial flows and proposed grant strategy, including subsidy titles.

must, however, carefully consider the character and importance of local outdoor attractions. Using the currently existing outdoor attractions as a basis, it is essential to identify target groups of visitors and their motivation for visiting the locality. Only on the basis of such analysis is it possible to rationally develop outdoor activities as a significant source of economic growth. Investing in the environment improves the sustainability of outdoor activities, leading to economic growth and reduces costs (or avoids incurring costs) derived from negative externalities.

In developing indicators of regional development of outdoor activities, it is possible to use the principal of QQS - Quantity - Quality - Sustainability. The aim is to create an optimal balance between quantitative and qualitative indicators of the development of outdoor activities and include them in a timeframe.

Typical quantitative indicators of outdoor activities are:

- statistical data (the number of visitors, the size of protected areas ...)
- the number of outdoor activities facilities in operation
- the income/savings obtained through outdoor activities
- the frequency of outdoor activities and number of participants
- the number of injuries
- and others

Typical qualitative indicators of development of outdoor activities are data (ascertained through public opinion research) include:

- changes in the behavior and attitudes of target groups
- the level of satisfaction of target groups with the offering of outdoor activities
- an evaluation of the health effects of the project (positive, negative)
- the psychological effects of the project
- increased social cohesion, etc.

Sustainability of outdoor activities is seen as their potential in terms of:

- Environmental protection -- the extent to which the pursuit of outdoor activities damages the environment
- Socio-cultural issues the extent to which outdoor activities respect local social and cultural conditions
- Institutional and managerial capacities the ability and willingness of entities carrying out outdoor activities to continue offering these services
- Economic and financial sustainability the extent to which the benefits derived from the support of outdoor activities are able to offset their costs
- Political support the extent to which the state has confirmed its commitment to outdoor activities

Case No. 1 The case of the quality of outdoor activities in the environment of the Krkonoše Mountains National Park (KRNAP)

KRNAP is an agency of the Ministry of the interior. The mission of the park is:

- preserving and improving of its national environment...,
- strict protection of wild fauna and flora ...,
- maintenance of the characteristic appearance of the landscape...,
- assuring ecologically viable touristic and recreational use of the territory of the national park in a way which does not degrade the environment.

The Krkonoše Mountains National Park Administration does not prohibit outdoor activities, but it does set the conditions under they can operate. It divides outdoor activities into:

- light tourism
 - (hiking, biking, cross country skiing)
- hard tourism

(downhill skiing, snowmobiling, four-wheelers, mountain climbing, hang gliding, water sports)

Krkonoše Mountain National Park is divided into separate zones.



Figure 1 Zones of KRNAP Source: KRNAP

The size of these zones is shown in Figure No. 2 zones /area (ha) /entire national park/ protected area/ National Park + protected area

zóna	rozloha (ha) %
4	4.503 12
2	3.416 9,
23	28.408 278
NP celkem	36.327
OP	18.642
NP + OP celkem	54.969

Figure 2 The size of the zones Source: KRNAP

The only restriction for hikers is in Zone 1. Here they are restricted to marked trails. There is a total of 800 km of marked trails in KRNAP. Cyclists are required to stay on marked bike trails, of which there are 380 km.

From this example the iterative nature of preparing regional development is apparent. It is a gradual refinement of the various fields of development which in this case are significantly and tightly dependent:

- preserving and improving the natural environment...,
- strict protection of wild fauna and flora...,
- maintaining the character of the landscape...,
- using the territory for ecologically viable tourism and recreation which does not degrade the natural environment.

This can be considered the main reason why it is not possible to prepare plans for the regional development of outdoor activities without constantly monitoring them and assuring consistency between newly prepared parts with previous ones.

2. Economic return on outdoor activities

In evaluating the financial value of projects for the development of outdoor activities, we use certain criteria (indicators). The design of these evaluation criteria cannot focus exclusively on the profitability and economic indicators of projects for the development of outdoor activities, but they must also consider externalities which are often a decisive impetus in implementing a project in a given area (Hobza & Rektořík, 2006).

We designate outputs in the form of evaluation criteria calculated from the financial flows, a sort of partial cost-benefit analysis (CBA), which in our case forms the foundation for making a decision about the reasonableness of the investment (Sieber, 2005; Ochrana, 2005). We can identify the following indicators as most important in the CBA:

- a) traditional economic outcomes of the project
- b) externalities

Considering in detail: a) the most commonly used indicators in the purely economic part are:

- **Present Value** (PV) – the sum of all future cash flows resulting from investments converted into their present value. The conversion to current value is done by ordinary discounting of future cash flows (Synek et al.).

SHCF =
$$\frac{CF_1}{(1+k)^1} + \frac{CF_2}{(1+k)^2} + \dots + \frac{CF_n}{(1+k)^n} = \sum_{t=1}^n \frac{CF_t}{(1+k)^t}$$

- Net Present Value (NPV) – is the sum of the present value of future cash flows resulting from investments and cash flow in year zero (Synek, et al.).

$$\acute{CSHI} = SHCF - IN = \sum_{t=1}^{n} \frac{CF_{t}}{(1+k)^{t}} - IN$$

Where:

CF ... is expected cash flow in period t

SHCF ... is present value of CF

IN - is the value of investments

 $K \ \ldots$ is the discount rate, the most accurately estimated size of the weighted average cost of capital

- **Index of profitability** (NPV/I) – the share of net present value of the project (NPV) over the cash flow of the zero period (over investment expenditure).

- **Period of repayment** – the period over which the flow of proceeds brings value equal to the original cost of investment

- this indicator is a measure of the liquidity of the investment

- it does not take into account income after the repayment period and the income spread out over time during the period of repayment.

Considering in detail: b) externalized outputs of outdoor projects

To evaluate the benefits of implemented projects (Hobza & Skoumal, 2010; Hodaň & Hobza, 2010) it is possible to use the proposed qualitative indicators (see the regional development of outdoor activities and principle of QQS):

- changes in the behavior and attitudes of target groups
- the level of satisfaction of target groups with the offering of outdoor activities

- an evaluation of the health effects of the project (positive, negative)
- the psychological effects of the project
- increased social cohesion, etc.

Discussion

The economic and external benefits of outdoor projects can be evaluated on the basis of the methodology of CBA (Cost Benefit Analysis). The advantage of this approach, which is however usually ignored in practice (due to its complexity), is that it gives a more complex evaluation of the success of projects for the benefit of territorial administrative units. The result reveals whether in the future a project will bring in financial resources (private or public) or if it will continue to be necessary to devote resources from the municipal budget to it in the future (if it is not sufficiently profitable) and at the same time to evaluate its externalities – i.e. the utility of outdoor activities from the perspective of the society as a whole (health, psychological, social and other effects). For large projects it is also necessary to principally consider multiplier and induced effects which some apparently ineffective investments can be evaluated more objectively.

Conclusion

Systematic, planned and integrated development has resulted in territorial administrative units complimenting their core duties with additional but much needed fields. Surely one of these fields of "complimentary" social infrastructure is the development of and investment in outdoor activities. In deciding about the implementation of projects it is necessary to consider all the impacts which the investment in question will have on the particular locality.

For a comprehensive assessment of an investment project and its impact it is appropriate to use the CBA method which assesses efficiency and externalities and has been proven in practice abroad. If the development of outdoor activities can be sufficiently supported by a grant-based noninstitutional development policy, it is appropriate to use a less demanding costutility analysis such as CMA, CUA in combination with MCA.

References

- Dohnal, T., Hobza, V., Skoumal, J., Kotíková, H., Čihovský, J., & Vaďurová, R. (2007). Analýza současného stavu tělovýchovy a sportu ve Středočeském kraji. Olomouc: FTK UP Olomouc.
- Dohnal, T., Hobza, V., Skoumal, J., Kotíková, H., Čihovský, J., & Vaďurová, R. (2006). Analýza současného stavu tělovýchovy a sportu v Moravskoslezském kraji. Olomouc: FTK UP Olomouc.
- Dohnal, T., Hobza, V., Skoumal, J., Kotíková, H., Čihovský, J., & Vaďurová, R. (2005). *Analýza současného stavu tělovýchovy a sportu v Olomouckém kraji*. Olomouc: FTK UP Olomouc.
- Dohnal, T., Hobza, V., Skoumal, J., Kotíková, H., Čihovský, J., & Vaďurová, R. (2004). Analýza současného stavu tělovýchovy a sportu v Jihomoravském kraji. Olomouc: FTK UP Olomouc.
- 5. Grublová, E. (2010). Management výzkumné činnosti I. Olomouc: MVŠO.
- 6. Hodaň, B., & Hobza, V. (2010). *Financování tělesné kultury jako složky občanské společnosti*. Vydavatelství UP v Olomouci. 214 s. ISBN 978-80-244-2658-7.
- Hobza, V. & Skoumal, J. (2010). Hodnocení účinnosti grantové politiky ve sportu prostřednictvím zásad programového financování. *Tělesná kultura 33(2)*, 107-122. ISSN 1211-6521.
- 8. Hobza, V., Rektořík, J. et al. (2006). Základy ekonomie sportu, Praha: Ekopress.
- 9. 160 s.ISBN 29-04-03.
- 10. Ochrana, F. (2005). *Nákladově užitkové metody ve veřejném sektoru*. Praha: EKOPRESS.
- 11. Sieber, P. (2005). Investiční rozhodování a veřejně prospěšné projekty. Acta Oeconomica Pragensia, 13 (4).
- 12. Synek, M. et al. (2009). Manažerská ekonomika. Praha: Grada.

About the authors

Mgr. Jiří Skoumal. Ph.D , Doc. Ing. Vladimír Hobza, Ph.D. Univerzita Palackého v Olomouci, Fakulta tělesné kultury, Tř. Míru 115, 771 11 Olomouc Instructions for authors:

TITLE OF THE PAPER IN ENGLISH (TIMES NEW ROMAN, 16 pt, CAPITAL BOLD)

TITLE OF THE PAPER IN SLOVAK (TIMES NEW ROMAN, VEĽKOSŤ 14 pt, CAPITAL BOLD)

Name SURNAME (Times new roman, italic, 14 pt)

Abstract (Times new roman, 12 pt, bold) Abstract in English – max. 10 lines. (Times new roman, 12 pt).

Keywords: 5 – 8 key words in English

Abstrakt (Times new roman, 12 pt, bold) Abstract in Slovak – max. 10 lines. (Times new roman, 12 pt).

Kľúčové slová: 5 – 8 key words in Slovak

Introduction (Times new roman, 14 pt, bold)

The editors of the journal welcome empirically (experimentally) founded studies, survey studies, contributions to "Discussion" (personal views and attitudes on controversial issues in economics as science, as a professional practice, etc.). Integrative studies documented by relevant data from central and east European regions and member countries of European Union are specially welcomed. Naturally, all contributions should be original. The publishing of the article is free of charge.

The editors accept only contributions written in English (grammatically correct). The manuscript should be no longer than 15 pages, single-space typed, basic text using font Times New Roman 14 pt. Illustrations, i.e. tables, diagrams, black & white pictures; text should mention their placement, numbering and titling. With all figures borrowed from other authors, the authors' names should be listed in figure legends. Please use the following format of the paper in MS Word. Page size A4 (21 cm x 29,7 cm), single spacing, all margins at 2,5 cm.

Table 1 (Times new roman, 12 pt)Title of the table (Times new roman, 12 pt, bold)

	(77) 1.0	
	-	

Source: XYZ (Times new roman, 12 pt)



Figure 1 (Times new roman, 12 pt) **Title of the figure (Times new roman, 12 pt, bold)** Source: XYZ (Times new roman, 12 pt)

1. Title of the chapter, numbered (Times new roman, 14 pt, bold)

1.1 Title of the subchapter, numbered (Times new roman, 14 pt, bold)

Conclusion (Times new roman, 14 pt, bold)

Authors should submit their paper as an e-mail attachment (in MS Word or Rich Text Format) to: <u>acta@euke.sk</u>. Submission to *Acta oeconomica cassoviensia* implies that the paper is not submitted to any other journal at the same time. Manuscripts are not returned to the authors.

References (Times new roman, 14 pt, bold)

Citations, including the author's name and year of publication should be in parenthesis; for instance: (Smith, 1990) or P. S. Smith (1990). The relevant works that are referred to in the text must be consistently quoted and included in the bibliography in alphabetical order). Authors should follow the norm STN ISO 690.

About the author

The author (authors) should give their first name and surname as well as the full address of the center where the work was originated. The information about the author, 50 words maximum, must be given at the end of the article.



ACTA OECONOMICA CASSOVIENSIA



© PHF EU Košice, 2012