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7. . - " " (-) 63

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31. (-)	234

32.	.	(-)	241	
33.	(„ . .	” -)	248	
34.	.	(-)	-	255
35.		(-)	260	
36.		(-)	267	
37.	. . -	(-)	273	
38.	. .	(„ . .	” -)	280
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41.	(-)	300
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47.	(-)	355
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49.	. - („ . . ” -)	2012-2014 371
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51.	. - („ . . ” -)	1991-2011 386
52.	. . - -	2000-2010 .- , 393
53.	. . (-)	400
54.	. . (-)	406
55.	. . (-)	415

56. . . - , („ . . ” -)424
57. . . - (-)	
-2000-2011431
58. . . (-)442
59. . . (-)450
60. . . (-)458
61. . . („ . . ” -)466
62. . - (-)	
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63. . - („ . ” -)481

64.	. - (" .	" -)491
65.	. - (" .	" -)509
66.	. - -	(-)515
67.	. - (" " " .	(-)521
68.	. . - (" .	" -)528
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70.	. (" .	" -)541
71.	. (" . .	" - .)548
72.	. (" . .	" - .)554

73. (-)	560
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Implications of ecotourism development in Bulgaria based on class studies	566
75. (-)	575
76. „ „ (-)	582
77. (-)	588
78. (-)	594

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SEU – ,

Work „Managers role in conflicts management” is about conflicts arising and development regularities. Difficult problem its causing reason formulation for parties of the conflict, that as a rule is disguised. The focus is on some suggestions which should be considered as manager as well as employee.

For management of organization conflict situations, its participant parties should answer the following questions: Where is the real reason of conflict cause? What we should do? When act? How we should act?

Recommendations will help as managers as well as employees, in order to avoid conflicts. In extreme case manage conflict.

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¹ , , 2009, .334.

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	0,0	0,7	1,1	-5,1	3,7	3,0	0,8
	3,4	2,3	-0,2	-3,3	-3,5	-5,5	-2,8
	0,9	1,8	-0,1	-2,7	1,5	1,6	0,6
	0,5	0,9	-1,2	-5,1	1,5	0,5	0,1
	1,8	3,1	-0,3	-3,5	3,0	1,7	1,5
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¹ <http://eurostat.ec.europa.eu>

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³ ”. : , 2009.

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⁸ www.un.org/tu/document/decl/sao_paulo_conensus
⁹ ISO 26000. [-
]. : http://dadst.kiev.ua/index.php/news/1-latest-news/
 56_26000 iso.
¹⁰ , " " , 2000, . 266.

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¹² „ ”. 1994, .448. // .

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¹ Chevalier P., M.-C. Maurel, 2010, Policy Transfer of the Local Development Model. The Leader Program Implementation in Central European countries, Regional Studies Assotiation Annual International Conference, P cs, Hungary, 24th -26th May 2010.

2. ...

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(...)

...³ (Biderman et al. 2004, Furmankiewicz⁴ 2011).

(Dubost⁵, 2008, ... 7).

⁶ [Dargan, Shucksmith, 2008].

² OECD, 1990, Local Partnerships for Rural Development, p. 18.

³ Biderman A., Kazior B, Serafin R., Szmigielski P., 2004, Building partnership. A practical manual. Polish Environmental Partnership Foundation. Krak w.

⁴ Furmankiewicz M., Enhancing endogenous development in rural areas: the implementation of LEADER pilot programme in Poland, Wrocław University of Environmental and Life Sciences, Department of Spatial Economy.

⁵ Dubost M., Building the territory, European Commission, 2007, Best practices LEADER + 9/2008,

⁶ Dargan, L. Shucksmith, M., 2008, LEADER and innovation, Sociologia Ruralis 48, 271-294.

2007 .-

(Gorton, Hubbard, Hubbard⁷)

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431-2 ,,

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, 75,6%

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136

103 25

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⁷ Gorton, M., C. Hubbard, L. Hubbard. The folly of European Union Policy Transfer: Why the Common Agricultural Policy (CAP) Does not fit Central and Eastern Europe, *Regional Studies*. 43: 10, 1305-1317.

81
68%
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⁹ 28/2009, (2007-2013)

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1. (Residual Income – RI)
 RI =

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2. ()
(Return on Equity – ROE)
 ROE = :

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3. **(Economic Value added
 – EVA)
 – MVE)**¹¹
 EVA = – (* -
 MVE =)
)¹²

¹⁰ Hamilton, R. An Introduction to Merchandize, 1777, Edinburgh, cited by Stolowy, Herve, Lebas, Michael J., Ding Yuan, Financial Accounting and Reporting, South Western Cengage Learning, 2010, p. 674.

¹¹

¹²

20 (1991)
Stern Steward and Co¹³.

(¹⁴)

¹³ G. Bennett Steward III, *The Quest for Value*, Harper Collins, 1991, cited by Stolowy, Herve, Lebas, Michael J., Ding Yuan, *Financial Accounting and Reporting*, South Western Cengage Learning, 2010, p. 674.

¹⁴ 50% . Neely, A. D.; Yaghi, B. and Youell, N. *Enterprise Performance Management: The Global State of the Art*. Oracle and Cranfield School of Management, 2008, . 2
<http://www.ifm.eng.cam.ac.uk/people/adn1000/>

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15 , . , 2012, .1, .2.

16 , . , 2010, , 2010, .392. ()

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2005 ., 2009 .

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”¹⁷

¹⁷ International Institute of Business Analysis, The Guide to the Business Analysis Body of Knowledge (BABOK), Version 2.0, 2009, p. 10.

		Етапи на бизнес анализ					
Аналитични техники		ВАР & М Бизнес анализ, планиране и мониторинг	ЕА Анализ на пред- приятieto	Е Извличане на информация	РА Анализ по специфични изисквания	SA & V Оценка на решенията и валидиране	RM & C Мениджмънт на изискванията и комуникация
1	Мозъчна атака	*		*			
2	Бизнес правила				*		
3	Системи с променен контрол	*					*
4	Комуникационни нужди и медиен анализ	*					*
5	Мениджмънт на конфигурирането (хранилище)	*					*
6	Матрица на покритие					*	*

¹⁸ International Institute of Business Analysis, The Guide to the Business Analysis Body of Knowledge, Version 2.0 Framework, 2007, p. 14. BAVOK 2009. . BAVOK 263

7	Моделиране на данни		*				*			
8	Анализ на решенията									
9	Декомпозиране	*	*				*			
10	Анализ на документи				*					
11	Оценка на околната среда (външна и вътрешна), вкл. SWOT		*				*			
12	Модел на събитие (на състояние)		*				*			
13	Финансов анализ		*				*			
14	Фокус група		*		*					
15	Анализ на пропуските						*			
16	Анализ на целите (стратегически карти, различни видове балансиращи карти за оценка)		*							
17	Интерфейс анализ						*			
18	Интерфейс идентификация				*		*			
19	Интервю		*		*					
20	Доклад за дефекти и доклад по специфични въпроси						*		*	
21	Доклад за измерители						*		*	
22	Нефункционални изисквания	*	*				*		*	

23	Наблюдение		*	*	*	*									
24	Организационно моделиране		*	*					*						
25	Персонални профили и профили на потребители	*							*			*			
26	Модел на процес	*	*						*						
27	Изработване на прототип				*				*						
28	Уъркшоп за изисквания								*						
29	Ретроспекция	*										*			
30	Обратен инженеринг					*			*						
31	Алтернативни сценарии и индивидуални случаи		*						*						
32	Дефиниране на обхвата (диаграми)		*						*					*	
33	Структурирана разходка								*			*		*	
34	Преглед						*								
35	Матрица на проследяване	*												*	
36	Тестване за приемане от потребители											*			
37	Моделиране на интерфейс за потребители								*						

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¹⁹ .3, .2 , .99,2011 . , .98 2001 ..

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²⁰ Performance evaluation and Performance management.

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²² Neely, A. D., . Yaghi and N. Youell. Enterprise Performance Management: The Global State of the Art. Oracle and Cranfield School of Management, 2008, .7
<http://www.ifm.eng.cam.ac.uk/people/adn1000/>

²³ , 2011, . 8.

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„SMR – matrix – IF – Allocation – plan.xls”

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DW 1.3

(Data Warehouse 1.3). DW 1.3 -

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CFaR (cash flow and risk)

corporate Metrics

VAR²

(value at risk).

NERA

(National Economic Research Associates).

¹ SMR_Budgeting Modell_Menu Final.xls.SMR

² _Budgeting Mode RPoc_ Consolidation(Do not edit). Xls 21

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 CF (cash flow) -

$$CF_t - E_{t-1}[CF_t] = \alpha_0 + \alpha_1(\Delta I_t - E_{t-1}[\Delta I_t]) + \alpha_2(\Delta S_t - E_{t-1}[\Delta S_t]) + \alpha_3[S_t - E_{t-1}[S_t]] + \alpha_4(I_t - E_{t-1}[I_t]) + \alpha_5(I_t - E_{t-1}[I_t]) + \alpha_6(P_t - E_{t-1}[P_t]) + \epsilon_t \quad (1)$$

: SF_t - (domestic)

t;
 $E_t - E_{t-1}$ (t-1);
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IV 2007 III 2011.
 EBITDA -
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IV 2011 :
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y „ „ EBITDA. -
 (LME). -
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$$x_1, x_2, x_3$$
 EBITDA . -
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 CFaR. EBITDA, -
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IV CFaR 2011 „CMP”

	EBITDA (A)	EBITDA ()	CFaR = = = (-)	CFaR () = %
” ” -	12,17	9,12	2,05	16,84%

EBITDA „CMP” 12,17
 95%- EBITDA
 2,05
 20 (5%), EBITDA (12,17 – 2,05) = 9,12
 2,05 CFaR
 CFaR,
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1. <http://www.finrisk.ru/>
2. www.prima.org (Professional Risk Managers International Association)
3. www.garp.com (Global Association of Risk Professionals)

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Изисквания
на длъжността:

- знания
- умения
- опит

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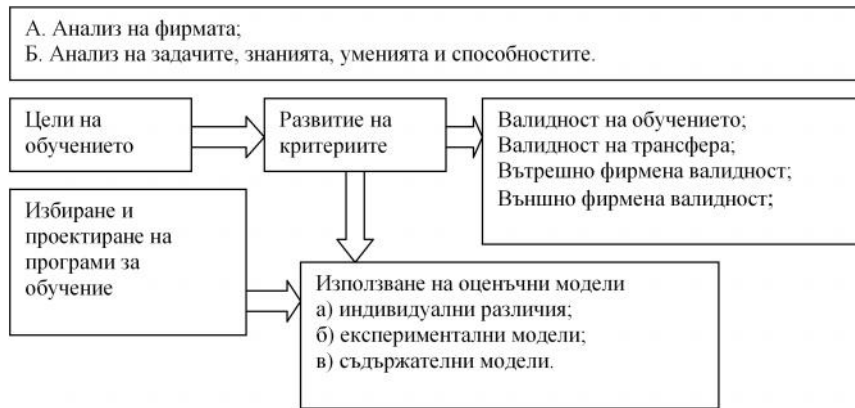
Действително
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Необходимост
от обучение

Goldstein [3]

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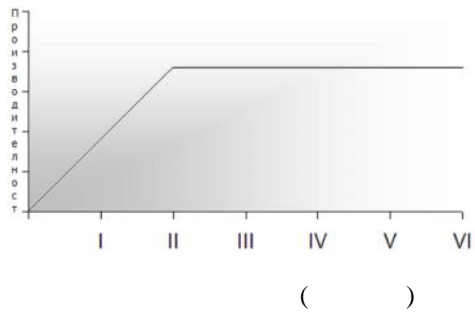
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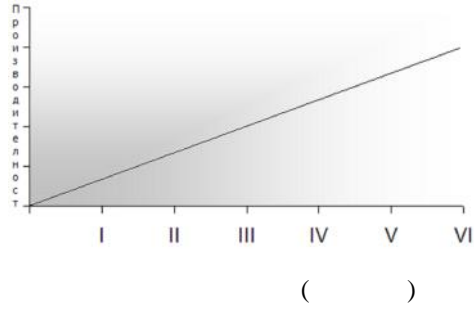
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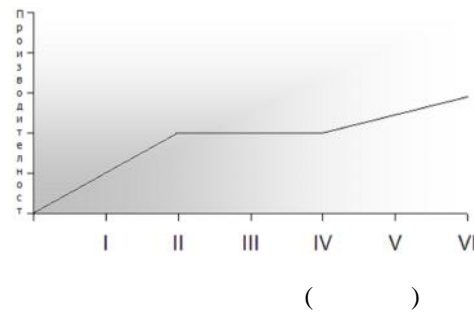
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STRATEGIC PLANNING AS IMPORTANT MANAGEMENT TOOL

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Abstract

Most organizations follow the same set of fundamentals when dealing with management. The list of fundamental management principals are planning, organizing, leading, and controlling. The organizing, staffing, leading and controlling functions stem from the planning function. The manager is ready to organize the staff, and to determine the goals. Likewise, the leading function, influencing the behavior of people in the organization, depends on the goals to be achieved. Finally, the controlling function, the determination of whether or not goals are being accomplished and standards met, is also based on the planning function. Planning is concerned with the future impact of today's decisions. Consequently, the need for planning is often apparent as the fundamental function of management from which the other four functions stem. Therefore, the idea of this paper is to focus on planning.

This paper refers to the planning process, answering the questions what is the purpose of planning, what are its major benefits, how important is it to plan, what is a definition of planning, how is a plan organized, who should do and why, and what is the essence of strategic planning as a powerful management tool.

***Key words:** planning process, plan, strategic planning, strategy, leadership.*

Strategic planning as important management tool

Strategic planning as an important instrument of Management because it contributes to setting the path and goals that the organization should follow to achieve maximum results in business. Planning involves choosing an effective course of action among several different alternatives. The task of the Manager is to set goals and develop a strategy through which to realize. Planning is an effective method for determining the ultimate goals and necessary actions that will lead the organization to the desired future performance. Managers in order to achieve certain goals need to develop strategic, tactical and operational plans.

The business plan has three main objectives.¹ First, provide structure for identification and analysis of alternative future directions of action which

¹ Henri Mintzberg: The rise and fall of strategic planning, Prentice Hall, 1994, p. 12.

are available to the company. Managers have limited time to withdraw from daily engagements and to solve problems on long term basis and focus on the future of possible choices for the future of the organization that should be rationally and accurately analyzed. The process of planning leaves the careful consideration of these possibilities, at least on an annual basis. Second, planning and organization provides data for making ongoing decisions. Managers in dealing with key daily decisions, need to know where the company goes in the long term, so they can choose the direction and path that leads to the chosen direction. Hence, the plan provides a context for current decisions. Third, the purpose of planning is part of the vision for the future of the organization to set objectives in the short and long term that will realize this vision. Set goals in financial terms are expressed through financial measures, ie increasing the number of customers in a certain percentage or qualitative measures such as improvement goals represent criteria for evaluating and measuring the results and success of operations. Setting the semester, yearly or five-year goals for management is a clear indicator of the direction of action and a means for evaluating progress along the chosen path of development.

What are the use or value of business planning?

Why planning is so important?

- Through planning organization should become aware of the future. The implementation process of regular and proper planning obliges the company to examine alternatives for the future of methodical, organized and accurate manner and gives the leaders of the organization theoretical basis for orientation in decision making. This is especially important for new companies beginners, focusing on everyday problems, concluding a sales agreement, resolving problems with inflow and outflow of funds, protection of intellectual property, implementation of trade transactions and so on.
- Planning encourages organization rationally to evaluate the opportunities and expectations, discipline employees to work together in developing plans and more importantly together to realize them. Also, the planning process helps start-up enterprises to transform into mature business organizations.

Planning emphasizes the possibility of choice. If there are a number of alternatives for the enterprise, then little value and importance of realizing the activity of business planning. Each company and each individual have countless choices and opportunities for its future activities. Identification of future roads, their evaluation and selection of a route is the essence of planning. As a process, planning focuses managers on the most critical issues and the high priority activities and stimulates the choice between them.

- Planning helps rationally structured current decisions, taking into consideration their future consequences. The planning process has reminded management about the future of their current decisions and helps them assess their current decisions depending on their future consequences and impacts of the enterprise. Planning is basically a kind of guide decision-making, day to day.
- The planning process creates a precise framework for current and future activities based on assessment of business environment. This process helps managers to identify future opportunities and risks arising from the changing behavior of the environment and trends in business environment affecting any chosen direction of operation of the company. Clear and open assessment of the business climate of the enterprise is a key task and is of great benefit to managers. Careful analysis of the external environment and its possible results complement and strengthen the planning process of the company.
- Planning reminds managers that they need to manage. Management is the process of making choices. Management has a choice, make choices, each of which carries a risk and implications for the company. Not making choice is also a choice that carries consequences. Planning imposes discipline on management to take decisions based on goals, to select certain routes in operation and consciously determines the fate of the company. Planning helps managers to make realistic and rational choices and decisions, take into account the possibilities and limitations and encourages success in business.
- Planning provides a way of conveying information, ie information to employees in the company's strategic objectives established by the managers. Any employee who is included in the plan is informed by management. The mode of communication is crucial for successful implementation of the plan in the direction determined by the management.

Planning fosters trust and credibility. Managers gain confidence and security through the planning process, that adequate and well manage their business and follow the established guidelines. Reliability is confirmed by executing the plan as a map that follows as an organized way that leads to progress. Managers, emphasizing that they know what they do, they have clear goals before them and they control their business, security and confidence among suppliers, customers and investors.

- Planning is also a marketing tool to gain capital. Many capitalists, commercial and investment banks, other institutional lenders and individual investors seeking business plan before they put at risk its funds or to provide the loan for a new business venture.

- Planning is forcing managers to think. It takes long-term thinking and doing careful analysis of the business environment before you make rational decisions and to make certain choices. Impulsive reactions to current events and making decisions on a daily basis lead the company in danger. You need to create a carefully reasoned plan for future development of the company that will guide managers through the current challenges. Plans are a product of thought and constantly keep managers and leaders focused and thinking.
- There are several definitions² of planning, but none of them is universally accepted. Specifically used the definition of P. F Druker, who said that planning is a continuous process of making ongoing management decisions systematically and with the best possible prediction of their future, a process of organized efforts to implement these decisions and the process of measuring results decisions against the expectations through organized systematic feedback.

Planning is a process. It is not one activity of the manager, but a series of activities that run through one time, including numerous activities of several individuals. This process involves setting goals of the company, defining detailed strategies and policies for their implementation, implementation of decisions, since the possibilities are already established a review of results achieved against planned the organization and incorporation of the observed results in the next planning cycle.

The planning process is continuous. Once the plan is prepared and published, the end process of planning. The plan should be used. Plan is a chosen pathway to success. The task is to follow the path and to act according to guidelines set by the plan to monitor progress and carry out implementation.

Planning is systematic. It is not accidental, but carefully, not indefinitely, but formally, not occasionally, but regularly, not passively but actively. It is a structured process that utilizes all available quantitative measures to organize future behavior of the company. Planning is systematically spread throughout the organization. The planning process produces decisions. Without making this process would have much less value and importance to the business. Decisions are the result of the process of analyzing and making choices, but it takes those decisions to pursue. In the process of realization is bringing numerous additional decisions at all levels of management.

The planning process requires measuring and comparing. Basically, the plan is a map how to get from point A to point B for a period of time. Therefore, measurements are performed on real effective results against

² Bradford and Duncan: Simplified Strategic Planning, Chandler House, 2000, p. 16.

expectations. Without the plan there is no road map for future development, and without measuring the results of the methodical and systematic way, will evaluate progress expressed in quantitative measures.

Also, it is important to understand what is not planning. Planning is not a prediction. These are two different terms that are closely related but not identical. Forecasting is the projection of future trends or predicting future events. Planning is making future decisions. Planning requires making current decisions depending on their future effects. Decisions are made at present to influence events in the future, and that is the essence of planning. Planning doesn't eliminate risk, but enables managers to choose between risky directions of action, and to better understand and manage the risks arising from current decisions. The purpose of planning is to shape the future, not to predict.

Business plan varies depending on the type of organization, type of goals are set, the timeframe of the plan and overall scope. Plans vary in terms of focus and content depending on the stage of enterprise development. All plans, regardless of these variations follow a basic format and similarly structured, although the contents may vary depending on the emphasis, ie the focus of the plan.

Companies that just started business are making plans that focus on two main objectives, namely to organize the company to begin to work towards the capital. These plans are relatively short and have important information regarding the nature of the business, define business structure, define some biographical information on founders, giving financial information which describes the capital needs and anticipated sales, earnings and the potential return on investment, together with the evaluation of risks arising from the investment. Developed plans in more mature organizations have the same structure but contain different focuses. They contain goals and analyze the strengths and weaknesses of the company. Developed companies should pay more attention during the analysis of the changing business environment, competitive environment and to make a careful evaluation of internal control mechanisms for review and evaluation to ensure that the plan accurately and precisely implemented by all levels of management. Achievement of defined operations or goals in the conditions imposed by the business environment is the basic task of the plan developed by companies. All plans should include strategic planning and operational planning. Strategic plans are sometimes called control strategy, expose the entire framework of the basic mission of the enterprise as the means for its realization. These plans contain all the changes in the mission of the enterprise, guidelines and objectives, company policies and specific ways of providing resources to successfully monitor the established direction of

enterprise development. Simply put, strategic planning is the process of positioning the organization to be able to prosper in the future. The operating plan provides appropriate engagement or allocation of resources to achieve strategic certain service areas of operation to achieve specific goals, applying resources in a way which is determined depending on the circumstances and terms of realization. Simply Strategic Plan provides the main strategy and operational plans provide the detailed steps like this to happen.

The structure of a typical business plan³ is fairly straightforward and consists of several parts, each focusing on a particular aspect of business that develops the plan. The sketch of business plan has the following order: a brief review, ie a concise summary of all the main points of the plan, vision or long-term intention that the company wait to achieve, goals, mission and strategy, ie, setting business goals, guidelines , approach and focus; audit resources – critical analysis of the strengths and weaknesses, analyzing and assessing the environment – analysis of the business climate within the industry and beyond, analysis of competitors – analysis of competitors within and outside the industry in which the enterprise; operational plans-specific guidelines and pro forma, control and audit – a mechanism and schedule for evaluation of results and performance and implementation – procedures for achieving the plans and rules for changes in management.

Planning is one of the instruments of top management. Top management is often considered that has any number of available instruments that can be used to achieve its goals. However, it is a exaggeration. Many top managers believe that they have available a relatively small number of instruments for direct use. The most important instruments of top management are:

- Hiring and firing – bringing new talent into the organization, removal of marginal and unacceptable workers of the organization.
- Rewarding and punishing – providing financial compensation in the form of higher salary, bonus or promotion to a higher level in the organization with more titles and titles or reduction of compensation, lowering the position in the organization, moving in less attractive locations or working conditions.
- Provide conditions and exploit opportunities or their denial – promote the individual to a higher level within the organization, you can use more resources, to show greater achievement or demotiviranje individuals with their move to positions with less impact company and the less significant geographic locations.

³ Patrick D. O'Hara: The total business plan, 2 ed, New York Wiley, 1995, p. 56.

- Provide social and psychological status – providing real rewards for favorite individuals by granting awards, or showing the importance of the individual through valuing his opinion as an informal adviser, or a waiver by the employee through his ignorance and isolation and without assigning to any form of recognition.
- Communication within and outside the organization – top management has a special position as anyone else in the organization to convey the vision of the company, its goals, mission, successes, new products and services and other important information, such subordinates in the organization, and the public outside the organization.
- Acquisitions or Selling – only top management has authority within the organization to make decisions, sometimes with the approval of the board of directors to realize acquisitions on behalf of the company, or selling parts of the company.
- The impact on the external or internal business environment – top management more than anyone in the organization has the power to change the climate within their industry and the wider external business environment if the company is big enough and influential.

Planning⁴ – the planning process provides the top management tool to mobilize ideas and input to achieve within the organization, systematic, carefully and rationally evaluate alternatives for the future of the organization, to set guidelines for action in a clear program for implementation that provides ways to measure success or failure of the chosen alternative ways to discipline the organization to adhere to the guidelines of the top management. Strategic planning⁵ is the process of defining the strategy of the organization, specifically the guidelines and decision-making process for allocation of resources to deliver the strategy.

Many different techniques used in strategic planning including SWOT analysis (Strengths, weaknesses, opportunities and threats) and PEST analysis (Political, economic, social and technological analysis). There are several approaches to strategic planning. Commonly used approach in three steps: a situation or evaluating the current situation and analysis of causes; target or defining objectives or laws, and path, ie, draw the path to achieve the goal. In order to determine where it goes the organization must know exactly where it is at the moment, and then determine where it wants to go out there and how you reach that result in making so-called strategic plan.

⁴ George A. Steiner: Top management planning, New York Macmillan, 1969, p. 18.

⁵ Bernard Taylor: The return of strategic planning-once more with feeling, Long range planning, no. 3, 1997, p. 66-69.

Strategic planning is a tool for sketching the direction of the company although it does not accurately predict the evolution of the market. However, innovation, strategic thinking and strategic planning is based on the survival of enterprises in turbulent business climate.

There is no business today that cannot afford to wait for developments in the wider business environment to react to them. Whether these events are new opportunities for growth and profits, or may adversely affect the business operations or future prospects. Strategic planning is a technique used to determine long-term goal of the company and understand the complexity of the external business environment and the need for marking the path that will lead to maintaining the vitality of the company. A key objective of strategic planning is to strengthen the organizational vision and business mission, according to the knowledge of management for future trends. The vision defines the future optimistic views of the enterprise in terms of its market position, as defined mission that is the direction which the company currently follows, including the purpose of his existence. Businesses that are multinational or intend to become global, have a special need to conduct strategic planning for increasing complexity and risks related to requirements of international operations, as opposed to purely domestic or national environment. Multinational companies have specific strategies to cope with the unique conditions encountered in various business environments.

Strategic planning is linked with strategic marketing management, because the development strategy should be managed according to the market environment, not to be internally oriented and determined. This process should be proactive, not reactive because it has an exceptional benefit to strengthen the enterprise. The benefit consists of:

- Rapid review of strategic options – avoid their consideration as part of daily problem solving, but leaves the company for timely adoption of strategic decisions and solve strategic issues;
- forcing the long-term view – despite strong pressures to act in the short period that often lead to strategic mistakes;
- Transparent decisions about allocation of resources – increasing the focus of management on the need for resources in certain parts of the business, thus avoiding the inertia in decision making;
- Provide methods for strategic analysis and decision-making process – the availability of numerous techniques and methods for collecting and analyzing information and achieve strategic choices;
- Performing strategic management and system control – managing the business of strategic way means focusing on the necessary tools and knowledge to monitor the strategic steps that are selected;

- Provide a system of horizontal and vertical communication and coordination – planning for added precision of the communication process, possible problems and proposed strategies can be transferred across the organization structures with the use of strategic planning;
- Help the business of coping with change – companies are facing rapid and unpredictable changes of business environment, hence their need to cope with future strategic way.

Strategic planning has benefits for all businesses, large or small, domestic or global. Special value and importance for businesses who need multifunctional strategies and marketing strategies used by different role businesses need to achieve synergy between multiple markets, businesses need to coordinate strategies more different brands, businesses that need to coordinate more complex markets, regions or more elements of the marketing mix. Many companies have similar needs, especially those conducting international activities. These multinational companies have a special focus on developing a global strategy.

The global strategy⁶ has three separate components according to Yip:

- Develop a central strategy – that is the basis for sustainable strategic advantage. Without a healthy central strategy, world-wide business should not be trying for a global strategy;
- Internationalization of the central strategy – this is done through international expansion activities and adaptation of the main strategy. The company must first overcome the basics of international management before attempting to apply the global strategy;
- Globalization of international strategy – the company must integrate strategy across countries with systematic analysis of conditions in the industry, the drivers of industrial globalization, by estimating the costs and benefits of globalization and understanding the different uses of the global strategy.

Whether the company is domestic, international or global, it must carry out strategic planning. It is an essential part of management tasks, and special duty of top management to participate in this vital activity.

Planning is the responsibility of top management. It is one of the basic tasks that leaders need to accomplish. The participation of top manager or top management team in developing long-term strategic planning is a complex task. There is no effective and comprehensive corporate planning in any company if management does not provide firm support and ensure that employees in the company realize its full commitment. Possibility top

⁶ George S. Yip: Total Global strategy: Managing for worldwide competitive advantage, Prentice Hall, Business school edition, 1995, p. 78.

managers to participate in the formation of the strategy as it suits. Members of top management in this sense can take four types of positions:

A serious commitment – which means accepting the strategic responsibility for the company, participation in debates, respect the contributions of others and accepting the results of the debate;

- Legal position – it is a form of commitment where top management is not preferable to take responsibility for setting strategic directions, criticizing strategies proposed by others, and the onus on others;
- Frustration – it is a process where the top manager wants to manage the process of strategic planning, but felt disconnected from the real debate and real decisions, resulting in frustration, fneev, breaking down the strategy or disappointment and giving resignation;
- Estrangements – it is a process that excludes the top manager without being interfere, and he prefers operating activities hoping that strategic issues would disappear or be solved by other.

Only in case of serious commitment, top management will fulfill its proper role in the process of strategic planning with full participation, managing the process and ensure that the outcome of the process will be a strategy that will be accepted and implemented. In other cases, the process of strategic planning is underestimated, top management is regarded as a threat to the process and implementation of the strategy can be sabotaged.

Hence the conclusion that top management must be involved fully in the process of strategic planning and must internalize the responsibility for setting and implementing strategy. The top management should be fully involved in the process of formulating and executing strategy, and also be familiar with the latest instruments to assist in the process. There are numerous instruments in management science that can assist top managers in decision making and greater faith in the positive operating results as: planning scenario – this technique allows managers help with planning strategies under conditions of uncertainty; game theory – this technique allows understanding of the uncertainties that are based on competitive behavior and so on.

The process of strategic planning has evolved in the past. Strategic planning is a legitimate and necessary business function. MOST (mission, objectives, strategy, tactics) process is applied in some large corporations and includes a mission, guidelines or objectives, strategy and tactics. This process indicates that there is some structure to the development of the strategy that management should follow. First elected mission, then define short term goals to move accomplishing the mission and ultimately develop a strategy to achieve objectives using short-term operational decisions and tactics for implementing the strategy. However, this rigid order process rarely need to follow, because they will not generate a complete insight and

new ideas that now need to enterprises. Managers need to define the purpose and to determine the directions and then combine both strategies.

Strategic planning today occurs in the form of strategic leadership.⁷ Companies recognize the basic need for strategic thinking, focus and leadership. Strategic planning is a useful way for leaders to gain skills like design and imagination in the creation of scenarios, but there are also benefits in increasing the capacity of leaders to think strategically.

Basic elements of strategic leadership:

- The strategy is not implemented as an annual event but a dialogue that takes place throughout the year;
- Strategic discussions focus on several strategic issues not operational plans;
- Corporate strategic personnel replaced by teams of corporate level management working on projects, strategic alliances, joint ventures, entering new markets, etc.;
- Strategic consultant working with top management teams to measure performance, identify trends and help in formulating corporate vision. They help to detect gaps between corporate vision and strategies applied in different organizational units;
- Management takes action to sort the organization in accordance with the strategy through the development of policies and processes, new structures, information systems and consistent staff. Then the task is moved towards the implementation of the strategy.

Strategic leadership is a new model for success depends solely on the personal commitment of top management of the process, especially applicable in global companies. This is a powerful process that encourages the creative instincts of sector managers and the entire staff to help leaders to focus the company on a clear path for the future and together to achieve goals.

Conclusion

Based on the above results that strategic planning is an important management tool. It is used to help the organization to function better, to focus energy to ensure that employees work towards achieving common goals, to assist in assessing the changes and adjust the organization to changes in environment. Strategic planning involves discipline and effort that result in fundamental decisions and actions that shape and represent the organization. This is because during the strategic process is the best way of

⁷ Brian Tracy: The 100 Absolutely Unbreakable Laws of Business Success, Berrett Koehler Publishers, 2000, p. 55.

responding to circumstances in enterprise environment, whether they are known in advance or not. Planning involves setting goals and developing approach to achieve those goals. The process is a systematic way, focused and productive. Strategic planning assumes that the organization must match the dynamic and changing environment. Strategic planning is beneficial because it encourages strategic thinking and leads to strategic management, which in turn is based on enterprise performance. Strategic management is the application of strategic thinking for the purpose of managing the organization. In strategic planning is crucial to determine how the organization will achieve its goals, and the answer is a strategy as a set of activities that enable the organization to achieve its objectives. Hence, we can conclude that strategic planning is a series of logical and creative steps.

Strategic planning is an important aspect of managerial decision making and widely applied. Decision-making and strategic planning should ideally be completed by achieving the set goals. Poor and inadequate implementation strategy often causes failure of the strategic plan, and poor marketing research, errors in defining the guidelines or lack of creativity in identification purposes.

Planning is the most powerful management tool that is available to organizational leadership. With its careful and proper use can realize huge benefits.

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Work „Modern requirements of organization staff management” is about modern requirements of organization personnel management. Market economy produces the special requirement to the specialists-managers for achieving success.

Successful activity of any organization is depend not only staff qualification, but also skilful use and proper management of existing staff. The focus is on the formula for success, particularly:

- *For achieving high productivity, conformity of employer’s and employees interests is a must;*
- *Correct formation of work compensation system (material stimulation system);*
- *Safety of work condition and work place;*
- *Social psychological climate recovery;*
- *Activation of social psychological and social – economic factors;*
- *Staff involvement in management decision.*

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**RADIO FREQUENCY IDENTIFICATION (RFID)
AS THE REVENUE MANAGEMENT DRIVER
IN THE HOSPITALITY INDUSTRY**

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The paper presents the approaches to RFID technology application in the hospitality industry. The advantages from the standpoint of increasing the cost efficiency of hotel chains and customer service quality enhancement are discussed. Factors, as well as potential constraints directly related to RFID application in the hospitality industry are examined. The forecast for further implementation of the RFID systems in the hospitality industry is presented.

Key words: *Radio Frequency Identification (RFID), hotel chains, operation management efficiency.*

One of the key priorities for the hotel business worldwide nowadays is the intensive adoption and utilization of the most up-to-date information technologies. Information technologies allow for planning and enhancement of financial and operational efficiencies of a hotel, as well as aid in achieving higher occupancy rates and high customer service quality. Radio Frequency Identification (RFID) technology fully satisfies the criteria mentioned above. RFID has the capability of automatically detecting different objects, i.e. the data can be read or recorded by means of radio signals and stored in the so-called transponders, or RFID-tags [1].

Non-contact identification creates opportunities for different objects' recognition based on individual natural or artificially assigned criteria without any physical contact involved. One of the most widely used identification techniques nowadays for the majority of different systems are the barcode and magnetic identification, which yield RFID by a number of key features, as listed in Table 1.

Table 1

Comparative characteristics of bar-code identification and RFID[2]

Characteristic	Bar-code	RFID
Maximum reading distance	Up to 50 cm	Up to 10 m
The ability to read data without optical clearance between the reader and the tag?	No	Yes
The ability to read several tags at once	No	Yes
The ability to continuously modify the existing tags	No	Yes
Resistivity towards aggressive environment	Weak	Good
Mechanical robustness	Weak	Good
The ability to read data from a dirty tag	No	Yes
The ability to work on metal	Yes	Yes
The ability to protect data from unauthorized reading	No	Yes

To the advantages of RFID tags listed in the table one can add the ability to read RFID tags speedily and precisely providing 100% identification. The durability of RFID tags is infinite, they carry a substantial amount of data and can actively communicate with external environment, and the geometry and the design of a tag are compatible with the carrier characteristics along with control system requirements [3].

The interest in radio frequency identification expanded from the academic environment to the other fields in 1990s when the International Standards' Organization (ISO) has adopted a number of critical RFID standards which were widely supported by the manufactures of radio tags and tag reading equipment [2]. Many RFID standards, encompassing different application areas are in operation all across the world. Manufacturing comes first: from tracking the production process at its initial stage to labeling at the end and shipping to the customer. The storage organization and inventory allocation automation, access and work timing control, transport dispatching as well as retailing and the service industry fall under the same category of RFID-standards. RFID utilization is very effective in passports, credit cards and even automobile license plates. The technology is widely used by the retail companies: Wal-Mart, for example, requires its suppliers to equip all pallets and boxes to be stored at the warehouses with RFID-chips [4].

For the major share holders of the international hotel chains the potential of RFID technology in optimizing the hotels' operations and revenue increase becomes more and more observant. Namely by utilizing the RFID technology the hotel business can completely solve the problem of full inventory control automation, report generation per each accounting object and integration of these cycles with the accounting system of any hotel chain at the program level. RFID technology application ultimately leads to optimization of any production cycle, critical for every day hotel operations. Let us investigate, for example, how RFID-technology application could solve the problem of fixed assets accountability. The scenario that takes place very often is theft, detected by management after the hotel guests have left. The most „wanted” items are towels, gowns, bed linen, electric appliances and even interior objects. It is the chambermaid's responsibility to perform the inventory control, while this approach is by far not efficient: the constant expense issue remains the inventory renewal. After the RFID technology application the process of data collection becomes fully automated. A radio frequency tag is glued to each item in the suit in locations not visible for the guests. When the guest checks out, the receptionist observes the results of inventory control, performed by the program. When there is suspicion that the client took the hotel stock „by mistake” the guest's luggage can be checked by means of a mobile terminal without opening the luggage. The check results are displayed on the monitor.

The RFID technology is a powerful revenue management driver in the hospitality industry. It seems expedient to incorporate the utilization of special bracelets with embedded RFID-chips to be used by hotel customers as it was done at the hotel complex Wild River Water Theme Park, California and Focus Lodging's Fort Rapids Indoor Water Park and Resort in Columbus, Ohio, USA [5]. By wearing the chipped bracelet the client can make any payments throughout the complex without using cash or credit cards. By means of RFID-technology the all payments' administration is conducted very efficiently. The client does not have to do anything to make the transaction except for wearing the bracelet and due to psychological reasons the spending goes up as compared to using cash or credit cards. From there, venue management perspective, RFID-technology utilization increases the revenue of a hotel complex. It improves the customer service quality, as it aids in satisfying personal client's preferences on a higher level as well as enhances the overall hotel's operation efficiency. In the example described the complexes were equipped with special RFID-based terminals and the clients had the ability to find any information on any service or location, as well as to find the location of friends or colleagues and even set up a meeting.

The hotel management could monitor in real time the situation at any given hotel or park location and send the relevant staff immediately to satisfy relevant service demand (waiters etc.). It seems expedient

to program the same bracelets to open suite room door and premises where the client is granted access. RFID utilization in the access dimension increases not only the comfort level of the guests but also protects relevant premises from unauthorized access. A suite should be the guest's home for the period of the stay; therefore it is unacceptable for a guest to see the inventory numbers of the bar codes marking the interior. RFID-tags solve this problem completely as they can be unseen and placed in hard to access locations, nevertheless creating no trouble for reading them [6].

RFID-technology utilization allows to receive and accumulate relevant client data in real time, which opens broad possibilities for revenue optimization in the hospitality industry. In the midterm and long term the operational and logistics costs decrease because the data on each client is accumulated wirelessly and the process is fully automated. The data is accumulated, stored and used (in accordance with the revenue management principles) in the future when the client comes back in order to match all his „accumulated” preferences, which ultimately maximizes the hotel's revenue. It is expedient to even store the temperature at that the client preferred to keep in his room, which lights were most often used etc., in order to build up the loyalty in existing customers.

It is worth noting the potential of integrating the RFID-technology with the existing loyalty programs. By integrating the revenue management principles and RFID it seems possible to create such optimal loyalty program conditions where they would be more appealing than those of the competitors. That would not only help increase and retain the number of repeat customers and their spending but also would help acquire new clients from the competitors.

RFID technology can also significantly increase the revenue from the conference halls rental. It provides the ability to trace the exact number of attendees and offer them the relevant cross-products. The information, accumulated and stored, can help the management plan future events much better, for example, conferences, by addressing all organizer's requests in a more efficient manner. Moreover, if RFID-technology were used when the name tags for the participants are issued, it would be easy to eliminate any seating difficulties by displaying on a TV screen the name of each participant and the assigned seat as well as individual greetings right when the participant enters the conference hall.

Therefore, integrating RFID-technology with the hotel revenue management systems proves to be very cost effective and desirable. The investments, associated with RFID implementation pay off rather soon,

therefore embedding the technology in the daily operations of the hotel chains seems to be expedient and is done by some of them. In the US, for example, RFID is promoted by Assa Abloy Company in cooperation with Accor, Sofitel, Red Roof Inns and other brands.

In Russian Federation the vast majority of hotels use the bar code and magnetic means of identification. RFID-technology is mostly used to control and regulate personnel access; electronic payments via smart-cards; car security systems; transport identification. There is no doubt that RFID will find its way into the Russian hospitality industry, because the future belongs to those hotel chains which invest in progressive information technologies – the foundation of prosperity of almost any business worldwide nowadays.

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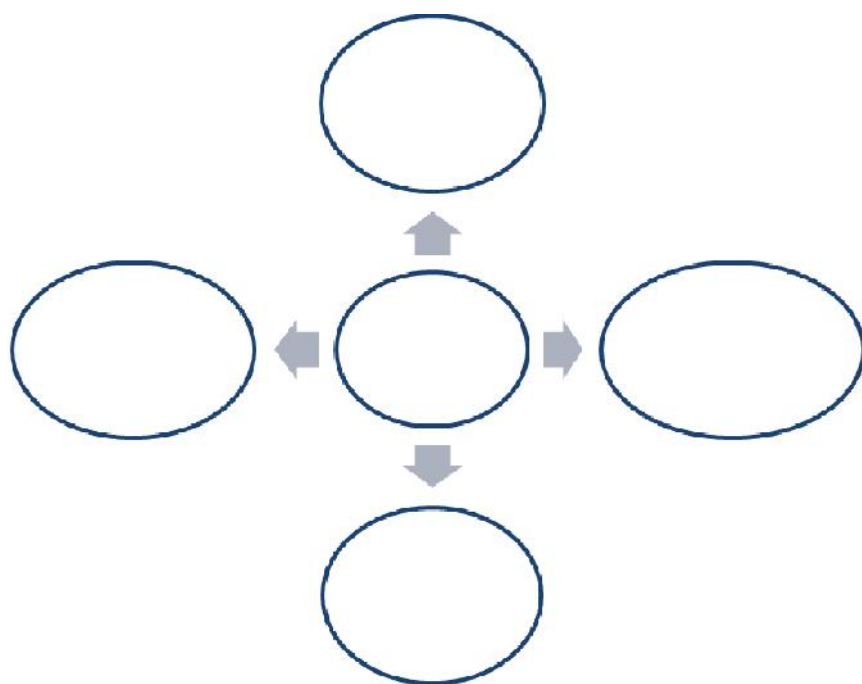
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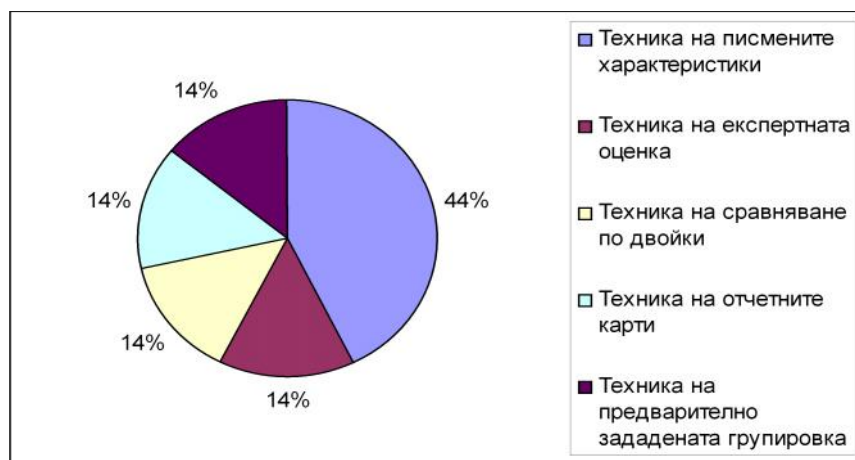
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A BRIDGE STRATEGY FOR KNOWLEDGE MANAGEMENT IN SOFTWARE DEVELOPING ORGANIZATIONS

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Introduction

Numerous researchers point out to the unquestionable significance of software as a product composed entirely of knowledge for the current civilisation development. Software is provided by software developing organisations (SDOs). Any organisation which carries into effect at least one stage of the software life cycle (e.g. design, programming or testing, etc.) can be classified as SDO. Software developing organisations are of key importance for the current stage of the civilisation development. Apart from their basic role, they are expected to gather appropriate resources of knowledge and to manage them skilfully so that to ensure creation of good quality software that meets the customer's requirements. Knowledge can be assigned to individual employees, teams of employees and organisations. A proper strategy is required for an efficient knowledge management.

The following knowledge management strategies are mentioned in the literature on the subject [Gruszczy ska-Malec and Rutkowska, 2007]:

- a) codification strategy:** it focuses on formalisation and organisation of knowledge, gathering of open knowledge in the form of proper repositories, bases, etc. Such knowledge is documented. Technological relations of the man-technology type dominate here. The strategy represents the whole of activities aimed at separating knowledge from the human mind with the purpose of, as a minimum, disseminating it, and, in consequence, saving it from oblivion;
- b) personalisation strategy:** it focuses on people and on organisational learning. The assumption is made that both open and hidden knowledge is located in human minds. Social relations of the man-man type dominate here. They are oriented at the process of sharing knowledge (including the hidden one);
- c) bridge strategy:** it assumes that documented knowledge is combined with human knowledge and forced into a network of social relations as part of processes related to knowledge. It requires creating knowledge portals, knowledge maps, etc.

The article presents a conception of realisation of the bridge strategy for knowledge management in SDOs. In practice, it is oriented at undertaking actions enabling transformation of the quality management system into the knowledge management system. The conception in this shape is a result of the author's many years' experience.

1. Conception of the bridge strategy for knowledge management in SDOs.

The methodology is oriented at undertaking activities which transform the QMS (quality management system) into a frame of the KMS. Suppositions that such activities are possible have appeared in the literature on the subject (Cie li ski and Perechuda and Witkowski, 2005, pp. 234-235 and Jashapara A., 2006, p. 168, the Polish version). The methodology is presented in Fig. 1.

The article presents an outline approach to creating a KMS in the SDO, however with regard to the QMS. It is a result of the author's many years' experience as a designer, programmer, implementation organizer and project manager in SDOs. Another field of his experience is works related to designing, documenting and implementing quality management systems (QMS) for Polish and foreign companies fulfilling the requirements of the SDO definition as quoted above.

The requirements that the above outline approach should meet may be reduced to the following elements:

- a) it refers to the idea of quality management systems (QMS) as reflected in ISO international standards since these standard are most frequently the base for designing, documenting, implementing and maintaining quality management systems. The QMS is defined as a management system (a system for setting policies and objectives as well as achieving the objectives) intended for running an organization (a group of people and infrastructure with responsibilities, authorities and relations assigned) and supervising it with regard to quality;
- b) it links the QMS, through ISO standards, with standard specifications in the form of all types of guidelines related to the SDO;
- c) it makes it possible to localise knowledge in the SDO;
- d) it makes it possible to specify elements of the KMS with the purpose of analysing them;
- e) it makes it possible to analyse elements of the KMS which should contribute to the improvement of the KMS, and this in turn affects the QMS (a delivery of efficient software that meets customers' requirements).

It follows from the requirements which should be complied with by the outline approach to the KMS formation that the approach is closely related to the QMS. The above thesis can also be met in publications on the subject in the form of the suggestion that the QMS may be susceptible to the KMS, i.e. it can be a carrier for such a system.

2. Five stages of transformation of the quality management system into a knowledge management system in the software developing organisation

The proposed approach to the KMS formation for the SDO is composed of five stages (see Fig. 1). The stages are specified below (along with their characteristics):

Stage 1: Classification of QMS processes

A starting point for the proposed approach is a classification of QMS processes. They have been divided as follows:

- a) main processes – they apply to product (here: software) realization and reflect the product life cycle as starting from software (product) related requirements specification through requirements reviewing, product realization planning, purchases, production and service delivery and follow up activities;
- b) auxiliary processes – they support proper functioning of management processes, main processes and auxiliary processes;
- c) management processes – they can be reduced to decisions constituting the QMS as taken by the top management. They can include documentation related requirements and management responsibility which in turns includes management commitment, customer-oriented approach, quality policy, planning, responsibility, authorities, communication, management review;
- d) improvement processes – they include continuous improvement, and preventive corrective activities.

Stage 2: Development of assumptions of a semantic model for presentation of requirements of ISO 9001:2000 and recommendations of ISO/IEC 90003:2004 (hereinafter called “model”)

The ISO 9001:2000 standard is too general to render the QMS specificity for the SDO. The standard presents the requirements that should be met by an organization (here: SDO) so that the QMS might comply with standard requirements. The above standard has been expanded through provision of detailed recommendations. The recommendations are included in ISO/IEC 90003:2004 (Software engineering – Guidelines for the

application of ISO 9001:2000 to computer software). The semantic model should facilitate application of both the above standards through defining the meaning of contents of specific elements of the standards. They have been divided into the following groups:

- a) postulates, i.e. demands or requirements, and
- b) questions, i.e. issues that should be additionally considered and, if possible, resolved.

Both the postulates and the questions can be attributed with different meanings of the attached contents (extensions) as provided by the ISO 9001:2000 standard and the ISO/IEC 90003:2004 recommendations. Those extensions may refer to:

- a) the proposed method of realization,
- b) specification of the scope,
- c) additional notes as regards the realization method,
- d) examples,
- e) references to other sections of ISO 9001:2000,
- f) references to other standards.

For individual sections of the ISO 9001:2000 standard and the related recommendations, the above extensions may occur in different numbers (e.g. several methods of specifying the scope, several examples, etc.) and with different intensity (e.g. only examples are given, or a number of realization methods, or some additional notes, or references to a standard other than ISO 9001:2000 are also provided). All the relations in the semantic model as described above are shown in Fig. 2.

Stage 3: Presentation of individual QMS processes by means of a semantic model

By using the model potentialities, individual QMS processes can be presented. More information on the subject can be found in some books (Chraba ski K., Gwio dzik E., Kostka-Bochenek A., 2007).

Stage 4: Working out of maps of individual processes while taking into account the model assumptions

The legend to the Figure consists of markings of the icons applied. The process map presents in a one place a selected process in an abbreviated form, thus enabling the process analysis.

Stage 5: Working out of potential decisions as a method for knowledge localisation

The process map prepared for reviewing the design and development process, as complying with the requirements of ISO 9001:2000 and recommendations specified in ISO/IEC 90003:2004, will be used for linking the QMS with the KMS. Assuming that the key knowledge management processes include: knowledge localization, knowledge procurement,

knowledge development, knowledge sharing, knowledge dissemination, knowledge utilization, knowledge maintenance (Probst G., Raub S., Romhardt K. 2000), p. 46 (polish version)), the hypothesis can be proposed that it is possible to elaborate the localization of knowledge in an SDO that applies the QMS – an example of a key knowledge management process – provided that potential decisions to be taken by the implementing team have been previously defined (Kisielnicki J. 2003) p. 18).

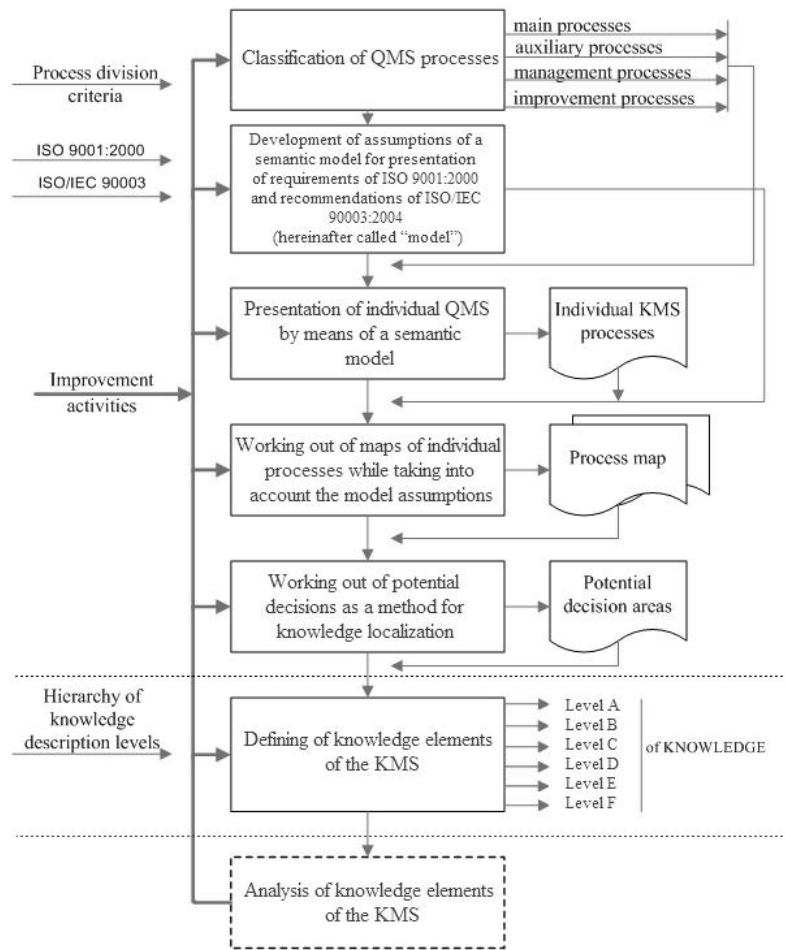


Fig. 1. Elements taken onto account when specifying the method of constructing a KMS for SDOs that apply a QMSs

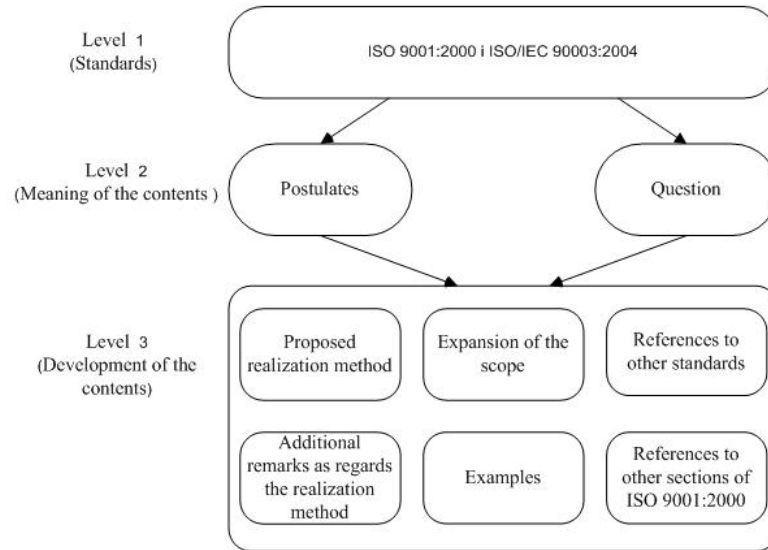


Fig. 2. Relations between semantic model levels

3. Knowledge description levels related to quality management systems

Based on the standard structure, six levels of knowledge description have been indicated.

The structure of processes related to design and development includes the following elements:

Level A: Basic processes

Level B:

- 1) Planning of product realization – 7.1
- 2) Customer related processes – 7.2
- 3) Design and development – 7.3
- 4) Purchasing – 7.4
- 5) Production and service provision – 7.5

Level C (for 7.3):

- 1) Design and development planning – 7.3.1
- 2) Design and development inputs – 7.3.2
- 3) Design and development outputs – 7.3.3
- 4) Design and development review – 7.3.4
- 5) Design and development verification – 7.3.5

- 6) Design and development validation –7.3.6
- 7) Control of design and development validation –7.3.7

Level D (for 7.3.1):

- 1) Design and development planning – 7.3.1.1
- 2) Review, verification and validation – 7.3.1.2
- 3) Responsibilities and authorities – 7.3.1.3
- 4) Interfaces – 7.3.1.4

Level E (only 7.3.2 and 7.3.3): Potential decision areas for 7.3.2 (9 in number) and for 7.3.3 (13 in number)

Level F: Decisions taken

These are definite settlements.

Summary

It follows from the research conducted by the author – for knowledge location and acquisition processes – that the model can be treated as a practical implementation of the bridge strategy for knowledge management in software developing organisations. It is supplemented with a hierarchy of knowledge description levels. It seems that the proposed model of transition from the quality management system to the knowledge management system has probably a large potential for further research.

Abstract

Software is a product almost entirely related to knowledge. It is generated by specialised organisations (i.e. Software Developing Organisations, SDOs). Specific strategies need to be applied for managing knowledge resources; a bridge strategy is one them. It is a strategy which attempts to combine the documented knowledge with the human one. Probably, this strategy is the most adequate for SDOs. The proposed model of transition from quality management systems conformable with the series 9000 ISO standards to knowledge management systems is a practical implementation of the strategy. The model is supplemented by a knowledge description level hierarchy”.

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**AGENCY THEORY AND FIRM VALUE.
THE CASE OF ROMANIA**

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1. Introduction

Basically, the concept of corporate governance refers to the coordination of interests of various company stakeholders: shareholders, managers, employees, lenders, clients, suppliers, the state, et.al. Within every company an ensemble of particular relations develops, between natural or legal persons, with a stake in the business. In the progress of the entrepreneurial activity, the company's management or governance must take into account the subsistent conflicts, generated by the co-existence of various interests, within the corporation.

As case studies show, the company's performance and value are, concurrently and greatly, influenced, by corporate governance, i.e. by the management and control systems and operations, implemented on a company level. Also, analyses done by numerous researchers in the field, indeed, show that, a company's financial structure holds an important role in the economy of productive companies. The Modigliani & Miller financial design endorses this statement, as it represents the base upon which the financial science and practice subsequently developed.

Further researches identified optimum capital structure patterns, which entice the maximization of the company's value. Thus, the design proposed by Jensen & Meckling shows that a financial structure may be obtained by making a favorable compromise between additional revenues and agency costs. The latter, predominantly, refer to, monitoring expenses held by the owners, justified by the existing discrepancies between the agent managers' interests and those of the principals. Agency costs can be lowered by debt, as the authors explain. This design nominates a theory for control within the company, which was later named the agency theory.

2. The agency theory, conflicts of interest and the value of the company

Formally speaking, the agency theory originated in the 1970's, but its fundamental concepts derive from a long and colorful history. Among its main influential factors, we list the ownership rights theories, organization management and economy, contractual law and political philosophy. By causing a new leap in the evolution of finance, the agency theory signs up as a leading role model in financial-economical literature.

The agency theory was elaborated by Jensen & Meckling (1976), based on the bench/marks set by Fama & Miller (1972). This control theory integrates the complexity of the decision making process within the company, by motivating the make-up of the company's financial structure, in order to maximize its value. The managers' behavior influences the current results by each decision made, but their decisions have an, especially, powerful impact on the financing policy and strategy. Thus, the agency theory reflects the inefficiencies that arise from the conflict of interests between managers (directors) and shareholders (owners).

The agency theory states that the company may be regarded as an ensemble of contracts between the stakeholders. The general agent relation is formed in virtue of the contractual bond between the principal and the agent. The principal gives the agent decision making authority, for the fulfillments of certain tasks. The most remarkable agency relations present within companies are those between shareholders and managers and lenders and shareholders. These relations are not specifically harmonious, as the agency theory refers to the conflicts of interest between the principal and the agent.

The most important conflicts of interests, in regard to the impact on corporate value and performance, are those between the owners and the company managers. The agency theory shows that the manager is not preoccupied only by the maximization of the owners' assets, as he, himself, has a utility position to maximize. Thus, results the need to institute a proper and severe examination of the means by which the managers fulfill their contractual duties. Such a measure, however, may lead to a drop in efficiency for the agents, by creating a tense atmosphere at the workplace, unsuitable for gaining performance.

In order to solve conflicts between shareholders and lenders, most often, it resorts to ushering restrictive clauses in the loan agreements. These clauses are meant to reduce the moral hazard risk, induced by the shareholders' or managers' reprehensible behavior. Coerced by shareholders,

managers can involve the company in shady projects, but, the lenders will not realize the real risk level of the investment project until after granting the loan and the project's start. Lenders may include restrictions regarding the financing, dividend, investment policies, etc.

The board of directors represents the headstone of the corporate governance system and the interface between the shareholders and managers (Onofrei M., 2007). At the same time, its represents the link between the managers and the stakeholders involves in the company's activity. In order to achieve the target of maximizing the company's value, shareholders must ensure, through the board of directors, that they hold an agreeable amount of control over managers, with the purpose of (at least) preserving profitability.

The conflicts of interest have implications regarding corporate governance and business ethics. The agency costs are a certainty, subscribing expenses performed in order to support an efficient agency relation. To this extent we can also mention the expenses for the gratification of management performances (through bonuses). This way, managers are interested in acting in the shareholders' best interests.

In the agency theory pattern suggested by Jensen & Meckling, the company is considered to be a get-together of adversaries and partners, each with his own interests. The result is that managers are not exclusively interested in maximizing the owners' fortune, as they have their own utility position to maximize. Agency costs are generated by conflicts of interests. The authors identify a solution for reducing these costs: the call to debt (Jensen M. C., Meckling W. H., 1976).

One design of the optimum financial structure that integrates the two fundamental approaches, respectively the classical and that supported by the agency theory, is the one suggested by Leland in 1998. The design takes in the interaction between the financing decision and the administration strategy for the investment risk. According to the author, following the target of maximizing the shareholders' assets, after contracting additional debt, may lead to a series of conflicts between the agents, and agency costs: monitoring expenses made by the principal and warranty expenses made by the agent. This article also examines the problem of risk management. Hedging allows for a higher debt burden. It is shown that the benefits of risk coverage are higher when agency costs are lowered.

Choosing the investment financing pattern and the relation with an optimum risk exposure, prove to be an essential factor of the economical performance of corporations. Scholarly financial literature is rich in analyses of the capital structure decision, qualitatively speaking. Be that as it may, it

has yet to offer enough specialized bench-marks. The theoretical construction that approaches the capital structure remains imprecise, as opposed to the precision offered by the Black & Scholes (1973) design for option evaluation, with its add-ins.

One explanation for the companies' preference for loans is offered by Ross, in the signaling theory. To this extent, indebtedness represents a means of transmitting performance signals to the market, as well as signals referring to the risks characteristic to the activity (Ross S., 1977). It was suggested that an incentive system be created for managers, based on the fairness of the signals sent on the market.

The design starts from the hypotheses of the perfect financial markets (the absence of trading costs and tax effects, investor divisibility et.al.), but under conditions of informational asymmetry. The asymmetrically distributed information speaks of the company's performance, including its investment projects and its ability to handle risks. The financial structure becomes a means of identifying the various categories of companies activating on the market, by ensuring their classification based on their performance class (Stancu I., 2003).

The conflicts between managers and shareholders arise because the managers hold less than 100% of the residual interest. Thus, the agents will not intercept the entire earnings of their effective activity, but will be subject to a cost determined by their „abstinence” from the inefficient use of the controlled resources. Ultimately, managers will not hesitate to „take advantage”. The resulting inefficiency gets lower, the higher the capital share they own is (Harris M., Raviv A., 1991). By maintaining the managers' investment at a constant, in absolute values, the indebtedness will raise their capital held percentage and reduce conflict generated costs.

Managers will maintain the company activating, even if investors would much rather have it liquidated. A higher indebtedness level supports the liquidation decision (bankruptcy becomes a probability), as it is associated with a high value of the company and a low probability of reorganization after declaring bankruptcy.

Numerous researches use the Fama-French methodology (1998), based on tax effects, in order to study the relation between financing decisions and the company's value, also considering other relevant factors: agency costs, asymmetrical information, etc. Generally, regression results show that non-tax effects advance on the tax effects of the financing (Wu X., Xu L., 2005). It turns out that this approach is useful in order to reveal information on the company's value, when non-tax effects are predominant.

3. The analysis of the agency theory in the case of Romania

In order to test the conformity with the principles of the agency theory on the Romanian market, Dragota (2006) used sample of companies listed on the BSE during 1997-2003. According to the methodology suggested by Rajan & Zingales (1995), banks and financial investment services companies were eliminated from the sample, as their debt level is strongly influenced by a series of exogenous factors.

Accounting and stock exchange information were obtained from several sources, respectively: web sites that supply specialty information; the data base available through the Reuters press agency, including company enlistments; financial-accounting information from the Ministry of Economy and Finances. Although, officially, the information obtained from balance sheets and profit and loss accounts are made public, the actual elaboration of an empirical study is hindered by the lack of a public data base. To synthesize, the conclusions of this reference research are as follows:

- Romanian companies have a high indebteding level, which is significantly explained by the balance of operation debts, that carry no interest;
- Profitable companies have less debt because they command enough private resources in order to finance investment projects;
- Private capital companies have started invoking, more often than none, long term resources, which constitutes a sign of recovery for the economical environment.

By using the information available in the balance sheets and resulting accounts of the companies listed on the BSE and RASDAQ, in the period 2001-2004, Robu (2005) analyzed the link between the stock price and the financial and accounting data, based on the following indicators in absolute capacity, share level wise: net profit, dividend, accounting value and sales. These indicators are relevant to investors, as they reflect the performances of the company under conditions of high irregularity of the ownership equity. For each individual indicator the following were calculated: arithmetic average, median, maximum and minimum limits. According to the results, the relations between the financial rates and the stock exchange performances of the companies in the sample, are generally frail in intensity and can be quantified only with the help of certain non-linear designs.

There are several theories regarding the contribution of the administration techniques to the creation of value for shareholders. Nonetheless, the imperfections of the capital market – agency costs, trading costs, taxes, and the growth of the external financing costs – reflect the means by which the value of the company may amplify.

A recent paper tackles the contribution of corporate governance policies to the risk management system, on a company level. The research analyses the importance of management strategies from the perspective of the profitability and the financial leverage, as eloquent variables. The research steps are complex ones, integrating quantitative and qualitative information. The quantitative information represents financial indicators sampled from the accounting balance and the profit and loss account, while the qualitative perspective includes „dummy” variables, which reflect agency and monitoring costs.

Empirical results show a positive contribution of the dummy variables, in relation to the financial leverage. This way, even if the managers’ benefits are proportional to performances, which are susceptible to motivating them in order to ensure adequate management strategies and for being somewhat reserved towards indebtedting the company, this would not attract a lower financial leverage. This aspect might be interpreted as proof for the fact that the companies under analysis are receptive to external financing.

4. Conclusions

The agency theory tries to offer solutions for the harmonization of the stakeholders’ interests. Thus, in the course of its activity, the company management will have to consider conflicts arising from uniting a multitude of interests. Conflicts of interest might endanger efficiency and lead to a lower market value of the company if they are not identified and regulated accordingly. As a result, the means of financing is inseparably linked to the business organization method, the particular relations built between various persons directly or indirectly involved in the business, meaning the management or corporate governance.

In short, the company’s structure may be defined by a special complexity, in relation to objective agency conflicts and the effort to minimize agency costs. The fact that the company actors do not, all, have the sale objective, generally, leads to certain conflicts of interests, which in turn generate value loss. For this, the objective of the agency theory is that of creating an agency relation structure that will minimize agency costs and value losses.

5. Acknowledgement

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EFFICIENT PUBLIC ADMINISTRATION AS A PREREQUISITE FOR BETTER MICROECONOMIC BUSINESS ENVIRONMENT IN CROATIA

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Mario Hak, MSc, Tax Administration Croatia, Pozega

1. Introduction

Dynamic business conditions have forced public administration to adapt to the demands of the modern business environment. The need for timely, relevant and reliable information has influenced the development of modern methods of management. It is not surprising that in this period a large number of papers were created which are based on the possibility of modification of existing methods of management in a way that they adapt to the challenges that carry the modern business conditions.

The main part of the paper deals with explaining the benefits of the proposed changes which can help the public administration to improve its effectiveness and efficiency and achieve its goals and strategy. The changes have been divided into two groups, firstly those which have been the result of the reengineering workshops, and secondly those which have been suggested based on international best practice and the public experts experience.

2. Electronic government (e-government) in Croatia

„Electronic government (e-government) represents the infrastructural transformation of state administrative bodies by use of the information communication technology, directing the entire functioning of public administration towards its users. Electronic government also includes the continual adjustment of the legislative and technological framework of the state administrative bodies' function, in order to achieve a higher efficiency of activity, a more rational expenditure of public finances and a higher quality of service.”¹

¹ Electronic government strategy of the republic of Croatia for the period from 2009 to 2012.

The figure below lists planned basic e-government service areas. Amount and ranking of taxation related services show the importance of taxation issues in each area.

BASIC SERVICE AREAS	
CITIZENS	BUSINESS ENTITIES
1. Income tax	1. Retirement and health security of employees
2. Employment	2. Corporate tax
3. Social benefits	3. Added value tax
4. Personal identification documents	4. Registration of a new business
5. Registration of vehicles	5. Notifications to the Central Bureau of Statistics
6. Building permits	6. Customs duty declaration
7. Notifications to police	7. Environmental protection
8. Public libraries	8. Public procurement
9. State registers	
10. Tertiary education	
11. Permanent / habitual residence	
12. Healthcare services	

Based on the high level strategy, the development of the internal (and external) communication policy and its implementation can provide a number of benefits to the public administration. To achieve these benefits, a coordinated, comprehensive, long term communication approach is needed.

3. Possible Advantages and Benefits from proper internal communication

It is very important to recognize that internal and external communication are highly related issues. It is good to have a general strategy-based communication policy which is covering both issues.

- Permits employees to make more decisions online since they have the tools and knowledge needed to make the „right” decisions.
- Encourages a sense of identification, on the part of staff, with the goals, mission and procedures of the organization, which can result in a sense of „making a difference”. This can have a direct impact on effort and efficiency.
- Has the potential for reducing day-to-day conflict. Much conflict is generated by conflicting ideas on what is important to the

organization...often an indicator that the people involved do not share a common vision or understanding.

- Helps staff feel part of the organization.
- Unique, organic and fast communication of law and other legislation changes is fundamental to be able to uniformly interpret and execute changes.
- The communication among the organizational levels (such as different kinds of internal forums) is very important to have a consistent, one „face” to taxpayers.
- Harmonization of internal information channels is the most important prerequisite for developing better taxpayer information.

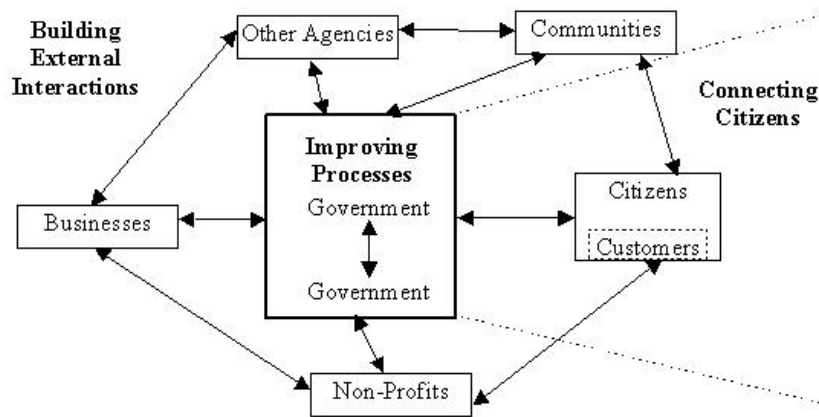


FIGURE 1. Focal Domains for eGovernment Initiatives

4. Improving management relations with clients (microeconomic business) in public sector in Croatia

Client relationships management means managing all clients interactions with company, with implementing of Business process reengineering. Companies guided by client relationship management are focused on³:

- client
- goal and
- system

² Ntiro, S.: eGovernment in Eastern Africa, KPMG, Dar-es-Salaam, 2004.

³ Kotler P., Armstrong G. : Principles of Marketing, Prentice Hall, Inc., A Paramount Communications Company, Englewood Cliffs, New Jersey, p. 15.

Focus on the client means that the company must identify the group of clients that are most likely to buy its products or services, assuming that these products or services best suit the consumers' needs. The main idea is to create long term client satisfaction and loyalty. Goal-oriented approach assumes that one, besides satisfying the clients' needs, must not neglect the business goal connected to company profit. Third part of the marketing concept is system-oriented approach. It represents a systematic approach where the company must not neglect the greater social good, i.e. its activities must benefit everyone.

To retain loyal client, it is necessary six time less resources, then for recruitment of new client. Investment in informatic technology for implementing BPR in the company, represents small financial investment in long term. Because of all these reasons it is very useful to integrate business process strategy in business strategy of the company.⁴ In past decades many companies have identified the need to become more clients adjusted with increased global market competition. As a outcome, business processes management has become important integral part of many marketing organisational strategies.

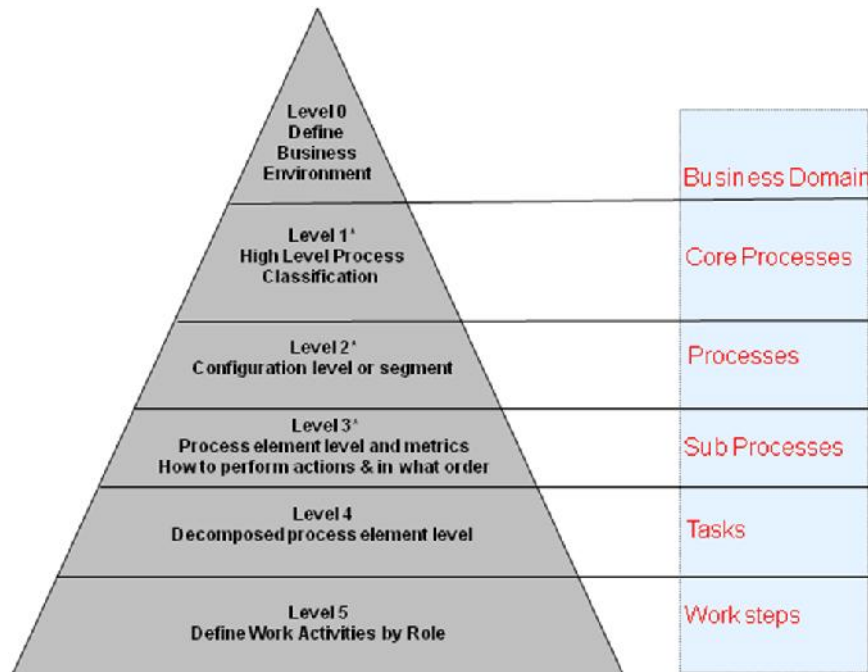
5. Empirical research of implementing Business process reengineering in Tax Administration in Croatia

Empirical research of implementing BPR model on Tax administration of Croatia (CTA) is conducted in the period from 2nd November 2009 to 7th December 2010. in all County offices in Croatia.

The research was conducted by implementing scientific methods: workshops and interviews; on the sample of na tax administration employees and clients (tax payers). As a result of primary research key performance indicators (KPIs) are defined. KPI are measures by which the performances of organizations, business units, and their divisions, departments and employees can be periodically assessed, compared and benchmarked.

At the organization level, KPIs can be used for reviewing and will be useful for tracking, in the future, the effectiveness of any proposed changes to the business processes in the CTA. KPIs are defined as part of a hierarchical functioning and decision-making process. The hierarchy of business process components is described in the chart below. The performance indication is possible at each level of the process hierarchy. The higher level KPIs could be calculated based on lower level ones.

⁴ Dyche, J. : The CRM Handbook, Addison-Wesley, Boston, 2002., p. 4.



Picture 2. Possible KPI levels in Tax administration in Croatia⁵

6. Suggested Management Changes in the public administration in Croatia

As a result of the scientific analysis and reengineering workshops, the research has identified a number of possible improvements where the public administration could effectively improve their model of management. They include:

- *Cutting process costs*: improving the input: output ratio by cutting financial costs and/or time costs.
- *Managing process performance*: planning, monitoring and controlling the performance of process resources (human, financial and other).
- *Making strategic connections in government*: connecting arms, agencies, levels and data stores of government to strengthen capacity to investigate, develop and implement the strategy and policy that guides government processes.

- *Creating empowerment*: transferring power, authority and resources for processes from their existing locus to new locations.
- *Working better with business*: improving the interaction between government and business. This includes digitizing regulation of, procurement from, and services to, business to improve quality, convenience and cost.
- *Developing communities*: building the social and economic capacities and capital of local communities.
- *Building partnerships*: creating organizational groupings to achieve economic and social objectives. The public sector is almost always one of the partners, though occasionally it acts only as a facilitator for others.

7. Conclusion

Contemporary business processes strategies are influenced by growing usage of information technologies. Integrated information systems are used to plan, schedule and control the presales and postsales activities in an organization. The primary aim is to improve long-term growth of marketing relations through a better understanding of client behavior. Improving tax administration processes in Croatia requires an understanding of its problems. Strategic level and execution level must be clearly separated. The most critical deficiencies in the functioning of a Tax administration and the most important priorities in the business reengineering process to create modern and effective management and marketing of the institution.

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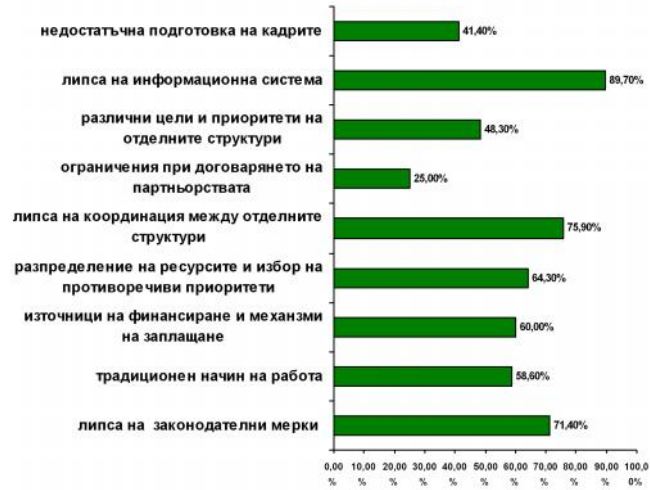
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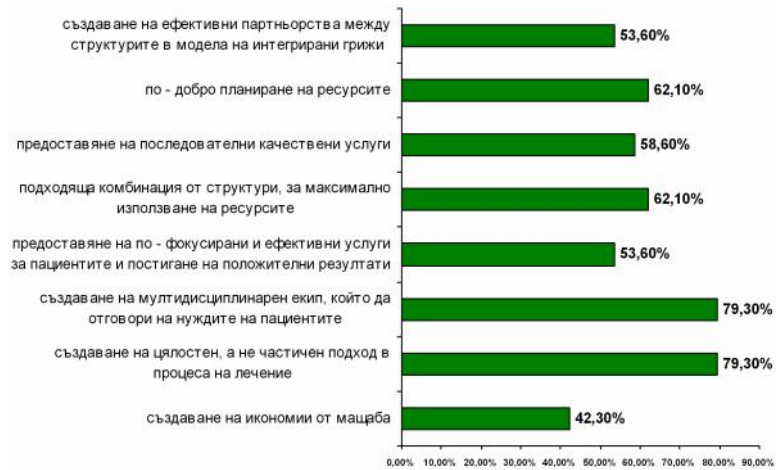


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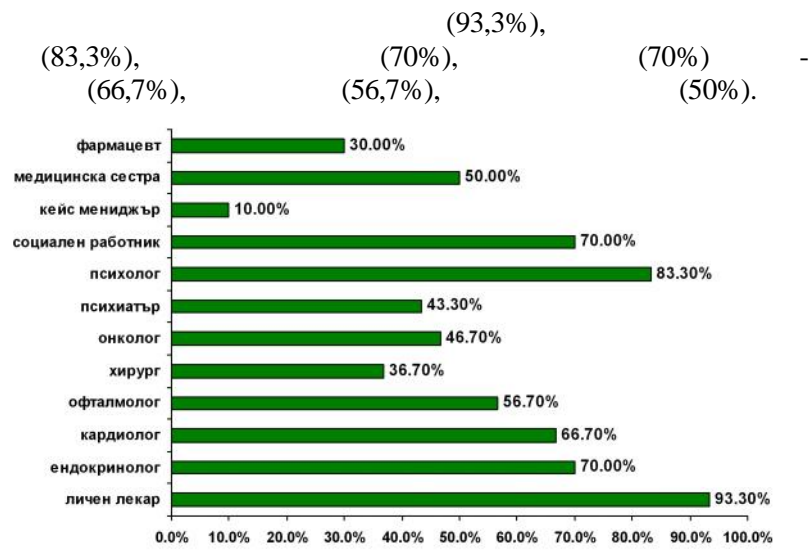
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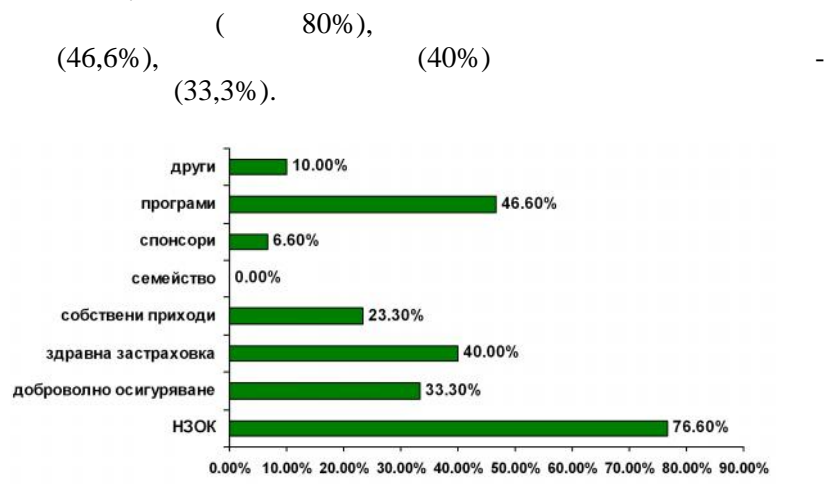
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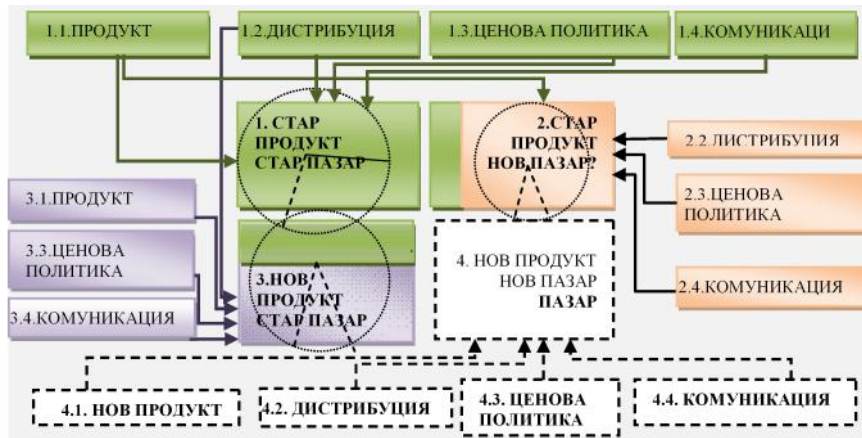
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HUMAN RESOURCES AS AN ELEMENT OF INTERNET MARKETING MIX IN HOSPITALITY

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1. Introduction

People make the important element of the marketing mix that is necessary to systematically plan and enhance the quality of communication. Paper provides an overview of the basic trends in the management of personnel in the hospitality industry.

The concept of personnel (human resource) covers all employees, human personnel involved in business operations, through which management exercises its duties. Personnel issues, or filling in the necessary personnel as a managerial function is reflected in the implementation of determining the need for labor, making review of available people, recruitment, selection, installation, improvement, assessment, career planning, giving compensation, and training for effective conducting business tasks.

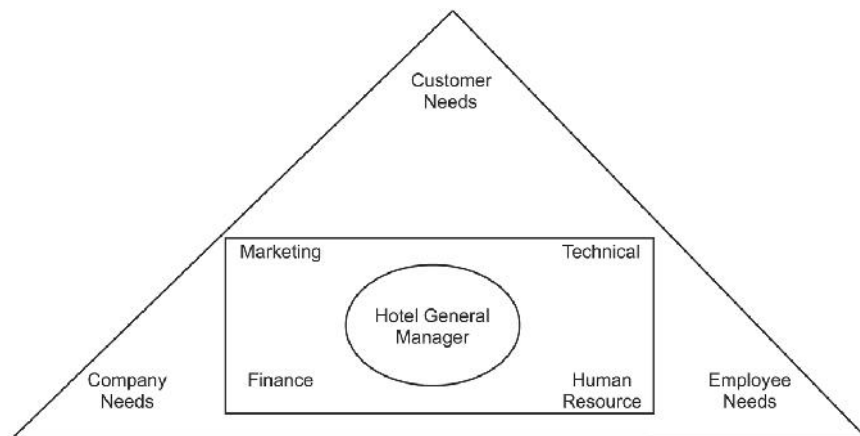
Changed tourism trends, in addition to the travel needs of the tourist looking for a change of behavior of employees. Authors define employee as a psycho-physical characteristics of the tourist offer. Changes in quality can be achieved by continuing the system of training and raising the general level of knowledge of tourism personnel.

In addition to the traditional roles of staff in the offline environment, with influence of technology development, communications staff and guests are transferred into the virtual environment, which gets a whole new dimension. Coming to the creation of so-called. virtual communities that occur in parallel with the communication in the online environment. These two views of human resources in the tourism hospitality industry will be discussed below.

2. Human resources in offline hospitality environment

Hospitality is a labor intensive activity and work of employees is a critical success factor for a hotel business. The work is a conscious and purposeful activity of man which is the purpose of getting new products

which directly or indirectly satisfy human needs. The work is among the most basic elements of each production process, particularly those in the hospitality and other services. In any case, regardless of the size of the labor in a production process, human labor is a necessary precondition for the implementation of any economic objective. The hotel staff invests their knowledge, skills and talents in the preparation and provision of hotel services – accommodation, food, beverage, recreation, entertainment and others.¹ The hotel staff is the most important factor in the quality of services which means that staff at a given identity or recognition. Work they perform people will never be able to fully replace the machines because they assume direct contact employees and guests.



Picture 1. Humah resource model in hospitality

Employees should know how to anticipate, identify and provide what the customer wants and expects – that is the key to business success of the hotel. To achieve this it is necessary to take account of planned recruiting, training, evaluating and rewarding hotel staff, in order to achieve added value customers.

Hotels need two kinds of employees – permanent and temporary (seasonal). Permanent employees are those who are employed full-time and are essential for the smooth functioning of the hotel, while the occasional ones who are hired depending on the needs of the hotel that is dependent on

¹ Lockyer, C., Scholarios, D. Selecting hotel staff: why best practice does not always work. *International Journal of Contemporary Hospitality Management*, Vol. 16, No. 2, 2004, p. 125.

the intensity of the operations during the year or days of the week.² Occasionally seasonal hotel employees or those who engage in such special programs, special dinners, receptions and the like.

On the other side, modern consumers in hospitality industry are characterized by the needs and habits of Internet use in daily life, as part of everyday activities. In terms of security and payment comes to reducing risk and increasing confidence in a reliable and branded web sites. (Amazon, eBay, Tripadvisor).³ It is therefore not surprising increase in the popularity of the Internet and the emergence of new forms of consumer behavior, which generates the need for changing the behavior of staff working in the hospitality industry.

3. Influence of Internet on human resources in hospitality: e-environment

Development of technologies to efficiently manage databases rating and feedback potential or current client in real time is based on the market research. This allows the observation of the guest as an individual and customize all elements of importance to him because of reduced benefits resulting from the effect of knowledge of the curve. Technology has enabled the selective enrollment, and directionality of communication thereby providing the opportunity to develop long term relationships. Trend of technology development tends is to simplify life by giving him an individual on the one hand an increasing choice, participation and the possibility of creating hotel products, while making it difficult for the final election by switching on the responsibility for collecting and analyzing information and making decisions.⁴

However, the ratio of realized technology would not be possible to not create the concept of trust in electronic environment. For further development of personalization through technology, the hotel staff has yet to create a trust in technology and its ability to control.

Therefore, the above analysis can be defined to personalize the relationship with the guest as a marketing concept, which assumes the creation of relationships between subject and hotel guests, based on mutual understanding, developed a continuous exchange of knowledge through interactive communication with the aim of creating added value for all stakeholders in an exchangeable process.

² McCabe, S. Marketing Communications in Tourism and Hospitality. Concepts, Strategies and Cases, Butterworth-Heinemann, Oxford, 2009, p. 271.

³ Middleton, V., Fyall, A., Morgan, M., Ranchhod, A. Marketing in travel and tourism, Butterworth-Heinemann, Burlington, 2009, p. 251.

⁴ Henry, P. Evaluating Implications for New Media and Information Technologies. Journal of Consumer Marketing, Vol. 18, No. 2, 2001, p. 121.

However, technology development, explained process has been modified. With automation and digitalization of some services, there is a reduction in the number of employee policies and developing new e-services in an online environment. These are:

- automatic answer (Autoresponders) by which to generate automatic e-mail responses during registration or login to the website.
- e-mail notification or warning (e-mail notification); automatically generated from the hotel systems to promptly respond to a potential client about the status of his query to bed.
- callback (call-back facility); potential customers sent to your phone number and advised when they can be contacted, and they will contact the hotel staff at the expense of the hotel, which is a common form of communication.
- FAQs (Frequently Asked Questions), are the questions and answers that a visitor can find the hotel's Web site, usually in connection with inquiries and problems with which the hotel guests encounter.⁵
- Search on the web-site (on-site search engines), that help visitors find the desired content using keywords, which is fast and efficient form of aid.
- Virtual Employees (Virtual Assistants)⁶, come in various degrees of sophistication and usually help in guiding guests through a selection process.

With explained procedures of personnel management can improve the marketing process in a way that the staff using information technology to connect with their guests. The effort is necessary on both sides, in order to achieve communication, and guests have acquired the habit of using modern e-marketing applications in the hospitality.

4. Research of virtual communities in hospitality industry:

The case study of Facebook

The concepts of e-marketing in today's online marketing mix to complement the subelement of virtual communities (online partnerships), which form the basic idea of Web 2.0 technologies linking people in a virtual environment.

Web 2.0 is a trend in World Wide Web technology based on integration note that allows users to participate in creating Web content. The term refers to the new version, the second generation of the Web and hosted

⁵ <http://www.frlp.utn.edu.ar/materias/internetworking/apuntes/comp.lang.c%20FAQ/complangcfaq.pdf>, 23.01.2012.

⁶ http://www.forbes.com/2006/07/26/leadership-fiveways-management-cx_tw_0727virtual.html, 27.01.2012.

services, which served instead of data (one-way flow of information) includes an interactive two-way communication between users and computers and users and other users of passive giving the user becomes an active participant. Social networking has become synonymous with Web 2.0. It means active participation in virtual communities, ie user groups gathered around the common interests of an Internet service.

In order to create connections in the social network necessary to achieve the following requirements:⁷

- trust, since the higher the risk of communication because it is not „face to face” (face to face), it is considered essential prerequisite.
- commitment – through social communication networks creates a sense of connection with the brand and create loyalty.
- satisfaction-a feeling of pleasure that occurs when the interaction with other network users.
- sustainability-operators should actively updated content on social networks, to encourage users to interact, otherwise it comes to creating a lack of interest and termination of participation in the network.

The most traditional social networks as Facebook, My Space, Hi5, Bebo, which can be applied in the hospitality industry.



Picture 2. Web 2.0 services in hospitality industry

⁷ Casaló, L. V., Flavián, C., Guinalú, M. Promoting Consumer's Participation in Virtual Brand Communities: A New Paradigm in Branding Strategy. Journal of Marketing Communications, Vol. 14, No.1., 2008, p. 19.

Thus, the hotel recommends the following marketing activities on Facebook:⁸

- Create a profile so people can contact you.
- Post an event.
- Post some pictures or videos.
- Share news articles.
- Create a Facebook group
- Create a Facebook page
- Purchase Social Ads
- Start a poll
- Sponsor a Facebook Application.

As we can see, there are tremendous marketing opportunities for hotels to take advantage of in Facebook. Facebook has emerged as a unique community, offering authentic audiences and viral marketing opportunities for those willing to put in the work. It needs to be done intelligently, but when you combine several methods of advertising together into one big campaign, its effectiveness can increase tenfold.

5. Conclusion

All this implies that the trend of creating and developing new online social network is more than evident, as well as their adaptation to existing and potential customers, all in order to create homogeneous communities that connect highly accurate motifs, creating a way to new attitudes, new knowledge and, finally, a new homogeneous online community, aimed at making the participants' satisfaction in hospitality industry.

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⁸ <http://www.hospitalitynet.org/news/4042071.search?query=facebook+users+in+hospitality>, 11.08.2010.

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A CRITICAL APPROACH ON CULTURAL DIMENSIONS

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Ovidius University of Constanta, Romania

Introduction

The existence of different models of national culture could be considered as a keystone for the research on cultural differences in management for the last century. The scientific approach on cultural differences has been facilitated and hindered by these models. On both a conceptual and empirical level, serious research on cultural differences in organization and management has been facilitated but in the same time inhibited by the existence of multiple – and often conflicting – models of national culture.

Different research offers us the possibility to identify various models of national culture, as the models proposed by Kluckhohn and Strodtbeck, Hofstede, Hall, Trompenaars, Schwartz and others. These models have long offered useful templates for comparing management processes, Human Resources policies and business behaviors across national and cultural borders. Some models offered also a framework of measures and numerical indicators for different countries, widely used in cross-cultural research. But the problem for researchers is represented by the lack of convergence across these models.

We can refer in the present to at least six models of national cultures that continue to be widely cited and utilized in the cross-cultural research literature, meaning the models proposed by Kluckhohn and Strodtbeck, Hofstede, Hall, Trompenaars, Schwartz and House & GLOBE associates. Each model highlights various aspects of societal beliefs, norms and values. Therefore, convergence across the model has been seen as limited.

In this paper we offer a review of the most known models of national culture, with the purpose of identifying the convergences and divergences among them. The purpose of our paper is to provide a mature reflection upon these different models by tracking various subtleties in their evolution and dispelling prevalent misconceptions.

The Kluckhohn and Strodtbeck's model

This model was one of the earliest models of culture that has served as a principal foundation for several later models and proposed a theory of

culture based on value orientations, arguing that there are limited number of problems that are common to all human groups and for which there are limited number of solutions. The model suggests that values in any society are distributed in a way that creates a dominant value system.¹ The authors identified value orientations based on the relationship of individuals and groups with nature, relationships among individuals within society, orientation regarding preferred form of human activities, relationship with time² and evaluation of human nature³.

Four of these value orientations or dimensions – all but „evaluation of human nature” – were tested using interviewing techniques among a small group of geographically defined communities in the southwestern area of the USA, including two Native American tribes, a Hispanic village, a Mormon village and a farming village established and operated by a group of Anglo-American homesteaders. The samples were selected because they appeared to be different in societal organization while still be relatively constant with respect to physical and institutional context.

The Hofstede's model

Undertaking a factor analysis of 116,000 IBM corporate employees' values of workplace from more than 70 national subsidiaries from 1967 to 1973, Geert Hofstede identified four cultural dimensions: power distance (PDI), individualism (IDV), masculinity (MAS) and uncertainty avoidance (UAI)⁴. The four dimensions accounted for 49% of the country differences in the sample⁵. Hofstede used „constructed scaled indices” to rank each nation within the dimension and by this he achieved a typology of national cultural differences, arguing that each dimension shaped behaviors in different social settings. A fifth dimension – the short term orientation (STO) and

¹ Nardon, L.& Steers,M.R. (2006). Navigating the culture theory jungle: Divergence and Convergence in models of national culture, Vlerick Leuven Gent Working Paper Series, 38, p. 5.

² „time orientation”, a common theme among other researchers in this area.

³ A sixth value orientation pertaining to „privacy of space” (Here, There or Far Away) was also suggested by Kluckhohn and Strodtbeck and relates to issues such as how is space treated in a society, who owns it and what rights do individuals and groups within the society have to occupy and use space. However, these chose not to continue with empirical research on this orientation.

⁴ Hofstede, G. (1986). Cultural differences in teaching and learning, *International Journal of Intercultural Relations*, 11, 301-320 and Hofstede, G. (1991). *Cultures and organizations: Software of the mind*, New York: McGraw-Hill.

⁵ Hofstede, G. (1991). *Cultures and organizations: Software of the mind*, New York: McGraw-Hill, p. 252.

long-term orientation (LTO) towards time – was added to this model in an attempt to „avoid cultural bias”⁶.

Hofstede’s dimensions of national culture were constructed at the national level, being underpinned by variables that correlated across nations, not across individuals or organizations. Hofstede’s dimensions are formulated in such a way that they addressed basic problems that societies have to deal with⁷:

- Power distance: social inequality, including the relationship with authority;
- Individualism/collectivism: the relationship between the individual and the group;
- Masculinity/femininity: this dimension describes the polarization between gender roles in a country, the male role reinforcing assertiveness and competition, being focused around material success while the female role stressing nurturance, modesty, tenderness and a concern for relationship and for the living environment;
- Uncertainty avoidance: ways of dealing with uncertainty, relating to the control of aggression and the expression of emotions (later editions of the book refer to „the extent to which the members of a culture feel threatened by ambiguous or unknown situations”).

The Trompenaars’s model

Building on the work of Hofstede, Fons Trompenaars presented a somewhat different model of culture based on his study of Shell and other managers over a ten-year survey⁸. His model is focused on variations in both values and relationships across cultures. It consists of seven dimensions:

- Universalism – particularism: this dimension refers to relative importance of applying standardized rules and policies across societal members and the role of exceptions in rule enforcement;
- Individualism–collectivism: this dimension refers to the extent to which people derive their identity from within themselves or their social group;

⁶ Hofstede, G. & Hofstede, G.J. (2005). *Cultures and organizations: Software of the mind*, 2nd ed. New York:McGraw-Hill, p. 30.

⁷ Hofstede, G. (1991). *Cultures and organizations: Software of the mind*, New York: McGraw-Hill, pp. 13-14.

⁸ Trompenaars, F. (1993). *Riding the waves of culture:Understanding cultural diversity in business*, London: Economists Books ; Trompenaars, F. & Hampden-Turner, C. (1998). *Riding the waves of culture:Understanding diversity in global business*, New York: McGraw Hill.

- Specific – diffuse: this dimension refers to the extent to which people’s various roles are compartmentalized or integrated;
- Neutral – affective: this dimension refers to the extent to which people are free to express their emotions in public;
- Achievement – ascription: this dimension refers to the manner in which respect and social status are accorded to people;
- Time perspective: this dimension refers to the relative focus on the past or the future in daily activities;
- Relationship with environment: this dimension refers to the extent to which people believe they control the environment or it controls them.

The Schwartz’s model

Shalom Schwartz asserted that the essential distinction between societal values is the motivational goals they express⁹. He identified ten universal human values that reflect needs, social motives and social institutional demands. These values are purportedly found in all countries and represent universal needs of human existence: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity and security¹⁰. Schwartz argued that individual and cultural levels of analysis are conceptually independent¹¹. Individual-level dimensions reflect the psychological dynamics that individuals experience when acting on their values in the everyday life, while cultural-level dimensions reflect the solutions that societies find to regulate human actions. In this respect, at cultural level, Schwartz formulated three dimensions: conservatism and autonomy (the extent to which individuals are integrated in groups), hierarchy versus egalitarianism (the extent to which equality is valued and expected) and mastery versus harmony (the extent to which people seek to change the natural and social world to advance personal or group interests). His model has been applied to basic areas of social behavior, but its application to organizational studies has been limited¹².

⁹ Schwartz, S. H. (1992). Universals in the content and structures of values: Theoretical advances and empirical tests in 20 countries. In M. Zanna (Ed.), *Advances in experimental social psychology*, 25, pp. 1-65. Orlando, FL: Academic.

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¹² Bond, M. & Smith, P. (1996). Cross-cultural social and organizational psychology, *Annual Review of Psychology*, 47, p. 205-235.

The GLOBE's model

Robert House led an international team of researchers that focused primarily on understanding the influence of cultural differences on leadership processes¹³. Their investigation was named the „GLOBE study” for Global Leadership and Organizational Behavior Effectiveness. In this research, a model of nine cultural dimensions was proposed, of which several of them have been identified previously (e.g., individualism-collectivism, power distance and uncertainty avoidance) but others are unique (e.g., gender egalitarianism and performance orientation). One of the principal contributions of the GLOBE study has been to systematically study not just cultural dimensions but how variations in such dimensions affect leadership behavior and effectiveness¹⁴.

Critical approach on the five reviewed models

Taken together, the cultural models presented attempt to accomplish two aspects. Each model offers a well-reasoned set of dimensions along which cultures can be compared, offering by this a framework for cultural analysis. In this framework, researchers are allowed to break down assessments on different cultures into particular aspects that are part of the general concept of culture, and thus organizing their thoughts and focusing attention on what otherwise would be a monumental task. But also, four of the models offer numeric scores for rating different cultures.

As this review shows, there are many different ways to represent cultural differences, and the available models frequently focus on different aspects of societal beliefs, norms or values. Therefore, convergence across the models is often seen as limited. This lack of convergence means important challenges both for researchers attempting to study cultural influences on management and managers trying to understand new cultural settings¹⁵.

In order to navigate this culture theory jungle, we consider that the most productive approach is to integrate and adapt the various models based on their utility for better understanding business and management in cross-cultural settings. Therefore, the best instrument in this respect is that of seeking common themes that collectively represent the main differences between cultures.

¹³ House, R. J. et al (2004). Culture, leadership and organizations: The GLOBE study of 62 societies, Thousand Oaks, CA: Sage Publications.

¹⁴ Nardon, L. & Steers, M. R. (2006). Navigating the culture theory jungle: Divergence and Convergence in models of national culture, Vlerick Leuven Gent Working Paper Series, 38, p. 8.

¹⁵ Idem.

An analysis conducted by Nardon in 2006 identifies common themes across six culture models, referring in addition to the Hall's model, as presented in the following table:

Common themes	Kluckhohn & Strodtbeck	Hofstede	Hall	Trompenaars	Schwartz	GLOBE
Relationship with Environment	x	x		x	x	x
Social Organization	x	x	x	x	x	x
Power distribution	x	x		x	x	x
Rule orientation		x		x		x
Time orientation	x	x	x	x		x

Source: Nardon, L. & Steers, M.R. (2006). Navigating the culture theory jungle: Divergence and Convergence in models of national culture, Vlerick Leuven Gent Working Paper Series, 38, p.34

Conclusions

Following the conducted review and in respect to all findings in this area, five relatively distinct common themes seem to emerge from the above comparison. We consider these themes as it follows:

- Relationship with the natural and social environment, in the extent to which people seek to change and control or live in harmony with their natural and social surroundings;
- Role of individuals and groups, in the extent to which social relationship emphasize individual rights and responsibilities or group goals and collective actions;
- Power distribution in society, in the extent to which power in a society is distributed hierarchically or in a more egalitarian or participative fashion;
- Relative importance of rules, in the extent to which behavior is regulated by rules, laws and formal procedures or by other factors such as unique circumstances and relationships;
- Time perception and tasks, in the extent to which people organize their time based on sequential attention to single tasks or simultaneous attention to multiple tasks.

At first glance, these themes seem to replicate Hofstede's dimensions, but close analyses suggests that the other models serve to amplify, clarify and in some cases, reposition dimensions so they are more relevant for the contemporary workplace.

This work was supported by the project „Post-Doctoral Studies in Economics: Training program for elite researchers – SPODE” co-funded from the European SocialFund through the Development of Human Resources Operational Programme2007-2013, contract no. POSDRU/89/1.5/S/61755.)

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⁵ Gellerman, S. Why „Good” Managers Make Bad Ethical Choices. Harvard Business Review, Vol. 64, July – August, 1986, pp. 85-90.

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⁶ Schermerhorn, J. Management, John Willey & Sons, New York, 2005, p. 68.

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Management theory, as is well known, evolved along with the development of economic relations. Furthermore, in management theory has distinct theories, expressing their own opinions, positions and attitudes of authors - developers of those theories. One of the main and most characteristic areas was the classical approach. Although the main views and positions of the authors of this approach have been established more than 120 years, it should be noted that some of their reasoning could be applied in practice at the moment. Purpose of the report is a comparative analysis of the main authors of this theory and indicate which of their designated rules would assist management in the business.

Key words: *business management, classical approach, productivity, business relations, management theory.*

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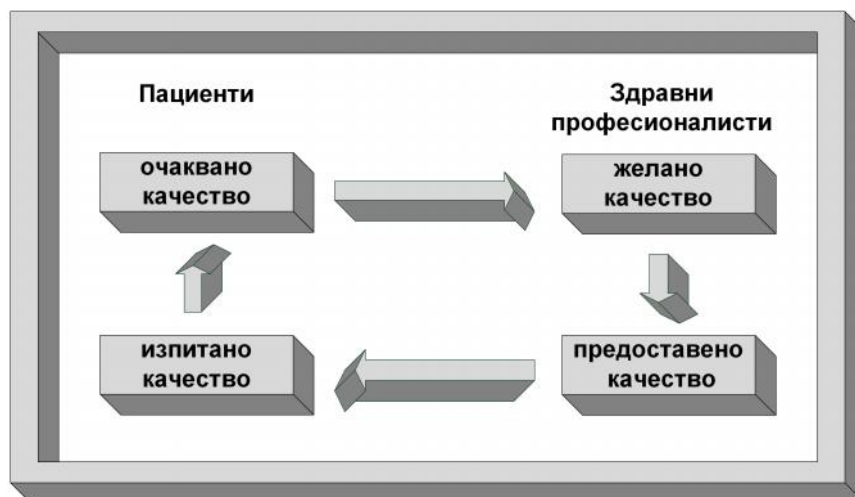
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8 Compliance and the Compliance Function in Banks, Bank for International Settlements, 2005, p. 7.

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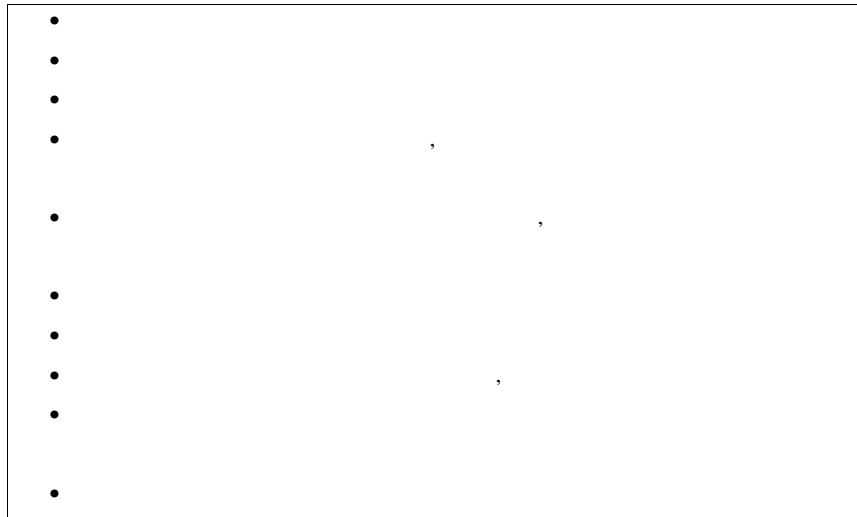
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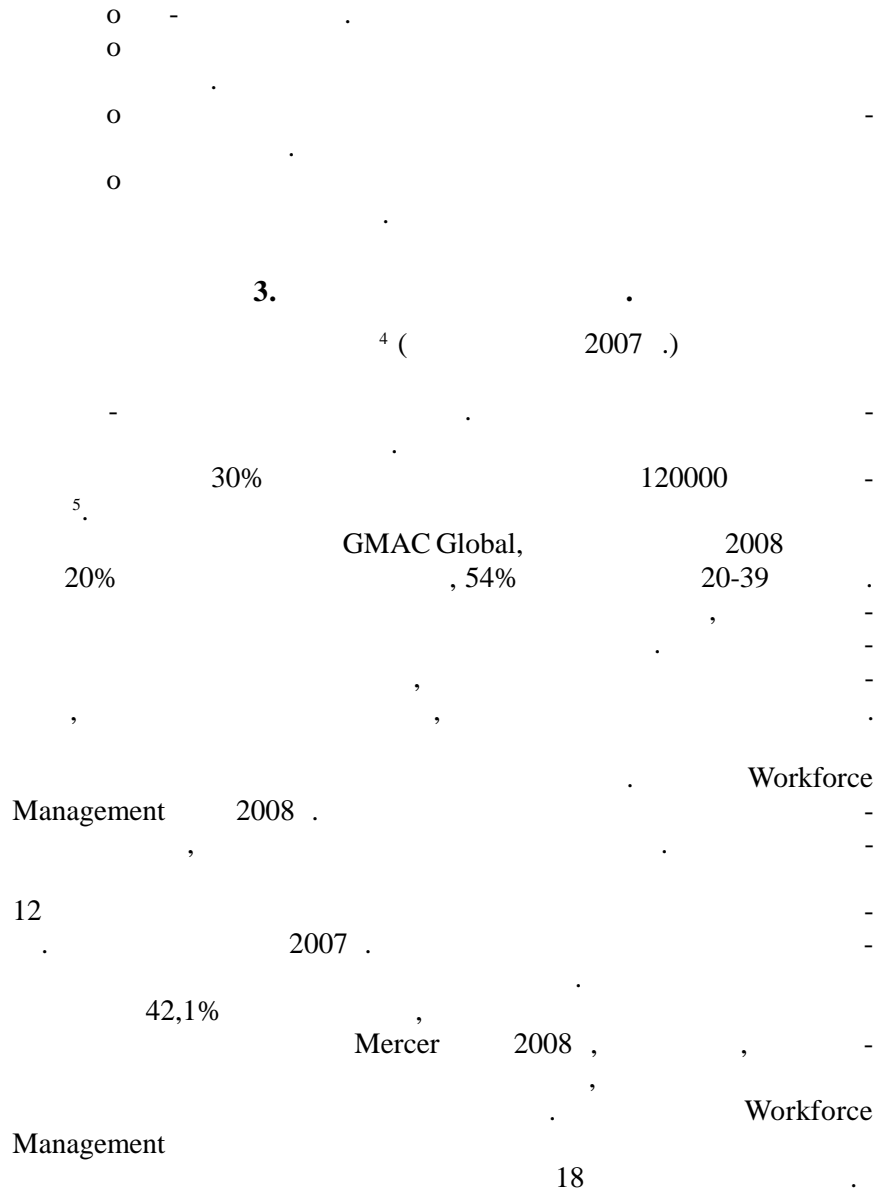
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⁴ : <http://www.nsi.bg/ORPDOCS/ICT_HH1.2.1.xls> [11.04.2012].



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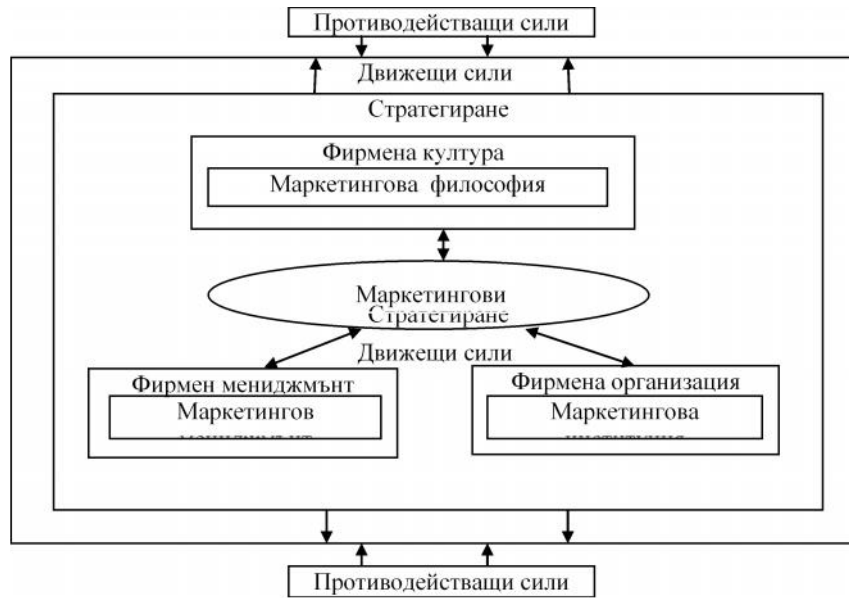
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A MODEL FOR BUILDING TEAMS

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Today in the global economy the importance of teamwork in the workplace receives significant attention. Teamwork is not only important, it is essential, especially for the companies that are part of the international business – they produce at one continent at the moment, then a few days later deliver the goods to the customers to another.

The focus of this paper is the analysis of the team building process, regardless of the purpose or the task the teams perform. The main objective is to set a model for team building which will have a high level of universality in its application.

The research results are presented in a consistent form – a model for building teams that met the above requirement of unlimited usage.

The conclusion emphasizes once again that the ability to work in a team becomes one of the essential skills required from employees in firms, regardless of their size. So, to utilize as much as possible from individuals' potential, it is necessary to understand and implement the process of building and managing teamwork.

Key words: teams, teamwork, model.

The ability to work in a team becomes one of the essential skills required from employees in firms, regardless of their size. Today more and more importance of teamwork in the workplace is being given. We often face with the clichés like „there is no I in the team.” This is a regularly recognized wisdom, but it is scientifically proven repeatedly.

In 2006, two professors of statistics from Brigham Young University, USA, after a proficient study of the competition in the NBA, have proven that teamwork is really the most important factor for winning the game. The detailed analysis of numerous indicators at the end of the matches, mathematically confirmed that there is a high positive correlation between the number of assists and blocks with the number of twists in the result, and thus the outcome of the match. Based on this study, it is easy to understand why teams with the best paid individuals rarely win the championship. In this sense, this reveals the importance of teamwork: it strengthens the individual skills and effort.

Why to use teams?

As a strong argument why teams should be used, here are some examples of application of teams in the USA who have achieved spectacular success in improving quality, increasing productivity, reducing costs and increasing the profitability of their organizations.

Results from the private sector:

- The Insurance Company *Shenandoah Life Insurance* reduced the time period required for the analysis of customers from 27 to 2 days.
- *Procter & Gamble* reduced production costs by 30% – 40%.
- *General Electric* boosted productivity by 250%.
- *Xerox* gained higher productivity by 30%.
- *Rubbermaid* developed a new line of products that resulted in sales 50% higher than expected.
- *Honeywell* increased the quality of its products from 82% to 99.5% without flaws, and the production capacity for 280%.
- *American Transtech* reduced processing time and costs by 50%.

When to use teams?

Despite the potential benefits from teamwork, it should not be understood that all tasks are suitable to be performed by teams. Teams should be used when the strengths of the team would „fit” the requirements of the task. Here are some summarized conclusions of the need for teams’ formation:

Table 1

When to use teams?

When to use teams	When not to use teams
The task is complex and requires different skills and abilities. The available information is incomplete.	One individual has greater expertise in a given area from the rest and has all the necessary information.
Tasks or goals are multidimensional and refer to more functional areas or business units.	Tasks or goals are one-dimensional, defined within a function or business unit.
The ways of performing the task are undefined or yet unknown.	The task is clearly defined.
Creativity is required.	The task is a routine.
It takes effective use of staff.	There is a lack of space, equipment and resources needed by the team.

The team has sufficient time available for training, development and achieving consensus on decisions.	There is a time limit for realization of the task and lack of support for training, development and team decision making.
A great dedication is required.	The executives are changing.
Collaboration between many individuals to achieve the goal is essential and a favorable organizational culture of teamwork exists.	Lack of support and cooperation, inadequate organizational culture and management styles.

Source: Katzenbach, J.R., Smith, D.K., The Wisdom of Teams: Creating the High Performance Organization, Harper Business, 2003.

The 5P model for team building

Teams are a useful tool to improve processes and quality in organizations and thus contribute to higher customer satisfaction, increase in revenues or decrease in costs. Managers accustom the benefits that teams provide but harder recognize what it takes to make a team that will function according to their ideas.

When a team is being formed the manager should consider the reason and purpose of the team, the participation and contribution of each member, the location, plans and processes of the team. These are the elements of the so-called *5P model for team building* which consists of the following elements:¹ **Purpose**, **Participation**, **Plan**, **Placement** and **Process**. With their accurate understanding and proper application, managers provide adequate teams design in their organizations and recognize the needs for future development and improvement. The sequel follows a more detailed analysis of each element of the model.

1. Purpose. You should clearly know why the team exists, what it needs to do and how you know it is successful. The team members and the management must agree on the team's mission, for what writing a mission report is commonly practiced, and so both the team members and the management will work together in a common direction, towards finding solutions and meeting goals. Tasks and deadlines should be harmonized with the overall goal, which will serve as a guide for the team's performance and it's facing with challenges.

2. Participation. Which are the best people to be involved and how big should the team be to achieve the goal? The management should take into account the necessary skills and professional attitudes and knowledge that team members should possess. There should be precisely defined criteria

¹ Rickards, T., & Moger, S. Creative leadership processes in project team development: An alternative to Tuckman's stage model. *British Journal of Management*, Part 4, 2000.

for selecting the most appropriate team members. Moreover, when establishing membership of the team it is necessary to appropriate complementarity and balance between the profiles of individuals involved. This is needed to ensure cohesion in the team, to increase efficiency, so that people involved in solving the problem would be more focused on ways to achieve the goal, rather than wasting energy and time on solving mutual misunderstandings and conflicts.

3. Plan. Does the team know when, where and how his project or task should be accomplished, does each member know what he/she needs to do to accomplish their task? When the team already knows what his specific goals and reason for formation are; and when members agree that they are relevant and achievable then the team should establish an appropriate plan and timetable for their achievement and measurement methods for the progress in their achievement. The plan should specify tasks that members need to accomplish, deadlines and resources for their execution, expected milestones and key moments and activities, but also to predict and include the necessary training activities required for team members to gain additional knowledge and skills needed to perform tasks and achieve the goal.

4. Placement. Where are team members physically located and how often should the team meet? If team members work daily at the same place, then some things are easier: the team will need only one meeting room for discussion, decision making and problem solving. If team members are located in more remote locations then managers should consider the costs and possible problems due to weather or cultural differences, to determine the frequency of meetings and how much they cost and to provide special equipment for regular meetings of members by phone or online.

5. Process. How will the team get where it needs to achieve its goal? The team should develop and introduce basic rules of behavior and activity, including restrictions imposed by the management to the extent of the power, duties, responsibilities and the decision-making by the team. The team and the management should establish specific procedures as a standard for the performance of tasks, of course without prejudice towards the innovation and flexibility in the team. The initial team training should include ways of running meetings, keeping records, preparing a schedule of activities, interpersonal communication, ways and methods of problem solving and the like.

The management can improve the design of teams using the model of 5P: purpose, participation, plan, placement and process, in order to facilitate their development. The recognition of the benefits from teams and teamwork in the organization requires management to engage in providing appropriate

conditions for the process of team creation and the development of effective teams. So, a well designed and developed team is one which is helpful for improving the overall quality and success of the organization; in which members are willing individuals with the desire and ability to contribute, which operates at a well-chosen location has its clearly defined goals, plans and processes.

Conclusion

Team building is more than hiring a number of talented people. It means recruiting people to work together. It means developing a shared vision and commitment. It is more than physical connection of people. The team is a synergetic community of strong team players. It is the source of creativity and innovation, of open discussion and sound issues, of constructive confrontation of opinions and attitudes, of learning and discovering new and better solutions. The team means encouraging positive, informal interactions between members. In the team you hear statements like „we do” instead of „you can do”.

Good and successful teams leave no room for attacks, jealousy, cynicism and accusations. Of course, good teams have problems but they are resolved because the actual team is willing to overcome difficulties and achieve something more, something that the individual will not be able to accomplish alone.

And logically, successful teams have the potential for greater flexibility, diversity and exchange of knowledge. They increase the possibility of combining ideas and capabilities to achieve synergy in operation; they discover new approaches and methods for solving problems and accomplish tasks; they stimulate the open communication and exchange of information, so the process of working together increases the capacity of individual members. Teams bring a potential for greater autonomy, identity, trust and loyalty among members and team accountability stimulates efficiency and dedication.

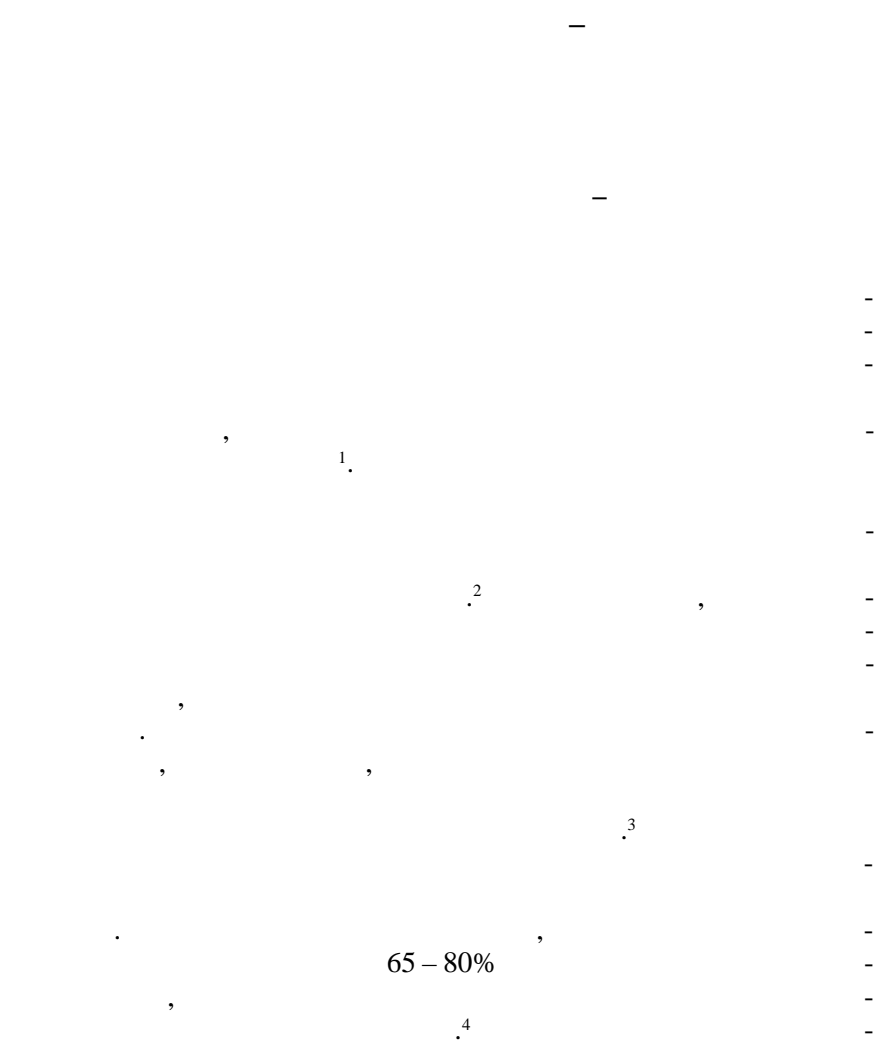
Everything different from this attributes of a successful team is an unsuccessful one. The earliest negative symptoms of improper functioning of the team should be seriously analyzed and as soon as possible overcame; otherwise the better team immediately to disband rather than it happen later, with much higher costs for the organization.

All the above analyzes pose a clear opinion: teamwork does not guarantee success; it is a way of hard and persistent achievement of common results. So next time you go to a game, pay attention to all members of the

teams from both sides, when you hear a presidential poignant speech think of the people who worked on it and most important, when you will hear that a company has earned millions from a new product, service or project, remember that these millions are the result of someone's teamwork. And freely ask to be part of such a team!

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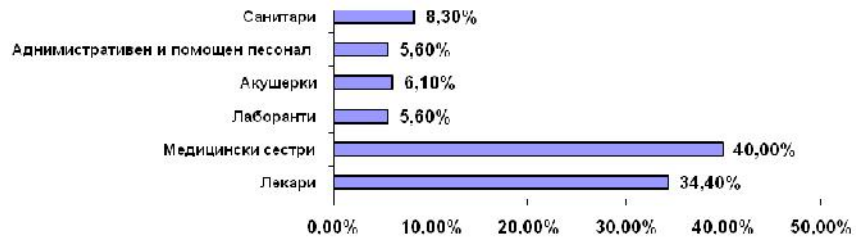
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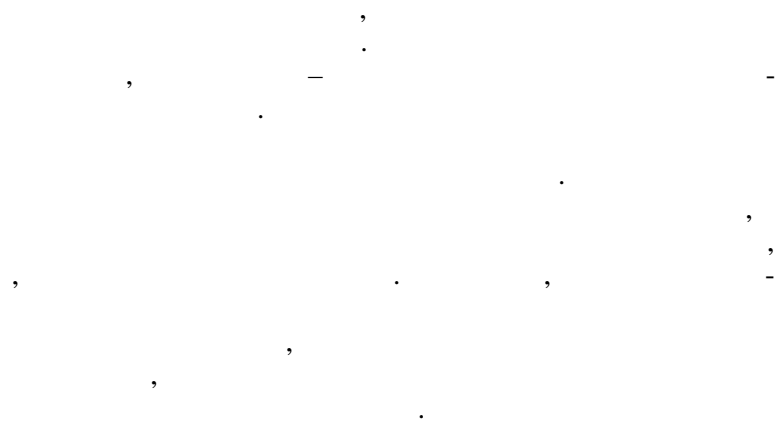
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In the 21st century the economic environment has been changing fast. Marketing-controlling makes it possible for marketing to use a measurable component and in this way further develop marketing as a conception. The controlling is a system supporting decision-making and the activity of the management. It coordinates economic planning, supervising, and exchange of information between the different units of organization. This system enables the manager to control the enterprise focusing on the aims and taking environmental changes into consideration.

Key words: *controlling, marketing-controlling, marketing actions, tasks of marketing-controlling, management*

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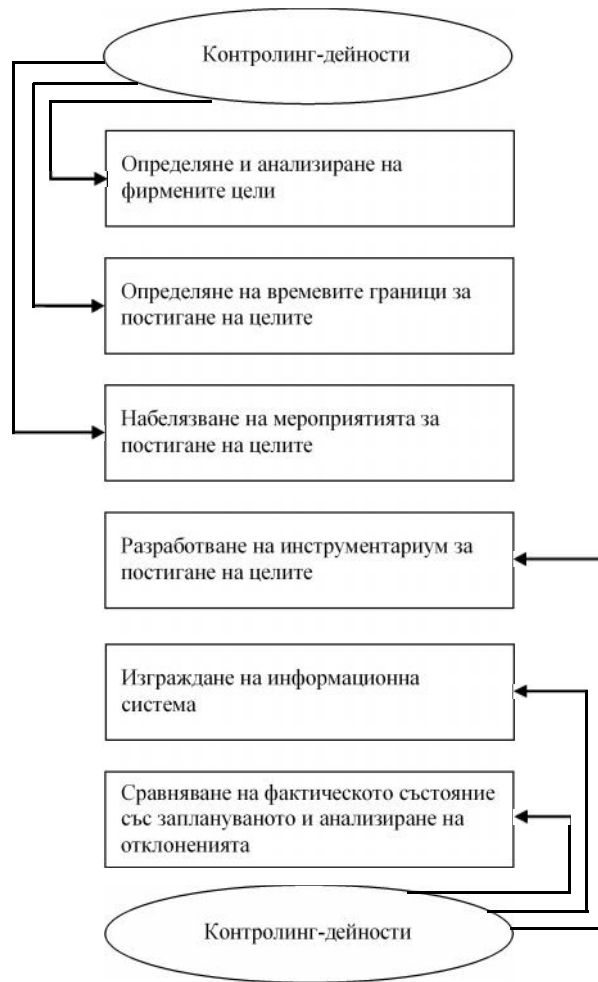
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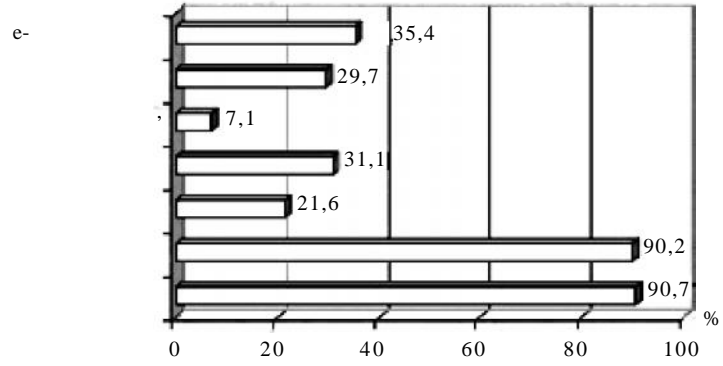
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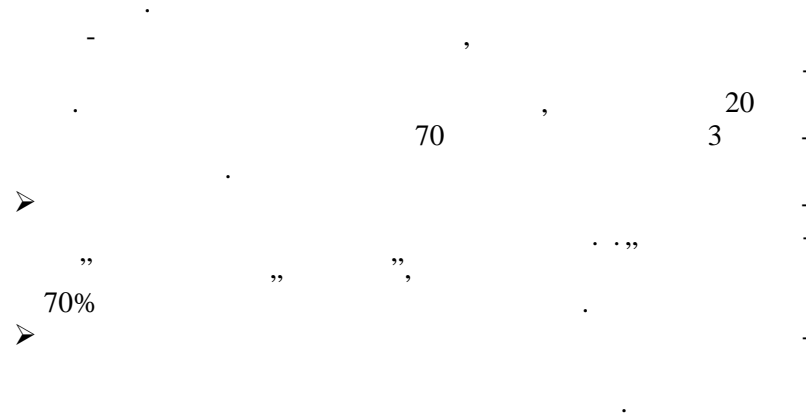
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THE ROLE OF OPERATIONAL RISK IN THE RISK MANAGEMENT FUNCTION

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Abstract

The purpose of this paper is to discuss the different types of risk and general approaches to analyze risk in a company, and to describe the importance of implementing a formal risk management policy in a company. Business risks are diversifiable and specific to the industry and the market in which a firm operates. Part of the business risks is operational risk which incorporates the direct or indirect loss resulting from inadequate or failed internal process, people and systems or from external events. The paper explains the components of operational risk and situation of his appearance, as well as the steps for creating risk management policy.

Introduction

The risk as a measure of potential changes in value that can be experienced in a managed portfolio as a result of differences in the economic environment when the current situation and future point of time invoke a need for a risk management. Management of risk over specific period of time in situations where volatility exists and managers have the opportunity to change the expected cash flows is important for six primary reasons. Three of them can be classified as microeconomic in nature and they affect the performance of the individual corporation. Other three reasons are macroeconomic in nature and since they affect the overall financial system.

The importance of risk management, particularly in financial institutions, can be seen firstly with the analysis of the three microeconomic reasons. First, the management of risk reduces the volatility of earnings. Since, earnings will become more stable with the management of risk, investors are less likely to demand as high a premium for risk. As a result, the value of the firm to the shareholders increases. Second, the management of risk can reduce the volatility of cash flow from operations. Since operating income plus depreciation service debt payments, banks are more willing to lend larger sums to firms with more predictable and stable operating income. The company has greater debt capacity and can borrow more funds to

invest in tangible and intangible assets. Third, because the managers of the firm have more control over earnings volatility and thus performance, a firm can more easily achieve its goals and remain competitive.

When the macroeconomic aspects are considered, there are three reasons why risk management is important. From the financial institution's point of view, managers will be able to spend more time on the improvement of financial operations instead of spending time on capital adequacy. Second, lower volatility reduces the likelihood that a financial institution will fail. With lower volatility, depositors are more secure that their funds will be available over longer periods of time. Finally, from a global point of view, if financial systems are safer and less prone to disruption, the world economy in general will benefit.

The risk areas

Typically, risks are divided into systematic and unsystematic risk categories. To get a better understanding of a risk landscape faced by a business and to understand where operational risk fits into the risk areas, there is a need for breaking the systematic and unsystematic risks into their component parts. Nonsystematic, company-specific or business risk can be divided into five component parts, which are operational risk, legal risk, credit risk, liquidity risk and model risk.

Business risk is specific to the industry and market within which the company operates. If a firm produces hardware components, its business risks would be those specific to the hardware components production industry and the market for hardware components. The most significant risk among business risks are the operational risks. These are the risks arise from the failure of internal systems, or from errors by the people who actually run the business. The risks can be very minor event such as failure to update a computer program, or cataclysmic events that result in complete financial failure of the business.

The next component of business risk is the legal risk, which is related to operational risk. This risk occurs when contracts are not enforced. Companies also find that credit risk, even though it is often associated with legal risk, can occur independently of legal risk. Here, the problem is that the counterparty to the transactions recognizes their legal obligation but does not have the financial resources to make the promised payment. Another business-risk-related exposure is liquidity risk. This is the risk arising from the cost of unwinding a position. That is, if a position needs to be divested quickly, a sale at an unfavorably low price may have to be made

because buyers may be hard to find. An emerging and serious form of business risk is model risk. Since financial models are becoming extremely complex, designing and implementing the models tend to be extremely technical. Unfortunately, the complexity of a model often obscures the assumption used to generate a model's outcomes. As a result, the economic validity of the model is increasingly difficult for nontechnical but market-savvy professionals to verify. Model risk is an important component of business risk because business decisions are made based on the outputs from these financial models.

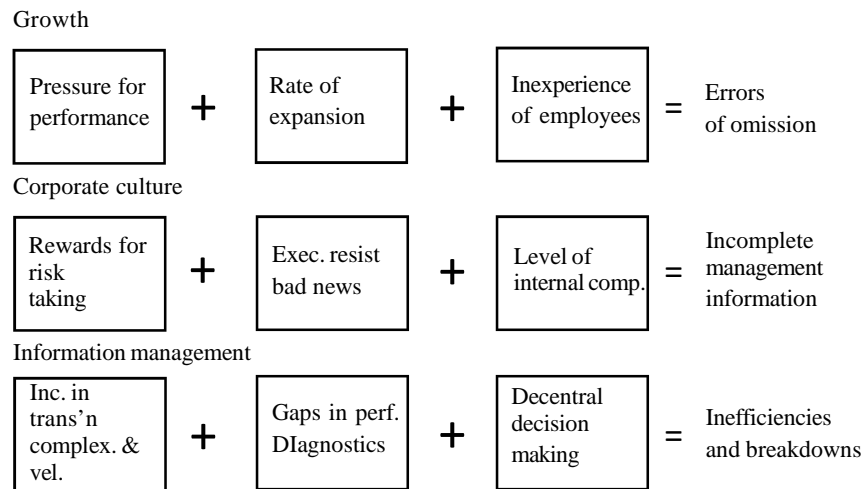
Additionally to business risk, all firms are exposed to market, or systematic risks. Market risk can be divided into three components, which are interest-rate risk, foreign exchange risk and commodity price risk.

Operational risks

Operational risk, as part of business risk is risk of direct or indirect loss resulting from inadequate or failed internal processes, people, and systems or from external events. This definition incorporates the interaction of individuals with the company and the company's activities with the outside world. The operational risk can be divided into four component parts. The first part is risk from operations which results from a breakdown in a core operating, manufacturing, or processing capability. In an organization charged with investment responsibilities, the risk is associated with the manager, marketing, and sales behavior, as well as technology-related transactions. The second component is asset impairment risk, which occurs when an asset loses a significant portion of its current value because of a reduction in the probability of receiving expected future cash flows. This risk centers on the organization ability to look after its assets. Places where transactions are processed or where data can be manipulated are important to maintaining the integrity of the financial system and the value of the assets. The third component is the competitive risk which results from changes in the competitive environment that could impair the business ability to create value and differentiate its products and services. In financial terms, this often means the company has failed to deliver superior performance as a result of a market downturn or from managerial failures. The last one is the franchise risk. It is a consequence of excessive risk in one of the three other operational risk components listed here. It occurs when the value of the entire business erodes due to a loss in confidence by critical constituents such as shareholders, investors, or customers.

Bases of operational risk

The most common reason of operational risks arising can be divided in nine different handles of control. These nine different handles detail the places to look for operational risk within a company and can be used to measure the operational risk of a company.



Graph 1. Internal risk pressures

The first row evaluates the company's growth. Errors of command or instruction can occur when senior managers pressure employees to provide a very high level of performance, when the rate of expansion is so high that existing employees do not have enough time to perform their jobs well, or when the company is forced to use untrained or inexperienced employees in important positions.

The second row shows problems related to corporate culture. The problems here usually stem from incomplete managerial information. These problems can occur when managers provide high rewards. An example of this will be large year-end bonuses for outstanding performance. As previously stated, higher returns are usually associated with greater risks. Therefore, managers may be rewarding employees for taking greater risk in comparison to the situation when there will be no bonuses. A similar source of difficulty arises when management concentrates too much on the ultimate objective. What this means is that managers only want to hear about events that are in line with achieving their goals. As a result, some

managers may give employees the notion that bad news is unacceptable, and since many employees choose not to upset their managers, they do not report bad news in sufficient time for managers to take appropriate corrective actions. A final cause of insufficient managerial information arises when incentives create an excessively competitive work environment that encourages one employee to compete against the other. As a result, employees become reluctant to share information with their co-workers when certain information is needed to operate the company successfully. These reluctant employees are afraid they will be giving another employee an advantage in gaining recognition that can lead to financial rewards.

The third row discusses problems in information management. As a company grows, the nature and extend of the transactions in which it is involved often becomes much more frequent and much more complex. If employees are focused to do complicated functions and have less time to complete them, disasters can occur. A similar type of problem occurs when a company uses a system to evaluate its employees and the system is not adequate for the task. For example, suppose an employee is assigned a task that is not to be evaluated. A final cause of inefficiency and process breakdown occurs when an operation becomes so large that it has to decentralize the decision-making process. If this decentralization is not managed appropriately, transactions fall through the cracks because another division believes another division is responsible for performing the task.

Operational risk management

There are different strategies that can be used for operational risk management. But, the best method used for operational risk management can be divided in five stages which explain the evolution of operational risk management that a company must recognize as it becomes more and more sophisticated with and concerned about its risk management processes. The first point is that companies have always known that operational risk exists. Historically, these risks have been managed by relying on internal controls with periodic reviews by the internal auditor. Generally, the responsibility for risk control has remained with the individual managers in the business and specialist functions. The first stage as traditional baseline includes internal controls, reliance on internal audit, individual mitigation programs and dependence on quality of staff and culture.

The second stage identifies the fact that operational risk can have a significant impact on the profitability of the company. Usually, a particular individual is appointed to be responsible for operational risk and that person is responsible for developing a common understanding and assessment of

operational risk. Risk policies are developed, early indicators of risk levels are identified, and operational losses are collected. The purpose of this stage as awareness stage is to provide a framework for risk identification, definition of controls, prioritization of issues, and collection of loss events develop simple economic capital models and establish value proposals.

The third, or monitor stage, focuses on the current levels of operational risk and the effectiveness of management functions. Risk indicators are established to monitor performance. These indicators are consolidated with other relevant performance measures to provide senior management with an overall assessment of the firm's performance. Because this stage provides a better understanding of the current operational situation, stage four concentrates on qualifying the relative risks and attempting to predict what will happen in the future. Usually, firms in this stage assign specific committees or task forces to develop empirical models and evaluate their validity. The final stage recognizes the pervasive nature of operational risk. The objective is to integrate and implement processes and solutions while, at the same time, recognizing the different levels of management needs. At this stage, operational risk management becomes a fundamental part of the strategic planning process.

In today's world the business must make profit to remain successful and the management of risk requires expenditure of a firm's financial resources. Appropriate risk management is not without expenses. The final goal of risk management is either the creation or protection of shareholders value. The risk management must incorporate knowledge of the effect of risk on the performance of the company, the amount of risk the company can tolerate, and the impact of volatility on financial performance.

The need for a risk policy

The main reason for a risk policy is the need for establishing guidelines for the management in the company and the need for describing the role of the different parties involved in the investment functions and the control of activities related to managing risk. Most policy guidelines are designed to meet or exceed any regulatory standards and to ensure that managers take a prudent course of action in the management of corporate operations and overall financial risk. There are two different reasons that can be analyzed as purposes of policy statements in a company. The first is that the policy statement is designed to protect the shareholders of the company from the management of the company. The second is to protect the managers from themselves. Giving the specific actions that manager should and should not

take, these policies force managers to work together within a unified structure that will achieve the general goal. The policy statement should outline the appropriate approval procedures that decision making must follow so that everyone knows who is responsible for what decision. Having the policy statement in a company, well-informed independent outsider can look at the investment decision and understand exactly why it was made.

The first step in establishing a company's risk policy is to define risk specific to that organization. The second step is to determine a level of risk aversion based on management's and other stakeholders' risk desire, or how much risk exposure the company is willing to take. After this, the management must define the investment philosophy. One of the basic purposes of an investment philosophy statement is to define how much risk a firm is willing to accept. The preparation of this document is one of the first steps to ensure that management has accurately identified the nature and extent of the risks faced by their firm. Management must decide whether they want the certainty of cash flows or the flexibility to earn additional profits. The third step is to identify the objectives of the risk management policy. At this point, senior management must decide which exposures are important enough to manage and how much of the corporate resources should be spent in the risk management process of these exposures. This discussion requires that they define and measure the exposures on several dimensions such as present vs. future transactions, the effect of historical vs. accounting reporting, and the economic impact of the future cash flows. Some of the policy objectives include the preservation of the value of the company in the long term regardless of the variation in underlying economic variables, ensuring the total risk position of the company managed in a prudent fashion through the imposition of reasonable limits, and also ensuring that within the limits imposed, the company receives a reasonable return for the risk it does take. The last step is to identify the areas where risk management will be required and the identification of the responsible parties for this risk management. So, the limitations that the risk management has to work within must be specially identified.

Conclusion

The implementation of the risk management strategy must have the following characteristics: acceptability, consistency and quality. Acceptability is needed because the strategies must make sense to professional who will implement the strategy. Consistency is needed because the strategies must make sense in the context of managements' stated values and objectives

and the strategies must have a logical flow from period to period. Quality is needed because the strategies can be seen to improve management decisions that is, management's beliefs with market realities. With those characteristics, the risk management process will become an important element in the strategic planning process.

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ВЪЗМОЖНОСТИ ЗА ИЗПОЛЗВАНЕ НА НЯКОИ НЕЛИНЕЙНИ МОДЕЛИ В ЕДНОФАКТОРНИЯ РЕГРЕСИОНЕН АНАЛИЗ

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Резюме

Анализът на зависимостите между два фактора в икономиката най-често се осъществява с помощта на линейни (в някои случаи с квадратни) регресионни модели. В настоящата разработка се разглеждат възможности за построяване на някои нелинейни модели. Те в редица случаи са по-точни и дават с по-малка грешка корелационната зависимост между факторите.

Ключови думи: *линейна регресия, нелинейна регресия, коефициент на детерминация, коефициент на корелация*

В икономическите системи от голямо значение е правилното определяне на зависимости между отделни фактори. В много случаи с цел прогнозиране в определени граници изменението на даден фактор на основа изменението на други фактори се прилагат принципите на регресионния анализ. Според броя на включените фактори регресионните модели се делят на еднофакторни и многофакторни. Предмет на настоящото изследване са еднофакторните модели. На основата на исторически данни за стойностите на даден фактор X (независим фактор) и стойностите на фактор Y (зависим фактор) с помощта на метода на най-малките квадрати (МНК) се задава аналитична зависимост на Y от X . Най-често на практика се търсят модели от вида $\hat{y} = a + bx$ или $\hat{y} = a + bx + cx^2$. Изборът на линеен или квадратен модел се прави след наблюдение на предварително построената хистограма от точки, съответстващи на двойките исторически данни. Ако се търси модел от даден вид, то МНК дава най-добрия, т.е. този при който сумата от квадратите на отклоненията на реалните данни от кривата, съответстваща на модела е най-малка. Един от методите за сравняване на модели от различен тип е

чрез пресмятане на коефициента на детерминация¹:

$$r_{yx}^2 = 1 - \frac{\sum_{i=1}^n (y_i - \hat{y}_i)^2}{\sum_{i=1}^n (y_i - \bar{y})^2},$$

където

- y_i са стойностите на фактора Y ,
- \bar{y} е средната на фактора Y , т.е.

$$\bar{y} = \frac{\sum_{i=1}^n y_i}{n},$$

- \hat{y}_i са стойностите на фактора Y , получени от модела, т.е.
 $\hat{y}_i = \hat{y}(x_i)$,
- n е броят на историческите данни.

Коефициентът на детерминация приема стойности в интервала $[0,1]$ и колкото е по-близък до 1, толкова зависимостта на фактора Y от фактора X е по-силна. Така, ако бъде получен линеен и квадратен регресионен модел, по-добър е този, който има по-голям коефициент на детерминация r_{yx}^2 . Така например, ако $r_{yx}^2 = 0,86$, то това показва, че 86% от вариацията на Y се дължи на фактора X , а другите фактори, които не са включени в модела оказват влияние само 14% върху вариацията на Y . Това показва, че по-добър е моделът с по-висок коефициент на детерминация. В същото време $r_{yx} = \sqrt{r_{yx}^2}$ е коефициента на корелация². Той показва корелационната зависимост между факторите X и Y .

В редица случаи се оказва, че по-силна е зависимостта между два фактора, ако се търси нелинейна зависимост (различна от квадратния регресионен модел). За улеснение на потребителите, напри-

¹ Радилов, Д. и др. Въведение в статистиката. Университетско издателство, ИУ – Варна, 2003, с. 246-247.

² Дрейпер, Н., Г. Смит. Прикладной регрессионный анализ. Изд. 2-ое перераб. и доп., М., Финансы и статистика, 1986, с. 67.

мер продуктът Microsoft Excel предлага вградени функции за определяне на някои такива модели, като полиномиален, експоненциален, логаритмичен и моделът изразен със степенна функция.

Целта в настоящия доклад е да се предложи нов нелинеен модел и метод за неговото аналитично изразяване.

Необходимостта от търсене на възможности за конструиране на такава нелинейна зависимост произтича от това, че в някои случаи той се оказва най-добър, т.е. с най-висок коефициент на детерминация.

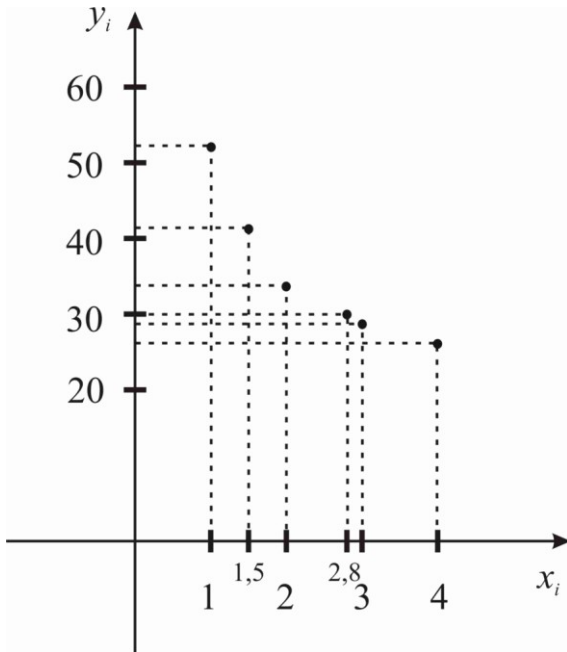
Ще разгледаме следния пример. Данните за независимия фактор X (цена на даден продукт) и зависимия фактор Y (обем на продажбите) са дадени в табл. 1.

Таблица 1

**Зависимост на обема продажби (y_i) на даден продукт
от цената му (x_i)**

x_i	1	1,5	2	2,8	3	4
y_i	52	41	34	30	29	27

От хистограмата, показана на фиг. 1 се вижда, че видът на модела освен линеен, може да се търси и от квадратен тип, тъй като точките са разположени близо до намаляващата част от графиката на някаква парабола. В същото време може да се търси по-точен нелинеен модел, например от вида на степенна функция, експоненциална или логаритмична.



Фиг. 1. Хистограма на данните от табл. 1

Това налага да се направи опит за получаване на различни аналитични зависимости на фактора Y от фактора X ³:

- линейна: $\hat{y} = a + bx$;
- квадратна: $\hat{y} = a + bx + cx^2$;
- степенна: $\hat{y} = ax^b$;
- логаритмична: $\hat{y} = a + b \ln x$;
- експоненциална: $\hat{y} = ae^{bx}$.

С помощта на вградените функции на Microsoft Excel за всеки от тези модели се получават следните резултати:

1. За линейния модел:

³ Всички тези модели могат да бъдат определени с помощта на Microsoft Excel, като за всеки от тях се изчисляват и коефициентите на детерминация (r_{yx}^2) и корелация (r_{yx}).

$$\hat{y} = 4,203 - 0,8474x;$$

$$r_{yx}^2 = 0,8232;$$

$$r_{yx} = 0,9073;$$

2. За квадратния модел:

$$\hat{y} = 73,393 - 0,6385x + 0,7402x^2;$$

$$r_{yx}^2 = 0,9808;$$

$$r_{yx} = 0,9903;$$

3. За степенния модел:

$$\hat{y} = 50,113x^{-0,483};$$

$$r_{yx}^2 = 0,9762;$$

$$r_{yx} = 0,9880;$$

4. За логаритмичния модел:

$$\hat{y} = 9,479 - 8,18 \ln x;$$

$$r_{yx}^2 = 0,9463;$$

$$r_{yx} = 0,9728;$$

5. За експоненциалния модел:

$$\hat{y} = 57,326e^{-0,212x};$$

$$r_{yx}^2 = 0,8796;$$

$$r_{yx} = 0,9379.$$

С най-висок коефициент на детерминация (съответно коефициент на корелация) е квадратният модел ($r_{yx}^2 = 0,9808$) и много близък до него е степенният ($r_{yx}^2 = 0,9762$). Това показва, че при използване на квадратния регресионен модел с цел прогнозни изследвания, той би дал най-близки до бъдещите реални стойности.

Възниква въпросът дали съществува по-добра нелинейна зависимост между двата фактора X и Y . От табл. 1, както и от хистограмата на фиг. 1 се забелязва обратнопропорционална зависимост, т.е. точките са разположени близо до клон от някаква хипербола

$xy = a$ (евентуално изместена с някаква константа в дясно). Това предполага да се направи опит за получаване на аналитичен модел от вида:

$$\hat{y} = a + \frac{b}{x}. \quad (1)$$

Един от вариантите за получаване на коефициентите a и b е да се изходи от алгоритъма на МНК и да се реши съответната система от две линейни уравнения с две неизвестни a и b .

Тук ще предложим една модификация, при която може да се използва вградената функция на Microsoft Excel за получаване на коефициентите в линейния модел.

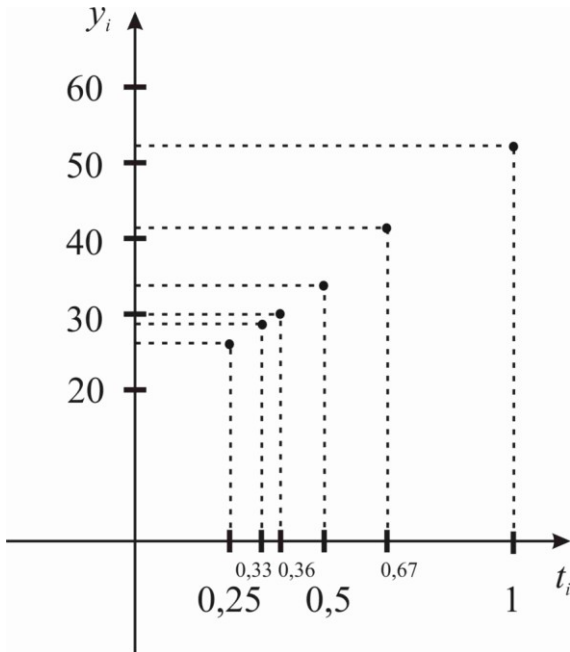
В модела $\hat{y} = a + \frac{b}{x}$ ще положим $\frac{1}{x} = t$ и той ще придобие вида $\hat{y} = a + bt$, който е линеен. Това налага данните в табл. 1 да претърпят промени, като в първия ред се запишат реципрочните стойности на x_i , т.е. $t_i = \frac{1}{x_i}$ пренаредени в обратен ред, т.е. по нарастване на стойностите на t_i (табл. 2). Следва да се пренаредят съответно и стойностите на y_i във втория ред на таблицата.

Таблица 2

**Зависимост на обема продажби (y_i) на продукта
от реципрочните стойности на цената ($t_i = \frac{1}{x_i}$)**

x_i	0,25	0,33	0,36	0,5	0,67	1
y_i	27	29	30	34	41	52

Хистограмата, съответстваща на данните в табл. 2 е представена на фиг. 2.



Фиг. 2. Хистограма на данните от табл. 2

Точките от хистограмата са близки до графиката на линейна функция от вида:

$$\hat{y} = a + b \cdot t.$$

Тази зависимост се определя с помощта на Microsoft Excel и тя има вида:

$$\hat{y} = 7,881 + 3,992t.$$

Като се има предвид, че $t = \frac{1}{x}$ се получава аналитичния модел:

$$\hat{y} = 7,881 + \frac{3,992}{x}.$$

Коефициентът на детерминация за този модел е

$$r_{yx}^2 = 0,9971,$$

а коефициентът на корелация е

$$r_{yx} = 0,9985.$$

Тези резултати показват, че коефициентът на детерминация в предложението на нелинеен модел е с 0,0163 по-добър от съответния коефициент в квадратния модел (най-добрият от вградените в Microsoft Excel регресионни модели). За конкретния пример, този коефициент на детерминация задава с 1,63% по-силна зависимост на вариацията на обема на продажбите от вариацията на цената на дадения продукт.

Този пример показва, че е възможно в някои конкретни задачи от практиката (особено такива, при които зависимостта е обратно-пропорционална) да е най-удачно използването на предложението на нелинеен модел.

В заключение можем да направим някои изводи:

- необходимо е да се познават графиките на най-често използваните функции в икономиката;
- желателно е да се използват възможностите на съществуващите програмни продукти, базирани на МНМК за аналитично изразяване на зависимост между даден зависим фактор Y и независим фактор X ;
- в редица практически ситуации е добре да се търси зависимост от вида (1);
- чрез сравняване на коефициентите на детерминация (коефициентите на корелация) да се направи избор на най-добрия модел, даващ възможно най-точната зависимост между двата фактора.

Съобразявайки се с тези обобщения можем да си гарантираме използването на един оптимален регресионен модел, на базата на който да извършим възможно най-добри прогностични изследвания на интересоващ ни фактор, в зависимост от изменението на силно корелиран с него друг фактор.

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¹ System of National Accounts, 2008. European Commission, International Monetary Fund, Organisation for Economic United Nations Co-operation and Development, United Nations, World Bank. New York, 2009.

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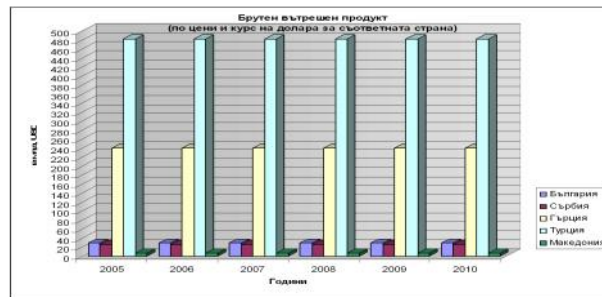
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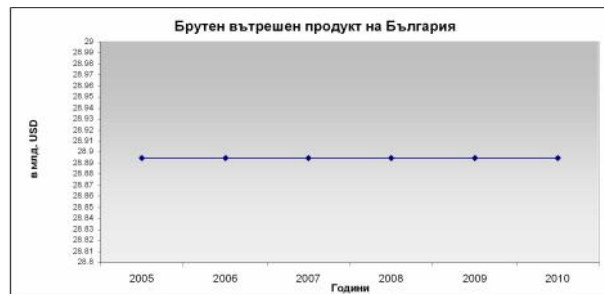
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Гърция	240,0757	262,0526	304,8994	341,1877	321,7952	301,0832
Турция	482,9798	530,9001	647,1551	730,3375	614,5539	734,3645
Македония	5,9858	6,5605	8,1548	9,8340	9,3136	9,1845



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¹ Sachs, L., Angewandte Statistik, Springer-Verlag Berlin, Heidelberg, New York, 11. Auflage, 2004, . 204-205; Hartung, J., Statistik, Lehr- und Handbuch der angewandten Statistik, Oldenbourg Verlag München Wien, 2005, . 17; Bley Müller, J., Statistik für Wirtschaftswissenschaftler, Verlag Franz Fahlen München, 1992, . 3; Bamberg, G., Fr. Baur, Statistik, Oldenbourg Verlag, 2002, . 7.

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² Hartung, J., Statistik, Lehr-und Handbuch der angewandten Statistik, Oldenbourg Verlag München Wien, 2005, . 17.
³ Hartung, J., Statistik, Lehr-und Handbuch der angewandten Statistik, Oldenbourg Verlag München Wien, 2005, . 31; Bamberg, G., Fr. Baur, Statistik, Oldenbourg Verlag, 2002, . 17; Voß, W., Taschenbuch der Statistik, Fachbuchverlag Leipzig, 2004, . 115; Fahrmeir, L. ., Statistik, Springer Verlag, 2004, . 53; Bley Müller, J. ., Statistik für Wirtschaftswissenschaftler, Verlag Franz Fahlen München, 1992, . 13.

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⁴ Peter von der Lippe, Andreas Kladroba: Repräsentativität von Stichproben. In: Marketing. 2002, ZFP 24, S. 139-145.

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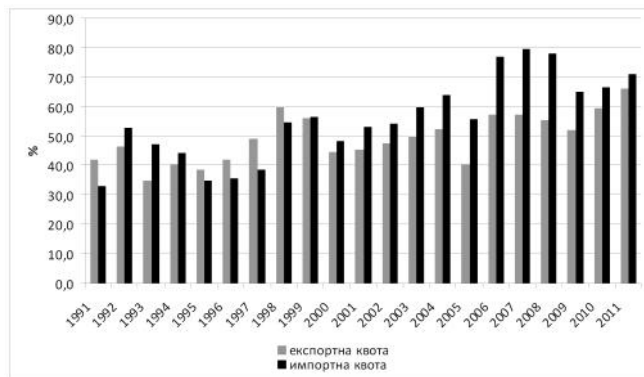
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1999	2,0	-4,6	5,7	-0,4	-2,3	2,9
2000	5,7	-15,9	-9,5	-0,4	-2,8	-1,7
2001	4,2	6,0	14,3	0,7	1,4	3,4
2002	4,7	9,8	6,8	0,5	2,1	1,5
2003	5,5	10,6	16,7	0,5	1,9	3,0
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2006	6,5	50,7	47,7	0,1	7,8	7,3
2007	6,4	6,1	9,6	1,1	0,9	1,5
2008	6,2	3,0	4,2	2,1	0,5	0,7
2009	-5,5	-11,2	-21,0	0,5	2,0	3,8
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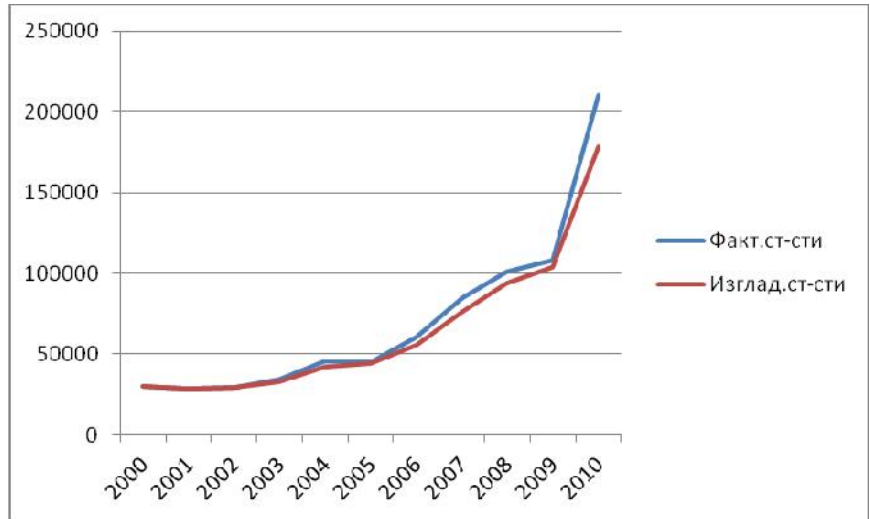
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2002	29 324	103

2003	34 539	118
2004	45 707	132
2005	44 804	98
2006	60 401	135
2007	85 065	141
2008	101 112	119
2009	108 174	107
2010	210 600	195

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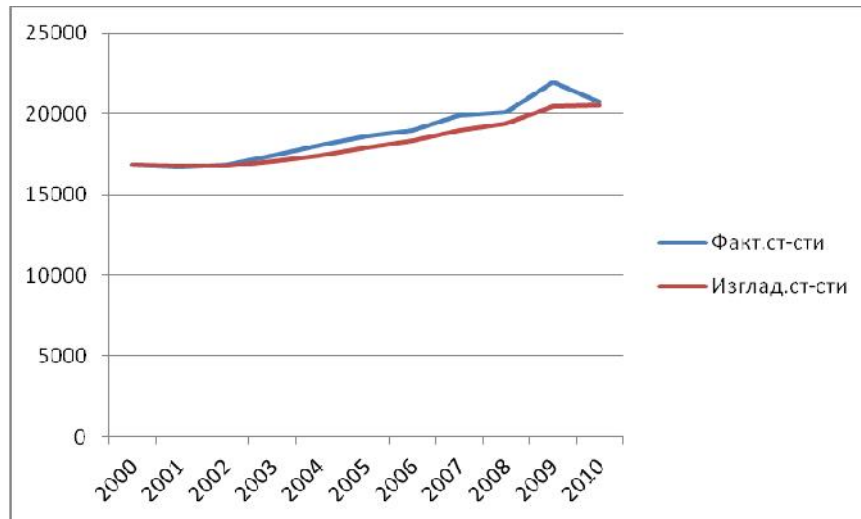
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2000	16 853	-
2001	16 671	99
2002	16 847	101
2003	17 400	103
2004	18 025	104
2005	18 638	103
2006	18 994	102
2007	19 933	105
2008	20 097	101
2009	21 971	109
2010	20 757	94

2010 。



. 2. , 2000-2010 . –

2011 . 20 645 . , -

¹ Review of Maritime Transport - Rep. by the UNCTAD Secretariat – New York: United Nations, 2009.

² Port Reform Toolkit: Effective Decision, Support for Policymakers – Washington – The World Bank, 2003.

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МОДЕЛ ЗА ПРИКРЕПВАНЕ НА ПОТРЕБИТЕЛИТЕ КЪМ ДОСТАВЧИЦИТЕ

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През последните години се наблюдава засилен интерес към управление на снабдителните вериги, както в редица теоретични работки, така и в стопанската практика в световен мащаб. Това се обяснява с обстоятелството, че приложението на концепцията за управление на снабдителни вериги е предпоставка за осигуряване на конкурентни предимства на фирмите.

За нуждите на настоящото изследване ще възприемем дефиницията на снабдителна верига дадена в терминологичния речник APICS¹, според който снабдителната верига се интерпретира като съвкупен процес от придобиването на суровини до крайното потребление на готовата продукция, протичащ между фирмите доставчик-потребител. Управление на снабдителната верига ще интерпретираме като интеграция на ключовите бизнес-процеси (основно логистични), започващи от крайния потребител и обхващащи всички доставчици на материали, услуги и информация, добавящи стойност за крайния потребител и други заинтересовани лица². Ефективното управление на снабдителните вериги се осигурява чрез оптимално изпълнение на ключовите бизнес-процеси³, един от които е „Снабдяване” и на този етап се реализират основните елементи в управлението на снабдяването, определят се доставчиците, определя се качеството и обема на доставките и се сключват договори с избраните доставчици. Можем да предположим, че от рационалното прикрепване на потребителите към доставчиците в значителна сте-

¹ APICS Dictionary. 8th Edition. American Production and Inventory Control Society, Inc. 1995, p. 84.

² Annual Conference Program / Glossary – Oakbrook, IL.: Council of Logistics Management, 1998, p. 28.

³ Дыбская, В. В. и коллектив. Логистика. Интеграция и оптимизация логистических бизнес-процесов в цепях поставок. М.: Эксмо, 2008, с. 177.

пен зависи ефективното управление на снабдителната верига. Тук под рационално прикрепване прие-маме такъв план, който позволява при минимални разходи по организацията на доставките и поддържане на запасите максимално да се осигури използването на мощностите на доставчиците и равномерно снабдяване на потребителите в цялата снабдителна верига.

Обикновено в практиката прикрепването на потребителите към доставчиците се осъществява по следния начин. Като се знаят добре доставчиците и потребителите, специалистите отчитат такива фактори, като например, транспортни разходи, ограничения върху транспортиранията продукция, възможности на всеки доставчик, опит от удачно прикрепване за други планови периоди и др. За такива снабдителни вериги обаче, където броят на доставчиците и потребителите е твърде голям, работата на специалистите става изключително сложна. Във връзка с това някои специалисти предлагат евристични алгоритми за прикрепване с използване на експертни методи, основаващи се например на сравнителни оценки на доставчиците⁴. В икономическата литература са описани редица други методи за прикрепване на потребителите към доставчиците, осигуряващи минимални топ-километри превози на продукция⁵. По-важните от тях са: метод на съпоставяне на разстоянията, метод на кръговата зависимост и метод за избор на най-голямата разлика между разстоянията. Тяхното използване при голям брой доставчици и потребители е

⁴ Бауэрсокс, Доналд Дж., Клосс Дейвид Дж. Логистика: интегриранията цеп поставок. ЗАО „ОЛИМП-БИЗНЕС“, М., 2001, с.72. Принципните различия при други автори (вж. Джонсон, Дж. С. и др. Современная логистика. 7-е изд. – М.: Издателский дом “Вильямс”, 2002; Сергеев, В. И. Менеджмент в бизнес-логистике. – М.: Филинь, 1992; Транспортная логистика: Учебное пособие / Под ред. Л. Б. Миротина. – М.: МГАДИ (ТУ), 1996 и др.) се състоят в това, че при тях се привеждат два подхода:

- аналитичен, предполагащ осъществяващ прикрепването с използване на формули, които включват редица параметри, характеризиращи доставчиците;
- експертен, в основата на който са заложили оценки на специалисти – експерти за параметрите характеризиращи доставчиците и данните получени от последователността на интегрални експертни оценки (рейтингите).

⁵ Вж., напр. Беленький, А. С. Исследование операции в транспортных системах: идеи и схемы методов оптимизации планирования. – М., Мир, 1992; Лукинский, В. С. и др. Логистика автомобильного транспорта. Концепция, методы, модели, – М.: Финансы и статистика, 2000 и др.

изключително много затруднено. Много често тези методи определят само един от възможните варианти, който в редица случаи е различен от оптималния.

Целта в настоящия доклад е да бъде предложен икономико-математически модел за прикрепване на потребителите към доставчиците с възможност за извършване на следоптимален анализ на оптималния план, базиран на теорията на дуалността и дуалните оценки, който да преодолява посочените недостатъци на съществуващите методи за избор на доставчик.

За най-елементарен икономико-математически модел на задачата за прикрепване на потребителите към доставчиците може да се приеме транспортната задача⁶. Постановката на тази задача е следната: налице са m ($i = 1, 2, \dots, m$) доставчици и n ($j = 1, 2, \dots, n$) потребители на някаква еднородна продукция. Известни са транспортните разходи c_{ij} по доставката на единица продукция от i -тия доставчик до j -тия потребител. Известни са също сумарните наличности във всеки доставчик, т.е. количествата продукция a_i , която даден доставчик може да отправи до потребителите за целия планов период, а така също сумарните потребности b_j на всеки потребител за същия период.

Ако с x_{ij} се означава неизвестното количество продукция, което i -тия доставчик следва да отправи до j -тия потребител, то задачата за прикрепване на потребителите към доставчиците се състои в това, да се намери такъв план на превозите, при който сумарните транспортни разходи да са минимални, т.е.

$$\min : Z(X) = \sum_{i=1}^m \sum_{j=1}^n c_{ij} \cdot x_{ij} ,$$

при следните ограничителни условия

$$\sum_{j=1}^n x_{ij} = a_i \quad (i = 1, 2, \dots, m),$$

⁶ Атанасов, Б. и др. Моделиране и оптимизиране. Издателство “Наука и икономика”, Икономически университет – Варна, 2008, с. 211.

$$\sum_{i=1}^m x_{ij} = r_j \quad (j = 1, 2, \dots, n),$$

$$x_{ij} \geq 0 \quad (i = 1, 2, \dots, m; j = 1, 2, \dots, n).$$

Възможни са различни модификации в постановката на транспортната задача, например въвеждане на междинни звена (складове) между потребителите и доставчиците в снабдителната верига. Като се реши задачата по някой от познатите методи, може да се определи оптималният план $X^* = \|x_{ij}^*\|$ на връзките, т.е. оптималното прикрепване на потребителите към доставчиците от гледна точка на транспортните разходи. Следва да се отбележи, че познаването на оптималния план на превозите е съществен етап от осъществяване на прикрепването на потребителите към доставчиците.

Ние ще предложим една модификация на тази задача, която по наше виждане може да бъде реално използвана в практиката при определяне на план за прикрепване на потребителите към доставчиците в снабдителна верига. Предлагаме следния модел на снабдително транспортна задача:

$$\min : Z(X) = \sum_{i=1}^m \sum_{j=1}^n (c_i + c_{ij}) x_{ij}, \quad (1)$$

при следните ограничителни условия

$$\sum_{j=1}^n x_{ij} \leq r_i \quad (i = 1, 2, \dots, m), \quad (2)$$

$$\sum_{i=1}^m x_{ij} = r_j \quad (j = 1, 2, \dots, n), \quad (3)$$

$$x_{ij} \geq 0 \quad (i = 1, 2, \dots, m; j = 1, 2, \dots, n), \quad (4)$$

където:

c_i – разходи, свързани със съхранението (комплектоване, пакуване и др.) на единица продукт (материални ресурси, продукция, стоки и др.) в i -тия отправен пункт;

c_{ij} – стойност на превоза на единица продукт от i -тия отправен пункт до j -тия потребител в снабдителната верига;

a_i – налични единици еднороден продукт в i -тия отправен пункт;

b_j – предварително определените количества от еднородния продукт, които следва да се транспортират до j -тия потребител;

x_{ij} – количество единици еднороден продукт, който трябва i -тия отправен пункт да достави на j -тия потребител;

Съгласно теорията на дуалността⁷ (първа основна теорема)⁸

$$\sum_{i=1}^m \sum_{j=1}^n (c_i + c_{ij}) x_{ij}^* = \sum_{i=1}^m a_i u_i^* + \sum_{j=1}^n b_j v_j^* .$$

Съгласно втора основна теорема на дуалността, ако някой от продуктите a_i в оптималния план не се използва напълно, то неговата дуална оценка u_i е равна на нула; ако дуалната оценка е положителна, то този продукт се доставя изцяло, т.е.

$$\text{ако } \sum_{j=1}^n x_{ij}^* < a_i, \text{ то } u_i = 0;$$

$$\text{ако } \sum_{j=1}^n x_{ij}^* = a_i, \text{ то } u_i > 0.$$

Съгласно третата основна теорема на дуалността, стойността на оценката (в оптималния план на дуалната задача) на продукцията в доставчика показва величината на намалението на целевата функция при увеличение на дадения продукт с единица. Стойността на оценката v_j в оптималния план, съответстваща на j -тия потребител определя величината на изменението на целевата функция при изменение на потреблението b_j с единица. Оценките отразяват различието на продуктите не само по отношение на тяхното съхранение, но и по териториалната им локализация.

⁷ Атанасов, Б., Р. Николаев, Р. Мирянов. Количествени методи в управлението. Издателство „Наука и икономика“, Икономически университет – Варна, 2012, с. 151 – 182.

⁸ Тук със звездичка сме означили съответните стойности от оптималния план.

Възможността за използване на практика на дуалните оценки се основава на техните свойства, за първи път описани от руския учен Л. В. Канторович⁹.

Първо, дуалните оценки в оптималния план на дуалната задача са конкретни. Те до голяма степен определят конкретните условия за даден проблем. Второ, оптималните дуални оценки имат устойчив характер, т.е. при неголеми изменения в условията на задачата, като правило, те или не се изменят, или се изменят незначително (дискретно), което на практика не е решаващо. И трето, ясно е че дуалните оценки са реални, от начина по който се задават.

Изведените свойства на дуалните оценки позволяват:

- да се определи направление за повишаване ефективността на плана на превозите за сметка на вътрешни резерви и преразпределяне на продуктите;
- да се определят еднакво ефективните планове в изменящите се условия, а така също плановете, близки до оптималните;
- да се установят границите на устойчивостта на параметрите и др.

Определяне на направлението на повишаване ефективността на модифицираната от нас задача произтича от самата същност на дуалните оценки: колкото е по-висока оценката u_i^* на продуктите, толкова те са по-изгодни, дефицитни. Ето защо е целесъобразно да се търси възможност за увеличението именно на тези продукти. Ако разходите, необходими за увеличение на продукта, са по-малки от неговата дуална оценка, то това увеличение е целесъобразно.

При малки изменения на параметрите a_i може да се констатира верността на приближеното равенство

$$\Delta Z_{\min} \approx \sum_{i=1}^m \Delta a_i u_i^*,$$

където Δ е изменението на продукта в i -тия отправен пункт. Това позволява без да се решава повторно модела да се определи размерът на намалението на сумарните разходи за реализация на

⁹ Канторович Л.В. Экономический расчет наилучшего использования ресурсов: М., 1960, с. 54.

плана. Нерационалните налични продукти имат нулеви оценки, което е признакът за техния излишък, и следователно за целесъобразността даден доставчик да съкрати нивото на своите наличности.

Аналогично могат да се използват оценките v_j^* , съответстващи на потребителите. Очевидно е справедливо съотношението

$$\Delta Z_{\min} \approx \sum_{j=1}^n \Delta b_j v_j^*,$$

където Δb_j е малко изменение на j -тия потребител. Следователно, оценките v_j^* задават разходите на потребителите и указват направлението за ефективно изменение структурата на потреблението при дадените условия.

Извеждането на множеството от еднакво ефективните планове може да бъде обосновано на база следните съображения. Ако в дясната страна на условието (3) се изменят потребностите с малък обем Δb_j , то с цел да се запази оптималното значение на критерия за оптималност е необходимо да бъде изпълнено условието

$$\sum_{j=1}^n b_j v_j^* = \text{const}. \quad (5)$$

Аналогично условие, свързано със съхранението на критерия за оптималност, при малко изменение величината на продукта Δa_i в i -тия доставчик ще има следния вид

$$\sum_{i=1}^m a_i u_i^* = \text{const}. \quad (6)$$

От условието (5) непосредствено произтича, че съществува мярка за взаимозаменяемост на продуктите, позволяваща в променени условия да се намери план с вече намерената стойност на критерия за оптималност. Нека например, продуктите a_i да се увеличат с Δa_i , а продуктите a_k да се намалят с Δa_k . От условието за равноефективност следва

$$\Delta u_i^* = \Delta u_k^*, \text{ т.е. } \Delta u_i^* = \frac{u_i^*}{u_k^*} \Delta u_k^* .$$

Следователно като се увеличат с Δu_k^* продуктите в i -тия доставчик, то автоматично се освобождава продукт в количество $\frac{u_i^*}{u_k^*} \Delta u_k^*$ в i -тия отправен пункт. От тук става ясно, че условието (5) може да служи за определяне изменението в структурата на потреблението.

С оглед на това да се отделят планове, близки до оптималните, може да бъде използвано съотношението $(u_i + v_j) - (c_i + c_{ij}) \leq \varepsilon$. За целта е достатъчно да се избере някаква величина $\varepsilon > 0$ (като приближение). Планове, за които е изпълнено условието $(u_i + v_j) - (c_i + c_{ij}) \leq \varepsilon$, се намират в зоната на оптималния план. Със зададената степен на точност тези планове могат да се приемат за еднаквоекфективни.

Устойчивостта на условията на модела се определят на основа стойностите на дуалните оценки. Оценката на продуктите u_i показва във всяка снабдителна верига възможно най-голямото увеличение на разходите $c_i + c_{ij}$, при която оптималният план на доставките не се променя. В случай на нееднозначност на снабдителната верига за анализ на оценките може да се използва отношението

$$\frac{u_i^*}{c_i + c_{ij}}$$

Колкото е по-голямо това отношение, толкова по-надеждно е включването на съответния продукт в плана на доставките при изменените се условия. Аналогично се изследва устойчивостта на плана при изменена структура на потреблението. Колкото е по-малка величината на оценката на неизползваните наличности

$$\frac{v_j^*}{c_i + c_{ij}},$$

толкова по-малко увеличение на критерия за оптималност носи тяхното включване в плана при нарастване на потребностите.

С помощта на така предложения икономико-математически модел може да се осигури рационално прикрепване на потребителите към доставчиците и да се извърши следоптимален анализ, което ще осигури условия за ефективно управление на снабдителната верига.

МАРКОВСКИ МОДЕЛ НА ДВИЖЕНИЕТО НА ЧОВЕШКИТЕ РЕСУРСИ

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Ключови думи: математически модел, случаен процес, вериги на Марков, човешки ресурси.

В процеса на изследване на социално-икономическите аспекти в поведението на хората особено важни се явяват проблемите за разработката на конкретни модели на движението на човешките ресурси. Във връзка с построяването на математически модели, формализиращи процеса на движение, съществено се разширява възможността за изследване на социално-икономическата природа на движението на човешките ресурси, и на тази основа за вземане на целесъобразни управленски решения. Моделите, посредством разнообразието на своите променливи и на взаимовръзките между тях, дават възможност да се отразят различни страни от процеса на движението и факторите, които го обуславят.

Анализът на разработените до настоящия момент модели за движението на човешките ресурси показва, че най-големи успехи, ако се има предвид броят на разработките, са постигнати в областта на моделирането на териториалното и естествено движение. По-слабо са застъпени социалните и професионалните форми на движение, изследванията върху които са насочени повече към изучаване на текучеството или съкращаването на работни места¹, както и моделите, описващи пренасочване при наличие на допълнителна квалификация².

¹ Вж. например: McGinnis R. M. A stochastic model of social mobility. „American sociological review”, 1998, No 5; Silcoch H. The phenomenon of labour turnover. „Journal of Royal Statistical Society”, ser. B, 1993, v. 25, No 2; Bartholomew D. J. A multi-stage renewal processes. „Journal of Royal Statistical Society”, ser. A, 1993, v. 25, No 2; Herbst P.B. Organizational commitment: A decision process model. „Acta Sociologica”, 1989, v. 7, No 1.

² Company’s Manpower Planning. London, HMSO, 1988.

Едни от най-често използваните за целите на изследване движението на човешките ресурси класове модели са трендовите. Анализът на такива модели дава възможност да се сравнят характеристиките на движението (интензивност, направление) по различните категории (административни райони, професии, фирми, предприятия и т.н.), както и да се проследи изменението на тези характеристики във времето. При наличието на устойчиви тенденции в динамиката на характеристиките на движението е възможна тяхната екстраполация и на тази основа – прогноза за състоянието на човешките ресурси за определен период от време.

Целта в настоящия доклад е да се предложи модел за движението на човешките ресурси, основаващ се на марковските случайни процеси.

Сред трендовите модели на движение на човешките ресурси интензивно се развива направлението, свързано с използването на теорията на марковските вериги³. Това до голяма степен предопределя и избраната от нас посока за разработване на модел за движението на човешките ресурси именно от такъв тип. Предимствата на този вид модели се определят от притежаваните от тях свойства, които позволяват:

- да се отчита взаимовръзката и относителната самостоятелност в развитието на отделните форми на движение;
- да се отрази стохастичната природа на моделирания процес на движение на човешките ресурси;
- да се представи моделираният процес в компактен, цялостен и логичен вид, който е достъпен и удобен на базата на достатъчно добре развита теория за математически анализ;
- да се провеждат времеви, междусекторни, междурегионални и др. съпоставяния на различни аспекти на движението на човешките ресурси;

³ За процесите на Марков се казва, че „бъдещото им развитие зависи единствено от това, в какво състояние (положение) се намират в дадения момент, и не зависи от цялата предистория на процеса (т.е. не зависи от пътищата и начините, по които е достигнато състоянието на дадения момент). Името на тези процеси е дадено по предложение на А. Поанкаре (1909) в чест на А. А. Марков поради това, че той пръв ги е въвел”. Цит. по Боян Димитров. Вериги на Марков. Изд. „Наука и изкуство”, С., 1974, с. 9.

- не само да се описва, но и да се предсказва развитието на моделирания процес и неговите резултати в бъдеще.

За конструиране на марковския модел на движение на човешките ресурси разглеждаме произволно ниво, работниците на което са разделени на n категории (състояния). Движението на човешките ресурси разглеждаме като постъпване в нивото, напускане на нивото, както и възможните преходи между категориите на самото ниво. Напускането на нивото ще разделим на освобождаване (уволнение) и пенсиониране. По такъв начин са налице $(n+3)$ възможни състояния на човешките ресурси (прием – „нулево състояние”, n категории, напускане – уволнение, напускане – пенсиониране).

Нека преходът от състояние E_i в състояние E_j се осъществява с вероятност $p_{ij}^{(t)}$ ($0 \leq p_{ij}^{(t)} \leq 1, i = 0 \div n; j = 1 \div n + 2$), където t – индекс на времевия интервал (период). Ако за всички работници, намиращи се в момент от време t в състояние E_i , вероятността да попаднат в състояние E_j е една и съща и не зависи от това, в какво състояние и колко дълго се е намирал работникът в период, предхождащ t , то движението на човешките ресурси в разглежданото ниво представлява крайна верига на Марков. За тази верига на Марков може да се построи матрица

$$\overline{P}^{(t)} = \left\| p_{ij}^{(t)} \right\| (i = 0 \div n; j = 1 \div n + 2), \text{ т.е.}$$

$$\overline{P}^{(t)} = \left\| \begin{array}{cccccccc} p_{01}^{(t)} & p_{02}^{(t)} & \dots & p_{0j}^{(t)} & \dots & p_{0n}^{(t)} & 0^{(t)} & 0^{(t)} \\ p_{11}^{(t)} & p_{12}^{(t)} & \dots & p_{1j}^{(t)} & \dots & p_{1n}^{(t)} & p_{1n+1}^{(t)} & p_{1n+2}^{(t)} \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots \\ p_{i1}^{(t)} & p_{i2}^{(t)} & \dots & p_{ij}^{(t)} & \dots & p_{in}^{(t)} & p_{in+1}^{(t)} & p_{in+2}^{(t)} \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots \\ p_{n1}^{(t)} & p_{n2}^{(t)} & \dots & p_{nj}^{(t)} & \dots & p_{nn}^{(t)} & p_{nn+1}^{(t)} & p_{nn+2}^{(t)} \end{array} \right\| ; \quad (1)$$

$$0 \leq p_{ij}^{(t)} \leq 1 \quad (i = 0 \div n; j = 1 \div n + 2); \quad \sum_{j=1}^n p_{ij}^{(t)} = 1 \quad (i = 0 \div n),$$

където $p_{ij}^{(t)}$ е вероятността, с която работник, намиращ се на работа от категория E_i в течение на период от време t , попада на работа от категория E_j в края на периода.

Нека предположим, че е известен законът (правилото) за разширяване на изследваното ниво във вид на скаларна функция $\delta N(t)$ - изменението в числеността на работниците в течение на периода t^4 . Този закон, както и вероятностите $p_{ij}^{(t)}$, са величини, които се определят на база на статистическа информация. В началото на периода t съставът на нивото може да се счита зададен посредством вектора $\bar{N}^{(t)} = (N_1^{(t)}, N_2^{(t)}, \dots, N_i^{(t)}, \dots, N_n^{(t)})$, i -тата компонента на който представя числеността на работниците от категория E_i .

Общият брой работници, който е необходимо да се приеме в края на периода t за замяна на напусналите и за разширяване на нивото, е:

$$N_0^{(t)} = \delta N(t) + \sum_{i=1}^n N_i^{(t-1)} \cdot w_i^{(t)},$$

където $w_i^{(t)} = p_{in+1}^{(t)} + p_{in+2}^{(t)}$ е вероятността за напускане на нивото от работници от категория E_i ($i = 1 \div n$).

Тогава числеността на работниците от всяка категория и числеността на напусналите в началото на периода t се определя посредством системата:

⁴ Предполага се, че изменението $\delta N(t)$ може да приема и отрицателни стойности (например при силно нараснала безработица в условията на криза).

$$\left\{ \begin{aligned} (N_1^{(t)}, N_2^{(t)}, \dots, N_{n+1}^{(t)}, N_{n+2}^{(t)}) &= (N_0^{(t)}, N_1^{(t-1)}, \dots, N_n^{(t-1)}) \bar{P}^{(t)} \\ N_0^{(t)} &= \delta N(t) + \sum_{i=1}^n N_i^{(t-1)} \cdot w_i^{(t)} \\ w_i^{(t)} &= p_{in+1}^{(t)} + p_{in+2}^{(t)} \end{aligned} \right. . (2)$$

При зададена класификация на човешките ресурси чрез матрицата (1), характеризираща цялото движения на човешките ресурси за разглежданото ниво за периода $(t-1)$ и при известен закон за изменение на нивото е възможно с помощта на системата (2) да се представи структурата и числеността на човешките ресурси по категории в края на следващия период t . Участващите в модела (2) величини $p_{ij}^{(t)}$ ($i = 0 \div n; j = 1 \div n + 2$), разглеждани като вероятности на прехода, означават първо, че за отделния работник изменението на неговото състояние за един период от време може да се осъществи, но може и да не се осъществи. Второ, произволна прогноза за бъдещето, направена на основата на модела, има само вероятностен характер: „в определен икономически контекст структурата на заетостта по-скоро ще се развие така, а не по друг начин”⁵.

За по-голямо удобство, посредством изключване на $N_{n+1}^{(t)}$ и $N_{n+2}^{(t)}$, системата (2) може да се представи във вид на матрично уравнение:

$$\bar{N}^{(t)} = \bar{N}^{(t-1)} \cdot Q^{(t)} + \delta N(t) \cdot \bar{P}_0^{(t)}, \quad (3)$$

където: $\bar{P}_0^{(t)} = (p_{01}^{(t)}, p_{02}^{(t)}, \dots, p_{0n}^{(t)})$; $Q^{(t)}$ – матрица с размерност $(n \times n)$, елементите на която се задават посредством равне-

⁵ Sabolo, I. A. Structural approach to the projection of occupation categories and it's application to the South Korea and Taiwan. „International Labour Review”, 1991, v. 103, No 2.

нството $q_{ij}^{(t)} = p_{ij}^{(t)} + w_i^{(t)} p_{0j}^{(t)}$.

Общият вид на решението на системата (3) е:

$$\bar{N}^{(t)} = \bar{N}^{(0)} \prod_{\tau=0}^t Q^{(\tau)} + \sum_{\tau=0}^t \delta N^{(\tau)} \cdot P_0^{(\tau)} \cdot \prod_{k=\tau}^{t-1} Q^{(k+1)}, \quad (4)$$

като се полага $Q^{(0)} = E \cdot P_0^{(t)} = 0$ (E – единична матрица) и $\delta N^{(0)} = 0$.

В случая, когато елементите на матрицата $\bar{P}^{(t)}$ са константи относно времето t , се получава т.нар. еднородна верига на Марков с краен брой състояния. Ако $\bar{P}^{(t)} = P$ е постоянна (една и съща за различни стойности на t), то е постоянна и матрицата $Q^{(t)} = Q$.

Следователно постоянен ще бъде и векторът $\bar{P}_0^{(t)} = \bar{P}_0$. Тогава решението на системата (3) може да се запише във вида:

$$\bar{N}^{(t)} = \bar{N}^{(0)} Q^t + \bar{P} \left[\sum_{\tau=0}^t \delta N(t-\tau) \cdot Q^\tau \right]. \quad (5)$$

Ще представим с помощта на собствените вектори и собствените стойности на матрицата Q , при постоянни преходни вероятности, решенията на системата за някои типични видове функции $\delta N(t)$.

Първи случай. *Фиксиран темп на изменение на движението на човешките ресурси:* $\delta N(t) = AC^t$, където A и C са константи, като $C > 0$.

Решението на системата (3) има вида:

$$\bar{N}^{(t)} = \sum_{i=1}^n \left[\alpha_i \lambda_i^t + AC \left(\beta_i C^{t-1} + \beta_i \lambda_i C^{t-2} + \dots + \beta_i \lambda_i^{t-1} \right) \right] u_i^- \text{ или}$$

$$\text{при } C \neq 1: \bar{N}^{(t)} = \sum_{i=1}^n \left[\alpha_i \lambda_i^t + AC\beta_i \frac{C^t - \lambda_i^t}{C - \lambda_i} \right] \bar{u}_i.$$

В зависимост от конкретните стойности на параметрите A и C са възможни следните видове динамика на състава на човешките ресурси на дадено ниво:

- ако $A < 0$, се констатира намаление в числеността на заетите реално човешки ресурси, което е специфично за случаи на рязко увеличение на безработицата (особено в условия на криза).
- ако $A = N^{(0)} \cdot \frac{C-1}{C}$ ($N^{(0)}$ е начална обща заетост на човешките ресурси в дадено ниво), то числеността на заетите расте при $C > 1$ и намалява при $C \leq 1$ с фиксирани темпове, равни на $(C-1)100\%$ за периода.
- ако $A > 0$, $C < 1$, то нивото разширява числеността на пряко заетите човешки ресурси, но абсолютната величина на прираста намалява.

Втори случай. Фиксирана величина на прираста на човешките ресурси, поради очертаващи се тенденции в икономическото развитие. Ако за първия случай приемем, че $C=1$, то $\delta N(t) = A$ ($A \neq 0$). При $A > 0$ всеки следващ период от време прирастът ще се увеличава (икономиката е в подем след излизане от рецесия), а при $A < 0$ прирастът ще намалява (увеличаване на безработицата). В този случай решението ще приеме вида:

$$\bar{N}^{(t)} = (\alpha_1 + A\beta_1) \bar{u}_1 + \sum_{i=1}^n \left[\alpha_i \lambda_i^t + A\beta_i \frac{1 - \lambda_i^t}{1 - \lambda_i} \right] \bar{u}_i.$$

Трети случай. Да разгледаме втория случай при $A=0$. Това означава, че числеността на човешките ресурси в разглежданото ниво не се променя. Решението на системата (3) в този случай е:

$$\bar{N}^{(t)} = \bar{N}^{(0)} Q^t \text{ или } \bar{N}^{(t)} = \sum_{i=1}^n \alpha_i \lambda_i^t \bar{u}_i.$$

За успешното практическо приложение на представения модел е необходимо да се даде отговор на въпроса: в какви случаи движението на човешките ресурси може да се разглежда като верига на Марков? Необходимите условия за това са:

- 1) вероятностите на прехода $P_{ij}^{(t)}$ да са едни и същи за всички работници, принадлежащи на i -тата категория;
- 2) изменението на състоянието на работниците да се осъществява през определен интервал от време.

На пръв поглед условие 1) изглежда твърде ограничаващо⁶ и допускането за това, че то е изпълнено, е много пресилено. В действителност, обаче, ние сме свободни в рамките на поставената задача да детайлизираме всяка категория (професия, квалификация, област и т.н.), така че човешките ресурси, разглеждани в тази разбивка, да бъдат по-еднородни по отношение на движението си. В болшинството наблюдавани случаи моделът може да се приведе в такъв вид, при който условието 1) за марковските вериги да бъде достатъчно реалистично⁷.

Условието 2) за марковски процеси – дискретност на процеса, означава, че всички изменения в неговите състояния се осъществяват във фиксирани моменти от време - края или началото на всеки месец, тримесечие, календарна година и др. Разбира се, в действителност уволнението, повишаването на квалификацията, смяната на професията и т.н. се осъществяват в произволен момент от време. Поради това в реална ситуация движението на човешките ресурси протича по-скоро непрекъснато, отколкото дискретно. Ние, обаче, можем да приведем следните доводи в полза на предложения дискретен модел. *Първо*, практически данните за състоянието на

⁶ Именно от тази гледна точка се критикуват обикновено марковските модели на движението. Вж. например McGinnis R. M. A stochastic model of social mobility. „American sociological review”, 1998, No 5.

⁷ Vroom, V. H., K. R. McGrimmon. Towards a Stochastic model of managerial careers. „Administrative Science Quarterly”, 1998, v. 12, March.

системата съществуват само за равноотдалечени моменти от време. Затова ние реално анализираме модела при дискретно изменение на времето. *Второ*, независимо, че за даден регион като цяло, движението на човешките ресурси се осъществява непрекъснато във времето, то може да се приеме за отделния работник, че изменението в неговото състояние се осъществява скокообразно.

Ето защо може да се направи изводът, че дискретните модели от вида (2) са удобни и необходими от гледна точка на използването на статистическата информация и на простотата на изчислителната процедура, като същевременно в достатъчна степен се доближават до реалната действителност и имат практическа приложимост.

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2005	5,54	3,03
2006	5,15	3,17
2007	5,34	3,46
2008	5,22	3,27
2009	5,01	3,09

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Source of Variation	SS	df	MS	F	F crit
Rows	24493011	9	2721446	22,43	2,00
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Error	9827866	81	121332		
Total	995392688	99			

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	I	II	III	IV	V	
<i>b</i>	84,41	74,95	84,99	106,88	131,42	
<i>t Stat</i>	7,391	4,77	5,24	5,578	5,892	
	VI	VII	VIII	IX	X	
<i>b</i>	158,28	193,63	212,86	210,29	317,04	144,29
<i>t Stat</i>	7,347	7,198	5,977	4,789	3,447	5,27

(84,99 .) .

144,29 .

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($b_i=0$)

$$t_{ij} = 3,36 \quad = 0,01$$

$$= n - p = 10 - 2 = 8).$$

Source of Variation	SS	df	MS	F	F crit
Rows	30859229	9	3428803	21,26	2,00
Columns	413723057	9	45969229	285,02	2,00
Error	13064021	81	161284		
Total	457646306	99			

= 0,05:
 (Fem=21,26, P-value=6,21E-18),
 (Fem=285,02, P-value=1,88E-57).

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2000-2009 .

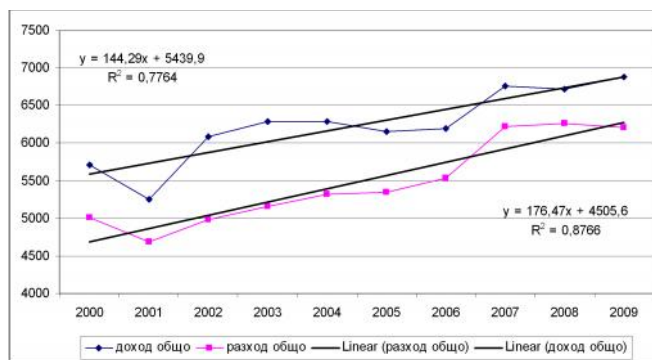
	I	II	III	IV	V	
<i>b</i>	101,66	69,11	89,76	103,32	135,45	
<i>t Stat</i>	5,9	4,82	7,18	8,15	7,86	
	VI	VII	VIII	IX	X	
<i>b</i>	173,55	210,26	253,62	271,44	415,67	176,47
<i>t Stat</i>	7,22	7,22	7,37	6,58	5,17	7,54

101,66 , 84,41 .
 , ,
 1,29 .
 2,52%,
 69,11 . 74,95 .
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2000-2009 . ()

		I	II	III	IV	V		
	a	2016,4	2927,1	3235,3	3597,7	4045,2		
	b	84,4	74,9	85	106,9	131,4		
	a	2640,2	3041,4	3177,4	3417,4	3734,6		
	b	101,7	69,1	89,8	103,3	135,5		
		VI	VII	VIII	IX	X		
	a	4547,1	5172	6154	7622,6	11785,3	5439,9	
	b	158,3	193,6	212,9	210,3	317	144,3	
	a	4021,6	4420,4	5042,2	5864,8	7775,2	4505,6	
	b	173,6	210,3	253,6	271,4	415,7	176,5	

317 ., 415,67 .



. 1.

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		144,29	-
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1.	， .		-
	. www.angelfire.com/oz/economics/raymon.html.		-
2.	， .		-
	， .3,2007, 26.		-
3.	， .		-
	， 2003, N 1, . 97.		-
4.	， .		-
	N 2, . 91.		-
5.	， .		-
	. 2, 2002, . 116.		-
6.	， .		-
	， 2003, . 191.		-
7.	， .		-
	”， ., 2007.		-

ТЕЛЕКОМУНИКАЦИОННАТА ИНФРАСТРУКТУРА И ИКОНОМИЧЕСКОТО РАЗВИТИЕ НА БЪЛГАРИЯ – 2000-2011 Г.

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1. Въведение

Няма съмнение, че между индикаторите на обществения телекомуникационен сектор и тези на икономическото развитие съществува положителна корелация. За основоположник на тези изследвания се приема Ърп А. (1963)¹, който публикува резултатите от сравнение на съотношението между телефонната плътност на 100 души от населението и равнищата на доходите, измерени чрез БВП на човек от населението по текущи цени в долари по ППС, за държавите членки на Международния телекомуникационен съюз (МТС), ITU/. Авторът е доказал наличието на много силна корелационна зависимост на база функцията $Teledensity_i = f(GDP_i, \varepsilon_i)$, която по-късно добива популярност като Закон на Ърп, а графичният ѝ образ – Крива на Ърп. Резултатите от изследванията на Ърп се използват за създаване на „инструмент“, чрез който да се подпомогне извеждането на критерии за размера на инвестициите в телекомуникационните мрежи. Според автора инвестициите в телекомуникации следва да бъдат пропорционални на икономическия растеж. В условията на либерализиран пазар на телекомуникационни услуги, в голяма част от държавите, изследователи^{2,3,4,5,6} доказват

¹ Jipp, A. (1963). Wealth of nations and telephone density. Telecommunications Journal, July 1963, pp. 199-221.

² Madden G., S.J.Savage (2000)., Telecommunications and economic growth., International Journal of Social Economics, Vol.27, No.7/8/9/10, 2010 pp. 893-906

³ Sridhar K.S., V.Sridhard (2007) Telecommunications Infrastructure and Economic Growth Evidence from Developing Countries, Applied Econometrics and International Development, Vol. 7, No. 2, 2007

наличие на „обратна“ зависимост между променливите т.е. $GDP_i = f(\text{Teledensity}_{ii}, \varepsilon_i)$ извеждат водещата роля на телекомуникациите като един от двигателите на икономическото развитие.

В доклада се представят част от резултатите на изследване, в което обект е връзката между телекомуникационната инфраструктура и икономическото развитие на България за периода 2000-2011 г. Целта на изследване посоката на взаимодействие между телекомуникационната инфраструктура и икономическото развитие в условия на либерализиран телекомуникационен пазар.

2. Данни и методи

Показателите, които са използвани в доклада за характеризиране на телекомуникационната инфраструктура на България са поместени в таблица 1. Всички те са с годишна периодичност. В хода на изследването е осъществено тяхното разчленяване на тримесечни с използването на сплайн функции чрез метода на трите точки. Подобна дезагрегация е възможна, тъй като абсолютният брой на отделните индикатори е кумулативна величина към края на съответната година. Чрез подобно разчленяване се постигна съпоставимост по време с останалите показатели, включени в изследването, както и решение на проблема с осигуряване на по-голям брой наблюдения.

⁴ Pun-Lee Lam, , Alice Shiu (2010) Economic growth, telecommunications development and productivity growth of the telecommunications sector: Evidence around the world., Telecommunications Policy., Vol 34./ May 2010, pp.185–199

⁵ Lars-Hendrik Röller, Leonard Waverman, Telecommunications Infrastructure and Economic Development: A Simultaneous Approach, Discussion Paper FS IV 96 - 16, Wissenschaftszentrum Berlin, 1996

⁶ Lee T.S.Y. Gholmani R. (2000), Information Technology and Economic Growth. A time series Analysis, National University of Singapore, working paper No.173 January 2000

Показатели за телекомуникационна инфраструктура

Показатели ⁷	Мярка	Променливи
Абонати на фиксирани телекомуникационни мрежи	брой	MTL
Абонати на мобилни телекомуникационни мрежи (общо)	брой	GSM
Общ брой абонати на телекомуникационни мрежи – вкл. абонати на ISDN, публични таксофони и др.	брой	TTS
Абонати на интернет, вкл. фиксиран достъп, широколентов достъп, мобилен	брой	Isubs
Интернет потребители – общо	брой	IUserr
Общ обем на инвестициите в телекомуникации (общо).	млн.ш.д. (2000 г.)	Inv_Telcom

Показателите за „плътност“ се изчисляват като отношение на съответния абсолютен показател към средногодишния брой на населението. Прието е те да характеризират достъпността на телекомуникационната инфраструктура до населението и бизнеса.

Показатели за икономическото развитие⁸

В предходни изследвания, в които обект на изследване е връзката телекомуникации-икономическо развитие традиционно авторите (вкл. и цитираните) използват показатели за икономически растеж – процентното изменение във времето на два показателя – БВП и БВП на човек от население. Икономическото развитие е по-широко понятие от икономически растеж и се отнася до подобряване качеството на живот и бизнес в една икономика и както посочва, икономистът Amartya Sen⁹: „Икономическият растеж е един от аспектите на процеса на икономическо развитие“. В изследването на

⁷ Показателите за сектор Телекомуникации са от World Telecommunication/ ICT Indicators Database., 2003, 2008, 2011, <http://www.itu.int/ITU-D/ict/statistics>

⁸ Показателите за икономическото развитие са от електронната база данни <http://data.worldbank.org/indicator>.

⁹ Sen, A. (1983). Development: Which Way Now? Economic Journal, Vol. 93 Issue 372. pp.745-762.,

този етап освен традиционния показател темп на БВП, допълнително са включени показателите: темп на растеж на производителността на труда, измерена чрез БВП на едно заето лице (щ.д „по цени на 2000 г.); заети лица (общо) като процент от ИАН. Списък на използваните показатели в доклада за оценка на икономическото развитие е поместен в таблица 2.

Таблица 2

Показатели за икономическо развитие

Показатели	Мярка	База данни	Променливи
Брутен вътрешен продукт	млн. евро (2000 г.)	Eurostat/Statistics by theme	GDP
БВП на човек от население	Евро (2000 г.)	БВП (2000 г.)/Население	GDP_cap
БВП на човек от едно заето лице	Евро (2000 г.)	БВП (2000 г.)/Заети лица	GDP_empl
Заети лица в икономиката	брой	www.nsi.bg	Lab
Коефициент на заетост	% от ИАН	www.nsi.bg	Empl

Методи

Показателите, които изграждат изследователската база данни в конкретното изследване, могат да се разглеждат и като причина, и като следствие един спрямо друг. За оценка на характера на връзката телекомуникации-икономически растеж е тестът на Granger за причинност. „Причинност по Granger”¹⁰ се свързва с факта, че „миналото може да влияе на бъдещето, но не и обратно”. Този постулат на Granger се разглежда в информационен аспект, за да се изясни каква част от вариацията на текущите нива на икономическото развитие (Y) могат да се обяснят с предходни негови значения и може ли с добавянето на предходните нива на телекомуникационната инфраструктура (X) да се подобри това обяснение. Тестът на Granger в изследването е осъществен чрез VAR-модела:

¹⁰ Granger C.W.J. „Testing for causality”, Journal of Economic Dynamics and Control, 2/1980, p. 329-352.

$$EGr_t = c_{EGr} + \sum_{j=1}^p \alpha_j Telcom_{t-j} + \sum_{j=1}^p \beta_j EGr_{t-j} + v_t$$

$$Telcom_t = c_{Telcom} + \sum_{j=1}^p \gamma_j Telcom_{t-j} + \sum_{j=1}^p \delta_j EGr_{t-j} + \varepsilon_t$$

където: $(Telcom)$, (EGr) са вектори на променливите и техни-
те лагове съответно – за телекомуникациите и икономическото раз-
витие, а α_j, β_j са матриците на коефициентите пред $(Telcom)$,
 (EGr) . Проверката се свежда до проверка на нулеви хипотези за
равенство на нула на група коефициенти – $H_{0(1)}: \alpha_1 = \alpha_2 = \dots = \alpha_p = 0$ и
 $H_{0(2)}: \delta_1 = \delta_2 = \dots = \delta_p = 0$ ¹¹. Според резултатите от теста на Granger
са възможни следните изходи: *i)* Нито една променлива не може да
се класифицира като причина по Granger; *ii)* Еднопосочна причин-
ност $(Telcom \rightarrow EGr)$, но не и обратно; *iii)* Еднопосочна причин-
ност $(Telcom \leftarrow EGr)$, но не и обратно. В този случай би се приело
твърдението, че законът на Ъйрп действа и в условията на динами-
чен, либерализиран телекомуникационен пазар; *iv)* Променливите
 (X) и (Y) представляват причина по Granger една спрямо друга
 $(Telcom \rightleftarrows EGr)$. Следвайки теоретичните постановки, тестът
може да се приложи към всеки един от показателите, които харак-
теризират телекомуникационната инфраструктура и тези на иконо-
мическото развитие. Хипотезите, които се проверяват, в изследва-

¹¹Практически проверката се осъществява с помощта на F-критерий:
$$F = \frac{(SSR_R - SSR_U)/h}{SSR_U/(n - k_U)}$$
, със степени на свобода $v_1 = h; v_2 = n - k_U$, n – брой

наблюдения; k_U – брой параметри в неограничената регресия; k_R – брой
параметри в ограничена регресия; h – брой наложени ограничения $h = (k_U - k_R)$;
 SSR_U, SSR_R – съответните суми от квадратите на остатъците при неограничен и
ограничен авторегресионен модел, С. W. J. Granger., Investigating Causal Relations
by Econometric Models and Cross-spectral Methods *Econometrica*, Vol. 37, No. 3.
(Aug., 1969), pp. 424-438.,
<http://www.sonoma.edu/users/c/cuellar/econ411/Granger.pdf>.

нето са: $H_{0(1)}$: нивата на телекомуникационната инфраструктура (*Telcom*) не влияят на икономическото развитие; и $H_{0(2)}$: икономическото развитие (*EGr*) влияе върху нивата на телекомуникационна инфраструктура. За да се достигане до заключението, че (*Telcom*) влияе на (*EGr*) т.е ($Telcom \rightarrow EGr$), е необходимо да бъдат изпълнени едновременно условията: *i*) да бъде отхвърлена хипотезата „(*Telcom*) не влияе на (*EGr*)”; *ii*) да бъде приета хипотезата „(*Telcom*) не влияе на (*EGr*)”. В случай, че и двете хипотези се отхвърлят, то между разглежданите две променливи съществува взаимозависимост. Ако и двете хипотези се приемат, то между променливите каузална връзка в смисъл на Granger не съществува. Приложението на теста на Granger за причинност налага спазването на изискванията относно построяването на авторегресионни модели с разпределени лагове, както и тези за осигуряване на стабилност на VAR-система, от която е изведен тестът. Само ще споменем, че всички редове, съставени от равнищата на разглежданите променливи, са идентифицирани относно наличието на тренд с помощта на класическия автокорелационен анализ и тестовете за единичен корен¹² с цел определяне техния порядък на интегрираност. Според него са осъществени и трансформациите върху изходните данни с цел осигуряване на стационарност. Максимално възможният брой на лаговете променливи, включени в моделите на системите, е определен според изведените от Diebol и Nerlove¹³ формули за тримесечни данни – $4\left(\frac{T}{100}\right)^{1/4}$. Заедно с цитираните правила изборът на

¹² Проверката за интегрираност на динамичните редове, включени в настоящото изследване, е осъществена с помощта на многовариантна процедура, предложена от Dolado, Jenkinson, Sosvilla-Rivero./ Dolado J. J., Jenkinson T. and Sosvilla-Rivero S., Cointegration and Unit Roots/Journal of Economics Survey, 1990, Vol.4 p. 249-273 По същество тя използва проверките на хипотези за единичен корен чрез критериите на Dickey-Fuller.

¹³ Diebol, F. X. and Nerlove M., Unit Roots in Economic Time Series: Selective Survey//Rhodes G.F. and Fomby T.B.(eds), Advances in Econometrics, Vol. 8. Greenwich, CT: Press. 1999 p. 3-69.

лаг се определя и чрез стойностите на информационните критерии на Akaike и Schwarz¹⁴, както и с помощта на LR –тест и HQ – тест. Изложената процедура на теста за каузалност по Granger е приложена по двойки променливи от групите телекомуникации и икономическо развитие. За целите на този доклад не са изследвани всички възможни двойки променливи за причинност на принципа „всяка с всяка”.

3. Резултати

Изложението в доклада е съсредоточено върху резултатите от приложението на теста на Granger. Връзката телекомуникации-икономическо развитие първоначално е оценена през призмата на закона на Jipp. За провеждането теста на Granger в системата са включени променливи, които характеризират телефонната плътност и икономическия растеж. Очакваната посока, според закона на Jipp е ($EGr \rightarrow Teleledeny$). Резултатите от тестовете на Granger (вж. таблица 3) дават основание да се твърди, че вариацията в равнищата на показателите за плътност по фиксирани и мобилни постове са причина по Granger по отношение на БВП на човек от население, но не и обратното, т.е посоката на взаимодействие между променливите е ($Teledensity \rightarrow EGr$). В този случай за изследвания период не може да се приеме, че законът на Jipp в неговия основен вид $GDP_i = f(Teledensity_{ii}, \varepsilon_i)$ може да е „инструмент”, чрез който да се приемат решения относно развитието на телекомуникационна инфраструктура в средата на либерализиран пазар на телекомуникационни услуги в България. Нещо повече – тези резултати показват, че посоката на взаимодействие между цитираните показатели е точно противоположна на тази, изведена от Jipp.

¹⁴ EViews 5.1 User's Guide/ p. 541-542, 983-985/ / www.eviews.com.

Таблица 3

Резултати от тест на Granger за „мрежова” плътност
и икономическия растеж

Хипотези		F-Stat	Prob	Решение
		lags 2; obs = 45		
$H_{0(1)}$	D_MTL не е причина GDP_CAP	2,489	0,075*	$(D_MTL \rightarrow GDP_cap)$
$H_{0(2)}$	GDP_CAP не е причина D_MTL	0,128	0,943	
$H_{0(1)}$	D_GSM не е причина GDP_CAP	5,060	0,011	$(D_GSM \rightarrow GDP_cap)$
$H_{0(2)}$	GDP_CAP не е причина D_GSM	0,260	0,772	
$H_{0(1)}$	D_IS не е причина GDP_CAP	0,026	0,975	$(Isubs \rightarrow GDP_cap)$
$H_{0(2)}$	GDP_CAP не е причина D_IS	0,089	0,915	

Забележка: Използваните символи за променливите са: GDP_CAP – БВП на човек от население eur 2000 г. D_MTL, D_GSM, D_IH, D_IS, D_IU – показатели за плътност, съответно по фиксирани телефонни постове, по мобилни абонати на мобилни мрежи, по абонати на интернет.*

Ако се погледнат по-внимателно нивата, с които се отхвърля нулевата хипотеза, се вижда, че плътността по „новите” абонатни средства е по-силна причина за вариациите на настоящите нива на БВП на човек от население в сравнение с плътността по историческите абонатни средства (т.е. с тези, с които е изведен закона на Jirp). Връзката интернет – икономическо развитие е от причинно следствен характер в смисъла на Granger. Видно е, че двете променливи са взаимозависими и това не някаква особена изненада, като се имат предвид възможностите, които предлага глобалната мрежа. От друга страна – „богатството” на населението е необходимост за оси-

гуряване на достъп до интернет. Всеки един от резултатите помесени в Таблица 3 е повод за допълнителни изследвания в различни посоки, включително и в търсене на трета променлива по смисъла на Granger, която въздейства едновременно и на двете първоначално изследвани.

С помощта на изложената процедура на Granger е оценен и характерът на връзката „достъпност до телекомуникационна мрежа – показатели на икономическото развитие”. Резултатите от теста на Granger (вж.таблица 4) по отношение на първата двойка проверявани хипотези ($D_TTS ? GDP_empl$) показват една взаимна обвързаност между общата мрежова телефонна плътност по всички абонати и производителността на труда на едно заето лице. Това означава, че при изследвания на производителността на труда достъпността на телекомуникациите следва да се разглежда като една възможна детерминанта. Максималният възможен лаг на „действие” на тази връзка достига до 3 – в конкретното изследване това са 3 тримесечия. Интернет абонатите са причина по Granger и следствие за/от вариациите в равнищата на производителността на труда на едно заето лице със закъснение до три тримесечия. Тази взаимна обвързаност се обяснява от една страна с възможностите, които предоставя глобалната мрежа за „работа от разстояние”, от друга – с инвестициите, необходими за разкриването на допълнителни нейни абонати и доказания вторичен¹⁵ ефект от тях. Резултатът от проверката на теста при втората двойка променливи ($GDP_empl ? D_ISubs$) показва, че двете променливи са взаимно обвързани и по смисъла на Granger представляват фактор една спрямо друга. Работните места налагат използването на глобалната мрежа /в не малък брой от случаите/, което налага включването на нови абонати, те от своя страна

¹⁵ Вторичните ефекти от развитието на телекомуникационната мрежа не са обект на разглеждане в доклада. Те се отнасят до ползите, които генерират другите отрасли на икономиката като туризъм, търговия, финансов сектор, индустрия и др. Вторичните ефекти се отнасят и до развитието на мрежата като „снежна топка” – абонатите привличат нови абонати за да могат да комуникират...(бел.авт.)

– създават и „продукт” който може да бъде предлаган от разстояние, като по този начин генерират допълнителни ползи.

Таблица 4

Резултати от тест на Granger за „мрежова” плътност и показатели за развитие

<u>Период 1994 - 2011 г.</u>		F-Stat	Prob	F-Stat	Prob	Решение
<i>Хипотези</i>		<i>lags 2;</i>		<i>lags 3;</i>		
$H_{0(1)}$:	D_TTS не е причина за GDP_EMPL	0,196	0,823	0,664	0,579	$(D_TTS \nrightarrow GDP_empl)$
$H_{0(2)}$:	GDP_EMPL не е причина за D_TTS	1,152	0,326	0,900	0,450	
$H_{0(1)}$:	D_IS не е причина за GDP_EMPL			1,427	0,250	$(D_Is \nrightarrow GDP_empl)$
$H_{0(2)}$:	GDP_EMPL не е причина за D_IS			1,270	0,299	
$H_{0(1)}$:	D_IS не е причина за EMPL			3,675	0,014	$(D_Is \rightarrow Empl)$
$H_{0(2)}$:	EMPL не е причина за D_IS			0,327	0,858	
$H_{0(1)}$:	D_GSM не е причина за EMPL			3,281	0,022	$(D_GSM \rightarrow Empl)$
$H_{0(2)}$:	EMPL не е причина за D_GSM			0,044	0,996	

Забележка: *Използваните символи за променливите са: GDP_EMPL – БВП на едно заето лице 2000 г.; EMPL – зети лица (общо) процент от ИАН., останалите символи са известни.

** В таблицата са поместени резултатите от онези регресии, които отговарят на теоретичните изисквания при максимално значими лагови променливи.

Що се отнася до другите резултати от теста на Granger, поместени в таблица 4 – резултатите показват наличието едностранна причинност от телекомуникационната инфраструктура към цитира-

ните показатели на икономическо развитие. Би могло да се приеме (интуитивно дори), че интернет създава възможност за започване на работа и е предпоставка за „предсказване” стойностите на коефициентите на заетост. При изследване, чийто предмет са вариациите в коефициентите на заетост в краткосрочен план показателите, които характеризират достъп до интернет следва да бъдат включени като обясняващи променливи. Тази връзка се проявява със закъснение от три тримесечия, което вероятно се дължи на по-бавната адаптация на населението и бизнеса към възможностите на новите технологии. Застаряващото население, респ. и заетите лица, както и високата младежка безработица са вероятните причини за проявлението на връзката именно в този й формат.

Заклучение

Резултатите от това изследване са една малка част от проблематика и не претендират за изчерпателност, но на този етап може само да изкаже твърдението, че няма основание да се приеме, че законът на Ъйр в неговата основна форма действа в България за изследвания период. Като взаимозависими следва да се приемат равнищата на индикаторите на обществения телекомуникационен сектор и тези на икономическото развитие. Там, където връзката е едноросочна, тя е от индикаторите на телекомуникационната инфраструктура към икономическото развитие.

МОДЕЛИ НА ЕЛАСТИЧНОСТТА НА ВЪНШНАТА ТЪРГОВИЯ С ЕНЕРГИЙНИ РЕСУРСИ НА РЕПУБЛИКА БЪЛГАРИЯ

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Енергията е необходима за всяка човешка дейност, която се осъществява на този свят. Светът, в който живеем, има нужда от много пъти повече енергия всяка следваща спрямо предходната година. Поради това икономиката не би могла да функционира нормално без необходимите и достатъчни енергийни ресурси. Република България е малка, ресурсно необезпечена страна с традиционно отворена икономика, чийто внос и износ оказват съществено влияние върху развитието на националното и стопанство. На фона на световната тенденция на изчерпване на природните богатства особено място в това отношение заемат енергийните ресурси. Значителното увеличение на международната търговия определя „разходно-пренасочващата политика” като важен инструмент за макроикономическо равновесие. През последните години сме свидетели на постоянни промени в икономическото и политическото ни развитие. Енергийният сектор е основополагащ за развитието на националната икономика. В частност външната търговия с енергийни ресурси е определяща за равновесието на платежния баланс. Изучаването и в новите икономически и политически условия представлява интерес от първостепенна важност, както от страна на статистическата наука и практика, така и от страна на държавното управление.

Цел на настоящия доклад е да оцени еластичността на външната търговия с енергийни ресурси спрямо няколко макроикономически променливи, базирайки се на теорията на еласти-

чността¹ чрез използването на PDLs модели. Използват се данни за вноса и износа на енергийни ресурси по основни търговски партньори по тримесечия за периода 1998:1–2011:4. Избраните макроикономически променливи са БВП, ИПЦ, номинален валутен курс спрямо щатския долар и реален ефективен валутен курс. Понижението на индексите на валутния курс показват поскъпване на лева. Всички индекси са изчислени при база последното тримесечие на 1997 г. Източници на данните са статистическите публикации на НСИ, БНБ и Евростат.

Както повечето икономически процеси, така и зависимостта между валутния курс и международните трансакции не се проявява незабавно, а с известно закъснение². Т.е., изследваната връзка има динамичен характер. Основни източници на лагови ефекти в проявлението на зависимостта са макроикономическите фактори, поради което може да приемем, че не само валутния курс е с подобно въздействие.

Продължение на класическия регресионен модел е представянето на изследваната връзка от един фактор чрез неговите лагови въздействия върху зависимата променлива³, който има следния вид:

$$y_t = \omega_0 \delta + \beta_0 x_t + \beta_1 x_{t-1} + \dots + \beta_k x_{t-k} + \varepsilon_t$$

Параметрите \square_k се представят чрез полином от вида:

$$\beta_j = \gamma_1 + \gamma_2 (j - \bar{c}) + \gamma_3 (j - \bar{c})^2 + \dots + \gamma_{p+1} (j - \bar{c})^p$$

Проблем на оценяването на PDLs е определянето на порядъка на двата основни параметъра на модела. Лагът се установява с използването на критериите на Akaike и Schwarz като се вземат под внимание конкретните условия на изследваната връзка.

От друга страна, определянето на полинома за изразяване на \square_k се детерминира от изискването на иконометричната теория той

¹ Хаджиев, В. Статистика на външната търговия. Наука и изкуство, ИУ-Варна, 2010, с. 121.

² Хаджиев, В. Еластичност на външната търговия. Славена, Варна, 2001, с. 7-9.

³ Almon, S., The distributed lag between capital appropriations and expenditures. // *Econometrica*, 1965, № 33, pp. 178-196.

да е по-малък или равен на лагът, т.е. $p \leq k^4$. Коректното приложение на оценъчния метод изисква да се проверят остатъците e_t за сериална корелация. За целта се използва теста на Durbin-Watson (DW-тест). При установяването на статистически значима автокорелация се прибавя фиктивната променлива AR(1), чрез която се симулира авторегресионен процес от първи порядък. В някои случаи се налага и прибавянето на фиктивната променлива AR(2).

Включването на фиктивни променливи, обаче, може да предизвика приемането на модел, който не показва влиянието на факторите, а се дължи изцяло на константата и/или авторегресорите. В този случай според F-критерия се доказва адекватност, но реално не съществува релация⁵. С цел ограничаването на невярна интерпретация на критерия на Фишер се използва теста на Wald⁶. Чрез него се извършва тест за адекватност за избрани независими променливи. Изчисляват се две характеристики - F и χ^2 . Нулевата хипотеза се отхвърля когато и двете са над критичните стойности при дадените степени на свобода и приетото равнище на значимост α . Тогава може да се приеме, че даденият модел е адекватен. В противен случай той се отхвърля.

На практика като се използват горните разсъждения, се експериментират множество модели и се избира онзи от тях, който най-пълно отговаря на изискванията на всички критерии.

Установените зависимости чрез модела на Almon могат да се използват за прогностични цели, но при условие, че текущата стойност на фактора не оказва съществено влияние върху зависимата променлива.

В конкретното изследване като зависими променливи се избират общия внос и износ на енергийни ресурси, както и вноса и износа им от и за ЕС-15. Освен тях се взимат вноса на енергийни ресурси от група „Европа” и износа на енергийни ресурси за „Балкански

⁴ Хаджиев, В., Еластичност..., с. 47.

⁵ Пак там, с. 50.

⁶ Davidson, R. and J. MacKinnon. Estimation and Inference in Econometrics. Oxford University Press, 1993.

държави”. Основание за това са относителните дялове, които имат съответните търговски партньори във външната търговия с енергийни ресурси (таблица 1).

Таблица 1

**Относителни дялове на вноса и износа
на енергийни ресурси по търговски партньори, осреднени
за периода 1:1998-4:2011 г. (в проценти)**

Търговски партньор	Дял от общия		Дял за съответния ТП	
	внос	износ	внос	износ
Европейски съюз - 15	0,9	2,2	2,2	4,3
ЕС - нови държави членки	1,4	1,2	14,8	14,4
Европа	16,1	0,9	73,8	14,5
Балкански държави	0,2	4,6	2,7	27,4
Америка	0,5	0,5	7,5	11,8
Азия	1,4	2,2	12,9	29,4
Други държави	0,8	0,7	25,4	13,4
ОБЩО	21,3	12,3	-	-

Посочените динамични редове за външната търговия, както и избраните макроикономически променливи следва да се изследват за интегрираност. Тестовете за интегрираност се прилагат върху сезонно ажустираните данни. Това е необходимо, понеже при установяването на зависимости сезонността в променливите може да прикрие или изкуствено да подсили дадена релация. Методът за сезонно ажустиране е Census X11.2. След отстраняване влиянието на сезонността данните се логаритмуват. Това се прави с цел стабилизиране на дисперсията на изследваните динамични редове. Получените оценки със сериите от натурални логаритми са много понадеждни и не изкривяват по никакъв начин крайните резултати от моделирането.

Така получените динамични редове се подлагат на разширения тест за интегрираност на Дики-Фулър, резултатите от които се представят в таблица 2.

Таблица 2

Резултати от проведените тестове за интегрираност на изследваните динамични редове

Променлива	Вид модел на теста*	LEVEL			Firsts difference			I-(d)
		Test Statistic		1% Critical	Test Statistic		1% Critical	
		ADF	PP	Value**	ADF	PP	Value**	
Логаритми на сезонно акустираните динамични редове на вноса и износа на енергийни ресурси								
Внос на енергийни ресурси (M)	trend/const	-2,397	-2,758	-4,131	-7,651	-7,642	-4,135	1
Внос на енергийни ресурси от ЕС-15 (M1)	trend/const	-3,330	-3,318	-4,131	-9,419	-9,848	-4,135	1
Внос на енергийни ресурси от "Европа" (M2)	trend/const	-2,795	-2,962	-4,131	-8,618	-8,611	-4,135	1
Износ на енергийни ресурси (X)	trend/const	-2,775	-2,965	-4,131	-9,756	-9,468	-4,135	1
Износ на енергийни ресурси за ЕС-15 (X1)	trend/const	-6,500	-6,656	-4,131	-	-	-	0
Износ на енергийни ресурси за "Балкански държави" (X2)	const	-2,338	-2,356	-3,552	-7,758	-7,752	-3,555	1
Логаритми на динамичните редове на факторите променливи								
БВП (GDP)	const	-1,356	-1,273	-3,552	-5,761	-5,893	-3,555	1
ИПЦ (CPI)	const	-0,357	-0,386	-3,552	-5,75755	-5,733	-3,555	1
Номинален валутен курс спрямо щатския долар (ER)	none	-0,590	-0,565	-2,605	-6,316	-6,286	-2,606	1
Реален ефективен валутен курс (REER)	none	-4,029	-3,984	-2,605	-	-	-	0

*none - без включване на константа или линеен тренд; trend/const - с включване на константа и линеен тренд;

const - с включване само на константа.

**MacKinnon critical values for rejection of hypothesis of a unit root.

Критерии за избор на основното уравнение при ADF и PP тестовете са отсъствие на автокорелация в остатъците и оптимални стойности за AIC и SC критериите. Критичната стойност за всички динамични редове се фиксира при 1 риск за грешка.

Оказва се, че всички изследвани динамични редове, с изключение на два, са интегрирани от първи порядък. Това налага при изследването на зависимостите да се използват техните първи последователни разлики. В този смисъл, получените при моделирането регресионни коефициенти могат да се тълкуват като чисти коефициенти на еластичност. От зависимите променливи единствено за динамичния ред на натуралните логаритми на износа на енергийни ресурси за ЕС-15 се установява интегрираност от нулев порядък, с наличие на стохастичен тренд. От факторните променливи индексът на реалния ефективен валутен курс също се оказва интегриран от нулев порядък. Поради това тези две променливи не могат да се използват за директно оценяване на еластичността.

Останалите динамични редове се подлагат на трансформация и с тях се извършва моделирането според вече зададените критерии.

Всички модели за външната търговия на енергийни ресурси са от следния вид, предвид обстоятелството, че приложената трансформация на данните е намирането на първи последователни разлики:

$$\frac{Y_t}{Y_{t-1}} = e^{\beta_0 * \left(\frac{X_t}{X_{t-1}} \right)^{\beta_1}} + \varepsilon_t$$

В този случай получените значими лагови регресионни коефициенти могат да се тълкуват като лагови коефициенти на еластичност.

В резултат от моделирането се оказа, че няма значими модели за факторите БВП и номиналния валутен курс. Същевременно няма и значими модели за вноса на енергийни ресурси от ЕС-15, както и за износа на енергийни ресурси за ЕС-15. Всички значими модели са с фактора ИПЦ.

За общия внос на енергийни ресурси се получиха 14 значими модела, а за вноса от група „Европа” – 19. Съответно за общия износ на енергийни ресурси значимите модели са 12, за износа за група „Балкански държави” – 15.

След използването на критериите на Akaike и Schwarz бяха избрани следните модели, представени в таблица 3:

Таблица 3

Основни параметри на избраните модели на еластичността на външната търговия с енергийни ресурси

Характеристики на модела	Зависима променлива					
	M_1		M2_1		X_1	X2_1
	Вид на модела (X; k; p) [AR]					
	(CPI_1,6,1) 1	(CPI_1,8,3) 1	(CPI_1,3,1) 1	(CPI_1,6,3) 1	(CPI_1,6,1) 1	(CPI_1,6,1) 1
R-squared	0,30	0,30	0,25	0,29	0,24	0,25
Durbin-Watson stat	2,00	2,00	2,06	2,21	2,08	1,98
Akaike info criterion	-1,27	-1,17	-0,42	-0,38	-0,40	0,38
Schwarz criterion	-1,11	-0,93	-0,27	-0,15	-0,25	0,54
F-statistic	6,39	3,50	5,20	3,43	4,63	4,83
Prob(F-statistic)	0,00	0,01	0,00	0,01	0,01	0,01
Wald F-statistic	11,50	4,97	7,02	4,09	8,17	7,62
Probability	0,00	0,00	0,00	0,01	0,00	0,00
Wald Chi-square	23,00	19,90	14,05	16,35	16,34	15,23
Probability	0,00	0,00	0,00	0,00	0,00	0,00
Значими регресионни коефициенти (лаг - стойност)						
0	1,29		4,26	4,62	1,88	2,80
1						
2			-1,48			
3	-0,59		-4,35			
4	-1,22	-1,44			-1,65	-2,26
5	-1,85	-1,86			-2,53	-3,52
6	-2,47	-1,80		-3,97	-3,42	-4,78
7		-1,09				
8						
Сумарен ефект	-4,85	-6,20	-1,57	0,65	-5,72	-7,77

На базата на получените резултати се обособяват следните изводи:

1. За наблюдавания период пряко може да се оцени еластичността на външната търговия с енергийни ресурси, както общо, така и за вноса от група „Европа” и износа за група „Балкански държави”.
2. Непряко може да се оцени влиянието на реалния ефективен валутен курс.
3. Външната търговия е нееластична по отношение на номиналния валутен курс и БВП.
4. Чрез ИПЦ се установява много силна чувствителност на външната търговия спрямо инфлацията в страната.

5. Моделите на разпределени лагове са сходни за вноса и за износа на енергийни ресурси като детерминацията им варира от 24 до 30%.
6. Съществува силно изразено лагово влияние на инфлацията с положителен ефект при лаг нула и с отрицателен ефект с лаг от 3 до 6 тримесечия. Доколкото това е очаквано за вноса, то този ефект за износа при лаг нула е парадокс.
7. Сумарният ефект от лаговото влияние на инфлацията е очаквано с отрицателен знак.

В заключение може да се каже, че еластичността на износа на енергийни ресурси е по-висока в сравнение с тази на вноса. Показателен е фактът, че износът на енергийни ресурси за „Балкански държави” е определящ за общия износ. От друга страна вносът от група „Европа” се характеризира с много висока ценова еластичност при лаг нула, която трудно се компенсира с останалите лагове.

Получените резултати дават добра основа за по-задълбочено изследване на влиянието на инфлацията върху външната търговия с енергийни ресурси.

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¹ : New York NYMEX, London
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² <http://www.indexmundi.com/commodities/?commodity=crude-oil&months=180>

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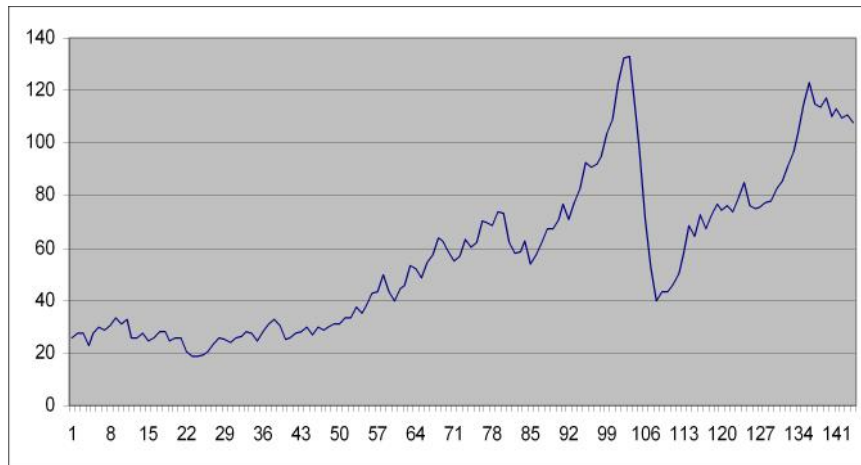
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		r_{YX}	t	$r^2_{YX} * 100$
1		0.16	1.87	2.56
2		0.17	1.91	2.89
3		-0.07	-0.76	0.40
4		-0.12	-1.22	0.10

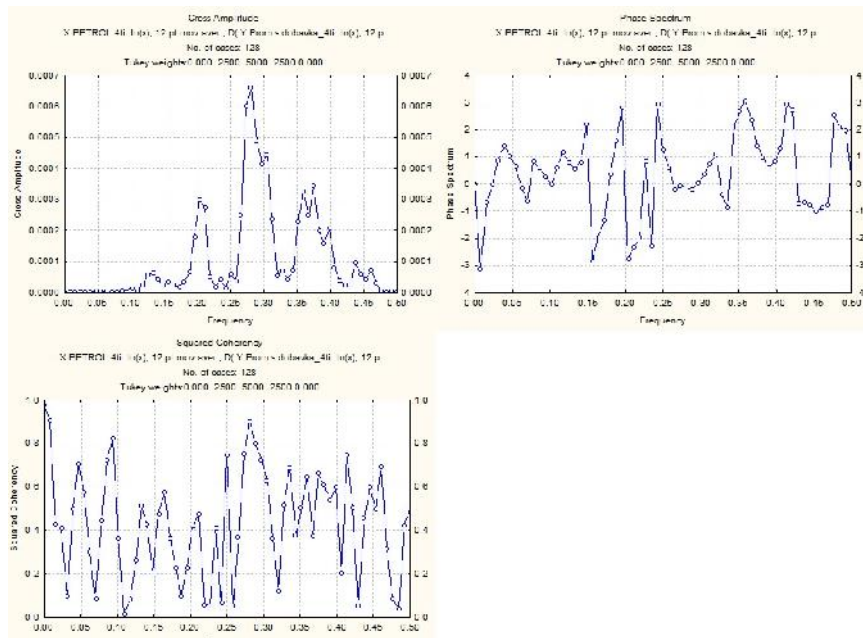
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№	Честота	Период	Стойности на кросамплитудата	Стойности на кохерентния спектр	Gain val X over Y	Gain val Y over X	Стойности на фазовия спектр
1	0.13	7.53	0.000064	0.513079	0.959437	0.534771	0.56255
2	0.20	4.92	0.000299	0.418262	0.404156	1.034903	-2.77972
3	0.28	3.56	0.000661	0.900101	0.646761	1.391707	-0.13641
4	0.36	2.78	0.000325	0.643767	0.949376	0.678095	3.08512
5	0.38	2.67	0.000345	0.661167	1.179859	0.560378	1.39723
6	0.44	2.29	0.000097	0.458077	0.935044	0.489898	-0.67080

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 ,2001;
4. Statistica, Vol.III:Statistics II. Statsoft, Tulsa OK, 1995, p.3300
5. <http://www.indexmundi.com/commodities/?commodity=crude-oil&months=180>
6. <http://www.nsi.bg/otrasal.php?otr=9>

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Engle Granger

(Levin-Lin-Chu¹ (LLC),

Breitung²)

Dickey-Fuller.

Dickey-Fuller (ADF),

Phillips-Perron (PP).

(IPS)

Im, Peasaran Shin³

ADF

IPS,

Fisher,

t

¹ Levin, A., C.-F. Lin, C.-S. J. Chu. Unit root tests in panel data: Asymptotic and finite-sample properties. *Journal of Econometrics* 108, 2002, pp. 1-24.

² Breitung, J., S. Das. Panel unit root tests under cross-sectional dependence. *Statistica Nederlandica* 59, 2005, pp. 414-433.

³ Im, K. S., M. H. Pesaran, Y. Shin. Testing for unit roots in heterogeneous panels. *Journal of Econometrics* 115, 2003, pp. 53-74

Engle Granger Johansen.
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Pedroni⁴, Engle Granger.
Pedroni LLC
IPS
Pedroni ADF PP
Kao⁵,
Kao

⁴ Pedroni, P. Critical Values for Cointegration Tests in Heterogeneous Panels with Multiple Regressors, *Oxford Bulletin of Economics and Statistics*, 61, 1999, pp. 653-70.
Pedroni, P. Panel Cointegration; Asymptotic and Finite Sample Properties of Pooled Time Series Tests with an Application to the PPP Hypothesis, *Econometric Theory*, 20, 2004, pp. 597-625.

⁵ Kao, Chinwa D. Spurious Regression and Residual-Based Tests for Cointegration in Panel Data, *Journal of Econometrics*, 90, 1999, pp. 1-44.

ADF, Johansen⁶

VAR :

$$\Delta y_t = \alpha + \sum_{i=1}^{k-1} \beta_i y_{t-i} + \gamma x_t + \varepsilon_t$$

$r, (0 < r < p),$ r p

„ ”

$r=0,$ $(r \leq 1)$

$r \leq r_0$ $r \leq r_0 - 1,$ $r_0 < p.$

Johansen Fisher.

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⁶ Johansen, Soren and Katarina Juselius (1990). „Maximum Likelihood Estimation and Inferences on Cointegration - with applications to the demand for money,” *Oxford Bulletin of Economics and Statistics*, 52, 169-210.

7.

$$s_t = m_t - m_t^* - \phi(y_t - y_t^*) + \lambda(r_t - r_t^*)$$

1992q1-2011q3.

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Engle Granger,

Johansen-

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⁷ Tucker, A.L., J. Madura and T.C.Chiang, „International Financial Markets”, West Publishing Company, 1991

⁸ Levin-Lin-Chu (2002) (demeaning).

⁹ 0,05.

PP- Pedroni, -
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Приложкен тест	s_{it}						$m_{it}m_{it}^*$						$y_{it}y_{it}^*$						$r_{it}r_{it}^*$			
	C						C_b, T_1						C_i						C_b, T_1		C_i	
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LLC	1,15	0,87	1,48	0,93	-1,02	0,15	-2,60	0,01	-1,24	0,11	-0,08	0,47	-0,63	0,27								
t-stat																						
Breitung t-stat			-1,04	0,15			1,34	0,91				3,09	1,00									
IPS	0,53	0,70	-1,27	0,10	1,75	0,96	0,47	0,68	1,33	0,91	0,35	-1,29	0,10									
W-stat																						
ADF - Fisher χ^2	28,31	0,25	42,43	0,01	21,18	0,63	22,21	0,57	28,15	0,25	27,76	26,28	0,34									
PP - Fisher χ^2	20,80	0,65	26,69	0,32	42,24	0,01	18,40	0,78	42,11	0,01	41,59	28,78	0,23									

¹⁰ s_{it} - ;
 $m_{it}m_{it}^*$ - 2005 . ;
 $y_{it}y_{it}^*$ - 2005 . ;
 $r_{it}r_{it}^*$ - ;
 Levin-Lin-Chu (2002) (demeaning).

Pedroni Kao

Приложен тест		Включени детерминистични компоненти					
		-			C		
		емп. хар.	P	емп. хар.	P	емп. хар.	P
Pedroni	Панелна PP- статистика	-3,053	0,001	-1,86	0,031	-1,651	0,049
	Панелна ADF- статистика	-3,133	0,001	-1,859	0,032	-2,182	0,015
	Групова PP- статистика	-2,55	0,005	-1,155	0,124	-1,091	0,138
	Групова ADF- статистика	-3,185	0,001	-1,664	0,048	-2,505	0,006
Kao	Панелна ADF-статистика			-2,683	0,004		

Johansen

ключени детерминистични компоненти	Хипотеза за броя на коинтеграцион-ните връзки	Fisher тип статистика, получена на основата на статистиката „следа“	P	Fisher тип статистика, получена на основата на статистика на максималната собствена стойност	P
Константа (само в коинтеграцион-ното уравнение)	$r=0$	112,900	0,000	88,320	0,000
	$r \leq 1$	48,890	0,002	32,040	0,126
	$r=0$	97,430	0,000	82,370	0,000
Линеен тренд	$r \leq 1$	37,610	0,038	22,160	0,570
	$r=0$	89,280	0,000	72,390	0,000
Линеен тренд (само в коинтеграцион-ното уравнение)	$r \leq 1$	34,800	0,071	29,740	0,194

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EIOPA¹,
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¹ EIOPA e ; <https://eiopa.europa.eu/activities/insurance/solvency-ii/index.html> .

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³ <http://www.actuarybg.org> – (II) 11.2009.

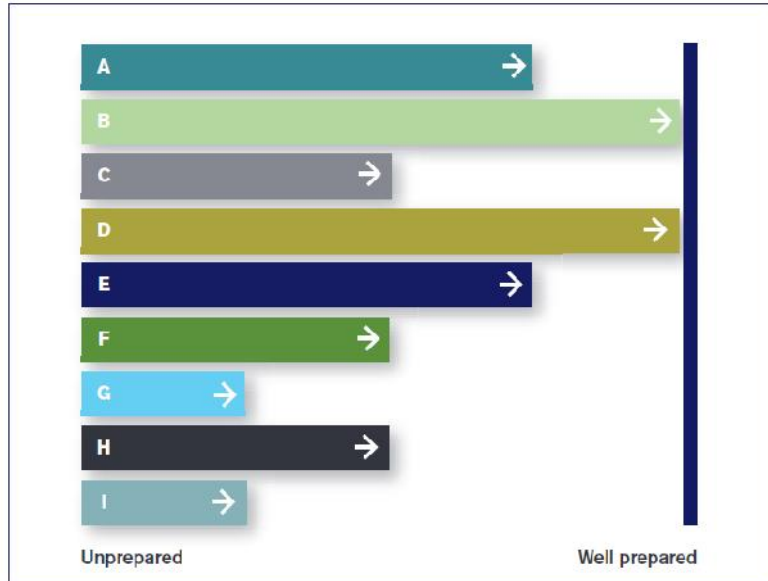
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- h) ; -
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⁵ Swallow, D., Ch. Sanjuv. The actuary of the future, Insurance matters, spring 2009, <http://www.watsonwyatt.com/europe/pubs/insurance-matters/media/insurance-matters-2009-1-spring.pdf>

(a, b, c, d, e, f)

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(Best Estimate)

(Risk Margin).

- $CoC = \sum_{t=0}^{\infty} \frac{SCR(t)}{(1+r_{t+1})^{t+1}}$
- $CoCM = \sum_{t=0}^{\infty} \frac{SCR(t)}{(1+r_{t+1})^{t+1}}$

$$CoC * SCR(t) / (1+r_{t+1})^{t+1};$$

$$CoCM = \sum_{t=0}^{\infty} \frac{SCR(t)}{(1+r_{t+1})^{t+1}}$$

95% VaR
 QIS3, QIS4, QIS5

⁸
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Mounir Bouchenaki¹

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¹ Universal Forum of Cultures, Barcelona, UNESCO, 2004.
² Therkelsen, A. Imaging Places. Image formation of tourists and its consequences for destination promotion. *Scandinavian Journal of Hospitality and Tourism* 3, (2), 2003, pp. 134-150.
³ , . , . 2009, . 32-40.
⁴ MONDIACULT, 1982.
⁵ Our Creative Diversity, 1997.
⁶ Stockholm, 1998.

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⁷ UNESCO, Convention on the Protection of Underwater Cultural Heritage, UNESCO Publishing, Paris, 2001.



⁹ UNESCO, Universal Declaration on Cultural Diversity, UNESCO Publishing, Paris, 2001.

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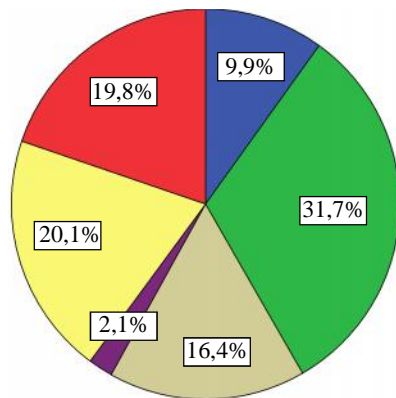
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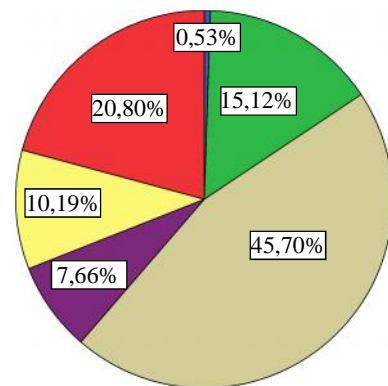


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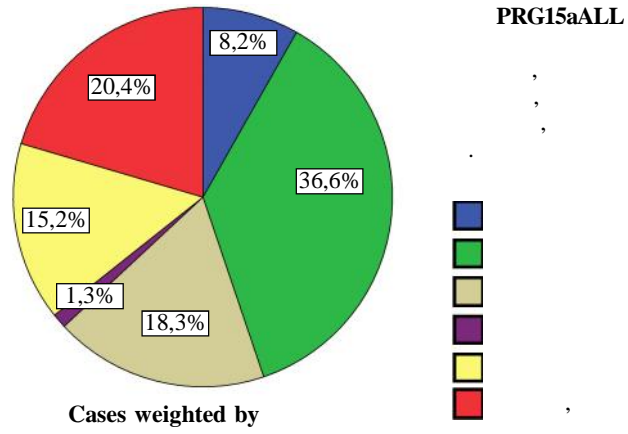


PRG14aALL



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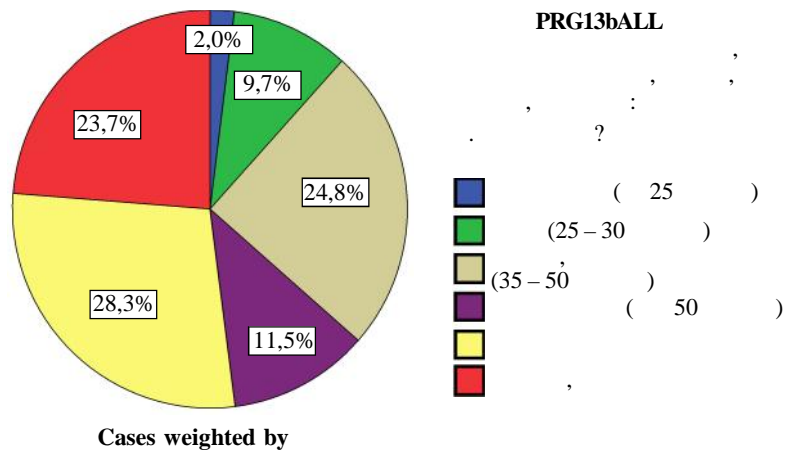
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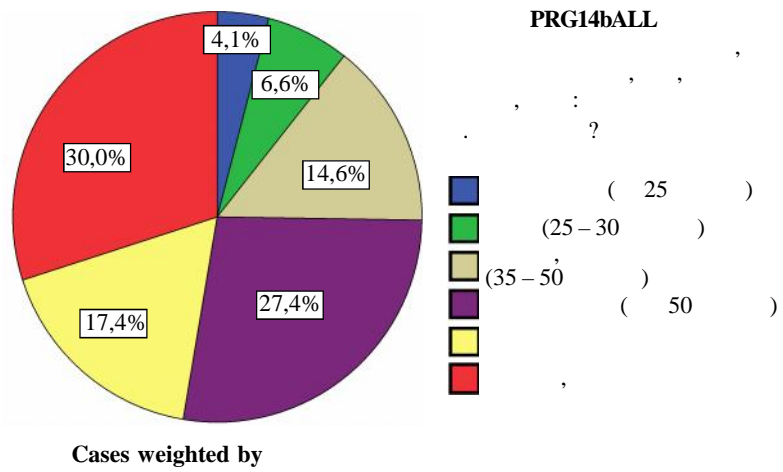
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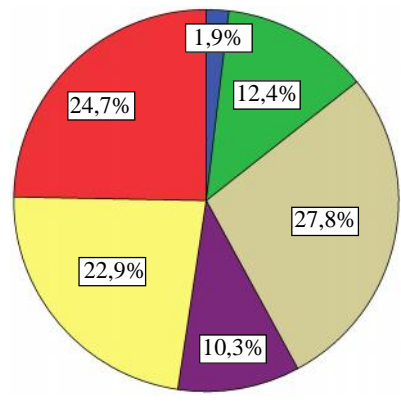
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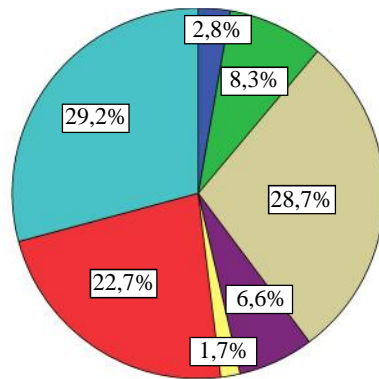
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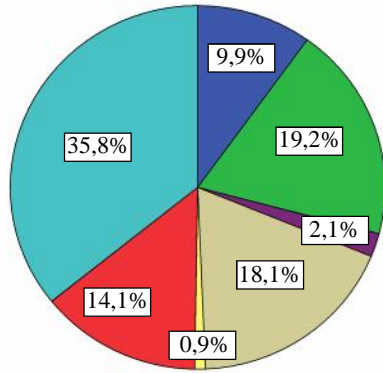


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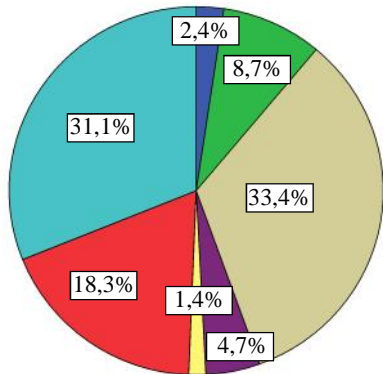


Cases weighted by

PRG14 ALL



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Cases weighted by

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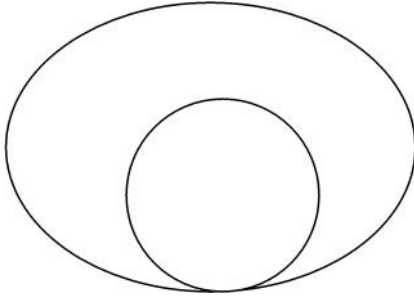
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⁵ : , 1991, 30-37.

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„marketing – ” „mercatique”,

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„licenciements –
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² Carrère d'Encausse, H. , Au secours du français, Défense de la langue française, No 207, 1^{er} trimestre 2003.
³ <http://www.toupie.org>

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Demandeur d'emploi		Chômeur	
Non-voyant		Aveugle	
Exploitant agricole		Paysan	
SDF		Clochard	
Longue maladie		Cancer	
Minorité visible		Noir, arabe, métis	,
Nettoyage ethnique		Génocide	
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Réajustement des prix		Augmentation des prix	
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Compétitivité	-	Arme d’écraser la concurrence. Pour les salariés, travailler plus, tout en étant payé moins	
Plan social		Licenciement Vous êtes viré, mais dans les formes	
Aménagement du territoire		Destruction du paysage existant	
Stabilité		Orientation de la politique favorable aux détenteurs de capitaux qui n’aiment pas les périodes d’incertitude	
Pays en voie de développement		Pays pauvres	
Optimisation des capitaux		Encore plus de profit	

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⁵ Carrère d'Encausse, H. Au secours du français, *Défense de la langue française*, No 207, 1^{er} trimestre 2003.

IMPLICATIONS OF ECOTOURISM DEVELOPMENT IN BULGARIA BASED ON CLASS STUDIES

*Margarita Genova, senior lecturer of English
University of Economics, Varna*

Tourism concerns for the future are best reflected in the principles and practices for sustainable development. With the European Agenda 21, sustainable and competitive European tourism has been made into a priority, inviting all players to respect a few basic principles, namely:

- planning on a long-term basis
- setting an appropriate pace and rhythm of development
- minimizing and managing risk
- using best available knowledge and practices
- undertaking continuous monitoring¹

The bottom line here is that as part of a common strategy, destinations within the European framework will have to come out of an autonomous development and focus on the protection of their environment and the development of competitive economic activities adhering to new EU directives.

As EU member state, Bulgaria is committed to protecting the environment and developing a sustainable, low-carbon economy. However steps towards 'greening' the economy seem to be at an early stage and a lot needs to be done in terms of joint effort, better co-operation and coordination among responsible organizations and the government.

More importantly, Bulgaria has voiced its commitment to environmental concerns and development along sustainable lines by adopting a National Ecotourism Strategy in 2003 together with its ambition to become a model ecotourism destination on the Balkans and in Europe. In the aftermath of this strategy, eco initiatives and sustainable projects have helped foster an increased awareness of the environment which actually translated into higher environmental responsibility and better environmental management policies. Given the fact that governmental focus has shifted from support for traditional tourism towards new forms of tourism in economically depressed areas indicates that tourism is recognized for its potential to generate wealth, create jobs and bring revenue into the country's economy. The Bulgarian

¹ COM(2007)621 final 'Agenda for a sustainable and competitive European Tourism', 2007, p. 11.

government and local authorities, together with a number of NGOs and tourism related organizations assumed new responsibilities and understanding towards our natural resources and rich cultural heritage. It prepared a new legislative framework (Tourism Act and the Biodiversity Act, 2002, Environment Protection Act, 2002, Protected Areas Act 1998) which covered tourism related issues. It also made some strategic decisions relating to the protection of our environment and nature. Thus,

- Burgas Alexandroupolis pipeline project was officially terminated by the Bulgarian government in December 2011 due to environmental and supply concerns, basically for the risk of disrupting the fragile ecological balance of the aquatory and coastal areas near Burgas and for its potential negative impact on tourism (pollution and erosion).
- The building of the nuclear power plant in Belene was frozen until further consideration about its safety and cost effectiveness was given. Subsequently, the Parliament passed a vote which practically brought the demise of the power plant.
- Earlier plans of the government to give the green light to the exploration and trial boring of shale (fissile) gas in five regions in the north-east of Bulgaria have resulted in much hue and cry raised by environmentalists and eco organizations for its potential damage on the environment in those areas (risks of seismic activity and pollution of land and underground waters). In January 2012 the Bulgarian parliament came forth with a memorandum on trial boring on shale gas unless companies with a vested interest in this project were able to prove otherwise.

Another measure taken by the government in the direction of protection and conservation of the environment was the adoption of National Eco-Tourism Strategy for Bulgaria (NETS) 2003 and Action Plan and National Strategy for Sustainable Tourism Development 2009-2013. NETS has mapped out the route for development of ecotourism in Bulgaria over the next 10 years. It originates in a number of initiatives based on the efforts of protected areas to engage communities in tourism development activities inside and outside parks. Models for community based ecotourism were implemented by the Rila and Central Balkan National parks with the support of the Biodiversity Conservation and Economic Growth Project. The National Parks working model includes establishing of ecotourism partnerships. The successful work of these partnerships has led to the emergence of two ecotourism associations: Rila Ecotourism Association-Samokov and Ecotourism Association Central Balkan-Kalofer. A network

of protected areas has been created which aims to enhance the conservation and preservation of nature. This network covers 541,680 hectares or 4.9% of the country's total territory. The above strategy highlights ecotourism as an important means for development of local infrastructure and tourism ventures in low populated regions. Local authorities are advised to use ecotourism programs and grants in order to resurrect decaying countryside regions and give Bulgaria a competitive edge on the international eco tours market.

Further on, in view of its unique natural resources, Bulgaria offers great opportunities for diversification of the Bulgarian ecotourism product. The net of 3 national and 10 nature parks, 89 reserves, including 17 biosphere reserves and 35 maintained reserves, 175 protected localities and 2,243 natural landmarks provide ample evidence on the exceptional conditions the country offers for ecotourism practices, enjoyment and rest.

The Pirin National Park and Srebarna bio-reserve are included in the UNESCO's World Natural and Cultural Heritage List. There are also five wetland areas under the RAMSAR Convention: Arkutino, Atanassovsko Lake, Shabla lake, Durankulak lake, and Srebarna Lake.

As ecotourism is expected to boost tourism development in general, the following types of ecotourism are seen as particularly suitable for Bulgaria:

- bird watching: spring and winter birding tours;
- wildlife and botany observes: butterfly and dragonfly tours, wolves and vulture tours in Eastern Rhodopes; brown bears.
- mountaineering and trekking holidays: rock climbing
- kayaking
- angle fishing
- photo safari
- caving
- biking
- horse riding
- hiking tours

The bio-climatic diversity of Bulgaria in combination with natural thermal and mineral springs is seen as conducive for eco-tourism, spa and wellness tourism. Because of its geographical position and different habitats, the country boasts one of the richest biodiversity in Europe. Over 80% of all bird species inhabiting the European continent can be seen in Bulgaria as the second biggest migration route follows the Bulgarian Black Sea Coast.

In addition, Bulgaria has become a party to a number of ecotourism projects and tourism related forums such as the First National Forum

„Ecotourism, Mountains and Protected Areas – Partners in Prosperity” which took place in October 2002.

Other projects worth mentioning are as follows:

- Biodiversity Conservation and Economic Growth project, 2002.
- Second Pacific Economic Co-operation Council Ecotourism Forum (PECC), September 9-10, 2004.
- The National Environmental Strategy 2009-2018; Strategy Action Plan and Strategy for Sustainable Development (draft).
- The New Thracian Gold – organic farming and ecotourism project, 11 May, 2011. (A joint project between Bulgaria and the Netherlands discovering the potential of the Eastern Rhodopes and providing opportunities for developing organic farming, ecotourism and bioproducts in the south of Bulgaria.)
- Bulgarian-Greek project to work for the preservation of the ‘Egyptian culture’, 16 February, 2012, etc.
- 2012 Tourism Cluster „The Green Bulgaria” the major goal of which is to improve the image of the label ‘Made in Bulgaria’ based on respect for natural and cultural heritage and generating opportunities for local communities – wineries, TOs, guest houses, family hotels, protected areas, universities.

Other initiatives aiming to conserve the natural and cultural heritage:

- Participation in EDEN project
- Green House National Competition of the Bulgarian Association for Alternative Tourism (BAAT) and Bulgarian State Agency for Tourism for eco accommodation under ECEAT criteria for sustainable tourism.
- 2009 Year of Ecotourism and Rural Tourism in Bulgaria which included a spate of marketing activities to encourage the development of these types of tourism in Bulgaria.
- GREEN LODGE certification - a quality mark awarded to B&B and small hotels for their authenticity and care to the environment.
- AUTHENTIC BULGARIA – an independent quality mark in Bulgarian tourism awarded to accommodations that offer original ambience and unique tourism product.

In the aftermath of the National Ecotourism Strategy Bulgaria has developed an extensive network of eco and geo trails. The eco trails, where wildlife and landscape serve as a natural backdrop for tourist activities, the geo trails – with an emphasis on inanimate nature and last but not least, the heritage trails featuring the country’s cultural and historical heritage provide access to natural and cultural attractions. In the last years, the eco trails

have been gaining in popularity and they are included in a network of specially devised circular trails, hiking through beautiful and well-preserved areas. Integrated wooden structures such as bridges, platforms and nature observation points make it possible for visitors to view natural phenomena – gorges, rock formations, waterfalls, snowcapped mountain peaks, lakes, caves and many more.

Perhaps the country's participation in the EDEN project has been one of the most commendable efforts to reposition the image of Bulgaria from a low-cost sun, sand and sea mass market destination to a destination with green policies and eco-tourism potential and enhance a national brand based on nature and heritage.

As we know, EDEN's aim is to bring into focus little known destinations within Europe which have something unique to commend to. Some of the objectives of EDEN project have a direct relevance to the principles of ecotourism:

- strengthen the visibility of participating destinations
- showcase tourism as dependent on the quality of the environment and local heritage
- conserve natural beauty and surroundings
- create opportunities for networking with other countries
- provide a platform for co-operation, sharing of ideas and good practices.

It is worth noting that Bulgaria's participation in EDEN has been acknowledged on three counts. Belogradchik in 2008, Belitsa in 2009 and the administrative region of Silistra in 2010. Those have been the winning destinations which best reflect the chosen theme of the year to offer unique tourism experience in line with sustainable patterns.

The Belogradchik Rocks – In 2008, it was awarded the title of European tourist destination of excellence in *Intangible Heritage*. The place was also nominated to participate in the competition for one of the 7 new World Wonders in 2009.

Belitsa – In 2009 it was awarded the title of European Tourist Destination of Excellence in *Protected Areas*. The town is also respected for hosting 'The Dancing Bear Park' – the largest of its kind in Europe and home to a growing population of *brown bears* ready for re-adoption into wildlife.

Regional Administration of Silistra – in 2010 it was nominated European Tourist Destination of Excellence in *Aquatic Tourism*. There are many eco trails offering opportunities for hikers to enjoy the surroundings. The fishing village of Tutrakan is alive with long-preserved local customs and rituals.

Examples of good ecotourism practices in Bulgaria

In 2008, nine sites were nominated for the 'Green Lodge' label. Special recognition was given in the categories for 'hospitality', 'architecture' (the village of Leshten), 'outstanding cooking using organic products' (Villa Kibela), 'preservation of local traditions' (Deshka guesthouse) and 'local initiative for sustainable development'. The Toma Hotel in the region of Sliven became the winner of the Green Lodge grand prize.

Hadji Velinov Inn „FENERITE' is a good case in point. It is based in a rural area with a focus on quality and authenticity. It showcases local community engagement as it trains and employs local staff. The inn is being run along sustainable lines: it uses local materials and crafts and presents opportunities to explore and understand local way of life and culture. The use of local fuel, recycling methods and eco transport with zero footprint such as bicycles and horse riding enhance the overall green experience for visitors. The place commends rural style architecture and homegrown, organic and local produce. The food is cooked on spot using regional recipes and ingredients. The guesthouse operates in close partnership with other local entrepreneurs. It has also joined the 'Authentic Bulgarian Quality Mark' in an attempt to distance itself from cheaper and less authentic establishments² (Chris Cooper).

There are other Bulgarian towns such as Bansko, Kalofer, Gabrovo and Razlog which nurture the green concept and bear the green label. The little town of Kalofer has been successful in developing itself as an eco tourist destination through engaging the local community. (See Virtual Conference, spring 2005 Kalofer: Is Ecotourism natural to Bulgaria?) It is a starting point for a hiking tour to the highest waterfall in Bulgaria, called Praskaloto and the 'White River' eco trail. The town of Tryavna was one of the first to develop along green lines: separate waste disposal, green architectural and building styles and energy efficiency have long been made a priority. The local school of woodcarving supported by the local municipality and BARET provides training in some traditional local skills and craftsmanship such as iconography, painting, restoration and pottery.

The theme 'Ecotourism' has been recurrent in tourism classes for the last couple of years. Usually it spurs discussions about sustainable development and how to put sustainable principles into practice but the focus is always on Bulgaria, underpinning efforts and achievements in this area.

² Key Policy Challenges and Needs in Support of Alternative Tourism Development in Bulgaria, Chris Cooper.

It is essential to say that the present study is based on research done by Bachelor and Master's Degree tourism students who studied this particular sector of tourism and presented their findings in class or through a project work. Not surprisingly, their findings have brought into focus the huge natural resource our country abounds in. Students uncovered long forgotten traditions, local festivals and customs that have been cherished and preserved by some remote communities in the Rhodopi and Pirin mountains which give evidence of the way of life, crafts and customs of these communities. It is worth mentioning the well-preserved kukeri rites in Pernik, the throwing of the cross on St John the Baptist Day in the river Tundja (the town of Kalofer) where local men in folk costumes dance horo in the cold river waters, the nestinari tradition of dancing over live embers in the Strandja mountain, believed to be a sublime manifestation of faith (the dancers carry the icon of St Konstantin and Helena), the Lazaritsa festival which celebrates the beginning of spring, Gabrovo festival of humour, the Koprivshitsa folklore festival and many others. Arguably, the research has helped increase students awareness of the county's heritage, recognize their roots and foster a cultural identity. It has also revealed students potential to do PowerPoint presentations around their project work and evaluate their performance against a presentation skills list.

The conclusion part of my paper presents a summary of ecotourism development in Bulgaria and the effect it has had on local and host communities especially in areas that lag behind in their economic development. It also aims to underpin the achievements in the area of ecotourism and highlight the most important aspects that showcase Bulgarian ecotourism.

So, to sum up the effects of ET on tourism development in Bulgaria we can say that it has helped:

- revive some traditional arts and crafts
- instill local pride and empower host communities
- enhance the abilities of local people as learners and provide them with a focus for the future.
- increase social and economic strength of local people so that they can see their potential and be proactive in their actions.
- give rise to a new type of accommodation units
- create eco trails to appreciate the physical features of the landscape
- educate the traveler to treat the environment in a responsible way

May be this is the right time to mention the initiative of the New Culture Foundation and their project „The Abandoned Northwest” which aims to place in the focus of attention old and derelict buildings and long

deserted places by bringing them to life in pictures and photographs, following a scenic route in the north-west of the country. These withered, crumbling down buildings evoke sweet and bitter memories in the mind of the living and yet they can offer opportunities for development if converted or used as a natural setting for arts and culture events. Thus a classic guitar concert will be staged in an old defunct mine near the village of Chelyustnitsa, Montana region, chosen for the exceptional acoustic quality of the place being a natural amphitheatre. The village of Varshets is yet another place zoomed by the camera which can be the focus of redevelopment. In the beginning of 20th century Varshets used to be a popular spa resort, boasting the first Bulgarian casino. The building of the old casino could still be of use if converted and made into an arts venue, evoking historic sentiment and pride.

To wrap it up, NETS had not only provided the guidelines along which to develop but it offered fresh opportunities for economic investment and private and public sector relationships. Ecotourism proved to be viable on a long term basis as the only type of tourism which aims to be in harmony with the environment and be responsible to it. What is more, ecotourism programs served to boost wine tourism which in view of the favourable climate and century long traditions in winemaking helped regenerate traditional winegrowing regions and draw investments by private entrepreneurs. In a similar way ecotourism encouraged the rise of a new type of accommodation units across Bulgaria such as farm houses, ranches, green lodges and guest houses, small family-run hotels. The idea of using organic products was embraced by a number of private enterprises and individuals who were eager to exchange experience and share good practices in growing organic crops (moon planting methods, etc.) and organic gardening. Not surprisingly, the number of nature and hiking tours took off in a big way especially with the more discerning domestic tourists. BAAT efforts to educate travelers who undertake a visit to natural and protected areas seems to have planted seeds. It developed a more responsible approach towards our natural resources by promoting eco practices such as recycling of materials, energy efficiency, water conservation, sparing use of non-renewable resources, using transport with zero footprint etc. Ecotourism initiatives encouraged training of local people and their engagement in the local economy. By creating job opportunities and employment for local people it helped regenerate the economy of a region while at the same time people became more proactive, sensitized to a potential they need to exploit by themselves.

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