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The articles of our colleagues from various scientific, educational institutions of Poland, Germany and Ukraine are published in the collection of scientific works.

The authorial views concerning certain positions do not necessarily agree with the views of the editorial board.

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Content

METHODS OF DEFINITION OF TOURISM PRODUCT QUALITY

Ganna Bedradina[*]

1. Introduction

There are a great number of different enterprises carrying out tourist activity, amongst which firms – tour operators take the very significant place. The general meaning of tour operators (in English is "tour operator") is the specialized enterprise, which organizes inner and international trips.

Firm-tour operator shall have the key and the most differential function which is organization of production and sale of group or individual tours being the package of main and additional tourist services.

A product of the tour operator is proposed at the tourist market as integrity but not as the common package of separate services [1; 2; 3]. It includes competency, abilities of the tour operator, his experience (know-how) in solving different problems which can appear during the process of organization and conduction of the tour. This fact shall be an additional argument for production function to be considered as the main one in the tour operator activity. However, some authors call the function as organizational type [4, p.150-230]. Consensus on this issues can be a term "organizational and production function of the tour operator".

In addition to the above function there is a trade and servicing function in activity of the firm-tour operator. It is notable for a great diversity and embrace processes connected with servicing of clients in an office, provision of information, sale of tourist cards etc.

2. Definition of tourism product quality

Considering two main functions of the tour operators a concept "quality" in this case cannot be interpreted explicitly. It is lawfully to single out two types of quality which conditionally can be called as "tourist product quality" and "quality of client servicing".

According to the given marking quality level of the tourist product K_{tp} and quality of servicing K_0 can be produced as follows:

$$K_{tp} = K_1 K_2 K_3 \ldots K_n; \tag{1}$$

$$K_0 = K_1, K_2, K_3 \ldots K_n, \tag{2}$$

where, K_i is the partial indices, which characterizes the quality of separate stages of both: the tour and client servicing when tourist product is being chosen or on return from the tourist trip.

We understand quality of the tourist product as the scope and characteristics of the product which provide it with an opportunity to satisfy conditional or foreseen need of the consumers. This interpretation fully complies with standardization which was determined by the International Organization (ISO).

Servicing quality concept is multidimensional and covers different aspects of interrelations between staff of firms and clients. Servicing quality concept includes routine of tourist firms, qualification and skills of the staff, form of customer servicing (way of taking an order for a tour and provision to the clients), average period for services provision, environment of servicing of the visitors of the tourist firm [5, p.121].

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[*] Ganna Bedradina; tutor; department of economics and tourism management; Odessa State Economic University; Email:< anna_bed@rambler.ru>

Herein we will consider only the first component part of services quality, provided by the tourist firms, which is the tourist product.

First of all an attempt of the product structurization shall be made for assessment of the firm's tourist product quality. The following content of the tourist product (TP) shall be considered as the standard one:

$$TP = \{PT, T, A, E, C, ET\} \tag{3}$$

where, PT = preparation for the trip,

  T = the transport facilities,

  A = accommodation in a hotel,

  E = excursion program,

  C I =catering and ET shall be end of the trip.

Basing on an inquiry of customers or experts it is necessary to determine weight (significance) of each of the six stages. Then it is worth while determining an actual meaning of the tourist product quality on all the stages of the trip. It is possible to make on the basis of 10 grade assessment   scale by inquiring clients of the firm who have already returned from the trip. The Table 1 contains results of an investigation of quality of the "Orbita" firm's tours to the Republic of Turkey under standard conditions of "Odessa-Antalya-Odessa" Charter.

Tab. 1. Assessment by tourists of quality of tours prepared by firm "Orbita"
to the Republic of Turkey on "Odessa-Antalya-Odessa" route

Stages (component part) of the tour	Weight of the stage, %	Assessment by tourists of the separate component parts, points	Weighted quality assessment, points (%)
1. Preparation for the trip	5	9	45 (6,3)
2. Conduction of the trip 2.1. Transport facilities 2.2. Accommodation 2.3. Excursion program 2.4. Catering	15 30 20 25	8 6 8 7	120 (16,9) 180 (25,3) 160 (22,6) 175 (24,6)
3. Final stage of the trip	5	6	30 (4,3)
Amount	100	–	710 (100)
Tour quality satisfaction	–	–	7,1

Taking into account the approach proposed in the table 1 to the tour quality assessment, it shall be provided for determination of indices as follows:

▪ weight (significance) of each stage of the tour;

▪ actual significance of quality of the trip on each stage under the 10 grade scale;

▪ weighted quality tour assessment for each separate stage, which to be determined by multiplication of weight values to the actual values of the tour assessment by tourists;

▪ satisfaction of the customers with quality of the tour in whole which to be determined by summation of the weighted assessments on each stage of the tour;

▪ ratio of the weighted quality assessment for each stage to the general tour assessment.

For the purpose of clear view of the tour quality state and being based on the assessment made we could draw a tree-like diagram of the customer satisfaction with quality of the tour and set priorities of further work of the firm in the sphere of services quality. An example of such a diagram is made on the figure1.

	Trip process	Level of the costumers satisfaction	Priorities of changes in the sphere of quality
	Preparation for the trip	6,3%	2
Quality of the tour	Transport facilities	16,9 %	3 *
	Accommodation	25,3%	6
	Excursion program	22,6%	4
	Catering	24,6%	5
	Final stage of the trip	4,3%	1

Fig. 1. Tree-like diagram of customer satisfaction with quality of tours to the Republic of Turkey of firm "Orbita"

3. Conclusions

Data of the table 1 and tree-like diagram (figure1) shall be the evidence of that the highest percentage assessment of the tourists' satisfaction is expected during the trip including accommodation, excursion program and catering. The lowest percentage assessment of the tourists' satisfaction is observed on finishing of the trip and when preparing for the trip. It is obvious that improvement measures for quality of tours of "Orbita" Firm and accordingly measures to increase in the level of satisfaction of its clients shall be taken on these stages, having priorities 1 and 2 (figure 1).

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Summary

The basic functions of tour operator's activity are considered: industrial and serving. Taking into account the listed functions two kinds of quality of services of the tour operator are allocated: quality of a tourist product and quality of servicing. Qualimetrical methods of an estimation of services are offered.

Key words: tourism product quality; quality level Lof tourist product; quality of servicing.

THE ROLE OF CLUSTERS IN THE AGRO-INDUSTRY

Marina Bykowa[*]

1. Introduction

The present paper highlights the major characteristics of a cluster. The article focuses on the advantages and features of cluster development in the region. The essence of the clusters concept and its importance for the development are considered in the agro-industry .

2. The Role of Clusters in the agro-industry

Processes which take place in the world economy influence economic competitiveness and economy of Ukraine as a whole. The first sector which suffers from intensification of competition is agro-industry because it is the major industry in the economy of our country. It produces 96-98 % of the Ukrainian food products, 50-55 % of feedstock, and its part in a national income is about 30 % [1].

World agro-industry develops in direction of strengthening competitiveness. However, Ukrainian agricultural systems are not moving rapidly towards market-driven systems. This industry needs to develop new sources of competitive advantage. It is clear that business-as-usual is not an option for the industry. There should be linkages between geographically proximate group of firms and associated institutions in related industries which can make strong cluster in the agro-industry.

Various aspects of agro-industrial activities and competitiveness of regions were investigated in works of leading Ukrainian and foreign scientists, among whom are V. I. Bogachev, M. V. Zubec, R. Camagni, K. Chapman, M. Porter, M. Raco and others. However, many issues related to increase of agro-industrial competitiveness in the economy of region remain unsolved.

In this context, new theory of regional development came to force. This applies especially to the role of clusters (M. Porter). According to researches of clusters, Porter defines clusters as "geographic concentrations of interconnected companies and institutions in a particular field. Clusters encompass an array of linked industries and other entities important to competition. They include, for example, suppliers of specialized inputs such as components, machinery, and services, and providers of specialized infrastructure. Clusters also often extend downstream to channels and customers and laterally to manufacturers of complementary products and to companies in industries related by skills, technologies, or common inputs. Finally, many clusters include governmental and other institutions – such as universities, standards-setting agencies, think tanks, vocational training providers, and trade associations – that provide specialized training, education, information, research, and technical support" [2].

Clusters are now seen as a critical factor in fostering development, through the connections they make between the industrial and research worlds and the support services they can provide, particularly to small firms which would otherwise not have the resources to access them [3].

Clusters come in many different forms. Some of them are organized around large anchor companies that have attracted a network of suppliers and service providers over the years. Others are groups of small- and medium-sized companies that have been able to overcome the disadvantages of small individual size through active collaboration. Yet another category is represented by small start-up companies that have developed around a university or a research institution.

[*] Marina Bykowa; tutor; applicant; department of international economic relations; Odessa State Economic University; Email: < marina_bykowa@mail.ru>

Cluster systems are characterized by the following features:

- The presence of large organization leader, which determines long productive activity, marketing, investments and other activities of the whole cluster.

- Territorial and geographic localization of interconnected companies.

- Stability of economic relations in the cluster system.

- Innovation management, which allows using experience and knowledge in the existing clusters and establishing new cooperative networks within a cluster.

- Several organizations can be leaders of a cluster, however, they remain competitors which makes cluster different from cartel or financial group [4, p.74-81].

Forming and development of clusters are the effective mechanism of bringing investments and activation of external economic integration. Integration of clusters in global relations allows raising the level of technological base and speed up economy growth, due to the increase of competitiveness of enterprises that comprise a cluster.

Many countries of the world use cluster approach for development of agro industries. A good example is Matiguas, a prime area for consolidating a cluster related to cattle raising and dairy production because it already has hundreds of ranchers, long-standing traditions and skills in this field, existing importers of livestock inputs and the capacity to produce and export more milk and cheese [5].

Due to clusters companies have next advantages:

- Firstly, companies can achieve higher levels of productivity, because they have close access to specialized suppliers and service providers.

- Secondly, companies could rapidly learn from the best practices of close competitors because they can turn ideas more efficiently into prototype products and services.

- Thirdly, companies can find many external services and assets due to international partnerships among cluster companies.

- Fourthly, firms can hold same market share, get free market niche on some territory.

- Fifthly, cluster can attract international managers as entrepreneurs.

In spite of the positive affect of clusters, there are some problems that impede effective clasterization in Ukraine:

- a lack of awareness of government and business in the questions of cluster approach;

- absence of public policy on maintenance of cluster initiatives;

- insufficient level of development of outsourcing.

Agro industrial clusters consist of small and big farming companies, transport organizations, companies in farm machine industry and materials industries.

An agro industrial cluster has in the basis a complex of agricultural productions and also concomitant productions. Efficiency of clusters formation is influenced by the following factors: specific character of basic production; products innovation; pattern of production; competition and level of its development; mobility of labor force in a region management system; level of technology; influence of state administration [6].

One of the key points of effective agro-industrial functioning is a developed market infrastructure. Infrastructure creates conditions for maintaining the necessary supply and demand, reducing the time of distribution of goods, accelerating capital turnover, reducing costs and prices of commodity

movement, creating an effective competitive environment. Therefore, clusters depend on a number of key factors: related technology, government policies and market conditions.

Cluster model in the agro-industry can be presented as follows (figure 1).
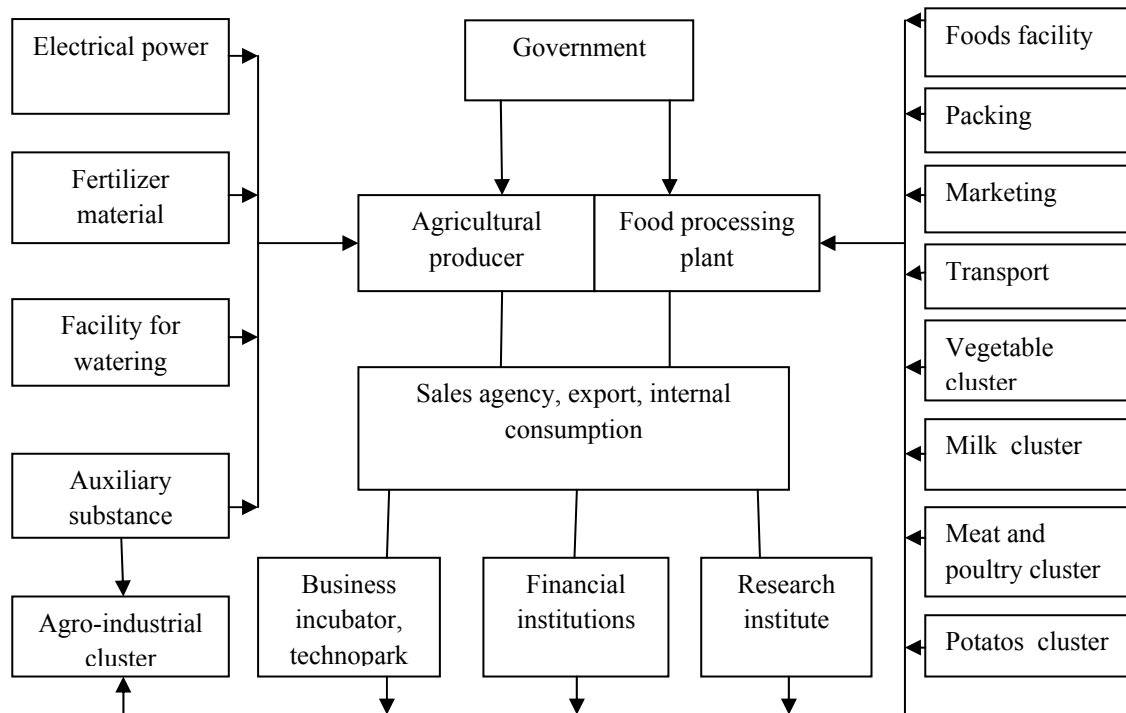
Fig. 1. Model of agro industrial cluster [7]

The first level is producers of facilities productions for agriculture. They consist of producers of fertilizers, producers of equipment for a harvest, for watering of harvest, producers of seed and auxiliary materials.

The second level is small enterprises, corporations, agro industrial organizations: meat-packing plants, suckling's combines.

The third level is wholesale-retail firms, companies carrying out export activity.

These three levels actively co-operate with government, innovative enterprises, credit-financial institutes, research institutes, transport companies, marketing companies.

So concentration of competitors, buyers and sellers promotes the production growth with efficient specialization. The cluster engages many small organizations, small businesses in agriculture. The positive effects are achieved by:

▪ reducing production costs, as producers supply the necessary resources at stable prices;

▪ reduction of the return of funds and resources needed for a new cycle of production.

The concentration of agricultural production, processing and manufacturing and selling of the final product within the same integrated economic entity provides an opportunity to regulate the market conditions and it helps to be competitive in the wholesale food market.

3. Conclusions

Agro-industry is a key to the foreign markets. However, ensuring growth of the market is clearly not enough for Ukrainian industries. There should be new instruments in agro industrial activities. Only strong partnership between producers, specialized suppliers, service providers and government can increase productivity. Many problems can be resolved by cluster initiatives, its key tools for

increasing the productivity, competitiveness of the region, attracts foreign investment and enhancing external integration.

The role of clusters in agro-industry is felt more and more. Some government policies and objective changes in the economy, as clasterization, are responding to accelerate development of agro-industry.

Formation of clusters in agro-industry includes improving of investment climate, raising the level of innovations, growth in agricultural competitiveness, developing innovation activities, ensuring effective information exchange. Therefore, if a group of businesses concentrates on agro industry activity in one region consolidating and strengthening the social and productive network, it will lead to reduction of costs, increase of competitiveness and exports.

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Summary

According to researches of clusters, Porter defines clusters as «geographic concentrations of interconnected companies and institutions in a particular field». Cluster in agro industry involves a complex of agricultural productions, concomitant productions, service providers, and associated institutions. Efficiency of clusters formation is influenced by the following factors: specific character of basic production; products innovation; pattern of production; competition and level of its development. Clusters increase the productivity, competitiveness of the region, attract foreign investment and enhancing external integration. The development of agro industrial clusters is an important agenda for governments and companies.

Keywords: cluster; agro-industry; economic efficiency; clusters in the agro-industry.

UD classification: 338.432:631.145

STRUCTURE AND FUNCTIONS OF INTANGIBLE ASSETS IN THE KNOWLEDGE ECONOMY

Natalia Diukova; Michal Jasienski[*]

1. Introduction

In the world where economies are increasingly based on knowledge, technology, communications and information (therefore being called "learning" and "knowledge-based" economies) there is no wonder that the main trend observed is a shift from tangible to intangible value creation, meaning the increasing role of intangible assets and extended volume of research devoted to their identification, categorization and valuation.

Therefore, nowadays intangible assets (IAs) are regarded as critical drivers for development, innovation and economic growth. Although there is no unified definition of such assets, the authors of this paper share the point of view that these assets are "all non-material factors that contribute to the performance of firms in the production of goods or the provision of services, or that are expected to generate future economic benefits to the entities or individuals that control their deployment" [1, p.31].

2. History of the IAs scientific investigation

One of the pioneering works considering IA was written in 1959 by E. Penrose [2, p.128]. According to him all company resources should be transformed into services. Services are the function of experience and knowledge obtained by a company. This thought was widely developed only in 1980s.

Among the first works entirely devoted to intangible assets and intellectual capital the ones by Brooking [3, p.58], Sveiby [4, p.20], Edvinsson and Malone [5, p.463] and Stewart [6, p.18] can be named. In these works the researchers have stressed the strategic importance and the role of intangible resources as key value drivers for companies' competitiveness. These studies were purely theoretical, however at the same time a number of reports of empirical work investigating intangible assets were published: by Aboody and Lev [7, p.3], Barth and Clinch [8, p.15], Lev [9, p.419], Kristen and Gregory [10, p.248] and E. Dedman [11, p.312].

Although intangibles at the firm level have received large investigators' attention in the fields of international business, accounting and economics, these approaches have mostly focused on two main spheres: either on the general process of value creation, e.g. [12, p.9; 13, p.201; 14, p.109], or on the role of IAs as main channels of knowledge generation and transfer [e.g. 15, p.51; 16, p.131].

A growing literature explores the problem of accounting for intangibles and valuing them in the stock market. Important overviews are provided by Lev [11, p.33] and Blair and Wallman [17, p.47]. Apart from this, the literature on the economics of intangibles is reviewed in Corrado, Hulten, and Sichel [18, p.11], and in the introductory comments of Corrado, Haltiwanger, and Sichel. The general opinion shared by this literature is that a broad list of intangibles should be treated as capital expenditures.

2. Structure of intangible assets issue

Talking about the structure of intangible assets, it can be said that this topic was mostly investigated from the accounting, not economic point of view, for instance, by Abernetby, Stolowy and Jany-Cazavan, Wyatt, Siegel.

[*] Natalia Diukova; Ph. D. program; Odessa National I. I. Mechnikov University; Email:<ndiukova@gmail.com>
Michal Jasienski; Ph. D; Nowy Sącz Business School – National-Louis University; Nowy Sącz; Poland; Email:<centrum.innowatyki@wsb-nlu.edu.pl>

Anyway, there is a number of works in the economic field worth mentioning: Sveiby [5, p. 230]; Edvinsson, Mallone, Roos, Brooking. In the main, the authors tried to describe the structure of IA and to define their main component and the way it affects the market value. However, there is no uniformity about the precise IA structure in the scholars' environment, although a certain general understanding of the concept exists.

Some researchers, such as Mayo, Ahonen, provide a narrower definition of intangible assets. They claim that IA are constituted mainly by human capital that can be considered from three points of view: as the amount of employees, as employees' personal properties and as work community. However, there are also scholars rendering a considerably broader definition, for instance Andrissen, Tissen. They distinguish five IA groups: 1) assets and endowments, 2) skills & tacit knowledge, 3) collective values and norms, 4) technology and explicit knowledge, 5) primary and management processes.

Perhaps, the best known approach to IA categorization and structuring is the "Balanced Score Card", which was developed in the USA around 1990 by Kaplan & Norton. According to it, IA comprises three main perspectives they can be regarded from: internal processes perspective, customers' perspective and learning and growth perspective.

3. Functions of intangible assets

Speaking about the role of intangible assets, it can be said that it can hardly be overestimated. Nowadays almost everyone shares the position of Nonaka and Takeuchi who wrote in their book "The knowledge – creating company" that only those companies that can create knowledge (in the form of intangible assets) can be successful in today's world.

In the case of valuation the role of IA is also enormous. A recent Gartner report stated that, by 2007, more than 90% of the value of the Global 2000 enterprises is created by their intangible intellectual assets, compared to 20% in 1978 and 70% in 1998.

Apart from this, according to the latest surveys only from 6 to 30% of company's value are obtained from tangible assets [11, p.34]. So, more than a half of the value comes from Intangible Assets. Other proofs of their importance are the research conducted for American corporations by Hulten and Hao and with the same methods applied to German companies' valuation by Hao and Jaeger. With the intangible investments regarded as an important component of company value, they explained the biggest part of existing market-to-book-gap in value. For instance, Hulten and Hao report that when R&D and organizational expenditures are capitalized and added to the balance sheet, the percentage of the market capitalization rises from 31 to 75 percent. Editors of the Harvard Business School's newsletter, Harvard Management Update, went even further, indicating that intangible assets were worth generally three times more than the physical assets a company may possess, such as equipment and buildings.

With the same purpose (of valuation but in this case at the national level) was the work done by the World Bank to measure intangible capital. The value of intangible capital was obtained as the residual after deducting natural capital and produced capital from total wealth. The dynamics of this value proved to be positive and the proportion of intangibles appeared to be larger than that of tangibles in developed countries.

According to the surveys, about 50% of all investments of companies are made in the sphere of intangible assets: R&D, personnel development, infrastructure, etc., meaning that another function of IA that can be distinguished is investment function. The importance of investment in intangibles is also stressed by recent estimates by Corrado, Hulten, and Sichel [17, p.31] who suggest that there were approximately $3.6 trillion in intangible assets in the U.S. nonfarm business sector in the period 2000-2003, compared with some $11 trillion in tangible plant and equipment and the proportion of investment in IA is growing. Estimates by Nakamura suggest that U.S. businesses invest as much in their intangibles as they do in their plant and equipment (including IT). Moreover,

on the basis of the volume and quality of the intangibles possessed by the company very often decisions are made about investing into in. Apart from this, Heirman and Clarysse observed that speed of innovation among start-up firms depended on IAs (such as team experience or collaboration networks).

Along with these functions IAs also play an important role as income drivers for the companies and, as a result, they become drivers of economic growth and a source of national wealth for the entire countries. For instance, November 2002 McKinsey & Co. study found that while the 40 technology and innovations companies studied could add 10-20% to their operating income by better exploiting IP, only a small number even reached the 0.5% mark. One such underutilized IA, according to Arrow (and, therefore, with weak impact on cash flow) is technology licensing by technology-rich companies.

The role of intangibles as the source of competitive advantage(while tangible resources are almost the same for all the players) is also worth mentioning. Barth [8, p.32] found that IA, in the form of R&D and advertising expenses, increase the likelihood of analysts' coverage of the firm, which makes such stocks more attractive to investors. One should also remember that IA data are complex and difficult to interpret for analysts, as noted by Gu and Wang. At the same time, many companies avoid disclosure of reliable information about their intangibles and official regulations may be needed to ensure issuance of honest IA data, as Dedman [11, p.330] has found out, to ensure full access of investors to high-quality balance sheets, as noted also by Wyatt.

Therefore, main functions of intangible assets are the following: knowledge creation and development, valuation, investment, income drivers and a source of competitive advantage.

4. Different approaches to classification of intangible assets

Possessing the correct structure and list of intangibles is necessary for their separation and accounting within the companies and further valuation and usage. Sometimes, improvement in IA management (which is beneficial for the company's stakeholders) can be accomplished even with non-quantitative visualization of combinations of strategic targets, knowledge goals and value-adding potentials.

However, the preliminary problem is the very identification of such structure. Neither there exists an exhaustive classification of intangible assets, nor is it anywhere near a complete listing of intangible assets. Another issue is the fact that meaningful, measurable intangible assets are continuously being created. Therefore, there is no consensus among scholars about the optimal IA structure.

The main problem that exists in terms of IAs is the difference between general economic and management and accounting approaches. Today only 20 percent of a company's market value is reflected in its accounting system, meaning that the structure of intangibles used by accountants in the balance sheets is not sufficient and current accounting practice excludes most of the intangible assets developed within a corporation from the company's balance sheets. Usually the problem is that the money spent on, for instance, R&D and brand development is treated as current expenses by accountants, while managers and economists treat them as investments. It should also be remembered that companies also invest in organizational development (e.g., strategic planning, new management systems) and worker training; however, we also usually do not see them in financial statements. Moreover, it is not clear if elements like software, R&D expenditure, patents, economic competencies and employee training have to be considered as current expenses or capital accumulation.

However, surprisingly, there is even no one single accounting approach to the structure of intangibles. To show this, US GAAP and IFRS can be compared. US GAAP requires all costs related to research and development to be expensed as they incurred. Therefore, the fair value of in-process R&D needs to be determined and expense immediately.

There are only a few exceptions where different rules apply and US GAAP prohibits the capitalization of development costs. Revaluation of intangible assets is possible under US GAAP.

In contrast, under IFRS intangible assets cannot be revalued entirely. R&D expenditure can be expensed not simultaneously with its incurrement. Relocation costs following a business combination are not capitalized while such practice is normal under GAAP.

Another accounting classification is the one developed by International Federation of Accountants – IFAC. According to it, there are three elements of IA: human, relationship and structural (organizational) capital.

Apart from the accounting approach, there are many other ones, of economic and managerial nature. The quantity and variety of them has continued to grow exponentially over the last two decades because of the development of knowledge-based economy. Here we will mention a few of them.

According to Sveiby [5, p.34] intangible assets are divided into internal (patents, concepts, licenses, administrative system, organizational structure etc.) and external (brands, trademarks, relations with customers and suppliers etc.). According to Petty and Guthrie [3, p.57], intangible assets of a company include organizational and human capital (internal and external). This approach is also shared by Edvinsson and Mallone; Roos et al. Brooking [4, p.89] suggests his own approach and singles out the following constituents of intangible assets: market assets, intellectual property assets, human-centered assets and infrastructure assets.

Some researchers, such as Mayo, Ahonen provide a narrower definition of intangible assets. They claim that IA are constituted mainly by human capital that can be considered from three points of view: as the amount of employees, as employees' personal properties and as work community. However, there are also scholars rendering a considerably broader definition. Those include Andrissen and Tissen for example. They distinguish five IA groups: 1) assets and endowments, 2) skills & tacit knowledge, 3) collective values and norms, 4) technology and explicit knowledge, 5) primary and management processes.

Perhaps, the best known approach to IA categorization and structuring is the "Balanced Score Card" developed by Kaplan and Norton, which was developed in the USA around 1990. According to it, IA comprises three main perspectives they can be regarded from: internal processes perspective, customer's perspective and learning and growth perspective. Kaplan and Norton expanded their analyses with the strategy map concept which can be further refined by distinguishing the top-down phase (IA identification process) and the bottom-up phase during which the relationships between IAs of the organization and its financial performance are established, as it has been found out by Chareonsuk & Chansa-ngavej.

According to a definition by OECD cited by Petty and Guthrie [3, p.44], intellectual capital is the economic value of two categories of intangible assets of a company: organizational ("structural") capital and human capital. Structural capital refers to e.g. software systems, distribution networks and supply chains. Human capital refers to human resources within the organization (employee's resources) and external to the organization (customers and suppliers). Also Edvinsson and Malone divide intellectual capital into human capital and structural capital. Human capital according to Edvinsson and Malone consists of, e.g., the knowledge, skills and innovativeness of employees. Structural capital consists of customer capital and organizational capital. Customer capital refers, e.g., to strength and loyalty of customer relationship. Organizational capital includes innovation and process capital. Process capital consists of the organization's processes and techniques used, e.g., to increase efficiency.

The macro approach uses the categorization of intangibles proposed by Corrado, Hulten and Sichel [17, p.38]. They identify three main categories of intangible assets: economic competencies, innovative property and computerised information. Economic competencies include spending on

strategic planning, worker training, redesigning or reconfiguring existing products in existing markets, investment to retain or gain market share and investment in brand names. Innovative property refers to the innovative activity built on a scientific base of knowledge as well as to innovation and new product/process R&D more broadly defined.

5. Recommendations and conclusions

However, despite all the discrepancies, the authors of this paper consider the Reilly & Schweihs as the best one, however, not optimal. According to this approach, the structure of IAs includes ten categories, arranged by the similarity in their nature: marketing-related (trademarks and service marks, trade names, brand names, logotypes, colors), technology-related (design patents, process patents, patent applications, business method patents, technical documentation), artistic-related (literary works and copyrights, musical compositions, photography, maps, engravings), data process-related (platform software, software copyrights, automated databases, integrated circuit masks and masters), engineering-related (industrial designs, trade secrets, engineering drawings and schematics, technical know-how, blueprints), customer-related (customer lists, customer contracts, customer relationships, open purchase orders), contract-related (license agreements, franchise agreements, operating licenses, subscription rights, futures contracts), human capital-related (trained workforce and wages, union contracts, employment contracts), location-related(mineral exploitation rights, easements, air rights, water rights), Internet-related (domain names, URLs, linkages, website design). Another category that is present in other approaches is worth adding here- goodwill-related intangible assets (e.g., institutional goodwill, professional practice goodwill, personal goodwill or a professional, celebrity goodwill, general business going-concern value). Considering the ways of optimization and improvement of this structure, the following steps should be taken. First of all, the human capital-related dimension should be extended, comprising the qualifications, competencies, experience and motivation of employees that should be also effectively measured.

Apart from this, knowledge-related and organization-related dimensions should be added to the list. The organization-related dimension should include organizational structure, communication systems, reengineering processes and organizational design as intangible assets contributing to the overall effectiveness of the company. Speaking about knowledge-related (or internal information-related) dimension, it should include systems of knowledge acquiring, storage and development within the company and company's know-how in practices of retaining best people and stimulating the knowledge-sharing. Interner-related dimension can be extended to include Intranet systems of the company and then it should be called network-related; it should also comprise not only website design, but also all information acquired by the web-site, together with the clients' feedback in the terms of questionnaires etc.

The separate international research entity should be established in order to make a continuous inventory of the new intangible assets and to investigate the methods of their valuation and the most effective usage together with developing the ways for the legal protection of them.

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Summary

The main step that should be taken is the unification of accounting and managerial approaches to intangible assets' structure, that can be made possible via treating R&D, human and organizational capital that has been internally generated by the company as investment and add it as the supplement to company's balance sheets.

Keywords: intangible assets; knowledge economy.

UD classification: 664

THE EUROPEAN REGION IN STRUCTURE OF THE WORLD TOURIST MARKET

Svetlana Galasyuk[*]

1. Introduction

Europe is the main tourist region of the World. Within many decades it was the leader on arrivals of foreign tourists. However, recently the share of Europe began to be reduced, though European destinations continue to accept a plenty of tourists. Therefore the article contains the analysis of the basic parameters of tourism development in the European region for definition of its place in structure of the World tourist market.

2. Tendencies of the World tourist market development

Beginning from the second half of the 20th century, international tourism became a mass form of leisure and a social need for the humankind. The following factors made a substantial contribution to it: growth of public wealth and individual income, lesser working hours, development of transportation industry, intensification of urbanization, government support, and changing priorities within the system of spiritual values of society. Because of the increasing socioeconomic significance of international tourism, beginning from 1950 all parameters of its development are summarized at the official level. Key indicators of the international tourist exchange are provided in the table 1, grouped by decades, which allow analyzing their annual growth rate.

Tab. 1. International tourist arrivals and international tourism receipts (1950 – 2009)

Years	International tourist arrivals		International tourism receipts	
	Total (million)	Annual increase, %	Total (US$ billion)	Annual increase, %
1950 – 1960	25 – 70	10,7	2,1 – 6,9	12,5
1960 – 1970	70 – 166	9,0	6,9 – 17,9	10,1
1970 – 1980	166 – 288	5,6	17,9 – 106,5	19,1
1980 – 1990	288 – 457	4,7	106,5 – 273,2	10,0
1990 – 2000	457 – 706	4,3	273,2 – 479,2	6,0
2000 – 2009	706 – 880	2,5	479,2 – 887,0	7,1

Source: [1, p.114], [2]

According to the table 1, there are two main clearly visible trends in development of world tourism:

1. decrease of relative parameters of international tourism with simultaneous growth of the industry's absolute turnover figures;

2. acceleration of the growth rate of international tourism receipts comparing to the growth rate of international tourist arrivals [3, p.7].

However, while the above trends concern parameters of world tourism market and take into account its average growth rate, detailed study of parameters of tourism industry in specific destinations, subregions, and macroregions shows that some tourism markets of different levels may have own trends which are different from the rest of the world.

Information concerning distribution of international tourist flows by regions is provided in table 2.

Tab. 2. Distribution of the international tourist arrivals on the World regions (1950 – 2009)

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[*] Svetlana Galasyuk; Candidate of economic sciences, Docent; Department of economy and management of tourism; Odessa State Economic University; Email:<svetlana-galasyuk@rambler.ru>

International tourist arrivals (million)			Regions	Share in the World, %		
1950	1980	2009		1950	1980	2009
16,6	198,1	459,5	Europe	66,4	68,7	52,2
7,4	54,4	139,5	Americas	29,6	18,9	15,9
0,2	20,2	180,5	Asia and the Pacific	0,8	7,0	20,5
0,5	7,2	48,0	Africa	2,0	2,5	5,4
0,2	5,8	52,5	Middle East	0,8	2,0	6,0
25	288	880	World	100,0	100,0	100,0

Source: [1, pg. 114], [2]

According to the table 2, all regions of the world show stable development growth. Nevertheless, their international arrival growth rates weren't the same. Thus, there were only two large tourism macroregions in the world – Europe and Americas as recently as in 1980. These macroregions received almost 90% of all international tourists. In the 1990s they were joined by the third macroregion – Asia and the Pacific (APR), where the growth rate of international tourist arrivals was the highest: in 2002 the APR became the second region in the world in terms of the number of tourist arrivals, and in 2007 it also became second in terms of international tourism receipts, surpassing Americas.

By the beginning of 2010 these three regions were responsible for the same 90% of the world's all tourist arrivals (Table 2) and 93% of all receipts from international tourism. This circumstance points to the narrowness of world tourism market and opportunities for other regions to have a share of international tourist exchange.

Analysis of structure of the World tourism market broken down by regions (table 2) points to existence of the following trends:

1. formation of different tourism macroregions as a result of uneven distribution of international tourist flows in different countries and regions of the world;

2. gradual change of individual macroregions' percentage share of the world market (decrease of share of Europe and Americas and increase of share of other regions, particularly the APR);

3. increasing impact of outside economic and political factors on international tourism parameters, and at the same time, growing capability of the international travel industry for fast recovery of its turnover under favorable conditions.

3. The analysis of the European tourist market development

As we know, the European region is ranked first in terms of both the number of international tourist arrivals and the tourism receipts.

However, share of this region is gradually shrinking, down to about 52% in 2009 (table 3) [2].

Tab. 3. Distribution of the international tourist arrivals on the European region (2009)

Sub regions of the Europe	Quantity of the tourist markets	Arrivals (million)	Share, %	
			in the Europe	in the World
Northern Europe	7	52,6	11,4	6,0
Western Europe	9	145,7	31,7	16,5
Central/Eastern Europe	21	91,7	20,0	10,4
Southern/Mediter. Europe	17	169,5	36,9	19,3
EUROPE	54	459,5	100,0	–
World	214	880,0	–	52,2

Structurally, the European region consists of four subregions. At the subregional level, destinations of Southern Europe are ranked first in terms of international tourist arrivals (36,9%), followed by Western Europe (31,7%), Central and Eastern Europe (20%), and Northern Europe (11,4%).

More detailed analysis of situation on the European tourism market is provided in the table 4 [4].

Tab. 4. Indicators for the International Tourism in the European region

Indicators for the International Tourism	Years	World	Europe	Including:			
				Northern Europe	Western Europe	South./ Mediter. Europe	Central/ Eastern Europe
Receipts (US$ billion)	1990	269,2	142,9	26,2	63,1	51,5	2,1
	2000	479,4	232,5	35,9	82,8	93,4	20,4
	2008	944,0	473,6	69,9	162,0	183,2	58,1
Arrivals (million)	1990	437,8	265,6	31,6	108,8	93,7	31,5
	2000	682,0	395,9	45,8	139,7	140,7	69,7
	2008	922,0	488,5	57,0	152,4	179,5	99,6
Receipts on 1 tourist arrival (US$)	1990	615	538	829	580	550	67
	2000	703	587	784	593	664	293
	2008	1024	969	1226	1063	1021	583

According to the table 4, during 1990–2008 number of international tourist arrivals in the world went up 2,1 times, and in the European macroregion 1,8 times; at the same time, maximum growth rate of this parameter was observed in the Central and Eastern Europe subregion (a 3,2 times growth), which is explained by low starting base for comparison, with minimum growth rate recorded in Western Europe (1,4 times). During this period, international tourism receipts increased 3,5 times in the World and 3,3 times in Europe.

At the same time, as in the previous case, the highest growth rate was shown by destinations of Central and Eastern Europe (a 27 times increase); relative parameters of Southern Europe are close to the world indexes, while sluggish growth rates of international tourism receipts in Northern and Western Europe fell below the world's average.
]
Therefore, relative loss of Europe's dominating position on the World tourism market can be explained by the following factors:

▪ certain countries of the Southern Europe subregion are losing their competitive edge because of the "ageing" of their tourism products;

▪ certain countries of the Central and Eastern Europe subregion experience difficulties with adapting their tourism industry to the conditions of market economy; on top of that, many of them have unstable domestic political situation and are threatened by ethnic conflicts, which makes substantial impact on the tourist exchange in Europe;

▪ a number of countries of Northern and Western Europe, for example, United Kingdom, Denmark, and Belgium, are very expensive for an average tourist, which inevitably affects their competitiveness;

▪ growing popularity of countries of the North-Eastern Asia (the APR), which lately were very successful in developing their tourism infrastructure.

The table 5 contains study of the European macroregion's specific destinations ranked among the top 50 countries in the World in terms of the key indicators of international tourism development [4; 5].

A typical feature of all destinations in Southern Europe is positive tourism balance and sufficient capacity for receiving foreign tourists in large numbers, which makes them main receiving tourism markets of the World.

Tab. 5. Research the indicators for the international tourism on the separate European destinations (2008)

Countries of Destination	International Tourism				
	Receipts (US$ billion)	Expenditure (US$ billion)	Balance (US$ billion)	Arrivals (million)	Receipts on 1 tourist arrival (US$)
Northern Europe					
Denmark	6,7	9,8	-3,1	4,5	1489
Finland	3,1	4,4	-1,3	3,6	861
Ireland	6,3	10,4	-4,1	8,0	788
Norway	4,6	15,9	-11,3	4,4	1045
United Kingdom	36,0	68,5	-32,5	30,1	1196
Western Europe					
Austria	21,8	11,4	+10,4	21,9	995
Belgium	12,4	18,9	-6,5	7,2	1722
France	55,6	43,1	+12,5	78,5	708
Germany	40,0	91,0	-51,0	24,9	1606
Netherlands	13,3	21,7	-8,4	10,1	1317
Switzerland	14,4	10,9	+3,5	8,6	1674
Central/Eastern Europe					
Bulgaria	3,8	2,4	+1,4	5,8	655
Czech Rep	7,8	4,6	+3,2	6,5	1200
Hungary	6,0	4,0	+2,0	8,8	682
Poland	11,8	9,6	+2,2	13,0	908
Russian Federat.	11,9	24,9	-13,0	23,7	502
Ukraine	5,8	4,0	+1,8	25,4	228
Southern/Mediter. Europe					
Greece	17,1	3,9	+13,2	16,1	1062
Israel	4,1	3,4	+0,7	2,6	1577
Italy	45,7	30,8	+14,9	42,7	1070
Portugal	10,9	4,3	+6,6	11,8	923
Spain	61,6	20,3	+41,3	57,3	1075
Turkey	22,0	3,5	+18,5	25,0	880

Countries of the Central and Eastern Europe subregion (with the exception of the Russian Federation) have small positive tourism balance and low median income per one foreign tourist. Negative tourism balance is typical for all countries of Northern Europe and most countries of Western Europe, which represent key sending tourism markets of the World and generate large tourist flows to foreign countries.

4. Conclusions

Results of the study of the European region and its individual subregions allow making the following conclusions:

1. A clearly visible feature of the European macroregion is an intraregional tourism reaching the 90% level, which exceeds the world's average parameter. The reasons for that include the following factors:

- concentration of a large number of countries in a relatively small area;

- existence of close economic, cultural, and ethnic relations between European countries;

- concentration of diverse natural resources and historical and cultural landmarks;

- excellent ground transportation infrastructure;

- highly-sophisticated tourism industry;

- availability of highly-trained service personnel;

- simplification of border control and customs formalities, particularly as a result of implementation of the Schengen Agreement;

- relatively high domestic security in EU countries;

- introduction of a single European currency, etc.

2. The European region experiences redistribution of market shares among individual subregions as a result of increasing significance of the Central and Eastern Europe subregion in absolute figures of all tourism development parameters and rapid growth of this subregion's share of the World and European tourism markets. This trend can be explained by the following reasons:

- modern phase of development of most Central and Eastern European countries is characterized by rapid development of the tertiary sector of economy, which translates into increasing share of the service sector in these countries' GDP, growing export of tourism-related services, and increasing number of people employed in this sphere;

- tourism industry of Central and Eastern European countries undergoes fundamental changes, which involve improvement of tourism infrastructure and development of uniform service quality standards;

- in most Central and Eastern European destinations, international tourism becomes a priority area of their economic development.

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Summary

The article presents the analysis of the international tourism development in the European region. The author makes research of the basic tendencies of development of the World tourist market, defines a place of the European region in its structure, analyses a rating of the Europe separate subregions. The paper conclusions are based on studying of the statistical information about natural and cost indexes of the international tourism development during 1950–2009.

Key words: the European region, World tourist market, international tourism.

UD classification: 338.48

QUANTITATIVE ESTIMATION OF BUSINESS ACTIVITY IN THE MARKET OF TOURIST SERVICES

Viktor Gerasymenko[*]

1. Introduction

This article determines basic quantative indices of tourist services market: capacity of actual and potential market, market share, scope of market, saturation and structure of market. Possible methods of the specified parameters calculation are shown.

In modern management, none enterprise of tourism sector will undertake any commercial actions without deep studying of tourist services market. The concept «tourist services market» is interpreted in a different way. From the point of view of economic theory, tourist market is considered as socioeconomic phenomenon which unites supply and demand to ensure sale and purchase process of tourist services at certain time and in specific place. From marketing positions, tourist market is often defined as complex of all actual and potential consumers which buy or can buy certain goods and services.

Despite of various interpretation of the concept "market", the majority of researchers agree that market has qualitative and quantitative characteristics. Qualitative characteristics of the market usually include such elements as demand, supply and price. Thus, this side of tourist market is in details considered in the works of such well known scientists – tourismologists as I. Barcukov, O. Lyubitseva,
S. Rakadzhiyska, S. Marinov [1, p.25-160; 2, p.123-192; 3, p.15-180; 4, p.35-70]. Much less attention is paid to quantitative characteristics of tourist market and methods of their determination. For example,
A. Durovich and A. Kopanev consider in their book such important matters as "structure of tourist market", "estimate of market condition", "determination of market capacity" do not cite any formula using which it would be possible to determine any of the above mentioned parameters [5, p.69-78].

Taking into account insufficient readiness of this issue, the author of this article has put an aim: to determine structure of key quantative indices of tourist services market and to propose the methods of their calculation.

2. Quantitative estimation of business activity in the market of tourist services

The basic quantitative characteristics of tourist market are: market capacity, market share, scope of market, market saturation and its structure. Procedure of their measurement is rather simple only on monopolized market. In all other cases it is necessary to develop special calculations patterns. Besides, determining basic parameters of tourist market it is necessary to take into account the fact that the methods developed for commodity market are not suitable. For example, it is impossible to apply methods of market capacity determination on the basis of consumption rate; on the basis of purchase frequency and standard consumption norms; on the basis of summation of primary, repeated and additional sales and many others, to tourist services market because of specificity of the service itself.

Before we summarize of the essence of tourist market parameters determination methods, it is necessary to clarify its terminology. Market capacity is the sum of all consumers' expenses on purchase of tourist services in certain period of time. As on the market, tourists' expenses are transformed into incomes of tourist companies, tourist market capacity may be determined and as the sum of services sold by all market sellers. Thus, market capacity points out both ability of

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[*] Viktor Gerasymenko; Ph.. D.; Docent; head of the department of economics and tourism management; Odessa State Economic University; Email:<325662@mail.ru>

manufacturers (sellers) to offer expected tourist product to buyers (level of supply development) and readiness of the consumers to buy offered products (level of demand).

Accordingly, it is possible to suggest two ways how to determine tourist market capacity. The first way proposes to determine market capacity as the sums of services sales by all sellers of the market for the certain period:

$$V = \sum_{i=1}^{n} V_i \qquad (1)$$

where, V = general market capacity;

V_i = sales volume of each i tourist enterprise;

n = total number of the enterprises in tourism sector.

To calculate the capacity correctly, it is important to fix product, time and spatial characteristics of studied market. In other words, it is necessary to determine precisely the characteristics of analyzed service; calendar period for which market capacity is estimated (usually, it is 1 calendar year); geographical borders of the estimated market (area, region).

The second way to determine tourist market capacity is based on calculation of money volume the population of given administrative territorial unit spent for purchase of tourist services:

$$V = M_\text{T} \pm D_n \qquad (2)$$

where, V = market capacity of given administrative territorial unit;

M_T = money spent by the population for purchase of tourist goods and services;

D_n = demand of the population of other region for purchase of tourist goods and services.

Basic difficulty of market capacity calculation by this method is in correct evaluation of population incomes and its part spent for tourist services.

Till now, it has been the matter of real market capacity which is measured by volumes of sales, purchases, goods and services on specific regional market for certain period of time, i.e. it is attainable actual parameter. In practice of tourist business, it is frequently the task to measure potential market capacity.

Potential market capacity is the highest possible sales volume in market situation when all potential consumers purchase tourist goods and services proceeding from the highest possible level of their consumption. Potential market capacity is unattainable value as consumers always have real budget restrictions.

Predictive market capacity may be determined by extrapolation method or by expert judgments method. Extrapolation method intends data analysis for the recent years. Expert judgments method requires engagement of tourism experts, scientists, market operators. Expert judgments may be received in different way. We'll give as an example one variant of determination of potential capacity on regional tourist market by expert judgments method. Initial data are resulted in table 1.

Total estimate is calculated by multiplication of number of experts on market capacity estimate. We determined weighed average experts estimate with total predictive estimate:

12200:20=610 thou. c.u.

Tab.1. Expert judgments of potential capacity of regional tourist market

Number of experts	Estimate of perspective market capacity by the experts, thou, c.u.	Total predictive estimate of the experts, thou, c.u. (col.1$\times$col. 2)
1	2	3
4	400	1600
5	500	2500
7	700	4900
4	800	3200
20	2400	12200

We find predicted market capacity:

$$V_{np.} = V_o \pm 2S,$$

(3)

where: V_o = expected forecast;

S = standard deviations.

Expected forecast is determined in the following way:

$$V_o = \frac{V_{onm} + N + V_{nec.}}{N_1},$$

(4)

where: V_{onm} = optimistic forecast;

N = product of number of forecast variants and average predictive weighed experts estimate;

$V_{nec.}$ = pessimistic forecast;

N_1 = total number of forecast variants separately taking into account optimistic and pessimistic forecasts.

Standard deviations are determined under the formula:

$$S = \frac{V_{onm.} - V_{nec.}}{N_1},$$

(5)

Substituting initial data in formulas, we get:

S = (800 - 400): 6 = 66,6 thousand c.u.

V_o = (800+4610+400)$\times$:6=606,6 thousand c.u.

$V_{np.}$=606,6 $\pm$ 2$\times$66,6=473,4 thousand c.u.- 739,8 thousand c.u.

Thus, under expert forecast, annual potential capacity of tourist market will be within the limits 473,4 – 739,8 thousand c.u.

Knowing the values of actual and potential markets capacity, it is possible to determine a market saturation parameter:

$$H_p = \frac{V_{ac.}}{V_{pot.}} \times 100\%,$$

(6)

where: $V_{pot.}$ = potential market capacity;

$V_{ac.}$ = actual market capacity.

Market saturation parameter shows share of region inhabitants which have actually got tourist services during a year. It is possible to assume that with market saturation level of 80-90 %, the market is unproductive for the tourist company; the parameter of 5-15 % makes it attractive for the

company.

Correct determination of total market capacity enables to determine real share of the market which belongs to individual economic agent. Theoretically, such share is calculated as ratio of services sales volumes of specific enterprise to total market capacity:

$$M_{sh} = \frac{V_i}{V_{tot}},$$

(7)

where: M_{sh} = market share of the ith tourist enterprise in cost parameters;

V_i = volume of tourist services presented by the ith enterprise in a year;

V_{tot} = total market capacity of region's tourist services in money terms ($V_{tot} = \sum_{i=1}^{n} V_i$) for the same period.

The following quantities index is scope of tourist market. In contrast to market capacity, it determines number of tourist product buyers on specific geographical market and is accordingly calculated on the basis of quantities: number of tourists, number of arrivals, number of tour days. The initial data to determine this parameter is statistic parameters of region's tourism.

3. Conclusions

Taking into account complexity of tourist product, it shall be note that such parameter as market structure plays important role in the characteristic of market. It is calculated on the basis of the data of tourist market scope and shows in percentage terms distribution of tourist goods and services consumers by such attributes as trip purpose, age of tourists, time of travel etc.

Thus, exact and reliable estimate of tourist services market is possible only when not only qualitative but also its quantitative characteristics are taken into account.

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Summary

The critical analysis of approaches of various authors to definition of the basic quantity indicators of the market of tourist services is carried out. Methods of calculation of such important characteristics of the tourist markets are offered, such as: capacity of the real and potential markets, the size of the market, market structure, factor of a saturation of the market. Information sources for an exact establishment of size of the specified are considered.

Key words: market capacity; market share; scope of market; level of market saturation; market structure.

REFORMING COMMUNAL SERVICE IN THE REGIONAL DEVELOPMENT CONTEXT

Tamara M. Kachala[∗]

1. Introduction

The optimizing ways in reforming and developing national communal service complex matter much for effective social-economic policy in Ukraine. National progress is possible only on the basis of the systematically reformed communal sphere and its proficiency through identifying the problems of the reforms and their legal grounds. It is also necessary to consider the combination of the social and economic aspects in the process of communal service functioning as the mainstream of the scientific quest. Communal service complex reform suggests perfect instruments for social problems solutions in connection with modern public maintenance which proves chiefly as market-aimed.

Peculiar development of the communal service sphere is described in numerous works by native and foreign authors: I. Alfyorova, G. Galbrait, V. Honcharov, V. Dorofiyenko, V. Lobas, I. Osypenko, O. Rumyantzeva. However, the investigation is primarily actualized through the lack of the programs and measures for the communal service reforming being perfectly worked out.

The aim of the article is to investigate the process of correcting the course of communal service reforming.

2. Reforming communal service in the regional development context

Modern social-economic development is seriously affected by the dangerous discrepancy between two mutually connected social-economic facets: the integral development of the existing social-economic relations system and the differentiation in the process of scientific reflection of some aspects of the system. On the one hand, the communal service sphere is inclined to interact integrally with other spheres of modern social-economic system, and its reforming is impossible beyond the system. On the other hand, the communal sphere scientific reflection is still represented by the poorly linked entity of notions and concepts. The former "communal service" term being generated under the administrative system turned into the unity of unrelated notions; the new concept concerning the communal sphere as an organic element of modern social economy is still to be created. The incomplete interpretation of the scientific theory paradigm is presented within the classical cognition theory problem on the relation of mentality and existence. Since scientifically mentality is related to existence through investigating it, i.e. depicting the reforming sphere problem in the terms of scientific categories, the adequate content of the relation "mentality-existence" is actually the relation of the investigation method towards its object.

To generalize the above mentioned statements, one can conclude that the science paradigm could be determined by investigating its method related to its object. Correspondingly, the economy science paradigm is determined through investigating its concrete method to its concrete object (relations, management mechanisms, reforming strategies etc). The investigation is aimed at the paradigm's practical aspect.

For defining the main financial-investment resources of communal service reforming, we have to state its transforming strategy as inertial localization strategy and to distinguish the instruments for its accomplishment.

A.   Quitting state investing processes in the social economy sphere started since early 1990s and lasting through recent 15 years.

[∗] Tamara M. Kachala; Doctor of Economics; Professor; Vice-Rector of scientific research work and international relations; Cherkassy State Technological University

B. Re-laying the burden of financial-investment reforms on the private consumers in the communal service sphere.

C. Putting forward the state programs for communal service complex reforming.

D. Asymmetric financial-investment participation in the reforming of the local joint communities owning the greater part of the infrastructure and concentrating in the vicinity the majority of the service institutions, though not possessing the adequate resources.

E. Dividing the communal services market on the basis of distinguishing in it the basic and the additional segments within the formation of different branches of state policy. Finally, the institutional reference of the national communal sphere to the type of the institutional X-matrix was determined.

The generalized results of analyzing the resources, strategies, instruments, institutional parameters in the communal service reforming will enable stating the present paradigm of the actual process as the liberal-privatization one.

The main features of the liberal-privatization paradigm are:

▪ consistent liberalization and eventual refusal from the state social economy system as well as from the communal services system;

▪ privatization that had removed from the sphere of the private property related to the factors and results of production into the sphere of life maintenance relations: it turns various aspects of the human life into the private personal affair.

Regarding the above mentioned chief features of the communal reforming paradigm one should not overestimate the legacy left by the former administrative economy management. The administrative principle of vertical branch management as well as the state monopoly in the communal apartment service had ruined the service mechanism in the population maintenance that was divided into separate elements under the branch principle. All that resulted in turning the communal complex into the additional infrastructure without service. Estimating the national economic processes of liberalization and refusal from the social economy policy one should regard modern concepts of the state role and functioning under the growth and post-industrial development of the social-economic system.

The long-lasting crisis of the 1990s proves to be deeply rooted in the inert submission of the Ukrainian national social economy to the earlier created values, institutions and mechanisms of the industrial society as well as in ignoring the global tendency of the post-industrial society development that was cultivated in the Soviet epoch. Since we mean the society that is just quitting the administrative system, both reasons for the crisis are directly related to the state functioning under the period of transformation as well as to the state social-economic policy and its cardinal purposes. While the economy liberalization in the leading countries of the world was aimed at the post-industrial transformation of economic relations, i.e. at the content aspect of the timely transformations, the national economy liberalization in Ukraine proved to be aimed at the market liberalization of economic relations, it means at the formal aspect of the transformation process. In both cases there were employed completely opposing means of form and content interaction in the course of social-economic systems transformation. In the former case the liberal form affected the development of entirely new economic relations, and in the latter it became a pretty declarative one, that had not at all favored any content transformation of the previous industrial technological basis together with the human factor, the management priorities etc. that are connected with that basis [1, p.37]. Correspondingly, in the former case post-industrial transformation with human resources as the leading factor had resulted in the enhanced social-economic development beyond which it is impossible to ensure the expanded capital revenues [2, p.113].

In the latter case quite opposite took place: the state originally initiated its refusal from the social economy system, leaving the economy without any investments and legal industrial basis, and later, having evaluated the critical range of the resulting social expenses and economic risks, the state attempted to form a new compensation mechanism based on the principle of developing the official

power hierarchy. Meanwhile the state willingly re-lays its accumulated investment social debts on the private investors, and its accomplished social projects are not aimed at forming and accumulating human resources, at enhancing the sphere of hi-tech services.

That actually is a principal difference between the content and the formal liberalization of the social economy entity. Still formal liberalization is quite often supported by the economy scholars in Ukraine. The stressed post-industrial national economy orientation through developing people's intellectual potential is not really possible, as the real basis for the post-industrial development is a wide spread of developed industrialization and raise of living standards, that appears to be the reason for changes in modern human advantages and values [3, p.71]. Similar estimation is attributed to the privatization in Ukraine. Its formal orientation at transforming legal privacy from the state to the private persons and organizations resulted in 3 mutually connected negative consequences:

- general instability of legal privacy that is reflected in their incessant spontaneous division, which is not connected with the needs of the development of social reproductive process;

- formal status and most private owners' economic behavior oriented at confiscating the status income which generally corresponds to the rental strategic purposes of national economy development;

- privatization's transposition from the relations of the private property for the production factors and consequences to the life maintenance relations, that affects the transformation of various social aspects of human life into the person's personal affair; correspondingly, this transposition brings human resources reconstruction to the level of home economy problems.

Approaches to reforming and developing social economy must be rooted in the nature and needs of the capital revenue, functioning here [4, p.100; 5, p.45-51]. The process of communal services reforming needs changes in the present liberal-privatization paradigm, since this paradigm is affecting the negative sequences:

- important gaps formation in the process of public capital resources reproduction;

- creating "institutional traps" where reforming resources are therefore lost;

- eventual loss of agreement as far as the main subjects' interests are concerned.

Summarizing the above mentioned statements enables to formulate 2 conclusions.

Firstly, main features of the liberal-privatization paradigm of reforming communal services sphere as a part of modern national social policy prove this paradigm to be entirely non-proficient.

Secondly, the communal sphere reforming process needs change of the actual paradigm and grounds for the new one, which should be adequate both for the social economy nature and the needs of post-industrial development.

Modern Ukrainian politicians are constantly using the imperatives of the kind:

- the necessity of profound correction of the state social policy program;

- social-economic system development is aimed at innovations, investments, infrastructure and institutions.

The obtained results enable to make conclusion as to the new communal sphere reforming paradigm, which, being grounded, generates from the following reasons:

- definition the real needs for reproduction of the present capital in social usage;

- definition the domineering evolution process tendencies in the sphere.

Regarding the reasons mentioned as well as generalizing the results of analyzing the reforming process enables to outline the new paradigm of the communal sphere reforming as the social-integration one. On the one hand, it is aimed at broad reproduction of the capital in social usage functioning in it and belonging to its infrastructure. On the other hand, the new paradigm must

overcome the sequences of disintegration and removing the communal sphere as far as the periphery of the national social-economic system: the life maintenance services providing for the people's vital needs can't really be positioned at the evolution process edge.

To specify the above mentioned statements, define the dominating principles for the social-integration paradigm of communal service reforming that come as follows:

A.   Innovation type of reproduction of the capital in social usage in the communal services sphere that provides for solution of the strategic issues:

▪   saving the characteristic qualities of the capital in social usage in communal sphere; the elements of this capital as a result of the lasting crisis actually were left out of the systematic connection and turned into independent, physically out-fashioned and morally obsolete elements of the infrastructure, without mechanisms for reproduction;

▪   modernizing the elements of the object structure, subject forms and institutional parameters for reproduction this capital; the elements are ranged and in the first place there are adequate institution parameters for reproduction since great capital investments and specific forming and dividing the income in the infrastructural sector of the communal service sphere eventually make this sector closed for common private investments and leave room for the limited number of investors, like the state, local social structures, commercial organizations, included into the special investment programs for communal sphere development;

▪   intensifying development of the capital in social usage based on the regular renovation of the used technologies, the personnel quality, as well as the participation of the human resources owners [6, p.22].

This purpose suggests that the total income which was formed in the communal sphere infrastructure will be directed to the intensified development of the element basis in the sector. Meanwhile the priority is certainly laid on involving the human resources into the communal sphere, technically crimpled, and the one that had lost its creative potential. Modern national economy makes it impossible to undertake serious post-industrial development reforms without any state support. The state could really affect the formation of the post-industrial development factors, since science and education, informative and hi-tech progress need long-lasting and risky investments. Paternal approach is also needed for the social institutions, which ensure their creation.

B.   Joining the infrastructure elements, the main and the additional organizations, communal services market sectors into the integral subsystem of the national social-economic system with the necessary self-development potential. This determining feature of the new communal reforming paradigm suggests solution of the following strategic tasks:

▪   inner integration of the presently separated elements of the communal sphere into the social-economic life maintenance system; solving this issue suggests adding the structural elements of the communal sphere to the integral communal complex, that means the priority development of the connections between the present infrastructural and servicing functional organizations and the newly formed ones: marketing, financial-investment, consulting and other;

▪   exterior integration of the life maintenance system into the national social-economic system. This task suggests working out and accomplishing the programs for communal sphere modernization due to technologically developed industrial branches, science and education. Outer integration is as well aimed at obtaining synergetic effect from the integration interaction of various elements of the national social-economic system and at overcoming the peripheral position of the communal complex in this system. Scientific importance of the substantiated social-integration paradigm is in that it can become a basis for the necessary corrections as to the modern communal system reforming process and can also be applied in modernizing state social-economic policy.

Fig. 1 shows imperatives and determinants of the liberal-privatization and social-integration paradigms.

Liberal-privatization paradigm

Imperatives:
- successive liberalization and refusal of the state from the social economy and from the communal services complex;
- privatization that had transformed from the sphere of the relations of property for the production factors and results to the sphere of life maintenance and which turns various human life aspects into people's personal affair.

Determinants:
A. Refusal of the state to invest social economy sphere.
B. Re-laying the burden of the reforming financial-investment issues on the private communal services consumers.
C. Accentuated state programs for communal sphere reforming.
D. Asymmetric financial-investment participation in communal complex reforming.
E. Segmenting the communal services market on the grounds of distinguishing the basic and the additional segments alongside with forming various state policy branches to assist them.

Results:
- creating significant gaps in the process of reproduction the socially applied capital;
- disarrangement of the agreement basis of the main subjects in the sphere;
- communal sphere reforming process needs change of the present paradigm and creation of the one which is adequate both to the sense of the social economy and to the imperatives of the post-industrial development.

Social-integration paradigm

Imperatives:
- necessity to critically correct the program for the state social policy ;
- aiming the social-economic system development at innovations, investments, infrastructure and institutions.

Determinants:
A. Innovation type of reproduction the communal capital socially applied:
- saving the system quality of the socially applied capital;
- modernizing the object structure elements, subject forms and institutional parameters in reproduction socially applied capital;
- intensifying the development of the socially applied capital on the basis of the regularly renovated technologies in use, personnel qualifications, and as well involving the human resources owners.
B. Joining the infrastructure elements, the main and the additional organizations, communal services market sectors into the integral subsystem of the national social-economic system:
- inner integration of the presently separated elements of the communal sphere into the social-economic life maintenance system;
- exterior integration of the life maintenance system into the national social-economic system.

Results and scientific importance:
Obtaining synergetic effect from the integration interaction of various elements of the national social-economic system, ensuring normal terms for the expanded reproduction and modernization of the socially applied capital which is functioning in the sphere.
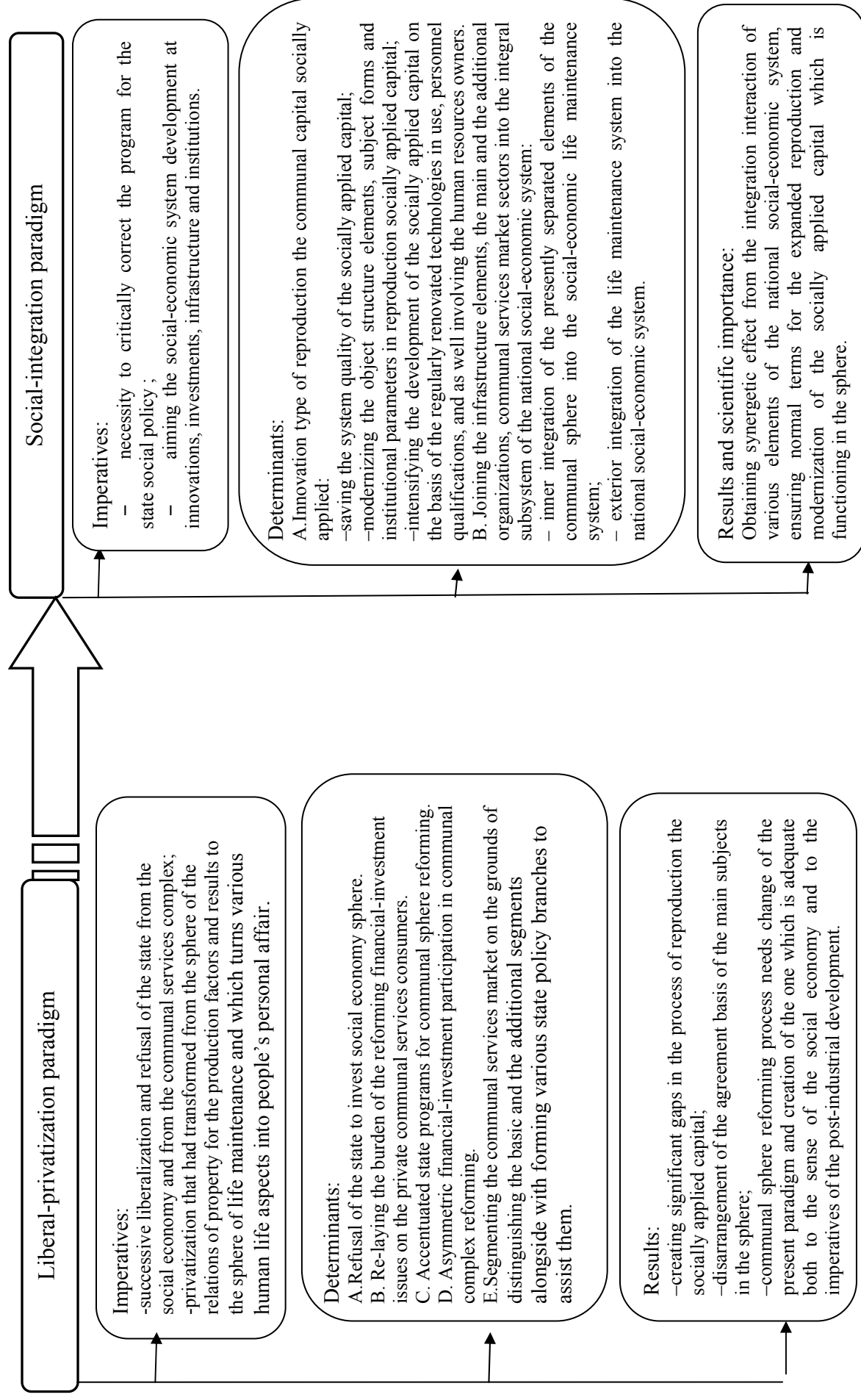
Fig. 1. Change the imperatives of the liberal-privatization paradigm for those of the social-integration one

3. Conclusions

Summarizing the results of analyzing the resources, strategies, instruments, institutional parameters of the communal reforming process enables to evaluate the present reforming process paradigm as a liberal-privatization one. Its main features are successive liberalization and refusal of the state from the social economy policy and from the communal services complex; privatization which has transformed from the sphere of the relations of property for production factors and results into the sphere of relations of life maintenance turning the various human life aspects into the person's private affair.

Communal services reforming process needs change of the present paradigm since the latter affects a number of negative consequences.

Considering the terms for substantiating a new paradigm for communal sphere reforming (singling out the real needs for reproduction the socially applied capital as well as domineering tendencies of the evolution process in the sphere), and also generalizing the results of analysis in the reforming process enables to distinguish the new communal reforming paradigm as a social-integration one. Its application suggests expanded reproduction of the socially applied capital functioning in the sphere and accumulated in its infrastructure and as well the ways to overcome the disintegration consequences that had resulted in removal the communal sphere to the periphery of the national social-economic system.

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Summary

The research regards the strategy of reforming communal service complex in the terms of inertial localization strategy and determines the means of its accomplishment. Implicit reasons for the lasting system crisis of the 1990s are distinguished. The consequences of the national privatization are investigated. The article determines the grounds for creating the entirely new paradigm in the communal service complex reforming. The determining factors of the social-integration paradigm of the reform are also singled out.

Key words: communal service complex reforming strategy; communal service reforming paradigm.

NON-GOVERNMENTAL ORGANIZATIONS SEGMENT OF THE CULTURE AND ART SPHERE: SITUATION IN ODESSA REGION

Nataliia Kusyk[*]

1. Introduction

Collapse of the former socialist camp of the Central Europe and decade of post-Soviet republics served, as the beginning of new world arrangement in world space. By this end, big tasks are to re-orient education for deepening of cooperation between expanding different world countries and countries-neighbors by region.

Ukraine inherited from the USSR a wide network of state-run cultural infrastructure. New cultural institutions were formed in many regions. This segment began rapidly develop over the past few years, but growth in number of operating in field of culture and art are not accompanied by quality in their content activities. There are numerous cultural institutions, but they are still managed by the old generation of administrators, who are unable and unwilling to adjust to the changed economic and political situation to new European situation. Administrators opened to best practices have insufficient opportunities for professional development and obtaining of know-how. Hence, the inadequacy of Ukrainian cultural institutions to contemporary needs managers' incapability to formulate and to implement new strategies.

2. Summary of the basic material

2.1. Analysis of situation

Cultural and arts education is defined as one of the main objectives in recent governmental programs for cultural development in Ukraine. Management training courses provided by the State institutes for staff of culture/arts institutions have not yet been updated to take into account the changing requirements of modern society. Some independent Centers for Arts Management were created, but the main problem of the cultural management education is still outdated curricula.

Functioning of culture and art spheres differ in Ukraine and abroad, where most of such organizations are in the non-profit segment as the most efficient under market conditions. Mass media and entertainment organizations, information technology are mainly commercial businesses. In Ukraine, on the contrary – the majority of cultural institutions are State owned (about 50% of the total number of organizations) [1, p.23-30].

Especially controversial situation is in the non-governmental organizations (NGOs) in non-profit segment of the culture and art sphere of Ukraine. New multi-functional cultural institutions were formed in many regions, like cultural, folk and craft centers, club-museums, club-libraries, etc. This segment began rapidly develop over the past few years, but growth in number of NGOs operating in field of culture and art are not accompanied by quality in their content activities. During the last years, several non-governmental centers and private associations appeared in Odessa and Odessa region as well.

One of the main problems of these institutions is personnel: only about 5% of all clubs and cultural centers, especially in the rural areas, are provided with modern technology, and only 60% of the staff is specialists in cultural management, 6% of whom have higher education [2].

This is due to the fact that the focus of the education system in Ukraine is on training artistic professionals in sphere of culture and art, while outside the focus remains the matter for training managers in this sphere.

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* Nataliia Kusyk; Candidate of Economical Sciences, Ph.D (economic), Docent; Odessa National I. I. Mechnikov University, Economic and Law Faculty, Head of Accounting, Analysis and Audit Department; Email: <melev@rambler.ru>

2.2. Reasons for the situation

There are two reasons for such situation: national and regional.

Reasons for nationwide character are:

1. The training system in Ukraine is still in based on the s. Soviet administrative system, which does not allow clearly define the management and creative elements in culture [3, p.41-44]. Due to the fact that the actor independently performs administrative functions in relation to own work, the creative process suffers from this situation. In one case, he would totally switch to administration and ceases to create highly artistic product. In another, he seeks to obtain additional experience and skills in management culture through training. The received knowledge lead actor to understand: that the successful existence of the either individual or creative team in the field of culture requires different of management and creative responsibilities. We think, that thanks to such understanding the strong creative unions "manager / administrator – talented artist" is possible. In one case it is possible when gifted artist is skillful manager, but this combination is very rare.

2. The political impact factor is too great on the activities of NGOs in the field of culture in Ukraine: increase in number of NGOs is most active during the election campaign – many organizations are created especially for the propaganda of individual political leaders.

Regional reasons are:

1. The activities of most NGOs of sphere of culture in the Odessa region is not aimed at long-term existence and has no strategic prospective: art events and cultural actions, mostly do not have a long-term effect – sporadic impact on public opinion and the urban community reduce the importance of these events. These NGOs do not have the motivation to education, because they had created initially as organization affiliated either to business-structures, political parties or government units, or specifically founded for single project. Therefore such structures are interested in ad hoc management training without long-lasting effect.

2. The activities of most NGOs has no true diversity: the event is often repeated – the semantic and artistic content is the same, but under different names, at different times and in different spaces, which creates only the illusion of activity and diversity of NGOs in the field of art and culture. In addition, 80% of cases of actions carried out under the auspices of various institutions (government, public, private, NGO, etc.) are chaotic, haphazard, uncoordinated and often overlap in time with each other, making it difficult to attract and involve all interested parties (stakeholders). This indicates that there is no single agreed plan of cultural mass-events of the Odessa region, based on the established and approved the development strategy of the city / region in accordance with the cultural politics of the country and in conformity with European priorities.

These facts indicate either a low awareness of European standards, rules, laws or a lack of basic training of NGOs members operating in the field of culture and art. Coordination of stakeholders' activities (NGOs, government structures and business) with use of the best international experience in building civil society requires special training of personnel for this sphere.

3. Stakeholders in the sphere of culture and art

In the sphere of culture and art of the Odessa region within the last 2 years there are three groups of stakeholders:

1. Informal groups created by representatives of the underground and subculture (without legal registration of their associations). There are mobile and are potential students for training, but they promote a nihilistic views on the education system as such (mostly volunteer, representatives of young generation).

2. Formal associations, were the understanding of the necessity of special knowledge, but they

consider that their competence is perfect (mostly representatives of s. Soviet administrative system).

3. Public institutions and NGOs providing services in the field of management training, but they are equipped with the outdated curricula f.i. such method as a master-class is often replaced by the general meeting and training or seminar/workshop is delivered as a classical lecture.

Above listed 3 groups of stakeholders are featured by insufficient level of special training. Lack of integrated special education and professional knowledge in culture administrative trainings leads to the fact that: the organizations and the promoters of cultural events incorrectly position and distort the role of cultural managers in the development of this sphere. There are some examples:

▪ sometimes you can find just funny "invented" job position, f.i. "manager of the Arts", "manager on the culture", "and marketing manager for the event" etc;

▪ one-time event or short term action are often entitled as project, mixing and replacing the two different concepts: the "project" and "one-time action-event";

▪ some of cultural events are unreasonably entitled by organizers as "unique", "single", "organized for the first time in Ukraine", while often misinforming the public that events are international;

▪ in some cases, organizers of cultural events cannot explain the reason, aim and the need for a cultural event, as well as to define objectives and specific results. Therefore the relevance of activities is reduced to just opportunity "get together party to share indefinite experiences".

Thus, education of a new generation of cultural managers is still urgent problem of Ukraine, and Odessa region in particular. The Bologna Process started in Ukraine in 2005, after signing the Declaration in the city of Bergen where a list of institutions selected as pilot ones was signed. However, there are no art high schools taking part in experiment: artists do not take part in international seminars and meetings regarding the reform of higher education. In this regard, formation of an integrated cultural managers training is still an actual problem. Taking into account above stated it is important to highlight the cultural managers training problems for NGOs. The training may be conducted in two training models:

1. Formal education: public education in the colleges and higher educational institutions of State ownership and private education in the colleges and higher educational institutions of private ownership.

2. Informal education: various courses, faculty training, employment centers, training-centers, etc. both public and private ownership.

From our point of view, NGOs providing services in the field of cultural managers training should function keeping the balance between formal and informal education.

4. Conclusions

It is assumed that difficulties in the trainers training for cultural management may be due to the lack of:

▪ consolidation of NGOs with State education institutions, research institutes resulting in that trainers team at NGOs have insufficient training skill;

▪ consolidation of NGOs with international professional institutions: the lack of a coherent system for training not just teachers, but coaches specializing, namely as a cultural managers;

▪ recruiting and identifying trainees / students for management training in the field of culture and art;

▪ basic knowledge in the field of management by the trainees / students of artistic professions (artists, singer, actor, musician, etc.);

▪ basic knowledge about the specificity of work in culture and art among the administrator / manager trainees / students (managers of foreign economic activity, PR-managers, HR-managers, etc.);

- selecting of training methods for managers in the field of culture and art;

- reasonable balance between theoretical knowledge and practical skills;

- experience in the application of interactive learning technologies, modern training techniques.

To improve situation needs following main directions of cultural administrators training, in particular in Odessa region:

- regular distribution of information about different educational programs, projects, initiatives;

- promoting views and understanding that success either individual artist or creative team depends mostly on the professional manager/administrator work;

- adaptation best practice of business training to art / cultural management sphere;

- intensification of the exchange of international experience;

- increase mobility of culture administrators from different countries [4; 5].

NGOs operating in cultural management training as well as realizing own culture projects are good facilitators in solution of above stated, since they combine theory and practice.

From our point of view, these NGOs should bridge regional and local administrations, private and state cultural institutions, private commercial organizations, various foundations both in Ukraine and abroad, state educational institutions.

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Summary

New cultural institutions were formed in many regions. This segment began rapidly develop over the past few years, but growth in number of operating in field of culture and art are not accompanied by quality in their content activities. The inadequacy of Ukrainian cultural institutions to contemporary needs managers' incapability to formulate and to implement new strategies. Especially controversial situation is in the non-governmental organizations (NGOs) in non-profit segment of the culture and art sphere of Ukraine. During the last years, several non-governmental centers and private associations appeared in Odessa and Odessa region as well. One of the main problems of these institutions is personnel. Education of a new generation of cultural managers is urgent problem of Ukraine, and Odessa region in particular.

Key words: non-governmental organizations (NGOs); culture and art sphere; cultural management; education.

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THE DETECTION OF MAIN FACTORS THAT INFLUENCE ON THE DEVELOPMENT OF RURAL TOURISM

Natalia Klok[*]

1. Introduction

Attention to the development of rural tourism is conditioned by its very positive influence on the economy of Ukrainian regions due to the use of the actual amount of private housing, the increasing sphere of employment of rural citizens, the opportunities to sell local agricultural products, to produce ecologically pure food stuff and to preserve safe environment, which are the consequences of the anthropogenic pressure reduction. Nowadays, with the crisis underway, the revival and the further economic and social development of rural areas in Ukraine are connected with rural tourism. Rural tourism is characterized by specific factors, which influence its development.

2. The analysis of investigation and publications of recent years

Recent studies prove that rural tourism is able to provide economic and demographic stability in rural areas and to solve their socio-economic problems. In their research papers V. V.Yurchishin, V. P. Vasiliyev, U. M. Zinko, V. S. Kravtsiv, P. A. Gorishevsky, N. E.Kudla, J. Sikora, J. Majeski and other scholars focus their attention on the development of rural communities and territories in the context of elimination of unemployment in the village, creation of favourable conditions for surplus profits from nonagricultural activities, the development of rural infrastructure, preservation of the cultural heritage of the Ukrainian village. However the problem of influence of socio-economic factors on the development of rural tourism is still to be tackled in further research.

3. Presentation of the main points.

Rural tourism is of special significance for the comprehensive development of rural territories, targeted at the improvement of the inhabitants living standards and welfare, which is predetermined by its positive influence on both economic and social development of our country. Economically, rural tourism is a source of income which is important for rural citizens when the crises is underway in the agricultural sphere and rural regions are degrading (viewed from the regional and macroeconomic aspects); it may help to reduce unemployment and to develop small business; it also encourages amelioration of private houses or farmsteads, which can increase their market value (microeconomic effect). Rural tourism employs mostly nonexpendable resources of the territories, makes use of modern organizational mechanisms of the tourist industry in the regions, resorts to informational technologies.
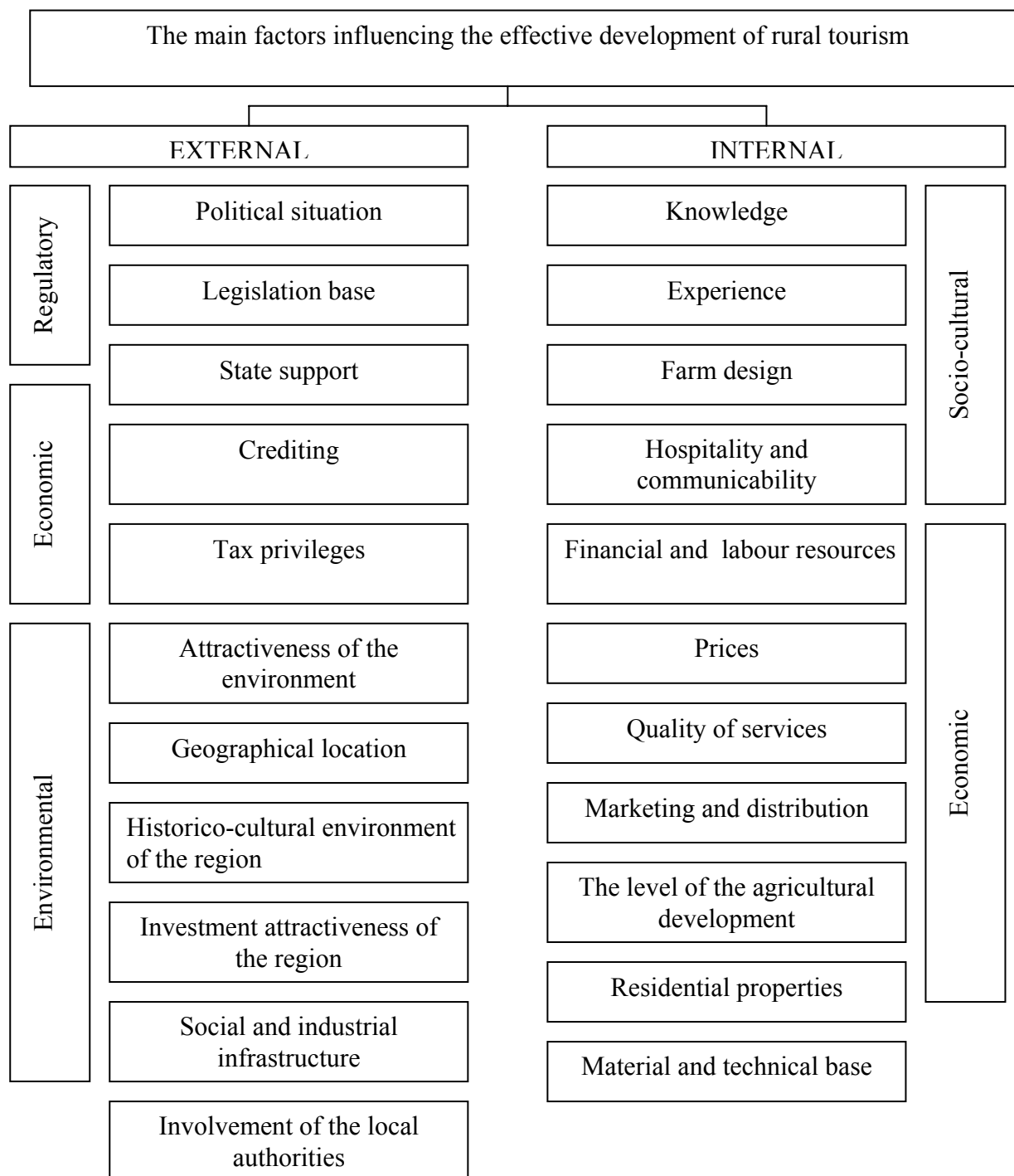
Socially, rural tourism enhances interaction between rural and urban citizens, which contributes to their cultural and psychological mutual enrichment, it can be considered a new stimulus for the development of small villages and towns. Rural tourism can improve socio-psychological climate in the community due to cooperation on the local level in the process of creation of a valuable tourist's product. Local citizens develop a thoughtful attitude to the environment; rural tourism employs women of different ages, which is a significant socio-economic factor, because women are considered less important in the agricultural sphere, their interests are not taken into consideration, and they face many difficulties in finding a job to provide for their subsistence. It is the tourist industry where women may play the main part and have an opportunity for self-realization and application of their experience and simultaneously they improve a financial position of their family and take part in local politics and development [1, p. 45-46].

Thus, there are a number of factors determining the effectiveness of the rural tourism in Ukraine.

[*]Natalia Klok; postgraduate student; department of economics and tourism management; Odessa State Economic University; Email:<natali.klok@gmail.com>

These factors can be divided into two main groups: external and internal, which can be further subdivided as follows:

Tab. 1. Classification of the main factors influencing the development of rural tourism

The main factors influencing the effective development of rural tourism	
EXTERNAL	**INTERNAL**

Regulatory
- Political situation
- Legislation base
- State support

Economic
- Crediting
- Tax privileges

Environmental
- Attractiveness of the environment
- Geographical location
- Historico-cultural environment of the region
- Investment attractiveness of the region
- Social and industrial infrastructure
- Involvement of the local authorities

Socio-cultural
- Knowledge
- Experience
- Farm design
- Hospitality and communicability

Economic
- Financial and labour resources
- Prices
- Quality of services
- Marketing and distribution
- The level of the agricultural development
- Residential properties
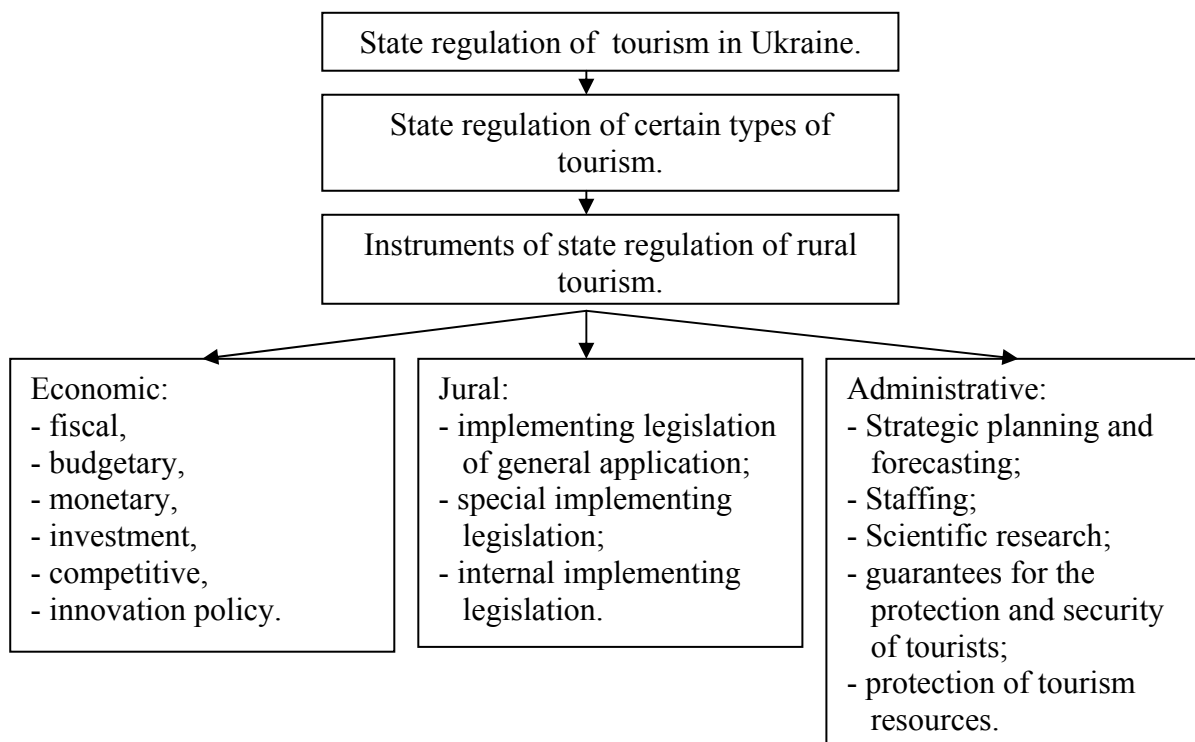- Material and technical base

Within the group of the external factors we can distinguish regulatory ones, which include "state guaranteed possibility for rural citizens to declare their will concerning their participation in free foundation of enterprises, which is guaranteed by the government" [2, p.101]. Here belongs the normative-legal base, which is not yet perfect in this country.

Tab. 1. shows that governmental support of rural tourism can be considered both as a regulatory and an economic factor: the legislation base, being an exclusive right of the government, at the same time creates economic conditions for the development of rural tourism as a form of entrepreneurship.

State regulation of rural tourism is realized through economic, legal and administrative influence

over laws and regulations, state and international standards, licensing of certain activities, government regulations and standards, focused on the global market, government programs and plans, financial and fiscal, monetary and credit, tariff regulation, investment, social, and environmental policy (tab. 2) [3, p.5-75; 4].

Tab. 2. Instruments of state regulation of rural tourism

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┌──────────────────────────────────────────┐
│      State regulation of tourism in Ukraine.│
└──────────────────────────────────────────┘
                    ↓
┌──────────────────────────────────────────┐
│      State regulation of certain types of  │
│                  tourism.                   │
└──────────────────────────────────────────┘
                    ↓
┌──────────────────────────────────────────┐
│   Instruments of state regulation of rural  │
│                  tourism.                   │
└──────────────────────────────────────────┘
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Economic:	Jural:	Administrative:
- fiscal,	- implementing legislation of general application;	- Strategic planning and forecasting;
- budgetary,	- special implementing legislation;	- Staffing;
- monetary,	- internal implementing legislation.	- Scientific research;
- investment,		- guarantees for the protection and security of tourists;
- competitive,		- protection of tourism resources.
- innovation policy.		

Environmental factors constitute a many-facet group. It embraces both natural environment, which produces an ecological effect of an attractive rural tourism farmstead, situated in this environment, and economic-infrastructural environment, viewed as the local authorities encouragement of the rural tourism's activities, because the level of the social development of rural areas to some extent depends on it. The internal factors can be logically divided only into two groups: socio-cultural, which shape an overall attractiveness of the rural tourism's economy and economic, which help to reveal the farmstead potential to the full extent.

The totality of internal factors form a very important stimulus for the development of rural tourism in view of motives, which influence the choice of rural tourism as a form of recreation, because the effectiveness of the latter depends on the degree of its attractiveness and appreciation by consumers. However, besides the factors, which encourage the development of rural tourism in Ukraine, there are also factors, which suppress this development. Among the latter are the following:

- absence of the normative-legal base, capable of supporting the development of rural tourism, especially in the sphere of land tenure for agricultural purposes and taxing;

- low living standards;

- unsatisfactory state of objects of the rural tourism infrastructure;

- unsatisfactory state of the security system for tourists, who stay in the rural area;

- unsatisfactory demographic situation;

- low level of in-service training in the sphere of rural tourism, and others.

Absence of the government support is a major factor which is slow down development of rural tourism. Having very favorable geographical location and geopolitical position, developed transport network, the presence of significant natural and recreational resources and historical and cultural monuments, hard

working and open inhabitants, Ukraine can use this potential for leisure and recreation only with the help of government support, attracting capital formation, experienced and qualified staff.

These negative factors can be coped with on condition that the government leads a balanced policy in the sphere of rural green tourism, and regional authorities efficiently use the existing methods of direct and indirect influence.

Ukraine has already begun approaching world's standards in rural tourism, which exist in the developed countries. The governmental program of tourism development for 2002-2010 [5] fosters a perspective rapid rise of the tourism sector role in the development of Ukraine's economy and social sphere and gives the preferential importance to the development of immigration and local kinds of tourism as important factors raising the living standards of the population. Article 55 of this Program prescribes for the State Tourism Administration, Ministry of Agricultural Policy, Ministry of Ecological Resources, Governmental business support authorities, with the consent of the Agricultural Green Tourism support Union, to work-out a special Program of agricultural green tourism development in Ukraine.

Agricultural Green Tourism support Union, a social organization, plays a great role in tackling the problems of gathering and accumulating data from different regions of the country, arranging conferences and thematic exhibitions to popularize recreation in Ukrainian villages. It contributes to the development of the rural infrastructure, self-employment of rural citizens, shaping their respect for the beauty of the native land, hospitability and encouraging their desire to preserve their historical and cultural heritage.

4. Conclusions

One of the urgent issues of rural areas today is the lack of jobs, which is accounted by the surplus labour force sacked from the agricultural sphere. Taking into consideration the absence of the required capital investments to create new working places it is necessary to concentrate on the branches, which do not require great financial resources for their development. To the above branches belongs rural green tourism, which has been developing in Ukraine since 1995. Socio-economic factors influencing the further development of this type of tourism should be taken into consideration.

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Summary

Rural tourism is examined as an innovative method which increases the standard of living and profits of rural population. A set of factors that influence the development of agricultural tourism has been defined. Some recommendations for the future realization of this activity have been suggested.

Key words: rural territories, rural tourism, socio-economic factors, regulatory factors, steady development.

UD classification: 338.48-44

THE MODELING OF THE IMPACT OF LOGISTICS ON THE EFFECTIVENESS OF FOREIGN ECONOMIC ACTIVITY OF ODESSA REGION (ON THE BASIS OF THE STATE ENTERPRISE "ODESSA COMMERCIAL SEA PORT")

Yuriy Kozak; Igor Onofrei[*]

1. Introduction

The search for new and effective mechanisms of globalization and ways to mobilize resources in the regions for further dynamic social and economic development in the medium and long term perspective is the number one task nowadays for world economies.

However, many experts and scientists from different countries turn attention to find adequate economic and mathematical models to the given reality, able to reflect and address the urgent problems of improving competitiveness and diversification of regional economies.

During last decade the development of models that describe the impact on the economy of various enterprises, including opportunities and mechanisms to improve the efficiency of foreign economic activity in the region through the use of certain instruments became necessary.

2. Actuality of the research subject

The modern public policy and planning to stimulate economic growth, provide modernization and restructuring of the economy must be carried out using market instruments, which provide increasing of competitiveness of individual companies, industries and the economy in general. One such tool is the creation and development of clusters – the integration of geographically and sectoral associations.

For the Odessa region such unions should be the seaports maritime clusters. International experience has proven the viability of cluster policy and confirmed the competitiveness of clusters, which can reduce costs due to the support and development of several businesses. Thus, geographical proximity provides cheapness and quick delivery time for business products and services required, and the concentration of firms within the same region contributes to the development of communications among them.

Cluster and its corresponding cluster policy as part of public policy are the instruments of medium- and long-term planning, and most importantly – an effective instrument for improving the efficiency of foreign economic activity of regions.

Nowadays the urgent problem is the availability and implementation of these instruments in Ukraine. Creating clusters today is the way to the development, the great possibility of reducing the budget deficit and at the same time filling revenue of the budget and creating competitive products.

A separate industry for application of cluster policy is the transport industry, including the activities of maritime transport and ports of Ukraine.

Development and implementation of an adequate to the economic realities seaport maritime cluster models for these ports is an essential condition for development of region. Such clusters have become points of economic growth.

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[*] Yuriy Kozak; Doctor of Economics; Prof.; Odessa State Economic University; Head of Department of International Economics; Email:<k.meo @oseu.edu.ua>
Igor Onofrei; applicant; Department of International Economics;Odessa State Economic University

3. Main goal

In this research paper, the main task is to describe and disclose the impact of the Odessa port on the efficiency of foreign economic activity in the region using the created model.

4. Degree of problem development

Clusters and cluster policy are sufficiently widely covered in the works and publications of western and local scientists – Ukrainian and Russian experts. In particular, these issues are revealed in scientific publications and achievements of leading Western cluster specialists, among them such prominent authors like Michael E. Porter – the founder of a cluster concept, Peter W. de Langen, Dimitrios V. Liridis, Vassilios K. Zagkas, Maria Angel Diaz, Maria Esteban Soledad – world experts in the area of sea port clusters, Thomas Andersson, Sylvia Schwaag-Serger, and also Ukrainian and Russian scientists, among whom we distinguish such authors as A. Stepanov, A. Titov, L. Rybina, S. Sokolenko, J. Kovaleva., S. Gritsenko, S. Bludova, L. Pryshchyepa etc.

Many works of both Ukrainian and foreign scholars and scientists are dedicated nowadays to the issue of modeling of economic processes, as well as problems of foreign economic activity.

Among those who considered the problems mentioned in the article are such scholars such as already mentioned Michael E. Porter, as well as Lance Taylor, H. Amman, P. Dixon, B. Parmenter, and local scientists V. Makarov, A. Bakhtyzin, S. Sulakshyn, T. Pankova, N. Jankowski, L. Sukhova and others.

It should be noted that the issue of efficiency of foreign economic activity of individual industrial enterprises is covered quite extensively. But still up to now there was no research that could examine in detail the mechanisms and models for improving the efficiency of foreign economic activity in the region.

5. "Region-Cluster" model

For the calculation of efficiency of foreign economic activity of the Odessa region is suggested to use a "Region-Cluster" model.

For the first time for this purpose the methods of economic-mathematical modeling are applied.

Pursuing the structure of this model which is offered, there are three levels, which are determined by the groups of factors and special indexes. This model allowed us to form the unique method of calculation of efficiency of foreign economic activity of region through Odessa port [1].

Our method includes such steps:

1. For providing comparableness of data of various years we will correct the monetary indicators on the accumulated size of deflator. The indexes of the prices of the year 2009 should be taken (previous year to the research).

Calculations should be taken after a formula 1.

$$D_i^A = D_{i+1} \times D_{i+1}^A,$$ (1)

Where,

D_{i+1} – deflator for the next year after i-d year;

D_{i+1}^A – the accumulated size of deflator for the the next year after i-d year;

$D_n^A = 1$ – prices of 2009 year.

2. The integral indexes should be applied to objectively characterize all categories of efficiency of second level of the offered "Region-Cluster" model: investments in the fixed assets in millions of hryvnas (UAH, national currency), unemployment rate in Odessa region after the methodology of ILO in percents, turnover of goods of Odessa port in thousands of tones.

3. The real foreign trade turnover in the prices of 2009 should be calculated.

4. Next step is to calculate the correlation of the real commodity turnover in the i-year (in millions UAH) to turnover of goods of i-year (in thousand of tones). Value, which is got for turnover of goods for 2009 year we take as a standard, at the same time the calculation index is equal 1 (one).

5. Then we should calculate the turnover of goods in "conditional units of commodity", taking into account the indexes of calculations, that represent high-quality changes in a model, which take place in the structure of loads that are transported through Odessa port.

A model was tested after the Fisher's test which confirmed its adequacy.

The compared data for this model resulted in Table 1. Source: Data of the State Statistics Committee of Ukraine of 1999-2009 years is used [2; 3; 4; 5].

Tab. 1. Compared data in the prices of 2009 year in the "Region-Cluster" model*

Years	GRP real per capita in UAH in the prices of 2009	Investments in the fixed assets of Odessa Port in millions of UAH in the prices of 2009	Turnover of goods in Odessa port in conditional units of commodity	Unemployment rate in a region after the methodology of ILO, %
1999	13 025,87	3 553	11762	12,6
2000	13 474,63	4 733	22294	12,6
2001	14 258,54	7 894	19147	10,3
2002	14 750,14	7 930	25072	6,9
2003	15 626,04	9 313	29339	5,7
2004	17 184,53	12 561	34845	7,4
2005	16 927,52	10 122	30570	5,9
2006	17 756,20	12 555	30888	5,6
2007	19 278,71	14 640	33101	4,8
2008	19 400,09	13 483	36035	4,9
2009	17 451,13	6 426	28008	5,1

From this model the direct dependence between a gross regional product per capita and investments in the fixed assets and turnover of goods of port is obvious.

Thus there is a reverse dependence between a gross regional product per capita and unemployment rate in the Odessa region.

In accordance with the abovementioned model and conducted calculations we can assert that increase of investments in the fixed assets in the Odessa region on 1 million UAH through port results in growth of gross regional product per capita on 23 copecks (1 UAH = 100 copecks).

Multiplying unemployment on 1 % brings to the loss of 292 UAH over 24 copecks of gross regional product per capita.

Multiplying turnover of goods with a nowadays commodity structure per 1 million tones will result in multiplying of gross regional product per capita on 7 copecks.

Dynamics of gross regional product of the Odessa region (efficiency of foreign economic activity) per capita in the prices of 2009 year for 1999-2009 years is represented on Figure 1.
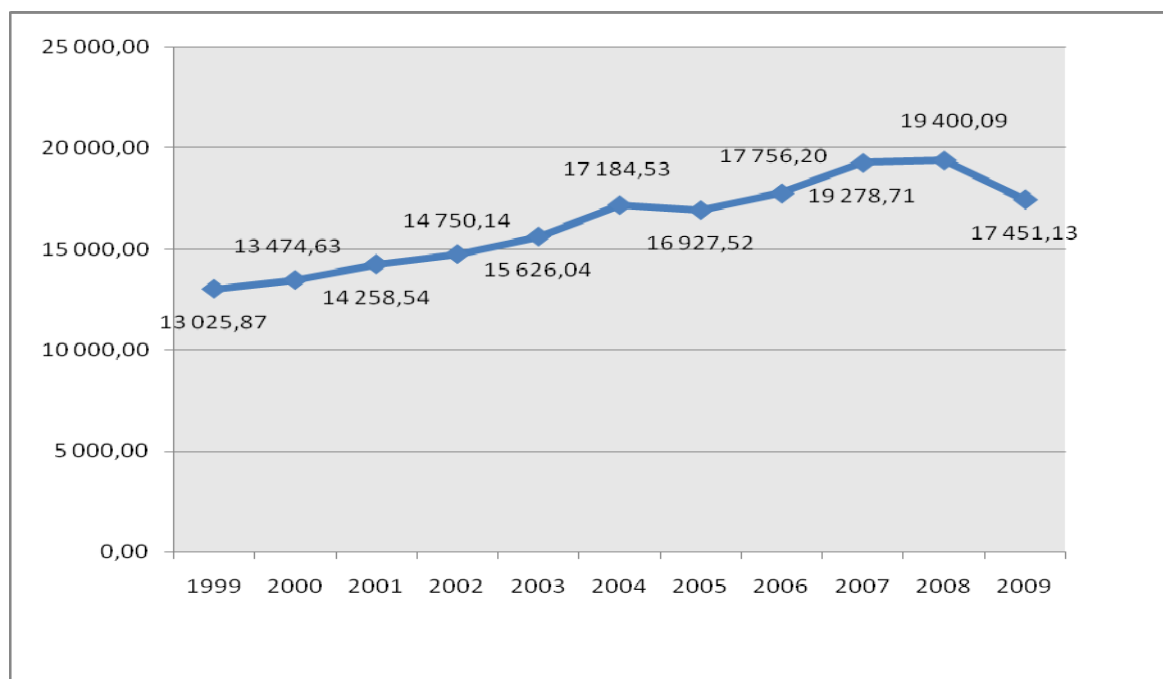

Fig. 1. The dynamics of GRP of the Odessa region (efficiency of foreign economic activity) per capita in the costs of 2009 for 1999-2009 years in UAH

6. A conditional situation

We considered a conditional situation, when from the Odessa region the Odessa port is withdrawn and how these changes will influence on efficiency of foreign economic activity of Odessa region.

At first, certainly, Odessa region will lose all workers of Odessa port which is 0,32 % vid a common amount of economic active population after the methodology of ILO at the Odessa region as of 2009. That means an unemployment rate will grow at once on 0,32% at a current unemployment rate 5, 1%. That unemployment rate thus will be 5, 42%.

Secondly, investments in the fixed assets of port will diminish accordingly.

In 2009 year the volume of the attracted investments in the Odessa region was 6,426 billions of UAH. If from the Odessa region Odessa Port will be withdrawn, the volume of investments in the fixed assets of region fall down to 5, 9346 billions of UAH [6].

Thirdly, turnover of goods of Odessa port will be absent and will make 0 conditional units of commodity in a model.

That in the case of conditional situation, when from the Odessa region Odessa port will be withdrawn the index of gross regional product per capita will be 14206, 16 UAH in the prices of

2009.

That means that general efficiency of foreign economic activity of the Odessa region, if we compare it with the current, at once will fall down on 19%.

The provided analysis confirms of the last importance of Odessa port for an economy and foreign economic activity of the Odessa region and country on the whole.

7. Conclusions

Consequently, it enables to talk about possibilities of multiplying influence of port and increase efficiency of foreign economic activity of the Odessa region by means of creation of Maritime Seaport Cluster.

The results and impact of modeling technique presented can be used at sea ports, logistics and other industrial enterprises, as well as other sea port clusters.

This model is universal, so it could be used to design and build sea port clusters and other industry clusters in Ukraine and abroad as well.

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Summary

The cluster-concept is frequently used to analyse the competitive advantage of countries. Countries are specialized in a few clusters of economic activities. The competitiveness of a cluster depends on the behavior of firms in the cluster and the interaction between these firms and the whole sectors. The article considers model of influence of the logistical enterprise on efficiency of foreign economic activity of the Odessa region. In the given article the model is connected with the State enterprise "Odessa Commercial Sea port". The received results can be used on seaports, at logistical and other branch enterprises, as well as for creation of the marine seaport clusters. Based on the received data some conclusions are made about the effectiveness of these mechanisms for the Ukrainian transitive economy in the globalization era. The model mentioned in this article is universal; therefore it can be used for calculations on increase of efficiency of foreign economic activity of regions.

Keywords: foreign economic activity; modeling of economic processes; the State Enterprise "Odessa Commercial Sea Port"; "Region-Cluster " model; the Maritime Seaport Cluster.

UD classification: 339.9.012.24: 656.615 (477.74)

FEATURES OF MARKETING ACTIVITY IN SUBURBAN FARMS

Mariya Levina∗

1. Introduction

With the development of market relations, with the ever increasing competition between enterprises in Ukraine and rapid changes in consumer preferences is necessary to use marketing tools in the activity of each producer. Agriculture is not an exception. Before farmers face the problem not only produce and sell products, that has a broad consumption, but also respond to changes in consumer demand for food products, deeply analyze their preferences, explore features of the market of food and agricultural products, seek new channels of supply, form and methods of moving goods to consumers.

Remember that consumer demand for food each year is measured in hundreds of tons, which requires the adjusted supply chain products in the short term from producer to consumer. An important role in this process play suburban areas, covering the territory around the major cities, they can satisfy demand for high-quality, fresh agricultural products with minimal time and transport costs.

2. Analysis of recent research

Features of suburban areas was reflected in research by many scientists J. f Tyunen, V.A. Minyeyev, A.M. Tretyak, V.M. Druhan, V.A. Kamensky, M.O. Haucke I. Korovkin, A.R. Glazun, F.D. Zastavnuu, M.M. Palamarchuk, O.M.Palamarchuk. In Soviet times, the issue of suburban areas was paid much attention, right now the issue is considered rare, although in the modern period, especially in the marketing of agriculture, suburban area becomes relevant and requires a new interpretation.

The purpose of article is the research a question of suburban area and its meaning for the effective marketing activity of agricultural enterprises in this zone.

3. Research results

The soviet scholar Minyeyev V.A. notes as closer the location of agricultural enterprises to the city as higher productivity in key areas, more intensive production, and higher level of profitability [1, p.4].

This is due primarily to favorable territorial location, natural conditions, better availability of qualified professionals with high educational level, higher level of scientific-technical equipmentand faster access to relevant information.

Theoretical justification of suburban area has become even in the nineteenth century. For the first time systematization of agricultural areas was held by German economist Johann Heinrich fon Tyunen (1783-1850) in his work "Isolated state" that was published in 1826 [2, p.256-310].

Johann Heinrich fon Tyunen argued that near the city shall be located farms that produce the products, which transportation costs is the most expensive and one that quickly deteriorates and is consumed fresh. Further to be placed companies that produce more transportable products.

Johann Tyunen presented his theory as an abstract model of an isolated state, which exists as a city and a system of territorial zone around it, abstracting from the influence of micro and macro environment. Scientist considered the effect of distance on the efficiency of agriculture, especially in transportation of goods to consumers.

∗ Mariya Levina; postgraduate student; Economics department; Odessa State Agrarian University; Email: <shtyysha@rambler.ru>

The researcher argued that as further placed agricultural production from the city as more expensive transportation costs to market products that focus directly in the city, but at the same time cheaper land and wages of workers. He issued own findings in the form of the system of specific zones of various kinds of agricultural production based on the distance, with the focus on greenhouse plants (figure 1.)
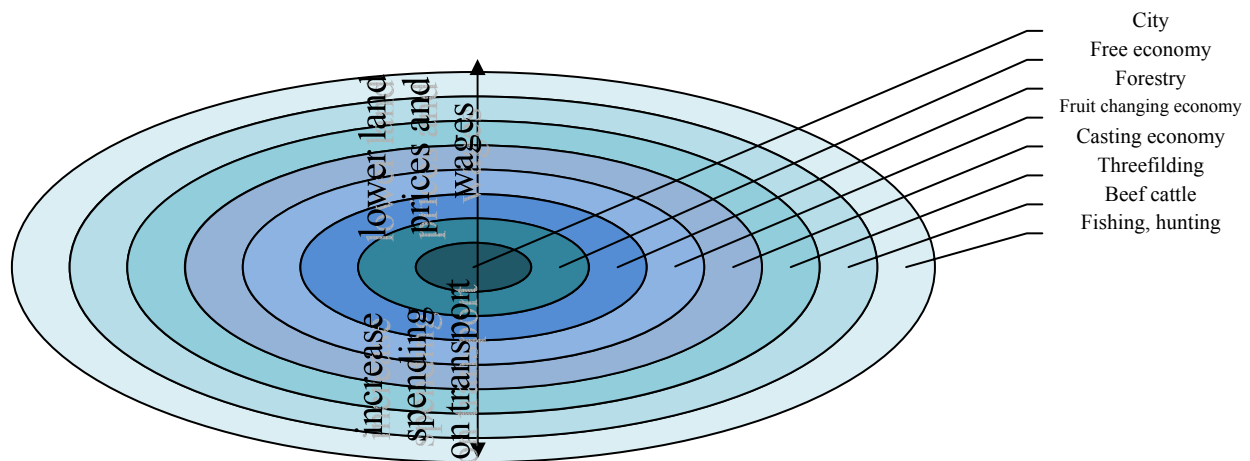

Fig. 1. Model of the territorial structure of agriculture by Johann Tyunen

The first circle represents the "free" economy, and it is an analogue of modern suburban area, a zone in the boundary of which is few transportable products that are perishable and is highly profitable for the manufacturer (berries, cauliflower, lettuce, milk).

The second circle includes forestry, that satisfies the city needs for fuel, coal, construction wood.

The third circle represents "fruit changing" economy, where the change of cereal and deciduous plants is also associated with destruction of pure steam as such.

The fourth circle represents "casting" economy, and five – "threefilding" economy, which is also designed to grow cereals and deciduous plants, but with the help of other more intensive technologies.

The sixth circle represents beef cattle, and the seventh covering fishing, hunting, etc.

The model that represented by Johann Tyunen is an abstract, but it is provided as the first theoretical basis for further research of issues related to the structuring of economic space of agricultural areas and is the starting point in exploring the concept of peri-urban farms.

Later on the rational allocation of production thought many scientists from various countries Wilhelm Launhardt, Alfred Weber, William Rosher, Ernest Ross, Priscilla Lori, Todd Palander, Walter Krystaller, August Losha, Walter Ayzarda, François Perret, M. Kolosovskyy. But the majority of their work is focused for placement industry, not agriculture.

The rapid development of suburban areas in Europe and the U.S.A. fell at the end of the nineteenth century, which was caused by the rapid development of industry, trade, transportation network.

On the territory of modern Ukraine suburban agriculture concept has gained wide importance in the 60's and 70's of the nineteenth century, during the rapid development of commodity-money relations, which resulted in specialization of agriculture in the production of certain types of market products [1, p.7].

Minyeyev V.A. have argued that the rapid growth of urban population demand for agricultural products at that time was primarily due to the abolition of serfdom and a fast growing industry and

an increasing number of urban dwellers, particularly important in this process is assigned to the areas surrounding major centers, namely specialization farmers in milk, vegetables, potatoes and other products that quickly deteriorates. [1, p.7-8]. Korovkin I.P. adds that during the Soviet years design around the largest cities specific suburban areas also was caused by the development of education and the emergence of new industrial centers, which led to a building huge new towns and expansion of existing ones [3, p.63].

During the Soviet years rule the suburban areas have been allocated as a separate type of regional planning that is not only designed to meet the needs of rapid transportation of goods to consumers, but also was provided with all the sanitary and technical and economic conditions of the territorial population distribution, industry, agriculture, recreation area of this territory. According to town planning requirements of this time for districts and cities planning focus was directed to:

- the most efficient placement of industrial facilities;

- science-based use of suburban agricultural areas;

- location of the construction industry;

- a transport network, water supply, sewerage, electricity and other engineering equipment;

- territorial location of the population,

- study areas for the development of existing and new settlements;

- sanitary improvement of the district and enviromental issues;

- choice place for sports and recreation mass [4, p.8; 5, p.8-9].

Based on the model of Johann Tyunen and achievements of domestic and foreign researchers Geographic Encyclopedia of Ukraine in 1989 provided three belted structure of suburban area. Agreeing with the factors that was distinguished by Johann Tyunen, in Encyclopedia was noted that with increasing radius of the remoteness of the territory of the agricultural enterprise of the city has changed its specialization, the territorial concentration as well as the manufacture or some of its species, changing feed base, about this suburban area may be divided into three zones (figure 2):

- highly specialized zone, which includes greenhouse management, swine breeding on food waste, dairy cattle;

- a specialized zone that represented by dairy-beef cattle breeding, vegetables open ground, poultry meat;

- specialized multi-zone, which focuses on dairy-beef cattle breeding, vegetables open ground, swine breeding, grain farming) [6, p.18].
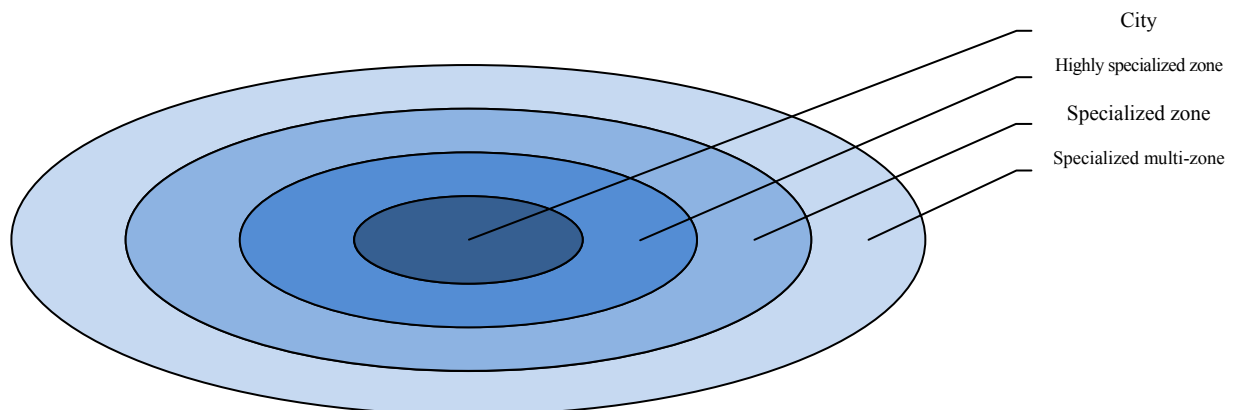

City

Highly specialized zone

Specialized zone

Specialized multi-zone

Fig. 2. Model of the territorial structure of agriculture

The development of suburban areas was facilitated the entry to these territories not only the status of the natural environment of cities, but also the effective center of agricultural development. Due to the high support from the state suburban agriculture became stronger, more technical, used the latest scientific developments on the industry.

Certainly agriculture suburban area was not intended to meet the needs of consumers in food products only on their own, but were called to minimize the volume of import outside the zone.

Modern authors Tretiak A.M. Druhan V.M. argue that the suburban area emerged with the development of road transport and electric. Suburban areas form separate movements with their handling establishments, ie administration, retail, health care, and more. The authors argue that the burden of high rents is causes to the moving to suburbs such institutions as hospitals, universities, offices, creating scientific and business parks, industrial zones. Further development of suburban areas leads to the formation of satellite cities with a primary specific land use [7, p.189-190].

Considering the very definition of suburban area should begin with his interpretation of the Great Soviet Encyclopedia, which is considered suburban area as an area surrounding the city and is close to it in a functional, economical, sanitary, architectural and other types of interconnection and interdependence [8, p.566].

Ukrainian Soviet Encyclopedia, emphasizes on functional relations between the city and suburbs, has the interpretation –that a suburban area is an area around the city center, functionally connected with it to supply goods and services, employment or administration [9].

Geographic Encyclopedia of Ukraine presents a somewhat different view of suburbs as areas outside the city, which consists of forests, forest parks and other green spaces, institutions and organizations for mass recreation, suburban towns, farmland and industrial plants that serve the city and targeted on local raw materials, which is part of the unified planning complex "city – suburban area" [10, p.84].

From a marketing point of view suburban farms further analyze consumer preferences for products of food, most likely react to their changes have more information for research and finding markets for food and agricultural products, can choose the best forms and methods of moving goods to consumers.

Arguably, the suburban agricultural areas of marketing orientation are the areas of cooperation between the modern city and the areas that surround it, with the goal of mobile satisfaction for high quality, fresh agricultural products with minimal transport time and costs.

Character feature of suburban area is clear uncertainty of the territory that it covers. Radius of suburban area largely depends on:

- size of the city to which it adjoins;

- the possibility of wide use of its industrial, agricultural and scientific capacity;

- social infrastructure;

- branching transport network;

- environmental conditions (topography, forests, ponds, wetlands and drylands, minerals, etc.);

- geopolitical situation of the city;

- demography;

- availability of satellite cities;

▪ allocation of areas for country recreation forests, green areas, reserve areas for future development zone [4, p.29; 11, p.79; 10, p.18; 12, p.315-316].

It should be noted that the radius of the largest suburbs taken within 50-100 km from the center." [4, p.22].

According to Glazun A.R. in practice of planning rational scale suburban area in agriculture are two such stages:

▪ pre-selection of certain territorial boundaries placing the crop and the livestock around the city;

▪ conducting economic calculations to determine the rationality size of the selected area, given consumer demand for agricultural products and sizes production of these farms suburbs [11, p.79-80].

Agreeing with a number of authors should be noted that economic calculations of agriculture suburban area should include all the specific features of the area, ie:

▪ orientation on year-round demand that exists in the markets of agricultural products (to include payments related to production and sales, production costs, profits and profitability, labor productivity);

▪ the need to develop an effective distribution network with optimal number of levels of distribution channels, including pricing strategy in management;

▪ • rational use of secondary resources, garbage, sewage suburban farm, catering waste, emissions of heat industrial co-generation plants and power stations;

▪ • specificity, specialization and concentration of production;

▪ • intersectoral cooperation and the method of their calculation;

▪ • integration of agricultural, industrial, .sales areas and production infrastructure [12, p.315-316; 1, p.5].

In the current period suburban area of highly developed cities, the population of more than a million people faced with problems that require investigation and resolution at all levels of management.

The modern city extends its boundaries through suburban areas, using as non-agricultural as agricultural land, this territory used for residential and industrial buildings.

Nowadays there is an imbalance between the interests of urban and suburban local communities, which requires joint efforts in solving many problems of the village, among which the most acute are natural resource, social, economic, environmental and problems of the city, associated with the overload of social infrastructure caused, so that almost all the services to rural population are provided in large centers [13].

Changing attitudes to the suburbs largely associated with changing storage technologies, product processing and transportation.

If in Soviet times, the appearance of the transport network preceded the development of suburban areas, then the level of the transport industry today makes it possible to deliver fresh products not only from one city to another within the country and from every corner of the world.

4. Conclusions

Based on studies wass conducted on the suburban area, it should be noted that even with reducing the impact of suburban areas in matters of food security of cities, this area remains the most

beneficial to the efficient functioning of agricultural enterprises.

In modern conditions, availability of high competition not only among domestic firms but also foreign, suburban area can be a source of revenue for market high quality, fresh, environmentally friendly agricultural products, especially labor-intensive crops and dairy cattle.

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Summary

In modern conditions, availability of high competition not only among domestic firms but also foreign, suburban area can be a source of revenue for market high quality, fresh, environmentally friendly agricultural products, especially labor-intensive crops and dairy cattle.

Keywords: suburban area; marketing; territorial location; labor-intensive crops.

UD classification: 631.1.027

HOW DO THE INTERORGANIZATIONAL INFORMATION SYSTEMS MAKE THEIR IMPACT ON THE ENTERPRISE COMPETITIVENESS?

Nataliia Medzhybovska[∗]

1. Introduction

Today companies act in an increasingly dynamic and complex environment, they have more difficulties making forecasts and in adapting themselves to the continuous changes in their environment. In order to be able to compete in this kind of world, it is necessary to innovate at an extraordinary speed, continuously improving the products, services and processes. Therefore, there is a need for a review the role of information technology and information systems (IT/IS) in gaining the competition advantages.

The concept of IT as a powerful competitive weapon has been strongly emphasized in the literature. For instance, Slywotzky and Wise [1, p.94-95] consider that «today, the explosion of digital information makes available a new array of strategic options, bringing within reach the Holy Grail of differentiation». According to Clemons and Row [2, p.276], «information systems are strategic business tools, frequently essential to a firm and central to its competitive strategy». Such opinion is supported by the producers of IT, business – consultants and journalists. Modern American oligarchs – Benjamin Rosen, Bill Gates, Charles Wang, Craig Barrett, Michael Dell and other – insistently suggest to the world that without information technologies business has no chance to win. According to them, success is reached to the adherents of information technologies, and their opponents unchangingly remain overboard.

This paper helps to understand how the impact of IS has affected company's ability to remain competitive. This study focuses on the role played by interorganizational information systems (IOIS) in enhancing competitiveness of firms in manufacturing sector. Interorganizational information systems are automated information systems shared by two or more companies [3, p.135]

2. Theoretical contests

The value of IS can be studied in terms of the three main schools of strategy:

- Five Competitive Forces (Porter, 1980s).
- Resource Based View (Barney, 1990s), Core Competence (Hamel/Prahalad, 1990s).
- Delta Model (Hax, 21st).

The competitive forces approach developed by Porter emphasizes the exploitation of market power as means to reach sustained competitive advantage. Important here is to relate company's position to its environment and to maneuver in such a way that it can erect barriers for competitors and protect the business. So, in terms of Porter's five forces industry structure model, the strategic use of IS can help build barriers of entry or put in place barriers of entry for competitors, it can help increasing the switching costs for customers and decrease their bargaining power, enable companies to create substitute products, and limit the bargaining power of suppliers [4, p.140-144].

The Resource Based View and Core Competence model focus on rents to the owner of scarce resources belonging to the company rather than profits from a certain position in the market place. The key concepts of these perspectives are resources, capabilities and strategic assets.

[∗] Nataliia Medzhybovska; Ph.D.,Docent; Economic Cybernetics Department; Odessa State Economic University; Email:< nmedzh@oseu.edu.ua>

Hence, thee concepts emphasize how firm-level IS dynamic capabilities may translate into sustainable competitive advantage by generating "generic lead time" (time taken by a competitor to duplicate an IS system, application or IS-based product), "competitive asymmetry" (the ability of the competitor to replicate the first mover's system", and "pre-emption potential" (the ability of the first mover to pre-empt the retaliation by the follower [5, p.34].

In our opinion the best conceptual framework to analyze the value of IS is the Delta Model proposed by Arnoldo Hax [6, p.379-391]. As a unified strategic framework developed after the mainstream adoption of Internet, it provides specific strategic options beyond the Best Product Strategy such as Total Customer Solutions and System Lock. Within the wide range of potential strategies the Delta model points out the potential strategic value of IT/IS as enabling technologies to promote boding (with customers, complementors, suppliers, etc.) and lead to a range of potential strategies such as "redefining the customer experience" (e.g. Saturn, Barnes & Nobel, Startbucks iTunes), "customer integration" (Dell, Mathworks), "dominant exchange" (Google, YouTube, iTunes), etc.

2.1. The model

We offer a model which recognizes three sources of sustainable competitive advantage provided by IOIS: Product Differentiation, Cost Leadership and System Integration (figure 1). This model based on idea of Total Customer Solutions and Extended Enterprise by Hax [6, p.379-391] and classic model of Competitive Advantage by Porter [7, p.215-263].
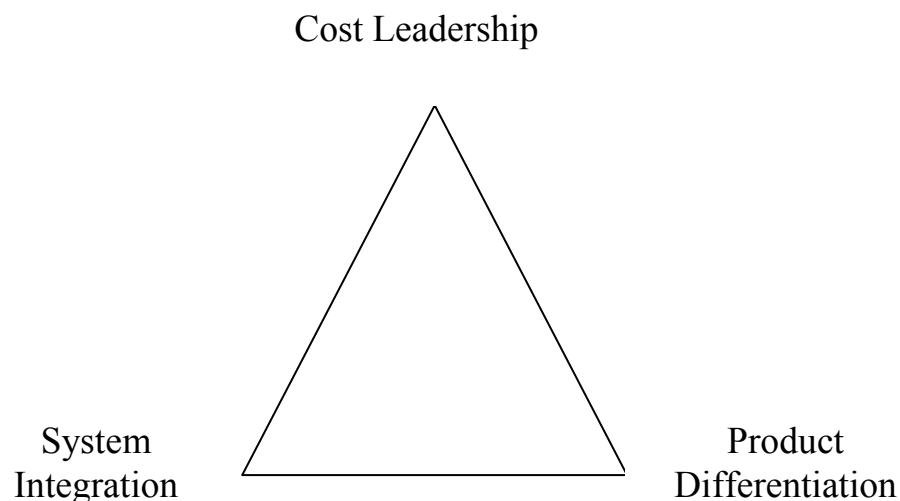

Fig. 1. IOIS impact model

3. The explanation

In terms of Porter classic competition strategies, the effective use IOIS allows:

A.   To reduce the total cost of ownership / cost leadership.

B.   To develop the unique (differentiated) products / product differentiation.

In this way, the basic sources of cost leadership due to the effective use IOIS are reduction in transaction costs, reduction in inventory levels and reduction in material costs.

The basic sources of reduction in transaction costs are associated with saving in costs of information gathering and processing, namely:

I. Reduction in information gathering costs (associated with electronic markets and/or electronic procurement systems applications):

- fast and effective access to the large variety of products, services, information and contractors in the real-time mode;

- extended possibilities of search and analyzing;

- improved information about products and suppliers.

II. Reduction in information processing costs (related to the better utilization of staff, cutback of the paper/printing, postage/mailing, telephone costs etc.):

- less paperwork which translates into fewer mistakes;

- fewer routine tasks and labor costs;

- shorter order processing and fulfillment cycles.

The lowering of inventory level refers to shortening of order fulfillment cycle time, that cause the reduction in insurance stock size and inventory carrying costs.

The electronic procurement solutions such us electronic marketplaces, reverse auctions, etc. can reduce the material costs due to large variety of suppliers, competitions between them and/or consolidating and leveraging organizational spending power.

Further, IOIS allow to differentiate products not only through unique features that the customer values but also with the help of total customer solutions and deep customer relationship that allows to develop value propositions that bond to each individual customer.

IOIS help to extract data regarding the customer preferences, monitoring the customer accounts, and studying the websites customers visited in order to segment and target its customers and use this proprietary marketing information to design innovative customized products and manage customer relationships more effectively.

Clearly, that customized products and customized relations are possible only in case of using IS/IT at all levels in the value chain which includes the extended enterprise – the firm, the customers, the suppliers, and the key complementors. IOIS enable multiple organizations to collaboratively design, develop, build, and manage products through their lifecycles.

The total customer solutions suppose to provide a coherent composition of products and services aimed at enhancing the customer ability to create their own economic value. It redefine the ways to capture and serve the customer by putting together the overall set of corporate capabilities complemented by proper external parties that enhance product offering.

System integration means the integration of business processes of two or more independent organizations through the exploitation of the IT/IS capabilities [8, p.814] and has purpose to remove the asymmetry in an informative exchange between business partners. Successful system integration requires an atmosphere of trust where all the members of supply chain agree to cooperate and to honor the commitments they have made to each other. They must be able to work together on the same goal and to redesign some of their business processes so that they can coordinate their activities more easily.

For instance, a basic level of system integration may occur when the linked firms develop product code translation tables so that employees at the participating firms can place/receive orders using internal product codes. A higher level of system integration may be possible when the buyer's computer determines a need for a product, based on preset reorder levels, and automatically transmits an order to the supplier's order entry system without human intervention. At the highest level of system integration, the firms can create close electronic coupling among the processes that create or use the information being exchanged.

Firms can integrate their systems with those of their supply chain partners to coordinate demand forecasting, resource planning, production planning, replenishment, shipping, and warehousing.

They can work jointly with suppliers on product design and marketing. Customer can provide feedback for marketers to use to improve product design, support and service [9, p.58].

The main operations able to facilitate interorganizational coordination and decision making are presented below:

1) automation the order placement, processing and payment;

2) order status control;

3) vendor managed inventory;

4) monitor the quality of the products being produced;

5) joint operational planning;

6) joint strategic planning.

For example, the joint operational planning is based on adequate information sharing about the preferences of customers and possibilities of suppliers and complementors. It can be realized with the following:

▪ access the supplier's production schedule;

▪ access the supplier's inventory levels of finished products;

▪ access the supplier's inventory levels of raw materials;

▪ monitor the supplier's production capacities;

▪ access the supplier's shipping/delivery schedule;

▪ exchange production (or sales) data with the supplier.

Joint strategic planning is based on the sharing promotion plans with the trading partner as well as harmonization of the efforts on demand forecasting.

Figure 2 illustrates the main sources of sustainable competitive advantage provided by IOIS.
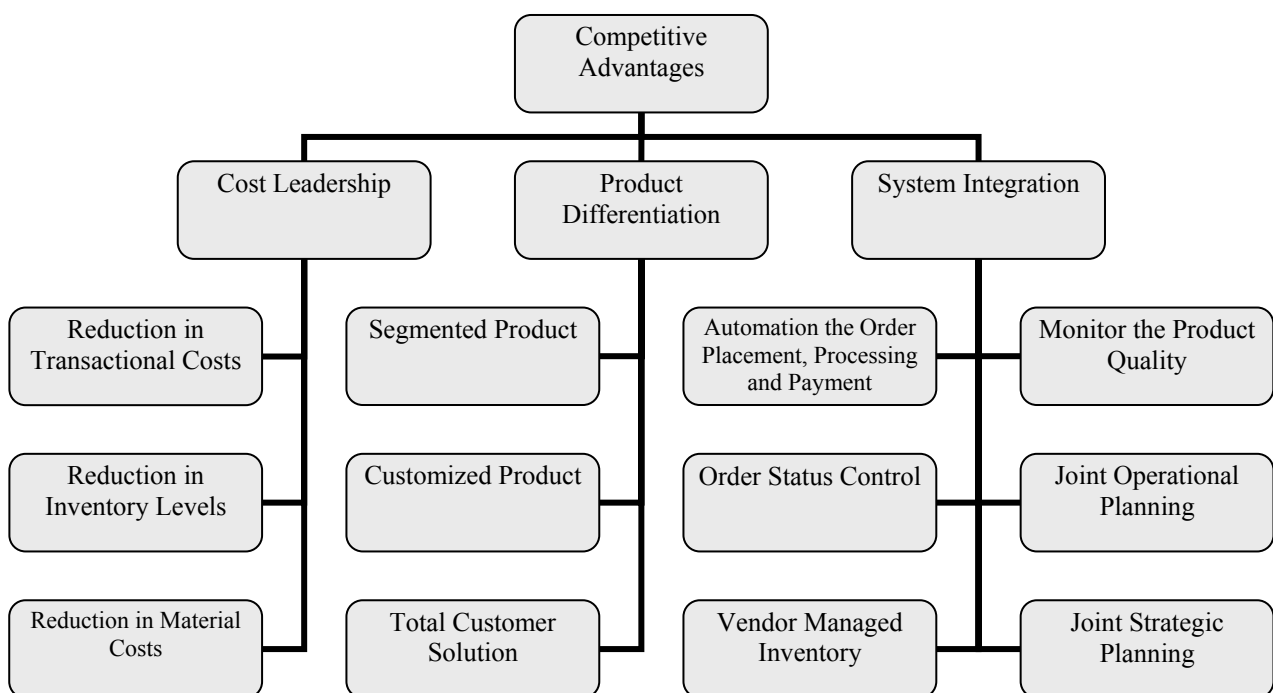

Fig. 2. Basic sources of sustainable competitive advantage provided by IOIS

4. Conclusions

The model developed here identifies a few important building blocks of competitive advantage such as cost leadership, product differentiation and system integration. It uses the idea that the new era of hypercompetition dramatically changes the competition paradigm. It is possible to win in hypercompetition market by mastering the art of dynamically repositioning oneself not as separate business unit but as part of extended enterprise with the central focus on customer. The drivers are the system economics and the overall system supply chain, which provide the engine for sustainable competition advantage.

Future research is needed to develop the framework of external and internal links of extended enterprise and impact IOIS on their performance.

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Summary

This paper focuses on the role played by interorganizational information systems (IOIS) in enhancing competitiveness of firms in manufacturing sector. The model developed here identifies a few important building blocks of competitive advantage such as Cost Leadership, Product Differentiation and System Integration. It uses the idea that the new era of hypercompetition dramatically changes the competition paradigm. It is possible to win in hypercompetition market by mastering the art of dynamically repositioning oneself not as separate business unit but as part of extended enterprise with the central focus on customer. The drivers are the system economics and the overall system supply chain, which provide the engine for sustainable competition advantage.

Keywords: competitive advantage; interorganizational information systems; total customer solutions; extended enterprise; cost leadership; product differentiation; system integration.

EMPLOYEE EVALUATION AS A COMPONENT OF THE STRATEGIC MANAGEMENT

Olena Machtakova[*]

1. Introduction

Most companies have a formal performance appraisal system in which employee job performance is rated on a regular basis, usually once a year. A good performance appraisal system can greatly benefit an organization. It helps direct employee behavior toward organizational goals by letting employees know what is expected of them, and it yields information for making employment decisions, such as those regarding pay raises, promotions, and discharges.

Developing and implementing an effective system is no easy task, however. For instance, one study found that a majority of companies – 65 percent – are dissatisfied with their performance appraisal systems. Analysts have found that a fairly low degree of reliability and validity remains a major bug in most appraisal systems. Many such systems are met with considerable resistance by those whose performance is being appraised, thus hampering the possibilities for effectiveness. While accurate and informative appraisal systems can be a major asset to a business, they are too often an unrealized goal.

There are three major steps in the performance appraisal process: identification, measurement, and management. With identification, the behaviors necessary for successful performance are determined. Measurement involves choosing the appropriate instrument for appraisal and assessing performance. Management, which is the ultimate goal, is the reinforcing of good performance and the correction of poor performance. Each step is described below. Additionally, management by objectives, which involves evaluating performance without a traditional performance appraisal, is described.

The purpose of this article is: 1) giving a first oversight of the creation and the background of the problem of assessment and reward; 2) giving an insight into the necessity and possibilities to arrive at a genuine differentiated assessment and reward because of its strong influence on employee motivation. This is one of the most important goals of the strategic management.

2. The history

In the 60-70s XX century few selection specialists were concerned with classification and compensation functions in their organizations. That changed to some extent in the 1970s when the job analysis methods underlying position classification and pay-setting were found inadequate as a foundation for content-oriented employee selection procedures. These and related problems facing personnel directors and assessment specialists were described at an IPMA symposium organized by A. Maslow in the mid-1970s titled "Selection and Classification: Shall the Twain Ever Meet?", and in a 1978 Public Personnel Management article by Ollie Jensen pointing out "major conceptual morasses and misdirections of effort associated with job and personnel evaluation." Among the efforts of assessment specialists to overcome these problems were development of "multi-purpose" job analysis procedures, and involvement in establishing minimum qualification requirements. More recent have been challenges to the basic foundations and methods of job evaluation. For some organizations, these challenges stem largely from demands that pay be equal for jobs of "comparable worth." In others, personnel directors confront employee groups and unions,

[*] Olena Machtakova; postgraduate student; Enterprise Economy department; Odessa State Economic University; Email: <machtakova84@mail.ru>

managers, and others dissatisfied with job evaluation and pay decisions. One consequence is that personnel assessment specialists previously responsible only for personnel selection are increasingly being asked to assist in the preparation and review of new classification and compensation procedures, and in some cases even to assume management of such systems. Arvey and Fossum provide an introduction to this topic, outlining important problems which are commonly found in job evaluation procedures and the potential contributions of assessment specialists to solving problems which may exist in the job evaluation procedures used by their organizations. Their introduction to job evaluation is especially relevant for assessment specialists having backgrounds primarily in employee selection, and they include references to sources which cover aspects of the measurement issues they raise in greater depth.

Job evaluation methods were first devised shortly after WWI, a result of several changes in personnel practices. The first change was the application of job analysis by Frederick Taylor to job design in industrial engineering, and by industrial psychologists to the development of selection and placement techniques. The second change was the growth of large organizations, and the specialization of jobs. "Internal" labor markets developed in these large organizations, with the design of jobs specific to each organization. Because these jobs had no counterpart in other organizations – the external market – a new method, job evaluation, was created to establish wages for them. Job evaluation procedures have been used primarily to help slot jobs into a wage structure which is presumed to relate to "market" wages - the wages paid by other employers competing for employees. The simplest approach was to rank order jobs in terms of their market wage, "worth," or other organizationally meaningful criterion. Nonmarket (internal labor market) jobs were slotted between ranks, based on judgments about job content by job evaluators who compared them with the content of the "market" jobs. More complex methods were quickly developed in the 1920's, particularly those known as "factor comparison" and "point factor" methods. In the 1930's, industry-wide variants of the point method such as those developed by the National Metal Trades Association were introduced. There are important distinctions between factor comparison and point methods which we will explain next.

3. The Factor Comparison Method

The factor comparison method evaluates jobs using five compensable factors: skill, mental effort, physical effort, responsibility, and working conditions. Compensable factors are those characteristics of jobs presumed to reflect the tasks, duties, responsibilities, knowledges, skills, and abilities for which the employer is paying. The application of the factor comparison evaluation process, as it was conceived, begins by identifying certain jobs in the organization (usually nonexempt classifications as defined by the Fair Labor Standards Act) for which employers in the labor market compete for employees. These jobs are rank ordered for each compensable factor according to the level required by the job. Next, an independent evaluator or an evaluation team divides the wage currently ordered for each compensable factor according to the level required by the job. Next, an independent evaluator or an evaluation team divides the wage currently paid each job into appropriate amounts for each of the compensable factors without knowledge of the assigned ranks. In the first step, then, the jobs are ranked by factors; in the second step, pay is appropriated across factors by job. Jobs are then ranked again, according to pay apportioned for each factor. A comparison is then made of the ranks of all jobs, within factors, given by each of the two methods (ranking, and pay apportioning). If there is agreement for a particular job, it is designated a "key job" and serves as an observation to be later used for slotting non-key jobs into the compensation structure. Once all of the factors in the key jobs have been "priced," the non-key jobs (primarily internal labor market) are compared factor by factor with key jobs to determine where they should be slotted and what wage rate for each factor should be extrapolated from their slot position. The entire process relies primarily on the judgment of evaluators, who are presumed to be familiar with the jobs in question or to have been made familiar with them through job analysis results. Point Methods Point methods also define a set of compensable factors, frequently

similar to those listed above for factor comparison methods. Each factor, however, is initially weighted with respect to its judged value or contribution to the organization. Each factor is used as a rating scale, divided into a number of levels or "degrees." Each degree is typically defined or "anchored" by a description enabling a job evaluator to match the relevant job content information with a particular degree on the rating scale. For each degree, within each factor, a certain number of "points" are defined. Normally, points for a given degree on a given factor are proportional to that factor's weight, simplifying the arithmetic calculations needed to arrive at a total point value for each job [1, p.5].

4. Employee evaluation and motivation

Salary administration is a vital part of management. Far moreoutput can be obtained from employees who know that their salaries not only reflect the relative value of their jobs within the company, but also are competitive in relation to current market rates outside. By establishing the values of both jobs and employees, and treating them like any other valuable company asset, management will be able to budget more effectively and operate more profitably. The remuneration of staff goes beyond simply salary into the fields of bonus, bonus allowances and 'fringe' benefits, all of which influence the pattern of payment. Hereby the span of the subject as we want to treat it here is pretty much established. Employee evaluation is formal assessment of an employee's performance in his or her job, as measured by certain objective indicators (e.g. sales figures, absenteeism) or by more subjective rating procedures. The employee may be evaluated in absolute terms or by comparison with others doing similar work, as in the paired comparison method. The results are usually presented to the employee as part of his or her performance appraisal [2].

The schematic below is an example of the outcome from the technique. It shows (in blue) the key dimensions of a job compared against the evaluated attributes (in red) of a suitable candidate. It is immediately apparent where the strengths and weaknesses of the candidate are, in relation to this one position. Actions and decisions can then be taken in respect of the strengths and weaknesses [3, p.11].
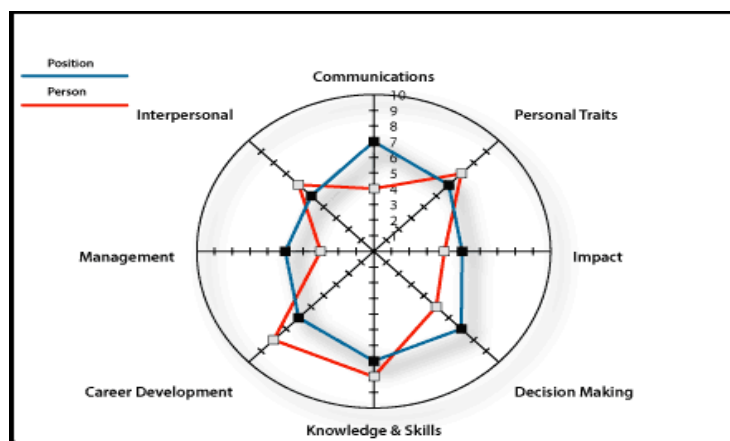

Fig. 1. Position Profile Analysis

4.1. Identification

The organization must determine for each job family the skills and behaviors that are necessary to achieve effective performance. The organization should identify dimensions, which are broad aspects of performance. For instance, "quality of work" is a dimension required in many jobs. To determine which dimensions are important to job performance, the organization should rely on an accurate and up-to-date job analysis. Job descriptions written from job analyses should offer a detailed and valid picture of which job behaviors are necessary for successful performance.

Employee evaluation is a formal assessment of an employee's performance in his or her job, as measured by certain objective indicators (e.g. sales figures, absenteeism) or by more subjective

rating procedures. The employee may be evaluated in absolute terms or by comparison with others doing similar work, as in the paired comparison method. The results are usually presented to the employee as part of his or her performance appraisal [4, p.30].

In the identification stage, the company must also choose who will rate employee performance. Supervisors, peers, and the employees themselves may provide performance ratings. In most instances, performance appraisals are the responsibility of the immediate supervisor of an employee. Supervisors rate performance because they are usually the ones most familiar with the employee's work. Additionally, appraisals serve as management tools for supervisors, giving them a means to direct and monitor employee behavior. Indeed, if supervisors are not allowed to make the appraisals, their authority and control over their subordinates could be diminished.

While supervisory ratings can be quite valuable, some companies have added peer appraisals to replace or supplement those given by the supervisor. Naturally, peers and supervisors each view an individual's performance from different perspectives. Supervisors usually possess greater information about job requirements and performance outcomes. On the other hand, peers often see a different, more realistic view of the employee's job performance because people often behave differently when the boss is present. Using peer ratings to supplement supervisory ratings may thus help to develop a consensus about an individual's performance. It may also help eliminate biases and lead to greater employee acceptance of appraisal systems [5, p.21].

Potential problems may limit the usefulness of peer ratings, however, especially if they are used in lieu of supervisory ratings. First, the company must consider the nature of its reward system. If the system is highly competitive, peers may perceive a conflict of interest. High ratings given to a peer may be perceived as harming an individual's own chances for advancement. Second, friendships may influence peer ratings. A peer may fear that low ratings given to a colleague will harm their friendship or hurt the cohesiveness of the work group. On the other hand, some peer ratings may be influenced by a dislike for the employee being rated.

Some organizations use self-ratings to supplement supervisory ratings. As one might expect, self-ratings are generally more favorable than those made by supervisors and peers and therefore may not be effective as an evaluative tool. However, self-ratings may be used for employee development. Their use may uncover areas of subordinate-supervisor disagreement, encourage employees to reflect on their strengths and weaknesses, lead to more constructive appraisal interviews, and make employees more receptive to suggestions [6, p.90].

4.2. Measurement

Once the appropriate performance dimensions have been established for jobs, the organization must determine how best to measure the performance of employees. This raises the critical issue of which rating form to use. In the vast majority of organizations, managers rate employee job performance on a standardized form. A variety of forms exist, but they are not equally effective. To be effective, the form must be relevant and the rating standards must be clear. Relevance refers to the degree to which the rating form includes necessary information, that is, information that indicates the level or merit of a person's job performance. To be relevant, the form must include all the pertinent criteria for evaluating performance and exclude criteria that are irrelevant to job performance [7, p.43].

The omission of pertinent performance criteria is referred to as criterion deficiency. For example, an appraisal form that rates the performance of police officers solely on the basis of the number of arrests made is deficient because it fails to include other aspects of job performance, such as conviction record, court performance, number of commendations, and so on. Such a deficient form may steer employee behavior away from organizational goals; imagine if police officers focused only on arrests and neglected their other important duties [8, p.13].

When irrelevant criteria are included on the rating form, criterion contamination occurs, causing employees to be unfairly evaluated on factors that are irrelevant to the job. For example, criterion

contamination would occur if an auto mechanic were evaluated on the basis of personal cleanliness, despite the fact that this characteristic has nothing to do with effective job performance. Performance standards indicate the level of performance an employee is expected to achieve. Such standards should be clearly defined so that employees know exactly what the company expects of them. For instance, the standard "load a truck within one hour" is much clearer than "work quickly." Not only does the use of clear performance standards help direct employee behavior, it also helps supervisors provide more accurate ratings; two supervisors may disagree on what the term "quickly" means, but both attribute the same meaning to "one hour".

To meet the standards described in the previous section, a firm must use an effective rating form. The form provides the basis for the appraisal, indicating the aspects or dimensions of performance that are to be evaluated and the rating scale for judging that performance. Human Resources (HR) experts have developed a variety of instruments for appraising performance. A description of the most commonly used instruments, along with their strengths and weaknesses, is given in the following paragraphs. A summary of these instruments appears in Exhibit 1. It should be noted, however, that companies can create additional types of instruments. For instance, they can rate employees on job task performance using graphic or behavior rating scales.

4.3. Accuracy of the ratings

Accurate ratings reflect the employees' actual job performance levels. Employment decisions that are based on inaccurate ratings are not valid and would thus be difficult to justify if legally challenged. Moreover, employees tend to lose their trust in the system when ratings do not accurately reflect their performance levels, and this causes morale and turnover problems. Unfortunately, accurate ratings seem to be rare. Inaccuracy is most often attributable to the presence of rater errors, such as leniency, severity, central tendency, halo, and recency errors. These rating errors occur because of problems with human judgment. Typically, raters do not consciously choose to make these errors, and they may not even recognize when they do make them [9, p.10; 10, p.140-210].

Severity error occurs when individuals are given ratings that are lower than actual performance warrants. Severe ratings may be assigned out of a dislike for an individual, perhaps due to personal bias. A male appraiser may, for example, underrate a highly-performing female employee because she threatens his self-esteem; a disabled employee may receive an unduly low rating because the employee's presence makes the appraiser feel embarrassed and tense; or an appraiser may provide harsh ratings to minorities out of a fear and distrust of people with different nationalities or skin color. Alternately, a severe rating may be due to the very high standards of a rater, or to "send a message" to motivate employees to improve.

When raters make leniency and severity errors, a firm is unable to provide its employees with useful feedback regarding their performance. An employee who receives a lenient rating may be lulled into thinking that performance improvement is unnecessary. Severity errors, on the other hand, can create morale and motivation problems and possibly lead to discrimination lawsuits.

Central tendency error occurs when appraisers purposely avoid giving extreme ratings even when such ratings are warranted. For example, when rating subordinates on a scale that ranges from one to five, an appraiser would avoid giving any ones or fives. When this error occurs, all employees end up being rated as average or near average, and the employer is thus unable to discern who its best and worst performers are. Central tendency error is likely the result of administrative procedures. That is, it frequently occurs when an organization requires appraisers to provide extensive documentation to support extreme ratings. The extra paperwork often discourages appraisers from assigning high or low ratings. Central tendency errors also occur when the end points of the rating scale are unrealistically defined (e.g., a 5 effectively means "the employee can walk on water" and a 1 means "the employee would drown in a puddle").

Appraisals are also subject to the halo effect, which occurs when an appraiser's overall impression of

an employee is based on a particular characteristic, such as intelligence or appearance. When rating each aspect of an employee's work, the rater may be unduly influenced by his or her overall impression. For example, a rater who is impressed by an employee's intelligence may overlook some deficiencies and give that employee all fives on a one-to-five scale; an employee perceived to be of average intelligence may be given all threes. The halo effect acts as a barrier to accurate appraisals because those guilty of it fail to identify the specific strengths and weaknesses of their employees. It occurs most often when the rating standards are vague and the rater fails to conscientiously complete the rating form. For instance, the rater may simply go down the form checking all fives or all threes.

Most organizations require that employee performance be assessed once a year. When rating an employee on a particular characteristic, a rater may be unable to recall all of the employee's pertinent job behaviors that took place during that rating period. The failure to recall such information is called memory decay. The usual consequence of memory decay is the occurrence of error; that is, ratings are heavily influenced by recent events that are more easily remembered. Ratings that unduly reflect recent events can present a false picture of the individual's job performance during the entire rating period. For instance, the employee may have received a poor rating because he or she performed poorly during the most recent month, despite an excellent performance during the preceding eleven months.

5. Personnel assessment

By Robert M. Guion, and Scott Highhouse in their book "Essentials of Personnel Assessment and Selection" discuss the essentials that managers and other well-educated people should know about the assessment processes so widely used in contemporary society and so widely not understood. It emphasizes that good prediction requires well-formed hypotheses about personal characteristics that may be related to valued behavior at work and the need for developing a theory of the attribute one hypothesizes as a predictor – a thought process too often missing from work on selection procedures. In addition, it explores such topics as team-member selection, situational judgment tests, non-traditional tests, individual assessment, and testing for diversity. The goal is to produce an accessible guide to assessment that covers basic and advanced concepts in a straight-forward, readable style. It provides a review of the most relevant statistical concepts and modern selection practices that will equip the reader with the tools needed to be competent consumers of assessment procedures and practices, and to be well-informed about the kinds of questions to be answered in evaluating them [11, p.234].

Personnel assessment refers to any method of collecting information on individuals for the purpose of making a selection decision. Selection decisions include, but are not limited to, hiring, placement, promotion, referral, retention, and entry into programs leading to advancement (e.g., apprenticeship, training, career development). Selecting qualified applicants is a critical step in building a talented and committed workforce, supporting an effective organizational culture, and enhancing the overall performance of the agency. While many applicants may apply for any particular position, quantity does not guarantee quality. Assessment procedures can be a cost-effective tool in narrowing down large applicant pools. Assessment tools can also make the selection decision process more efficient because less time and fewer resources are expended dealing with applicants whose qualifications do not match what is needed by the agency.

Effective personnel assessment involves a systematic approach towards gathering information about applicants' job qualifications.

Factors contributing to successful job performance (e.g., oral communication, problem solving) are identified using a process called job analysis. Job analysis identifies the duties performed on the job and the competencies needed for effective job performance.

Basing personnel assessment closely on job analysis results makes the connection between job requirements and personnel assessment tools more transparent, thereby improving the perceived fairness of the assessment process.

5.1. Management by objectives

Management by objectives (MBO) is a management system designed to achieve organizational effectiveness by steering each employee's behavior toward the organization's mission. MBO is often used in place of traditional performance appraisals. The MBO process includes goal setting, planning, and evaluation. Goal setting starts at the top of the organization with the establishment of the organization's mission statement and strategic goals. The goal-setting process then cascades down through the organizational hierarchy to the level of the individual employee. An individual's goals should represent outcomes that, if achieved, would most contribute to the attainment of the organization's strategic goals. In most instances, individual goals are mutually set by employees and their supervisors, at which time they also set specific performance standards and determine how goal attainment will be measured.

As they plan, employees and supervisors work together to identify potential obstacles to reaching goals and devise strategies to overcome these obstacles. The two parties periodically meet to discuss the employee's progress to date and to identify any changes in goals necessitated by organizational circumstances. In the evaluation phase, the employee's success at meeting goals is evaluated against the agreed-on performance standards. The final evaluation, occurring annually in most cases, serves as a measure of the employee's performance effectiveness.

MBO is widely practiced throughout the United States. The research evaluating its effectiveness as a performance appraisal tool has been quite favorable. These findings suggest that the MBO improves job performance by monitoring and directing behavior; that is, it serves as an effective feedback device, and it lets people know what is expected of them so that they can spend their time and energy in ways that maximize the attainment of important organizational objectives. Research further suggests that employees perform best when goals are specific and challenging, when workers are provided with feedback on goal attainment, and when they are rewarded for accomplishing the goal.

6. Conclusions

Subsequently it seems sensible to summarize which requirements must be met by a system of achievement reward here.

1. The task determinations – the fulfillment of which is coupled to an extra reward – should be: thoroughly researched into their relevance for the company or institution concerned; thoroughly researched into their feasibility; made known to all concerned with clear documentation of requirements, goals and instructions beforehand.

2. The measure in which the setting of tasks are fulfilled should be: determined objectively as much as possible; truly at the influence of the position holders concerned within the circumstances for which the setting of tasks are valid.

3. The system of achievement reward should express a collective importance of the company or institution and the rewarded. This also means that, in the case of possible deficiencies and/or side effects of the system, neither of the parties is stimulated in a direction leading to conflicting interests.

4. The system should allocate a reasonable extra reward for a reasonable extra achievement on a longer or shorter term. Provisions should be built in to counteract inflation tendencies.

5. As long as someone is holding a position he or she should receive a base wage or salary. The different base or position wages should display the required qualitative achievement levels in such a way that the sense of fairness of those concerned is satisfied. Achievement reward should not be used as a compensation for shortcomings in the base or position wages.

6. The system should be sufficiently straightforward so that everyone concerned can understand it. Before the system is implemented all concerned should see and understand the intentions and the functioning of it. Those concerned in this case are both those that will receive their achievement

reward by the system, as well as those that must exercise the system (such as the managers).

7. The application of the principle "reward according to achievement" should not be limited to some level or group within the company. It should in principle hold for everyone or nobody and should not include discrimination (as still too often between the workers and not the managers). This does not mean that the system of reward achievement should be the same for all groups. This would neither be possible, or pragmatic. It must be well thought out in which measure individual and/or in groups reward linking are implemented and exercised.

8. The costs of setting up, implementing, maintaining and administration should be in reasonable proportion to the expected direct and indirect benefits.

9. The payments should be accompanied with a clear and for those concerned controllable documentation showing the manner in which the extra reward was calculated.

10. The reward system should be established and guaranteed for at least one year. It is essential to consult desired alterations with all those concerned well on time. This is an absolute requirement for the creation and maintaining of the for co-operation essential trust.

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Summary

In this article a first oversight of the creation and the background of the problem of assessment and reward are given. An author gives also an insight into the necessity and possibilities to arrive at a genuine differentiated assessment and reward because of its strong influence on employee motivation.

Key words: employee evaluation; personnel assessment; strategy; salary; reward; test; rating scale; motivation; qualification.

EUROPEAN UNION AND EXTERNAL TRADE OF CENTRAL AND EASTERN EUROPEAN COUNTRIES

Iryna Nasadiuk[*]

1. Introduction

Starting from 1990-s the countries of Central and Eastern Europe – Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia – had implemented structural reforms and modified their institutions to enter the European Union that eventually happened in 2004 (except for Bulgaria and Romania that joined EU a bit later in 2007). Economists usually connect EU membership with the strong economic growth of CEE countries in 2000-s due to the institutional reforms, participation in various forms of EU economic integration and substantial EU financial assistance. Nowadays above-mentioned CEE countries are full members of EU, participants of common market and part of EU commercial policy toward third countries. Soon CEE countries will join the European Monetary Union which is going to affect their trade flows as well.

The change in the external trade pattern as a result of the substantial trade policy change in CEE is of interest to Ukraine since our country has a large share of external trade with EU countries, and CEE countries specifically.

Thus, to identify structural changes in the external trade of CEE countries in terms of goods and geographical structure, as well as changes due to trade policy regimes, is the aim of the current paper.

How economic integration and trade policy instruments, such as free trade zones, customs union, preferential trade agreements, monetary union influence external trade turnover is usually analyzed in the framework of Viner's customs theory (Viner (1950)) [1, p.14-36] and microeconomics of economic integration discussed by R. Baldwin (1990) [2, p.21-35]. Common institutions and common currencies tend to decrease the transaction costs of trade between countries, raise price transparency and price competition, lessen currency risk that positively affects trade turnover between trading partners.

According to J. Viner there are two effects of certain economic integration modes (whether a preferential agreement or a common currency) – trade creation and trade diversion effects. The ground of trade creation effect is the increase of economic efficiency of trade between partners, since elimination of trade barriers favors the sellers with the minimum production costs. Trade diversion effect takes place for the 3rd countries that find themselves outside the economic integration group. Since heightened trade barriers for the third countries hinder their trade with the members of the integrated countries group, even if they sell and produce with less costs, the trade of the countries of the integration group with the third countries is expected to decrease. For example, Ukraine may face decreasing trade volumes with EU and CEE countries because it is out of economic integration process in Europe.

2. Statistical analysis of CEE external trade

Statistical analysis of the external trade of the discussed CEE countries in 1999-2009 – years of the intensive EU expansion, shows:

1) substantial growth in the external trade of CEE countries;

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[*] Iryna Nasadiuk; PhD, docent; Department of International Economic Relations; Odessa State Economic University; Email: <irenas_ua@yahoo.com>

2) increase in technological intensity of the exports;

3) decrease of the role of EU countries and rise of the share of European developing countries in CEE trade.

First, from 1999 to 2009 the exports of Bulgaria grew 3.2 times, Czech Republic – 3.3 times Estonia – 2.7 times, Hungary – 2.6 times, Latvia – 3.4 times, Lithuania – 4.6 times, Romania – 3.6 times, Slovenia – 3.4 times, from 2004 to 2009 the export of Poland grew 1.6 times and of Slovakia – 1.8 times [3].

Second, the quality of the external trade shows the progress in economic development of a country. Usually increase in technological intensity of the external trade is a sign of higher order of economic development of the national economy. In the process of entering EU the trade structure of CEE countries changed in a similar way. The export share of the most technologically intensive products – machines and equipment – grew for the most of discussed CEE countries. For example the share of machines and equipment in the exports of Bulgaria grew from 11.2% in 1999 to 16.9% in 2009, of Czech Republic – from 43.1 to 53.9%, of Estonia – from 24.2% to 26.7%, of Latvia – from 6.1% to 19.7%, of Poland – from 29.6% to 41.2%, of Romania – from 16.8% to 42.6%, of Slovakia – from 39.4% to 54%, of Slovenia – from 35.5% in 1999 to 40.2% in 2009. Only in Hungary and Lithuania the share of machines and equipment in exports stayed the same at the level of 57% and 17% correspondingly [4].

Third, the share of EU-15 countries (so called "old" EU countries) in the external trade of CEE countries has a tendency to diminish during the period of "intensive integration" 1999-2009. EU share in the total external trade of Bulgaria decreased from 50% in 1999 to 46% of the total trade in 2009, of Czech Republic – from 67% to 62% of the total trade, of Estonia – from 68% to 51% of the total trade, of Hungary – from 70% to 56% of the total trade, of Latvia – from 57% to 36% of the total trade, of Lithuania – from 49% to 37% of the total trade, of Poland – from 66% (2004) to 63% of the total trade, of Romania – from 62% to 57% of the total trade, of Slovakia – from 55% (2004) to 49% of the total trade, of Slovenia – from 68% in 1999 to 57% of the total trade in 2009 [3].

On the contrary the role of trading partners from developing Europe (Central and Eastern European countries themselves, Western Balkan countries and Former Soviet countries) in the external trade of CEE countries has been increasing for the last decade. In Bulgaria the share of developing Europe in the total trade increased from 24% in 1999 to 33% in 2009, in Czech Republic – from 20% to 24%, in Estonia – from 19% to 35%, in Hungary – from 13% to 27%, in Latvia – from 25% to 36%, in Lithuania – from 37% to 53%, in Poland- from 17% (2004) to 18%, in Romania – from 15% to 25%, in Slovakia – from 34% (2004) to 38%, in Slovenia – from 19% in 1999 to 26% of the total trade in 2009 [3].

Statistics show that in the process of EU integration the share of developed EU-15 countries is decreasing, while the trade with developing European countries is increasing much more dynamically. This fact suggests the fall of economic efficiency of external trade with "old" developed European countries. The reasons for this trend could be:

1) the trade with developing European countries is due to low costs due to lower labor costs of developing Europe countries;

2) CEE countries grant trade preferences to developing Europe countries in the framework of UN General System of Preferences;

3) CEE countries import price-inelastic fuels from Russia and Central Asia and, thus, report higher trade volumes with fuel exporters therefore.

The identification of CEE external trade factors, as well as test of the impact of above-mentioned factors is conducted in the regression model in the next paragraph. The research methodology for the regressions analysis is suggested by Micco and others (2003) [5, p.315-356] and Maliszewska (2006) [6, p.20-64].

3. Specification of the model

To analyze the factors that caused development of the Eastern and Central European countries external trade in 1999-2009 the following multifactor regression model is proposed:

$$\ln T_{ijt} = \beta_1 \ln Y_{jt} + \beta_2 Dist_{ij} + \beta_3 FTA_{ijt} + \beta_4 EU_{ijt} + \beta_5 EMU_{ijt} + \beta_6 GSP_{it} + \beta_7 GAS_{jt} + \varepsilon_{ijt} \quad (1),$$

where

$\ln T_{ijt}$ – logarithm of the total external trade (exports plus imports) turnover between countries I and j in a certain year,

$\ln Y_j$ – logarithm of the nominal gross domestic product of the trading partner j,

$Dist_{ij}$ – logarithm of the distance between capital of two countries i and j, in kilometers,

FTA_{ijt} – dummy variable, controlling for the fact that both country i and country j participate in a free trade area arrangement,

EU_{ijt} – dummy variable, controlling for the fact that both country i and country j are simultaneously members of EU,

EMU_{ijt} – dummy variable, controlling for the fact that trading partner j is the member of European monetary union in a corresponding year,

GSP_{it} – dummy variable, controlling for the fact that Central and Eastern European country i grants trade preferences to trading partner j under General System of Preferences. Central and eastern European countries that joined EU in 2004 and 2007 grant such preferences to the developing countries of Europe – Balkan countries and Former Soviet Union countries,

GAS_{jt} – variable, controlling for the trading partner j that supplied fuel products (oil and gas) to Central and Eastern European country i. Usual fuel exporters for CEE countries are Russia, Kazakhstan and Turkmenistan,

ε_{ijt} – this part of the dependent variable is responsible for the factors that are not included on the model but practically influence turnover volume between trading partners in a corresponding period of time. They can be of systematic or spontaneous nature.

The regression model is based on the gravity model of external trade that is commonly used in economic literature to determine the impact of the most important indicators of external trade - domestic and foreign income, and transport costs.

As it is known, the exports of a country are positively related to the income (gross domestic product variable) in the trading partner countries, imports of a country are positively interconnected with the domestic income (GDP of a country).

The larger the transport costs to deliver goods from one trading partner to another, the less trade volume is between them.

Distance is commonly used as the approximation indicator for transport costs in export operations. In this article gravity model variables are included in regression expression, since gravity variables are expected to clear the external turnover from the effect of fundamental variables (income and transport variables) to obtain the clear effect of trade policy factors.

The interrelation under question is the impact of various trade regimes and monetary conditions of trade on the trade of CEE counties.

Regression model is estimated for the following Central and Eastern European countries (countries i): Czech Republic, Hungary, Poland, Slovak Republic, Slovenia, Romania, Bulgaria, Estonia, Latvia and Lithuania.

The turnover of each country i is estimated in relation to the following trading partners (major trading countries): euro zone (Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Slovenia, Slovak Republic); Western European countries non-members of EMU (Denmark, Iceland, Norway, Sweden, Switzerland), big developed countries (Australia, Canada, Japan, New Zealand, USA), Asian new industrial countries (Hong Kong, South Korea, Singapore, Taiwan, Malaysia, Philippines, Indonesia, Thailand, India, China), Balkan and Former Soviet countries (Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Belarus, Serbia, Georgia, Croatia, Kyrgyz Republic, Kazakhstan, Moldova, Montenegro, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan), Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Bulgaria, Romania.

Thus, the annual trade between a CEE country and 61 trading partner during 11 years (1999-2009) is analyzed rendering over 600 observations for every CEE country.

Information concerning the geographical structure of the exports and imports of Central and Eastern European countries is taken from "External Trade" Eurostat database [3]. IMF World Economic Outlook Database gives annual data on gross domestic product in 1999-2009 for the countries involved [7].

The facts concerning the trade regimes of CEE countries (free trade zones, EU, EMU, CEFTA, Baltic free membership) are taken from the source of Wikipedia and European Union site [8; 9].

Reference materials of UN are used to estimate countries participation in general System of Preferences [10].

Reference on the geographical distance between countries is taken from the source of MapCrow Travel Distance Calculator [11].

Coefficient β_1 shows the percentage of the change of external turnover (export plus import) between countries i and j in case GDP of country j rises by 1%. Larger economic potential of CEE country trading partner is expected to cause greater level of trade turnover between countries.

GDP variable allows cleaning out the external trade indicators from the effect of such important factor as income (GDP). Thus, the influence of trade policy factors, such as participation in preferential trade agreements, the issue of the current discussion, can be determined.

Parameter β_2 estimates the interconnection of the distance between trading partners and trade volumes between them. Distance between capital cities indicator is the approximation of the transport costs related to international trade transactions. The greater the distance between trading partners, the less beneficial the trade operations and trade volume between them are.

Parameter β_3 is related to dummy variable and shows the percentage by which the trade between two countries is higher in case they both belong to a free trade area. Positive and significant coefficient value is expected. Participation in a free trade area lessens externals trade and, thus, causes larger volumes of exports and imports.

Discussed CEE countries have been members of the various free trade zones before entering EU – free trade zones with 15 "old" countries of European Union, Baltic free trade zone, Central European free trade area. After entering EU Central and Eastern European countries – Czech Republic, Hungary, Poland, Slovakia, etc. – as EU members concluded free trade agreements with Western Balkan countries that will form the "next" wave of EU expansion.

Coefficient β_4 is expected to have a positive sign showing that external trade in the framework of EU common market, raises external trade even more then free trade zone membership.

Parameter β₅ is responsible for the relation of external trade of a CEE country and CEE country's trading partner membership in European monetary union. Expected positive sign is going to show that on average CEE country has greater trade volume with euro zone country the with non euro zone country. Thus, positive sign is the evidence of the absence of trade diversion effect of a monetary union on trade, while negative sign is the evidence that external trade creation is in effect.

Parameter β₆ is going to give an answer whether UN General System of Preferences employed by "new" EU members has significant influence on the external trade of CEE countries with countries in Europe outside European Union – Western Balkan countries and Former Soviet republics. The sign of the parameter is expected to be positive, since simple statistical analysis of CEE external trade reveals dynamic development of CEE trade with less developed countries of Europe, the role of GSP is probably significant in this process.

Coefficient β₇ is aiming to define effect of increase in fuel prices on the trade volume. Since energy products demand is not price elastic in time, substantial rise in fuel prices increases the import volume of CEE countries. Since Russia, Kazakhstan, Azerbaijan and Turkmenistan are fuel exporters to the Central and Eastern Europe, their trade is expected to be higher with CEE region then other factors may envisage.

Thus, econometric estimation with the use of OLS method rendered the following results represented in the table 1.

Tab.1: Estimated coefficients of regression model for each analyzed CEE country

	R^2	DW	β1 (lnY)	β2 (Dist)	β3 (FTA)	β4 (EU)	β5 (EMU)	β6 (GSP)	β7 (GAS)
Bulgaria	0.49	1.86	0.548	-0.419	0.107	0.108	0.124	-0.063	0.188
t-stat			16.02***	-10.43***	2.54**	3.5***	3.59***	-2.09**	6.44***
Romania	0.49	2.06	0.584	-0.326	0.190	0.101	0.093	-0.078	0.159
t-stat			17.13***	-8.29***	4.60***	3.26***	2.67***	-2.55**	5.43***
Czech	0.65	1.69	0.653	-0.312	0.177	0.160	0.062	-0.168	0.169
t-stat			22.94***	-8.98***	4.55***	5.55***	2.11**	-6.25***	6.95***
Hungary	0.61	1.51	0.683	-0.303	0.317	0.116	0.083	0.184	0.170
t-stat			22.49***	-8.38***	3.40***	3.81***	2.69***	-6.47***	6.66***
Poland	0.74	1.54	0.679	0.646	-0.527	0.464	-0.059	-0.565	0.191
t-stat			19.27***	-12.82***	-8.15***	9.98***	-1.59	-12.14***	6.64***
Slovakia	0.68	1.91	0.690	-0.567	-0.498	0.415	-0.142	-0.625	0.217
t-stat			18.34***	-9.89***	-6.75***	8.14***	-3.48***	-12.16***	6.80***
Slovenia	0.55	1.67	0.50	-0.331	0.245	0.081	0.043	-0.204	0.163
t-stat			16.45***	-8.05***	5.44***	2.53**	1.3	-6.48***	5.91***
Estonia	0.44	1.3	0.552	-0.318	0.030	0.225	0.022	0.130	0.164
t-stat			15.65***	-7.58***	0.643	6.19***	0.60	-3.81***	5.30***
Latvia	0.43	1.4	0.487	-0.346	0.022	0.275	0.016	0.068	0.211
t-stat			13.42***	-8.11***	0.455	7.53***	0.420	-1.99**	6.78***
Lithuania	0.44	1.46	0.407	-0.369	0.158	0.242	-0.021	-0.029	0.174
t-stat			11.55***	-8.79***	3.34***	6.70***	-0.579	-0.858	5.76***

Source: computed with the use of SPSS program

** – significant at 5% level

*** – significant at 1% level

4. Results of the estimated model

1. The gravity equation hypotheses proved right for all discussed countries of CEE region: external trade volume is positively and significantly related to the economic potential of a trading partner. CEE countries partner's GDP rise by 1% is related to trade level increase by 0.5-0.6%.

2. Transport costs have substantial influence on the geography of external trade. Parameter β_2 is negative and statistically significant. The far are the trading partner are from each other, the higher the transport costs are and the less is trade turnover between them.

3. The influence of free trade zone participation is positive for all discussed CEE countries, except Poland and Slovakia (it may be due to the fact that for these countries data only for the period of 2004-2009 is available). Obtained coefficients are statistically significant. Participation in a free trade zone raises external trade volume of Bulgaria by 11% (exp(0.107)-1), of Romania – by 21%, of Czech republic – by 19%, of Hungary – by 37%, of Slovenia – by 28%, of Latvia – by 17%. Statistically significant results for Estonia and Latvia were not obtained.

4. Coefficient at dummy variable responsible for EU membership is positive and significant for all discussed CEE countries, suggesting positive influence of EU common market on CEE countries' external trade. External trade of Bulgaria was on average 11% higher (exp(0.108)-1) during EU membership then without it, in case of Romania – 11%, Czech Republic – 17%, Hungary – 12%, Poland – 59%, Slovakia – 51%, Slovenia – 8%, Estonia – 25%, Lithuania – 32%, Latvia – 27% higher.

5. Estimated coefficient at the dummy variable controlling for EMU membership of a trading partner gave unanimous results. The coefficient is positive in case of Bulgaria, Romania, Czech Republic, Hungary, Slovenia suggesting trade creation effect, rather then trade diversion effect for the CEE countries and negative in case of Poland and Slovakia suggesting trade diversion effect (again may be due to non-completeness of trade data for these countries). Obtained coefficients for Baltic countries are not significant, probably due to larger role of North European countries in their external relations.

6. The results of estimated coefficient at the variable controlling for the General System of Preferences policy of CEE countries, except Latvia, are not expected. Obtained negative coefficients are statistically significant; they suggest that Former Soviet countries and Western Balkan countries, beneficiaries of GSP preferences, have on average smaller trade volumes with CEE countries.

7. Positive coefficient at the dummy variable responsible for fuel exports shows that fuels exporters do on average have higher volume of trade with discussed CEE countries.

8. The model shortcomings are low level of determination coefficient R2 and autocorrelation problems for the estimated regressions for certain countries.

5. Conclusions

The article identifies the structural changes in external trade of CEE countries in terms of goods and geographical structure, as well as changes due to trade policy regimes in the period of 1999-2009 – time of EU entry preparation and actual EU membership. Statistical analysis of the trade volumes shows substantial growth in external trade of CEE countries in 1999-2009, increase in technological intensity of CEE exports, decrease in the role of "old" developed EU countries in CEE trade, but the rise in the share of developing Europe in CEE exports and imports volume.

Regression analysis of CEE external trade in 1999-2009 reported positive influence of such trade factors as free trade zone participation and EU membership that tend to increase trade.

The partner's belonging to EMU in Europe doesn't seem to cause trade diversion effects for most of CEE countries except Baltic States. The trade preferences under General System of Preferences that CEE countries grant to non-EU developing European countries are proved to have negative effect on their external trade. The imports of fuels from Russia and Central Asia do cause higher levels of CEE trade with fuel-exporting countries.

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Summary

The article identifies the structural changes in external trade of CEE countries in terms of goods and geographical structure, as well as changes due to trade policy regimes in the period of 1999-2009 - time of EU entry preparation and actual EU membership. Statistical analysis of trade shows substantial growth in external trade of CEE countries, increase in technological intensity of CEE exports, decrease in the role of "old" developed EU countries in CEE trade, but the rise in the share of developing Europe in CEE exports and imports volume in 1999-2009. Regression analysis of CEE external trade in 1999-2009 reported positive influence of such trade factors as free trade zone participation and EU membership, fuel-exporter status and negative influence of General System of Preferences. In general external trade of CEE countries in 1999-2009 fits the expectations of the gravity model of trade.

Keywords: Central and Eastern Europe; external trade; European monetary union, European Union; economic integration.

UD classification: 339.56.055

EVALUATION METHODOLOGY FOR
THE INSURER DEVELOPMENT CAPITAL

Iryna Nyenno[*]

1. Introduction

The evaluation methodology of the capital volume, available for insurer development and market strategy realization was provided in this. The main idea of the methodology is creation of the forecasting information basis foundation under the integrated information basis, – group of revenue coefficients, group of profitability and own capital coverage coefficients, group of financial stability, reliability and solvency coefficients, group of sectoral development criteria. Financial indicator FDP (Financial Development Potential) is considered as a main tool of diagnostic the future financial strategy budget of the insurer.

2. Recent research and publications on the associated problems

Generalization of the theoretical approaches and practical experience of the insurers on the modern market lead to a conclusion about the absence of the complex decision-making criteria for evaluating the available amount of the capital for future insurer development gives not only the possibility to define the solvency, but as well to expose the reasons, which influence not only on the insurer financial state, but financial development, which is understood as the transfer of an insurer from one financial state to another, better one.

The theoretical research confirms that studied methodologies view different processes, sources and results of being. Received numbers and their dynamics may contradict one to another, concentrate on separate elements of the financial state, do not take into consideration certain elements of the financial enrichment and do not allow to make the complex evaluation of the insurer financial statement from the point of view of available capital, including Alenichev, Baranova [1, p.180-189], Furman, Plisa [2, p.136-142], Osadets, Yurchenko, Summarizing of the evaluation methodologies for insurer financial state shows that they are directed to the system retrospective analysis.

The level of the financial development is a consequence of the financial potential of the enterprise. Insurance business and strategic management theories are actively attempting to concern productivity and business processes with financial results, but as well mostly with a retrospective analysis by Gorbach, Lange, Nikolenko, Reytman, Utkin.

3. Definition of the unsolved parts of global issue, which are solved by the author

Nevertheless, the problem of creation the sufficient financial provision discovers the lack of the research concerned to generalization and integration of financial indicators as a methodology of financial enrichment of the insurer.

4. Purposes of the article

The purpose of this paper is to introduce a system of indicators to evaluate insurance company performance from the perspective of the availability of the capital, necessary for development. The methodological approach is accompanied with example.

5. Main content of the research with new findings of the study

Expertise of the state regulative and research approaches of Ukrainian and Russian scientists allowed to fix three independent directions of solvency and financial state evaluation:

[*] Iryna Nyenno; PhD. of Economic Science; Odessa I. I. Mechnikov National University; Department of Economics and Management; Email: <inyenno@onu.edu.ua>

1. Rating approach, which examines insurance performance indicators (volume of insurance premiums, payments, reserves and guarantee funds, etc.), used by Romanenko [3, p.24-27], Vnukova [4, p.21-22], Zaletov [5, p.42-43].

2. Comparative approach, which is focused on the rates of growth of indexes of a separate company with the rates of growth of the insurance market on the whole, implemented by Piratovskiy, Kulikov, Shirinyan [6, p.31-38], Grishenko.

3. Approach based on the retrospective analysis of the financial and economic indicators, sometimes without taking into account the specificity of the insurance industry, applicated by Alexandrova, Bazilevich, Chernova, Paragulgov [7], Yuldashev.

In the paper it is suggested to create the forecasting information basis foundation under the group of revenue coefficients, group of profitability and own capital coverage coefficients, group of financial stability, reliability and solvency coefficients, group of sectoral development criteria and FDP. Illustration of the methodology is demonstrated on the example of JSC "City Insurance Company" ("CIC"), which is mixed capital insurer (table 1).

Tab. 1. Evaluation results of JSC "City Insurance Company" under the group of revenue coefficients

Coefficient	Year			
	2006	**2007**	**2008**	**2009**
Total revenue level , %	-2,373	-1,999	1,719	0,50
Investment revenue level, %	2,027	0,034	0,947	0,99
Investment volume, thous. UAH.	3727,75	718,15	736,30	1198,2
Investment earnings, thous. UAH.	284,4	9,8	347,6	524,7
Coefficient of the investment earnings	4,16	1,95	1,57	2,8
Relation between the profits from the insurance and financial activity	-3,49	-67,72	4,32	0,11

Source: Authorial computation

Under the group revenue coefficients the level of total and investment revenue is compared with. The negative profit in 2006 – 2007 was a reason of low total revenue level. Its rise in 2008 took place because of rise in investment one. The increasing coefficient of the investment earnings in 2007 – 2009 from 1,95 to 2,8 during the simultaneous rise of the investment volume as well is discovered the increase in investment revenue level in 2009. In the crisis year 2009 the total revenue falls from 1,72 to 0,5.

Financial policy of insurer is examined by the group of profitability and own capital coverage coefficients, which is enable to expose the dependence of the excessive use of loan capital, to define the necessity in increase of guarantee fund, insurance reserves and statute capital volume, to estimate the level of losses and charges (table 2).

As shown by the data in tab. 2, JSC"CIC" has the sufficient financial provision for the operational activity from the own turnover capital. The company does not have the necessity to attract credits, and in the year 2006 investigated its free capital. Level of the own capital coverage in 2009 increases till 4,29 (2,74 in 2008). Partly, it is concerned with the decrease in the insurance premiums. Profitability of the own capital is unstable because of the vibrations in the net profits.

Loss ratio is stable, at the same time the expense ratio has had tendency to be reduced, this fact, as well, improves profitability. On the other hand, profitability is badly influence because of the changes in the reinsurance level (from 0,20 to 0,58).

For finding out of the level of the financial stability of insurer the analysis under the other coefficient group of financial stability, reliability and solvency coefficients are recommended for assesment the data as it is put in table 3 [8, p.167; 9, p.369; 10].

Tab. 2. Evaluation results of JSC "City Insurance Company" under the group of profitability and own capital coverage coefficients

Coefficient	Year			
	2006	**2007**	**2008**	**2009**
Relation between statute capital and guarantee fund	1,31	1,44	1,42	2,91
Profitability of the own capital, %	-3,59	-4,18	4,03	0,166
Level of the own capital coverage, %	5,67	3,57	2,74	4,29
Coverage coefficient of the own turnover capital for acquisition business	1,009	0,997	1,018	0,99
Expense ratio , %	3,43	1,81	2,29	2,11
Loss ratio, %	61,6	66,1	63,05	58,95
Combined ratio, %	65,03	67,91	65,34	61,06
Relation between own premiums and premiums, transferred to the reinsurers	0,26	0,29	0,20	0,58

Source: Authorial computation

Tab. 3. Evaluation results of JSC "City Insurance Company" under the group of financial stability, reliability and solvency coefficients

Coefficient	Year			
	2006	**2007**	**2008**	**2009**
Normative solvency stock, thous. UAH*	4085,9	5771,7	7280,3	5670,9
Fact solvency stock, thous. UAH*	27254,0	26162,7	27217,1	29997,3
Financial stability coefficient	3,90	2,37	2,16	2,57
Financial criteria	-0,022	-0,018	0,014	0,098
Solvency, %	6,67	4,53	3,73	5,2
Coefficient of solvency change, %	112,96	174,09	276,60	777,9
Solvency coefficient (present liquidity)	1256,23	37,13	448,61	1451
Absolute liquidity coefficient	4,10	2,21	1,71	1,36
Financial Leverage	0,51	1,09	1,35	0,77
Reliability coefficient	1,94	0,92	0,74	1,31
Coefficient of the financial potential , %	4,57	3,92	3,96	2,83

Source: Authorial computation

As it is demonstrated by tab. 3, financial stability coefficient reflects that the revenues were significantly greated than expenses. It discovers that there is a normal balance between them. Substantial reduction of the financial stability criteria in 2007 and 2009 is explained by the profits decrease. Fact solvency stock decrease in 2007 and 2008 was concerned with the lack of liquid costs, for instance investigated. The same reason is confirmed by the solvency coefficient and Financial Leverage. Absolute liquidity rise is explained by the increase of the obligations. Thus we can assume that the free capital was put by the Insurer for development or investments.

Reliability coefficient shows the level of the risk operations coverage by the own capital of the insurer. In 2007 this criteria decreases, as some resources were used as the investments for the enough risky project. As the payback period of this project was more than one year, in 2008 we can see the continuation of the decrease. In 2007 – 2008 there was a decrease and in 2009 there is a rise.

The financial development trends of the insurer has to be estimated under the group of comparison with the basic insurance indexes with the market analogues, which shows the place and share of the insurer in relation to the insurance market as a whole.

6. Financial potential evaluation and interpretation of the results

In financial crisis environment estimation of the capital volume, which is allowed to become the part of the financial enrichment becomes extremely actual not only for the management of insurer but for insured, investors and financial partners.

Existing methodology systematization leaded to a conclusion about the absence of such a decision-making indicator.

Building the integrated information basis, (consisted of the groups of revenue coefficients, profitability and own capital coverage coefficients, group of financial stability, reliability and solvency coefficients and group of sectoral development criteria) is reasonable to be complemented with the suggested indicator FDP (Financial Development Potential) as a main tool of diagnostic for future financial strategy budget of the insurer development (formula 1):

$$F D P = F E - M F N = O cap + I R - (I pay + TC), \qquad (1);$$

F D P – Financial Development Potential;

F E – Financial Enrichment;

M F N – Moment Financial Needs;

O cap – Own Capital;

I R – Insurance Reserves;

I pay – Insurance Payments (indemnities);

T C – Total Costs.

FDP represents the changes in the receipts of insurance premiums, investment profit, insurance reserves, statute capital and other financial resources. Its dynamic characterizes both the process of accumulation and market activity, which is the process of the use of the accumulated financial resources.

If an insurer carries out exceptionally the accumulation, it loses the certain competitive advantages.

If an insurer will realize the spending only, sure it brings the financial potential and solvency down.

At the same time, if the FDP has the positive meaning, it shows that an insurance company forms financial potential of development, but so far does not use it, or uses not completely.

If FDP indicator has the negative meaning, this situation can be characterized as such two alternatives:

1. An insurer forms such a volume of own capital and insurance reserves, which is insufficient for coverage the insurance obligations and costs, and in this case the obligations are covered due to the current incoming premiums. Financial enrichment fund is not forming, and a company functions in the conditions of financial resources deficit. Own capital volume and insurance reserves volume is enough to cover the insurance obligations, but the financial potential is using more, than the formed volume allowed.

2. If financial potential equals or approaches to zero, it characterizes a situation from two positions. One of them testifies that an insurer has the enrichment for coverage of insurance and other obligations, but financial potential is not formed due to relevant sources. Second – an insurer has still enough capital volume for implementation the insurance obligations and he uses financial enrichment within the formed limits.

Selective calculation results of the formed capital allowed for spending in development, for the Ukrainian insurance companies can be seen in table 4:

Tab. 4. Sectoral development criteria, (thous. UAH.)
[Agency for the Infrastructure Development of the Ukrainian Stock Market]

Coefficient	Year			
	2006	**2007**	**2008**	**2009**
FDP, thous. UAH.	30155,2	41539,4	45048,2	38971,3
Result of the insurance business, thous. UAH.	1478,30	3028,10	7166,30	6407,9
Result of the financial business, thous. UAH.	4726,50	6567,70	9352,60	1387,4
Joint result of the insurance and investment business, thous. UAH.	6204,80	9595,80	16518,90	7795,3
Financial stability coefficient	3,90	2,37	2,16	2,57

Source: Authorial computation, Agency for the Infrastructure Development of the Ukrainian Stock Market

The computation shows that during 2006 – 2009 JSC "CIC" accumulates and uses the formed financial potential in its framework.

But, the decline in the results of insurance and financial businesses (from 45048,2 thous. UAH in 2008 to 38971,3 thous. UAH in 2009) is a sign of the competitiveness loss, because such a simultaneous reduce is a factor of absence of the source of financial development.

7. Conclusions

As a result, the use of the integrated information basis as an evaluation methodology for the insurer development capital provides the evidence that "City Insurance Company" solvency during 2006 – 2009 is reliable and stable, the financial development is positive. However, it is advisable to conduct some measures in the insurance and financial policy, including:

- attraction of the additional financial sources by emission;
- reduction of the reinsurance coverage;
- correction of the reserves investments methods, analysis and definition of the most reliable, than profitable tools;
- changing on the assortment with the introduction of the profitable "crisis" package for the client.

To force the insurer solvency it is reasonable:

- to increase the insurance tariffs on the inflation rate;
- to reduce the expenses by the savings from the outsourcing usage during insurance accidents expertise;
- to investigate the free costs for receipt the additional total revenue.

The research results witnesses, that the group of insurers with the Ukrainian statute capital form the financial enrichment, but almost do not use it; insurers with the mixed capital and especially foreign actively use the formed financial enrichment, however go out outside the formed enrichment volume and substantially increase the risk of insolvency. In the conditions of the system economic crisis phenomena the policy of the Ukrainian insurers is most acceptable.

The meaning of the indicator FDP becomes the supportive estimation of the capital exceed, which may become the part of the formed financial enrichment.

8. Research perspectives

The continuation of the scientific research is concerned to the ongoing introduction of the new rules of Solvency II introduced to the Ukrainian insurance market.

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Summary

In such a way, the suggested methodology helps to create the multilateral financial evaluation of the level of insurer capitalization for the purpose of perspective development. The generalization of the different approaches is made and besides the integrated system for evaluation is discovered. The methodology has certain theoretical and important practical value – for a concrete data of the insurer.

Keywords: insurer; solvency; capital; development.

CONCEPTUAL APPROACH TO THE FORMATION OF THE INTEGRATION SYSTEM "HIGHER SCHOOL – BUSINESS-STRUCTURE"

Elena Raevneva; Ludmila Grinevich; Sergey Pogasiy; Irina Chankina[*]

1. Introduction

During the period of radical changes in the modern economy of Ukraine, which are caused by processes of globalization and integration, there emerging the need for highly skilled, competitive labor market. Expanding contacts with foreign partners, Ukraine's WTO accession, implementation of the ideas, enshrined in the Bologna process, requires the system of vocational education to change attitudes towards the organization of vocational education. It should, on the one hand, provide the individual freedom of choice of educational paths in accordance with its abilities, needs and possibilities, on the other hand, take into account the needs of customers of professional staff in the preparation of the mobile, competent, competitive specialists. Thus, the introduction of the project of integration of the "higher school – business-structure", which will bring together educational institutions and business structure, is the sufficiently urgent task at the present stage of development of the state. The article aims at formulating a conceptual approach to the formation of an integration system of "higher school – business-structure". Formation of higher education in the context of globalization and the acceleration of integration processes is one of the key and dynamic trends in the development of innovation infrastructure of the state, which in turn raises the requirements for training workers and specialists. Under these conditions, the labor market is characterized by such trends as: the sharp decline in demand for workers, who have low level of skills, and increase amount of personnel, involved in designing, maintenance, marketing; priority in the employment to people who possess the skills of handling modern office equipment and computers; lack of leaders who can save working time, organize a collective work, plan labor and material resources in the most efficient way; increasing demand for young professionals, able to perform independently the productive activity from the first days of their work.

This requires an exploration of possibilities and ways to adapt it to new conditions, taking into account identified trends in the labor market development and the requirements, which push the business structure to potential employees. Under these conditions it is especially important to conduct comparative studies of conceptual approaches to the formation of strategic partnerships between the higher education and business-agencies abroad to transfer and adaptation of existing developments to the conditions of Ukraine. This approach allows to formulate the own concept of formation and development of an integrated system of "higher school – business-structure".

Analysis of the educational situation in Ukraine in terms of interaction higher school and business structure makes it possible to identify new opportunities for choosing the most efficient samples (models) for organization and implementation of scientific and educational activities for own system, solutions for identical problems and patterns of development, also this stimulates the emergence of new ideas and priorities for clarify its own policy and practice reform. Such

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[*] Elena Raevneva; Doctor of science, Professor of department of statistics and economic forecasting; Kharkov National University of Economics

Ludmila Grinevich; Ph.D. economics, Docent of department of statistics and economic forecasting; Kharkov National University of Economics

Sergey Pogasiy; Ph.D. economics, Docent of department of statistics and economic forecasting; Kharkov National University of Economics

Irina Chankina; postgraduate student, department of statistics and economic forecasting; Kharkov National University of Economics; Email:< ira_chankina@ukr.net>

integration system improves the efficiency and quality of the educational process, develops its applied focus, allows to use the intellectual, physical, informational and human resources in the most efficient way for training, research conduction, development innovative projects [1, p.120-156; 2, p.17-19; 3, p.230-260]. In the process of studying of philosophical concepts in the field of education were engaged such Ukrainian scholars as W. Andrushchenko, J. Beskid, W. Beaver, E. Boyko, T. Bogolib,O. Wasylyk, D. Grishnova, B. Danylyshyn, M. eunuch, V. Evtushevsky, I. Kalenuk, C. Korsak, W. Kremen, V. Koutsenko, V. Lugovoi, A. Navrotsky, J. Nikolenko, K. Pavliuk, O. Padalka, A. Sidorenko, Chukhno, G. Stein, B. Yukhimenko, Yablonskii and others, among russian scientists can distinguish B. Gershunskogo, Rozov, Shchedrovitskii. Some aspects of the studied problematics were considered in the writings of foreign scientists, such as: H. Becker, C. Bexon, M. Blaha, G. Brock, J. Weise, E. Denison, P. Drucker, J. Tinbergen and others.

2. Conceptual approach to the formation of the integration system "higher school – business-structure"

The development of the interaction between science, education and production in Ukraine for the period from 1980s till the present time, on the one hand, characterized by an adequate response to a number of acute socio-economic problems, on the other hand, was caused by the action of positive assumptions and factors: the development of new economic activities, the priority state support of the innovation process, active participation in international research programs, the integration of higher education in the European educational space, increasing of the number of universities and their research capabilities. At this time the biggest development get such forms of cooperation as counseling, joint research and development (research projects) and educational activities (targeted programs, training), both in the innovation infrastructure (technology parks, incubators), and outside of it; participation of business commonwealths in the management of universities (institutions of guardianship boards), creation of new educational institutions (universities, private business), funding for research and educational projects.

Domestic research staff engaged in research in education allocates a number of features of interaction between science, education and production [1, p.130-168; 4, p.140-185; 5, p.199-204]:

- discrepancy in the targets, interests and positions of partners as a result of a total lack of interest of faculty in collaboration;

- isolation of science and education from issues of regional business structures;

- dependence of career of high school teacher from the scientific results publications, not from the development of innovative projects and their commercialization – from the universities;

- low innovation capacity in the country because of the predominance of small and medium businesses;

- insufficient financial support of innovation infrastructure.

Based on the described features and taking into account factors, which predetermine the nature of the relationship between high school and the business structure, it is possible to present prerequisites of the concept formation concerning the integration of the "higher school – business-structure" (fig. 1).

Formation integration system "higher school – business-structure" is being held under conditions of a democratic, social state, the development of the principles of civil society, the integration of Ukraine into the European commonwealth, education reform, which requires summing a clear regulatory framework. Its main provisions are based on the provisions of the Constitution of Ukraine, National doctrine of education development in Ukraine in the XXI century, the Law of Ukraine "On Education", "On the Vocational and Technical Education", "About scientific and scientific-technical activity", "On Higher Education, Decrees President of Ukraine, the Regulations on the educational qualification levels (stepped education), state education standards, normative legal acts of the current legislation of Ukraine for Education and Science, as well as take into

account international experience in management and information technology support individual areas of professional activity [6, p.1-80; 7; 8, p.1-135].
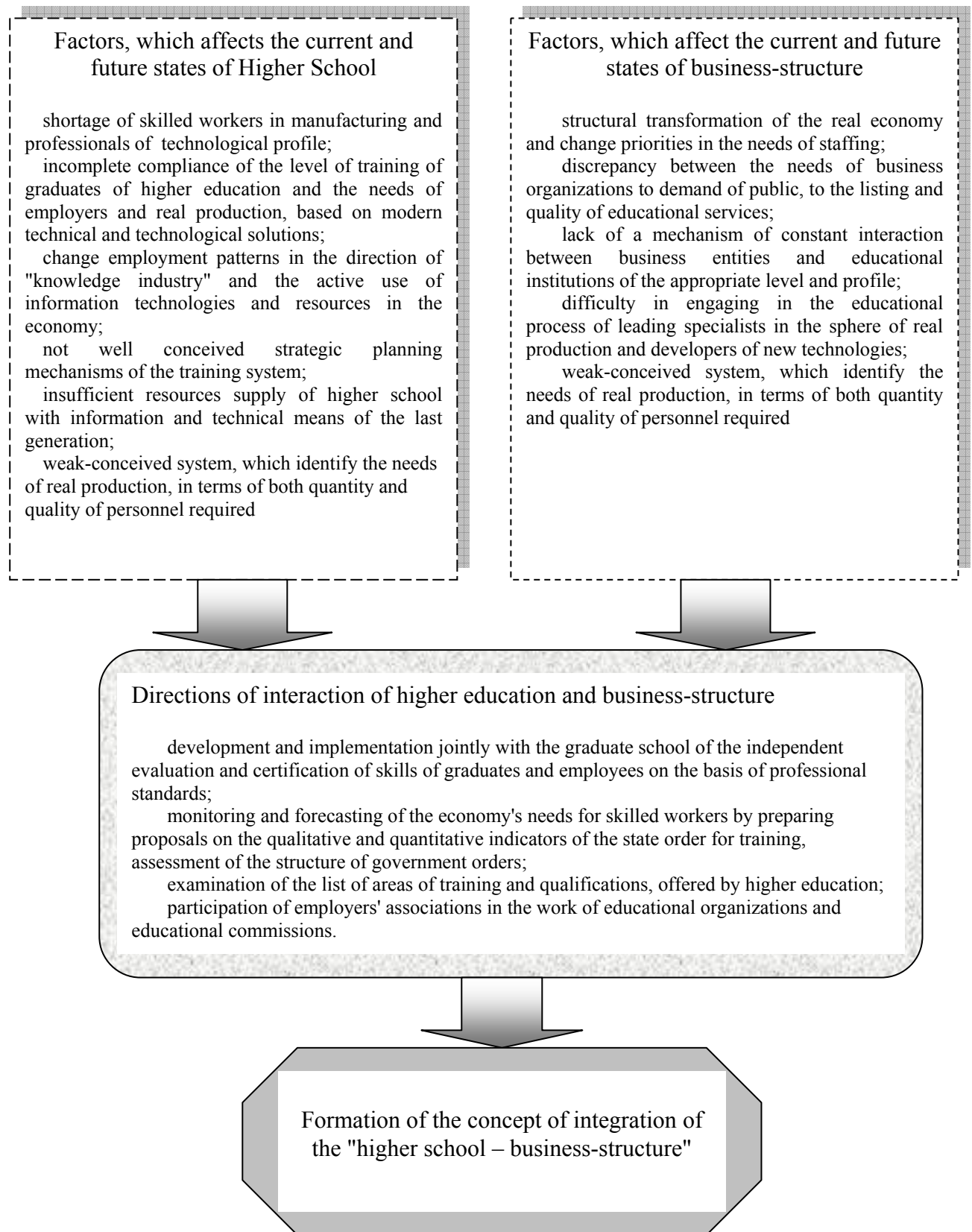
Factors, which affects the current and future states of Higher School

shortage of skilled workers in manufacturing and professionals of technological profile;

incomplete compliance of the level of training of graduates of higher education and the needs of employers and real production, based on modern technical and technological solutions;

change employment patterns in the direction of "knowledge industry" and the active use of information technologies and resources in the economy;

not well conceived strategic planning mechanisms of the training system;

insufficient resources supply of higher school with information and technical means of the last generation;

weak-conceived system, which identify the needs of real production, in terms of both quantity and quality of personnel required

Factors, which affect the current and future states of business-structure

structural transformation of the real economy and change priorities in the needs of staffing;

discrepancy between the needs of business organizations to demand of public, to the listing and quality of educational services;

lack of a mechanism of constant interaction between business entities and educational institutions of the appropriate level and profile;

difficulty in engaging in the educational process of leading specialists in the sphere of real production and developers of new technologies;

weak-conceived system, which identify the needs of real production, in terms of both quantity and quality of personnel required

Directions of interaction of higher education and business-structure

development and implementation jointly with the graduate school of the independent evaluation and certification of skills of graduates and employees on the basis of professional standards;

monitoring and forecasting of the economy's needs for skilled workers by preparing proposals on the qualitative and quantitative indicators of the state order for training, assessment of the structure of government orders;

examination of the list of areas of training and qualifications, offered by higher education;

participation of employers' associations in the work of educational organizations and educational commissions.

Formation of the concept of integration of the "higher school – business-structure"

Fig. 1. Prerequisites for the formation of the concept of integration of the "higher school – business-structure"

The essence of the integration of the "higher school – business structure" is ensuring the integration of future professionals to business-space, through their professional training due to the deepening,

expansion and upgrade of their professional knowledge, skills or getting another degree, on the basis of prior educational qualification level, practical experience and meeting the needs of businesses in the competent professionals on the basis of the proposals of advanced business technology education and research.

The purpose of the integration of "higher school – business-structure" is to improve the quality of higher education and its adaptation to the socially oriented market economy on the one hand, and ensuring the needs of businesses in skilled workers with high level of professionalism and the culture that can competently and responsibly perform job functions, and introduce the latest technologies into production, facilitate the subsequent socio-economic development of society on the other.

The main objectives of the integration of the "higher school – business-structure" are:
- creation of own forms of linkages (relationship) between universities and businesses, based on the aggregation of existing international and Ukrainian methodical-theoretical and practical approaches and organizational forms;

- satisfaction of needs of society and the state in highly qualified specialists, capable of practically implementation of a strategy for sustainable economic, social and spiritual development of Ukraine to ensure a high standard of living;

- education in future professionals of holistic socio-economic outlook and modern scientific worldview, which creates for them opportunities to acquire knowledge, skills and abilities of economic activity;

- development of mechanisms of building and implementation of integrated system and ensuranse of its formation by system of indicators that reflect the current state of its internal and external environment;

- formation of a diagnosis system and statistical monitoring of needs of business structures in the specialists of certain professional and life skills;

- construction of models of innovation infrastructure development of educational institutions and the formation on the basis of the results of proposals regarding the establishment and effective operation of an integrated system of "higher school – business-structure".

The next step is investigation and determination of the most optimal forms of the higher education and business structure. In modern literature, these forms of work are divided into two groups [4, p.220-250; 8, p.1-134; 9]: the contractual and organizational. Contractual forms are all kinds of interactions on the basis of bilateral agreements. Traditionally, the dialogue was limited to the organization of teaching practice for students, training of teachers, participation of specialists in the management of diploma engineering. Today, in addition to the listed types of cooperation, there are added new ones: the provision to enterprises of information and consulting services, joint ventures and implementation of projects, execution of work according to contracts of suborders, conducting of scientific, research and technological work, general participation in competitions, fairs and exhibitions.

Organizational forms of cooperation are the highest level of interaction with social partners. They allow the creation of organizational structures, endowed with special powers, and that act on the basis of status and other regulatory documents. Typically, these are counsels (professional, advisory, custodial (tutorial) and so on), which include apart from educational institutions also employers, employment services, media, trade unions, etc. Systematization of work, which describes the relationship between high school and business structure, allowed to identify a number of areas related to the formation of relationships between them (fig. 2) [1, p.120-180; 10, p.150-190; 3, p. 207-268].

Thus, the interaction of business, production and education is the real condition of society evolution; thereat business and production should not replace the state system of vocational education by their own, but must find effective ways of interaction and mutual support.
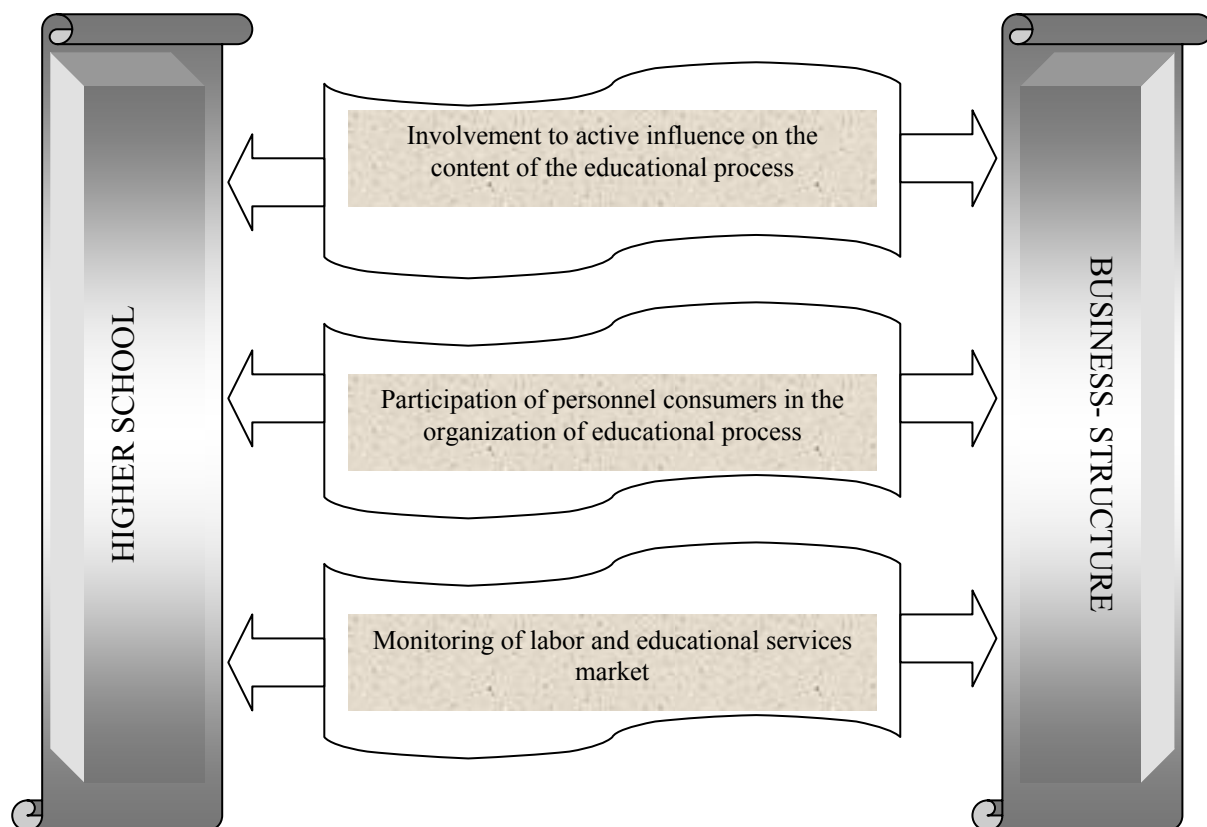
Fig. 2. Directions of forming relationships between higher school and business-structure

Considering conducted theoretical studies it is possible to identify common interests that are manifested during the interaction of higher school and business-structures [2, p.17-19; 9]:

1. The main purpose of higher education is the formation of competent professionals with specific skills and certain professional and social characteristics. In turn, the aim of business structure is the presence of highly qualified personnel, who will contribute to its development and maximize the income from their activities. Consequently, this allows to build a common goal of the educational process "of the result", overcoming in such way the traditional cognitive orientation of education.

2. Ability to adapt knowledge, skills, received by graduates, also formed on their basis personal professional competence to the content of professional specialist in manufacturing.

3. Unity of the activity is manifested during the period of students` field trips, during their performance of manufacturing tasks at the plant in accordance with the process requirements.

4. Shared values are a parity of technical - technological, social, humanistic values, without which there can't be a modern specialist.

Thus, the integration system, "higher school – business-structure" is one of the factors that create an innovative model of development of the state under current conditions by preparing competent, competitive, specialist, which is solicited by business. Previous studies have formulated the basic principles of integration of the "higher school – business-structure"; all together they allow formulating a conceptual approach. Formation and development of integration system "higher school – business-structure" can be done on the basis of a conceptual approach, which stipulates that the unity of knowledge, skills and competencies, acts not only as a practical requirement for the development of education, but is a methodological principle for the theoretical characteristic of education. Therefore, unlike existing approaches, this one provides the existence of the proposed system in a single area of knowledge that is sufficiently relevant for today's economic environment, where knowledge and information are the key sources of productivity in any economy.

Acceleration of these processes in the future will continue to force, as high school, and business

structure, to intensify interaction, to seek the most perspective innovations and partners to create them, purposefully create new market niche for its innovations. Interaction of high schools and businesses should contribute to the training of specialists, capable to be actively involved in solving of urgent problems of industrial enterprises without a long period of adjustment. Therefore it is expedient to apply the latest business technology of education and research for their solving.

3. Conclusions

Thus, the integration system, "higher school – business-structure" is based on the mentioned conceptual approach, which was formed taking into account the main elements: the goal, objectives and principles of formation of such a system and the knowledge, purposefulness of reciprocal actions outlined by the subjects to determine the prospects for its future development.

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Summary

The article describes the main methodological elements that underlie the formation of an integration of "higher school – business-structure", formulate a conceptual approach where it is appropriate to establish the basis for further development of the reduced system.

Keywords: higher education; conceptual approach; an integration system of "higher school – business-structure"; the goal.

UD classification: 378.2:331.53

INSTITUTIONALISM AND INSTITUTIONS OF MARKET ECONOMY IN THE CONTEXT OF TRANSFORMATION OF AGRO-INDUSTRIAL COMPLEX

Y. M. Safonov[∗]

1. Introduction

The structural crisis which strokes the economy of Ukraine and its agricultural sector concerning well-known social-economic transformations determines the topicality of discussing the no equilibrium nature of social processes, problems of overcoming chaos and establishing order, particularly on the basis of self-organization of renovated systems in society and economy. Certainly, unbalanced processes and phenomena of self-organization excited in society always, though their development increased and deepened in the time of transition from planned economy to market economy, i.e. from closed to open economy [1, p.38].

2. Institutionalism of market economy of agro-industrial complex

In the course of reforms the agricultural sector appeared to be deinstitutionalized – the old framework was destroyed; the new one hasn't been built yet. As J. Kornai states the reforms "were undermining the integrity of the system itself. The system reforms instead of improving were dragging down the basis, which cause erosion rather than stabilization" [2, p.21]. Such an unstable condition provides institutional disequilibrium. According to V. Polterovich, the system falls into an institutional trap, which marks the position of "bad" institutional equilibrium, which is specified by existence of ineffective institutions (shadow economy, barter, default in payments etc) [3, p. 3-20].

The institutionalism as a current in economic theory emerged in USA and other countries and it was caused by transition from domination of private ownership and free competition to intensified socialization of economy, its monopolization and governmentalization (transfer into state ownership). Followers of the trend meant by "institutions" different social-economic processes: in XX century production and technical facilities got updated and changed, the transfer from psychology of individualism to collective psychology was taken place, "social control over production" and "government regulation" was introduced [4, p.10].

Institutional subsystem of government regulation harmonizes its objects with goals and mechanisms of its achievement. Among main objects are division of labor in general, division of labor in particular, state ownership and state (public) sector, banks and currency circulation, finance and government budget, market, private ownership, incorporated, private and joint enterprises, social sphere. Respective to the objects goals and mechanisms of government regulation are implementation of labor division which complies with requirements of the scientific-technological progress, privatization, transfer to key currency, depression of inflation and deficit free budget, free market prices, support to entrepreneurs, increase of private capital, social reforms and stabilization of social state of population. All that can be realized through legislative, executive, judicial acts, rigid vertical of executive power, economic incentives and administrative measures.

A rare agreement was reached on necessity and adjustment in direction of social transformations in countries with economies in transition (emerging countries) in academic co-authorship. The leading figure of modern institutionalism North D. noted, that just now in post-socialist countries had started realizing that basic institutional system of these countries is the cause of bad economic performance, and as a result they are trying to get down to restructuring of institutional system for

∗ Y. M. Safonov; PhD of Philology; Docent; PhD candidate of Economics; Kherson National Technical University

the purpose of creating impetuses, which in turn should make organizations embark on the course of development of productivity [5, p.142]. The policy document "European choice: fundamentals of the strategy of economic and social development in Ukraine for 2002-2011" reflected enlightenment of national politic.

Summarizing final results of the process of reforming in Ukraine 1991-2001, in the document is emphasized that:

1) the model of market transformation in Ukraine was proved to be wrong and incorrect, because it, in fact, resolved itself to unilateral economics ignoring priority of institutional changes;

2) the model of market transformation turned to be not just mistaken, but also very destructive as far as didn't have social dimension [6, p.6].

Without getting into deep theoretical discussions and researches, we deem it expedient to expand on debating points which have urgent and practical importance for agro-industrial complex of the country.

The fundamental distinction of North D. approach – the founder of modern institutionalism – is differentiation of definition "institution" on "organization". According to North D., institutions are the rules of the game in society or, more formally, are the humanly devised constraints that shape human interaction [5, p.71]. Organizations are not "rules of games", but players themselves, their strategies. Conceptually, what must be clearly differentiated are the rules from the players.

The purpose of the rules is to define the way the game is played. The concept "organization" includes political institutions, economic structures, social services, educational institutions. Institutions and organizations are in dialectical connection, however only "institutional frameworks" exert decisive influence on which organizations appears and how they are developing.

Let us consider, for instance, one of the problems of government regulation of relations on wool market – important material for textile industry. As is known private plots (households) play a key role in wool production. Though, as a system analysis shows, households are not built in general entire system of regulation with the other forms of management. Special attention deserves organization-intermediator. Careful examination of intermediator as economic category gives an opportunity to notice its aggressive position with overestimation of its own role in economic relationships.

"Intermediator" assumes in own sordid motives one of the most important system-forming functions – regulation of relations of market participants. It is hided free management niche that should belong by right to the state in the name of bodies of government as spokesman of public interests generally, "intermediator" picks up free economic operators on the way to the market – households, private producers of wool, and by means of preferential mechanism pockets the large part of agricultural rent. For introducing proper order in this segment of the market, it is essential, for instance, to create special institutions on regional level, which provide the development of infrastructure of agro-industry encouraging accumulation of capital in producers' pockets, and also accomplish redistribution of income in favor of developing regional, industrial economy. Thereby respecting the system of interaction of participants on wool market, it may be said about the process of government regulation of relations on this market.

On fig.1 it is represented as a block "institutions, infrastructure of agro-industrial complex of the region" and corresponding ties sideway to the block "market", and also to the elements which displays different forms of economic entities.

In regard to economic functions of the state the viewpoint of many economists are published in domestic scientific papers, beginning from 1980 when the main institutions of regulation of renewing processes started ruining under the slogan of market economy.
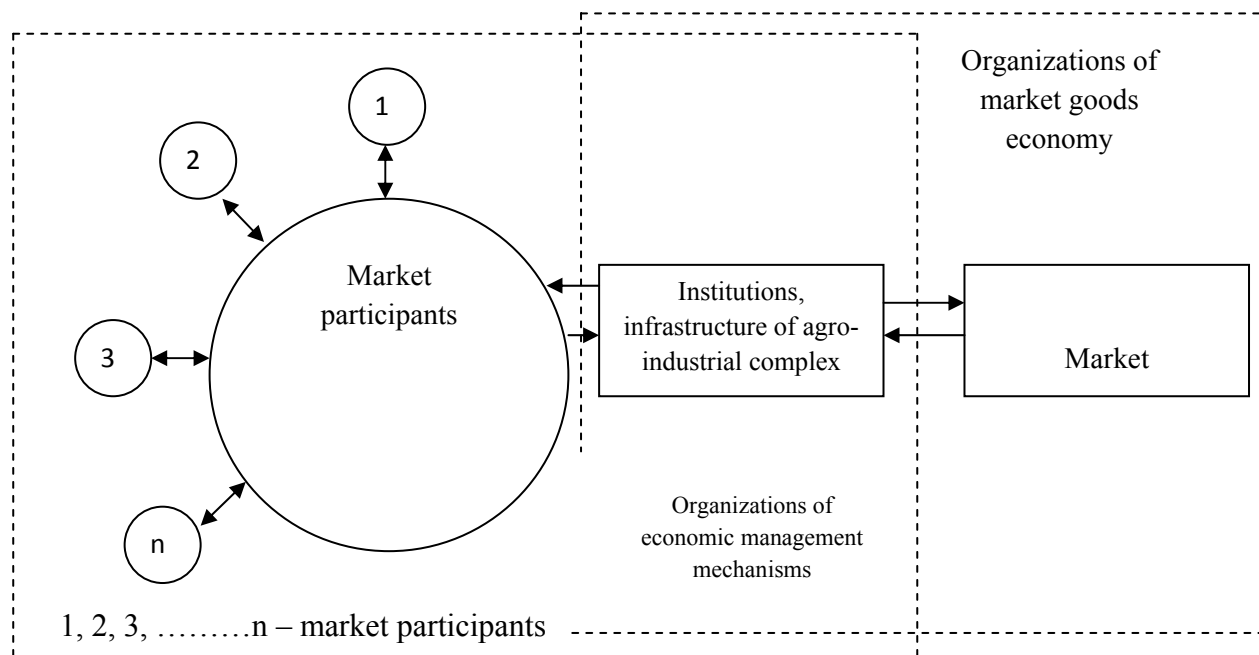
Fig. 1. Institutional type of market economy of agro-industrial complex

Dmytrichenko L. and Solovyova D. underline that recognition of government functions in market economy determines necessity of reinforcement of government regulation institutions broadly defined. Historical evolution of the state provides for the necessity of transforming these institutions, but not their denial as such. Since the more economic system is complicated (by the way as every system), the more it demands coordination and cooperation of its various elements. Liquidation of the coordination center (and even its weakening) may reduce to negative consequences which verges on the destruction of the system [7, p.78]. In connection with this we may cite on associative example with liquidation of association "Zhytomyrlyon", which caused decline of flax production and flax processing in Zhytomyr region. We can mention as similar instances with regulatory institutions in other regions, branches of materials complex of textile industry, which were performing delegable functions of state regulation.

The theory of institutionalism as the applicable conception of the theory of transition economy is widely presented in economic literature. Though there are no practical applications of institutional conception to specific branches of economy. That is why, it is important to consider institutional fundamentals of developing agrarian sector and processing industry.

Liberal approaches in the process of forming national economy were applied without proper understanding the logic of market transformations, i.e. foreign experience and models of market economy on local unprepared economic ground with lack of suitable institutional conditions were imported. As J.Stiglitz fairly remarks [8, p.12-74], the reformers of some countries even if were recalling about institutional reforms, then only incidentally. They were trying to shorten the road to capitalism firming market economy without fundamental institutions, and institutions – without infrastructure.

In such situation application of defining principles of institutionalism, such as the necessity of forming respective institutions and institutional environment generally, has understandable form. By North D. statement "institutions are structures that human beings impose on human interactions defining in such a way incentives, which together with constraints establish borders of choice, and its, in turn, establish framework of operation of economy and society during that or this period of time. Institutions involve formal rules and informal constraints (generally accepted standards of conduct, reached agreements, internal restrictions of activities), as well as enforcement of implementation [9, p.9].

The frameworks of functioning of economy and society, set of institutional conditions, which form institutional environment, are defined by category "institutional matrix". "Institutional matrix" consists of web of interdependent institutions and according to its political and economic organizations, which are characterized by increasing return [10, p.84-89]. By broad definition, institutional matrix – became, historically formed system of basic institutions, which regulate interdependent functioning of main public sectors – economical, political and ideological.

The necessity of establishing principles of institutionalism and unacceptability of forced application of liberal conception in agrarian sector of national economy are connected with such informal constraints as [11, p. 284]:

- rigidities of the sector, which belongs to nontraditional systems of management;

- conservatism of villagers caused by existing social norms of behavior, established customs and which is formed as result of historical process.

According to North D., "though formal rules can be changed in one night by means of accepting political and juridical decision, informal restraints implemented in customs, traditions, code of conduct are less favorable to human conscious efforts. These cultural restraints connect not only past with today and future, but also give us the key to understanding the road of historical progress" [9, p.9]. Trend of changes is defined by the previous path dependency. Such approach can be considered as continuation of Veblen's T. conception about cumulative causation of social development [12, p.34-44], the institutional theory focused on developmental approach which is the best for the agricultural sector of economy.

Famously, the main categories and elements of institutionalism (and also its modern components – neoinstitutionalism and new institutionalism) belong to institutional environment and institutions (formal and informal); norms and rules; property rights; economic agents and their behavior; bounded rationality; asymmetry of information; opportunist behavior; contract implementation and fulfillment of an agreement; contract arrangements, transactions and transaction costs; trust; public choice; economic history and evolutionary, etc.

The main conception of institutionalism is estimation of economic factors depending on environment where they are operating. Institutions are considered in the light of its impact on decision, which are made by economic agents. Institutions in the form of rules and norms don't determine completely behavior of human beings, but only constrain set of choices, from which individual is able to choose in accordance with target function [13, p.31]. Mechanism, which guarantees observation of rules, becomes a component of institution structure of society, because of the fact that rules fulfill a function of constraints in decision situation only in that case when they are active and functional. It is important to differentiate institutions from organizations: if institutions are "game rules", then organizations are "players". Main economic agents of agrarian industry are agricultural enterprises, farm households and local administration.

3. Agro-industrial complex transformations

While discover the direction of transformations in agricultural enterprises, the authors note that restructuring of collective farms is not enough. It is essential to build new system of internal interrelations between fields, to evaluate the role of specialization and concentration, which ones again stresses the strategic importance of institutional reforms. Having target function the enterprise will accumulate experience and sophistication which make possible to reinforce its position for survival in competitive environment and in the context of scanty recourses. The types of knowledge and skills which are characterized by the maximum return are function of structural impetuses which are put in institutional matrix.

Cross-industry relations lead to inequality of forming economic outcome in different participants of transactions. Rural economy is defined by "independent" development, which, in turn, determines

unequal exchange and results to price disparity, reduction in income of agricultural goods producers, drop in agricultural production. Thus, informal institutions and its impact determines the irrational (in terms of profit maximization) behavior of countrymen, who continue tilling the ground and rearing the cattle with an eternal sense of responsibilities before mother earth, by force of habit and on basis of traditional industriousness in situation when sales of agricultural goods is loss making and unprofitable.

A decisive influence has opportunist behavior of counterparts from surrounding environment. That is why in authors' opinion agrarian crisis of previous years should be considered not just as systemic crisis, but as crisis of orientation of equivalent exchange – i.e. loss of trust to the norms and rules, which are in the process of transformation from established form of prior structure to new content, which configuration hasn't formed completely yet.

Further liberalization of agricultural sector of Ukrainian economy would have been indisputable, if related industries were also operating on market principles and in free competitive conditions. The practicability of vertical integration of agro-industrial complex – as a way of improving financial performance of agrarian sector activities and mutual interest of every participant in respective production chain - does not admit of doubt especially under existing conditions. Important component of evaluation of vertical coordination towards integration is interdependence of partners.

Other post-soviet countries should perform similar tasks. For instance, among priorities of agricultural development in economy of Belorussia stand out intuitional ones – the progress of vertical and horizontal forms of cooperation as one of the most important courses in organizational-legal system of market economy.

In addition, the conception of agricultural transformations should have guideline of development – sharply defined institutional frameworks (institutional matrix). It will promote decrease of chaotic vibration, which presents in environment of agricultural goods producers, in volume of production, in prices etc. Institutional changes are taking place under the pressure of concerned institutions on one side and disinterested ones – on the other side.

The current state of agricultural sector of the economy of Ukraine – is unstable compromise which is defined by present distribution of power and balance of power. As Sabluk P. considers, under such conditions agro-industry is not attractive for innovations and investments, the structure of economy is deformed, and priorities are placed on tertiary sector but not on producing sector which is unpromising and harmful for the country [14, p.12].

4. Conclusions

The exploitation and introduction of the conceptions of liberalism and institutionalism in the course of economic and agrarian transformations in Ukraine should go in step, taking into account the prospects of joining the liberal model upon condition of forming efficient market institutions.

Though, first of all it is necessary to develop and establish institutional conditions of functioning liberal principles. It is also important because in rural areas as well as in economy of the whole country, without developed transitology (the theory of economy in transition) in the period of starting transformations the pseudo-market institutions were formed, functioning of which originates institutional "taps" for the further progress.

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Summary

The institutional types of market economy, institutional aspects of government regulation of economy are highlighted in this paper. The models of institutional environment, which may encourage effective management development of agro-industrial complex of the country, are defined in this study.

Keywords: institutionalism; institutions of market economy; transformational processes; institutional conceptions of government regulation.

UD classification: 330

MODERN TRENDS IN PENSION SYSTEMS DECISION MAKING

Natalya Sinipolska[*]

1. Introduction

Many countries in the world are facing an existing or looming pension crisis. There could not be a more opportune moment to launch a new series of books on pensions. Countries around the globe are fast waking up to the fact that they have a major challenge on their hands with their state-run pension schemes. The combination of a rapidly changing population and fertility rates well below replacement rates has led to a striking increase in the dependency ratios in many countries. At the same time, many private sector schemes are facing severe funding difficulties as a result of poor stock market returns, falling interest rates and increasing longevity.

For individuals, society, and government, the main objectives of any pension system are to: smooth consumption over lifetime; provide insurance against longevity risk, inflation risk, and other risks; redistribute income; and alleviate poverty. However, these have to be traded off against economic growth; labour market efficiency and flexibility; and against other needs like health, education, and infrastructure. Individual, fiscal, and societal affordability should be kept in mind in designing pension systems. Benefits must thus evolve over time as affordability grows [1, p.40].

A central theme of the actual debate consists in the respective roles of the state and the private sector in organizing pension's provision in the future, and this is the theme of this article. That is why the main objective of the paper is to describe pension plans and pension systems' reforms in order to analyze their consequences for now and long-term future. The problems that have motivated pension reform across the globe are real, and reforms are needed. In principle, the approach delineated in Averting the Old Age Crisis is expansive enough to reflect any potential combination of policy responses to the pension reform challenge. But in practice, the "World Bank model" has been interpreted as involving one specific constellation of pension pillars: a publicly managed, pay-as-you-go, defined benefit pillar; a privately managed, mandatory, defined contribution pillar; and a voluntary private pillar. It is precisely the private, mandatory, defined contribution component that we wish to explore in this paper.

In section 2 and 3 we briefly describe pensions from an economic point of view, and define what is meant by a public and a private pension scheme, analyze its risks. This is essential for the sequel of the paper, and to understand the ongoing debate in pension decision making. This paper strengthens the view that the best way to finance a generous pension system without overloading the working generation is to accelerate the growth, notably investing in technology, infrastructures, and the formation of human capital. However, in an aging society, workers in activity should accept to renounce to a large share of the output they produce, and pensioners should acknowledge that their purchasing power cannot grow at the same pace of output [2, p.18].

2. Types of pension schemes

It is worth making the point at the outset that pensions and retirement are inventions of the late nineteenth and early twentieth centuries in developed economies. Before this, people in what are now developed economies did not retire; they continued working until they dropped, often ending their lives in the 'poor house'. Bismarck created the world's first state pension system in Germany in the 1880s. During the twentieth century, state and occupational pension schemes developed in the other countries of Europe and in developed economies as far apart as the USA and Australia. However, in many parts of Africa, Asia and Latin America, even today the idea of retirement and

[*] Natalya Sinipolska; Postgraduate student; Department of the World Economy and International Economic Relations; Odessa National I. I. Mechnikov University, Email: <sinipolskaya@hotmail.com>

pensions remains a dream.

The critical decision on pension funding arose after the Great Depression. While the stock market crash of 1929 hit the moneyed classes, the depression led to corporate insolvencies and massive unemployment, leading to the establishment of major social programs. Mandatory universal pension systems were established in most developed countries between the late 1930s and the early 1950s [3, p.18].

It is conventional to talk of three pillars of support in old age for people, which live in developed countries. The first pillar is provided by the state as part of its social security system.

There are two main types of social security system: Beveridgean and Bismarckian.

A Beveridgean system provides just sufficient support to keep people off the breadline; if peoplewant to enjoy a higher standard of living, they are expected to make their own alternative arrangements. The UK and USA have Beveridgean social security systems.

A Bismarckian system provides much more generous support, often at a level that does not require individuals to make additional arrangements. Germany, Italy and France have Bismarckian social security systems. The first pillar is financed by collecting tax (part of the social security tax that the government raises) from workers and paying it out immediately to pensioners. In other words, it is known as an unfunded system, since no fund of pension assets is accumulated. Clearly the level of social security tax collected will be lower in the former than the latter systems.

A pension scheme is a mechanism for providing retired people with annuities, and for allowing those of working age to build up entitlements to an annuity when they retire. Pension schemes can be provided publicly, by national governments, or privately, by employers, insurance companies and other commercial organisations. Without pension schemes, the only way workers could make provision for their old age would be by deferring consumption of part of their income until they retired – i.e. by saving for retirement [4, p.6].

Pensions can be arranged in different ways, relating to:

- the way they are organized;
- the relation between contributions and benefits.

In a fully funded scheme, pensions are paid out of a fund built over a period of years from its members' contributions. With pay-as-you-go (PAYG) schemes, in contrast, pensions are paid out of current income. While we describe the polar cases, partial funding represents a continuum between them.

Fully funded schemes are based on savings — contributions are invested in financial (or possibly physical) assets, the return on which is credited to the scheme's fund. Funding is thus a method of accumulating financial assets, which are exchanged for goods at some later date. While fully funded schemes can take many forms, in principle they always have sufficient reserves to pay all outstanding financial liabilities (or, equivalently, liabilities are defined by available funds).

If there is no redistribution across generations, a generation is constrained by its own past savings and a representative individual gets out of a funded scheme no more than he has put in. If, in addition, there is no direct redistribution across individuals, when an individual retires, the pension fund will be holding his past contributions, together with the interest and dividends earned on them. This accumulation finances the person's consumption in retirement, through an annuity or in some other way [5, p.392-394].

PAYG schemes are usually run by the state. They are contractarian in nature, based on the fact that

the state can, but does not have to, accumulate assets in anticipation of future pension claims, but can tax the working population to pay the pensions of the retired generation.

Most state pension schemes are primarily PAYG.

From an economic viewpoint, PAYG can be looked at in several ways. As an individual contributor, a worker's claim to a pension is based on a promise from the state that, if he pays contributions now, he will be given a pension in the future. The terms of the promise are fairly precise, being set out in each country's social security legislation (although subject to legislative change).

From an aggregate viewpoint, the state is simply taxing one group of individuals and transferring the revenues to another, whether viewed on an annual or a lifetime basis. State-run PAYG schemes, from this macroeconomic perspective, are little different from other income transfers, although the determinants of who pays and who receives and the incentive structure can be very different from other income transfer systems.

A major implication of a PAYG system is that it relaxes the constraint that the benefits received by any generation must be matched by its own contributions. Samuelson (1958) showed that with a PAYG scheme it is possible in principle for every generation to receive more in pensions than it paid in contributions, provided that the rate of growth of total real earnings exceeds the interest rate indefinitely; this can happen when there is technological progress and/or steady population growth and excessive capital accumulation (Aaron, 1966). Since this does not appear to be empirically relevant over the longer term, the real role of PAYG is to redistribute across generations and to share risks across generations [6, p.18]. Whether funded or PAYG, a separate question is how closely pension benefits are related to a worker's previous contributions. Three approaches are common: Defined-contribution schemes, Defined-benefit schemes, Notional defined-contribution schemes.

Most European pension systems are founded on three pillars: public schemes (so-called "Social Security" programs), occupational schemes (i.e., employer pensions), and individual pension plans that highlight the need for personal saving. Each pillar has advantages and drawbacks in terms of the provision of support, and not all three pillars are well established in all Member States. That said, the public programs tend to be of central importance in that they make up the lion's share of income for most European pensioners [7, p.10].

Most first pillar schemes are (non-financial) defined benefit in nature. Recently, countries such as Sweden and Poland have experimented with non-financial (or notional) defined contribution (NDC) schemes for their first pillar (Holzmann and Palmer, 2006). These are unfunded schemes in which members have individual defined contribution (DC) accounts in which the returns that are credited to the contributions are not related to the returns on financial assets, but to some non-financial variable, such as the growth rate in the country's GDP or the growth rate in national average earnings (denoted "*g*" below).

The contribution rate is a fixed proportion of earnings. At retirement, the notional capital in the member's account is converted to a life annuity, using an annuity factor that reflects both the cohort life expectancy of the member and the rate of return on the scheme over the expected term of the annuity.

The system is kept in financial balance to ensure that the present value of system assets (PV(A)), i.e., the accruing notional capital, always equals the present value of system liabilities (PV(L)), i.e., the expected pension payments.

This is achieved by using an adjusted rate of return.

$$g + \rho, \tag{1}$$

where, $\rho = [(PV(A)/PV(L)) - 1]$.

The effects of demographic and economic shocks are therefore accommodated endogenously within the scheme and within each cohort, since the credited return on the scheme, g + ρ, adjusts the member's notional capital during both the accrual and payment stages and the annuity paid at retirement reflects changes in birth cohort life expectancy.

NDC schemes therefore have four properties:

- at any time, the present value of an individual's lifetime benefit equals the individual's account balance;

- to maintain a fixed contribution rate, total NDC system assets must equal or be greater than total liabilities;

- the NDC benefit is constructed as a life annuity, reflecting life expectancy at retirement;

- financial balance requires the accounts be valued at the rate g + ρ.

NDC schemes can be interpreted as exhibiting intergenerational fairness, since each generation pays the same contribution rate as a proportion of earnings and receives a pension based on its own economic performance over its lifecycle and its own mortality prospects.

The second pillar is provided by the companies in the form of occupational pension schemes or plans. Companies are said to sponsor such schemes. Typically, occupational pension schemes are funded, i.e., a fund of pension assets accrues from the contributions or premiums paid by the employer (the scheme sponsor) and worker (the scheme member) and from the investment returns on these contributions. The pension is paid from the accrued fund once the member retires. Sometimes (and this is more common in smaller companies than larger companies), the accrued fund is given to a life assurance company which then provides a life annuity to the retiree.

There are three classes of pension scheme member: the active member, who still works for the company and is still making contributions; the retired member, who has retired from the company and is drawing a pension; and the deferred member, a worker who is no longer working for the company and has not yet retired, but has accrued rights to a pension on the basis of his previous service for the firm and associated membership of the scheme – the pension then becomes payable when the deferred member retires from his last job.

Although most occupational pension schemes are funded, the calculation of the pension benefits can differ widely between different types of scheme. There are three main types of occupational scheme: defined benefit (DB), defined contribution (DC) and hybrid.

Until recently, the most common type of scheme was a DB scheme. In such a scheme it is the benefit that is defined and the scheme promises to pay a pension, based on this defined benefit, whatever the size of the fund backing this promise. The simplest DB scheme offers a fixed monetary pension at retirement, irrespective of earnings or subsequent inflation. Such schemes are common in Germany and the USA (where they are known as fixed benefit or fixed amount plans).

Increasingly, DB schemes are being replaced with DC schemes. In such schemes, it is the rate of contributions into the scheme that is defined. The contributions might be a fixed annual amount or they might be a fixed percentage of salary. The pension will depend on the value of the fund accrued by the time of retirement. No particular level of pension is promised with a DC scheme.

If the value of the fund is low, either as a result of low contributions or poor investment performance, then the pension will be low as well.

If, on the other hand, the value of the pension is high, the pension will be correspondingly high. By definition, DC schemes show neither surpluses nor deficits [7, p.8].

Hybrid schemes have a mixture of DB and DC components. The main examples are as follows (Wesbroom and Reay, 2005):

▪ Sequential hybrid scheme. The scheme might have a DC element (commonly called a nursery DC scheme) for those below a certain age (e.g., 45) and a DB element for those above it. Such a scheme offers good portability for younger workers who tend to be more mobile and a more predictable pension for older workers.

▪ Combination hybrid scheme. The scheme offers a DB pension in relation to salary up to a limit (which might be the basic salary) and a DC pension in respect of salary above this limit (which might be the variable element of salary).

▪ Underpinning arrangements. There are two main types. The first is a DC scheme with a DB underpin. Such a scheme provides a minimum pension, based on what a corresponding DB scheme with the same salary experience and service would have paid, in case the investment performance is very poor. The second is a DB scheme with a DC underpin. This type of scheme is intended to provide a 'value-for-money' guarantee for early leavers. The value of the final salary benefit is guaranteed not to be less than a DC benefit calculated on the basis of a multiple of the member's contributions accumulated with interest.

▪ Cash balance scheme. This is a defined benefit scheme in which the benefit is defined as an individual account within the scheme. The scheme specifies the rate of contribution and the rate of investment return (independent of the performance of the underlying assets in the scheme, but typically linked to the return on bonds) that will be credited to the member's account. The accumulated lump sum at retirement is used to buy an annuity. To the member, a cash balance scheme resembles a DC scheme. It is the most common hybrid arrangement in the USA. It is also sometimes known as a shared risk scheme.

▪ Targeted benefit scheme. This is a DC scheme but the aim is to deliver a target pension, so the contributions will have to be adjusted over time if the fund falls short of or exceeds the target.

The OECD classification from the pension fund's/provider's perspective applies to personal pension plans and occupational defined contribution pension plans (fig. 1).

Unprotected pension plan: a plan (personal pension plan or occupational defined contribution pension plan) where the pension plan/fund itself or the pension provider does not offer any investment return or benefit guarantees or promises covering the whole plan/fund.

Protected pension plan is a plan (personal pension plan or occupational defined contribution pension plan) other than an unprotected pension plan. The guarantees or promises may be offered by the pension plan/fund itself or the plan provider (e.g. deferred annuity, guaranteed rate of return) [8, p.14].
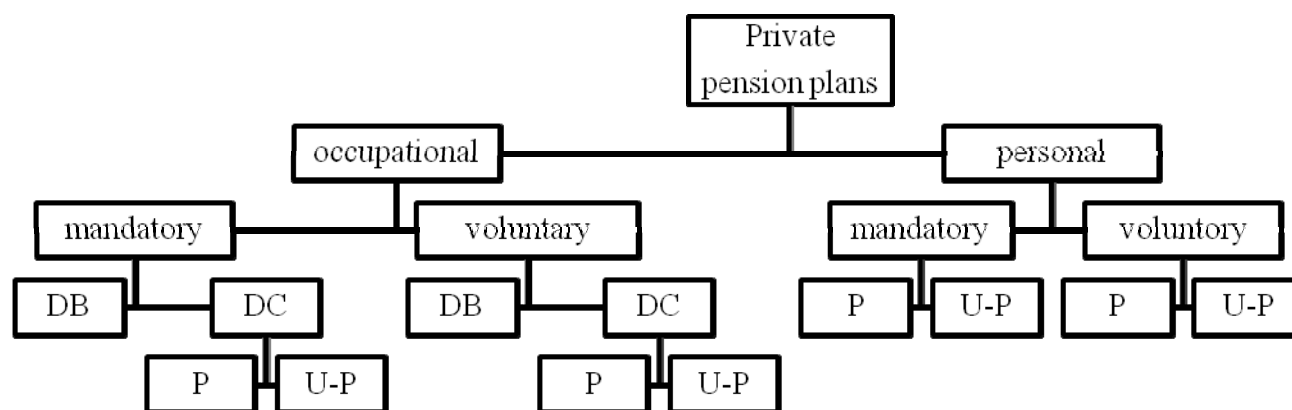

Fig.1. Private pension plan classification: functional perspective

The third pillar is any additional savings for retirement that the individual chooses above that provided by the state or the company for whom the individual works. These savings will typically be held in deposit accounts or in mutual funds invested in equities or bonds.

If the individual chooses to do this via a formal pension scheme, it will almost invariably be in the form of a DC scheme, known as a personal pension scheme or an individual retirement account. Other assets can also be used to provide income in retirement. The best example of this is the domestic home. When they retire, individuals sometimes sell their home and buy a smaller one in order to increase their spending power in retirement; this is known as trading down [9, p. 25-26].

Increasingly there is a fourth pillar of support in old age, and that is post-retirement work. Sometimes this is by choice. Some individuals do not like the idea of being fully employed one day and then having no work to do the next. Such individuals prefer a gradual entry into retirement. For other individuals, there might be no choice but to take a part-time job to make ends meet.

3. Risks in pension schemes and the potential policy options

As for any financial contract, pension contracts have to deal with several sources of risk. Therefore, it is crucial to evaluate the effects of different pension schemes on the distribution of risk. In particular, who will bear the risk of longevity and earning losses (due to job loss or to different wage dynamics over his working life). In principle, the risk should be mostly transferred to the agent who has the lowest risk aversion: if the private fund, say, managed by an insurance company is risk-neutral with respect to the specific risks considered, it is efficient that it bears all risk. It should be mentioned that pension schemes face large risks that are hard to predict:

- macroeconomic shocks affect output, prices, or both;

- demographic shocks affect all pension schemes, by affecting market prices and quantities and pension claims;

- political risks affect all pension schemes because all depend critically – albeit in different ways on effective government;

- management risk can arise through incompetence or fraud, which imperfectly informed consumers generally cannot monitor effectively;

- investment risk: private and public pension accumulations held in the stock market until retirement is vulnerable to market fluctuations;

- annuities market risk: for a given pension accumulation, the value of an annuity depends on remaining life expectancy and on the rate of return the insurance company can expect over those years (and is thus also a form of investment risk) [5, p.401-403].

Uncertainty is also more pronounced with private pension contracts. Sticking with mandatory pensions, what we called management risk is, for many individuals, management uncertainty. As the Swedish recent experience taught it is difficult for employed workers to evaluate a wide menu of different pension products just because they are not able to evaluate their uncertain characteristics.

For pensions this problem is even more dramatic than for other financial assets, because pension schemes are highly illiquid assets; and pension subscribers have often no previous experience of this type of financial instrument, and will only build up one much later in life, possibly, at retirement.

We have analyzed different policy options considering differences in pension schemes. It demonstrates that there is no one-type solution for every country.

First of all, mainly, governments should focus on economic growth and invest more on human and physical capital to increase productivity and so output. International level human and capital planning can be an option in medium and long term perspective.

In addition, an optimum mix of lower benefits, increased contributions and later retirement can be implemented. Especially, state pension age should rise gradually and implemented flexibly. It should be supported with labour market developments. This option eliminates the additional risks and costs of relatively radical reforms such as funded pension schemes, of which success depends on satisfaction of some preconditions.

Pension systems have many objectives, but pure funding schemes are not capable of responding all objectives at the same time. Private individual accounts cannot insure properly all related risks. It is clear that even in the most developed countries, stock markets prone to high risks and these risks are crucial threats for the 'insurance' function of state pensions. Moreover, pension systems should concern poor and vulnerable people and ensure a reasonable level of life quality for their retirements.

So, redistribution function of a pension system is very important [4, p.28-30]. Thus, moving to mixed type pension schemes can be a good option when the required conditions for individual accounts are met. 'Three-pillar' approach emphasizes different aspects a good mixed type pension scheme. As a first tier, a mandatory publicly managed PAYG pillar is essential for different purposes of pension schemes. It can be supported with mandatory membership of privately managed funded pension in second tier and voluntary contributions to funded pensions in third tier [9, p.3-4]. However, weights of each tier depend on conditions of specific countries.

Finally, funded schemes should be supported by government to achieve all the objectives of pensions. Governments need high regulatory capacities to protect the consumers against uncertainties that they cannot manage by themselves by effectively regulating markets and easing the information processing in funded scheme pillars. As in the case of Sweden and UK, centralizing the administration of funded schemes can also decrease the costs to reasonable levels. Applying automatic enrolment to pension saving schemes can increase the participation level for third tier. While respecting people's freedom of choice by providing some individual account options, limiting the number can minimize the effect of information processing problem.

Notional defined-contribution (NDC) which is actually a PAYG system, but has actuarial characteristics can be alternative to funded schemes [8, p.10]. NDC is not prone to financial market risks like the funded schemes and also high transition and administrative costs of funded schemes can be abolished. However, one should not forget that NDC like funded schemes does not respond demographic pressure but brings discipline and equilibrium between revenue and expenses of pensions.

Though the increased role of supplementary pension funds and the recent economic and financial downturn have led to new challenges in relation to both the future financial sustainability and the adequacy of pensions, pension reforms have not entailed a 'residualisation' of the state role in the field or the passive privatisation of pension policy [10, p. 67-69].

On the contrary, both state and social partners have a key role to play in the management and regulation of pension funds.

The paper has stressed key dimensions of the complex public/private mix in pensions policy and has drawn attention to aspects such as the rules affecting the setting up of private pensions; the supervision and monitoring functions; the tax rules; investment and information; participation/contribution to the funds; their management; the participation to financial costs and guarantees; and the competition between funds, all of which represent dimensions where new form of public/private interaction may be implemented.

4. Conclusions

Changes in demographic parameters threat the sustainability of state pensions in the long run. Economically there are many options for the solution of problem. However, optimality and feasibility of any reform options depend on many factors. When all the factors are taken into account, it is not easy to say that funded pension is superior to PAYG and cope with demographic pressure better.

Debate between PAYG and funding is not central question addressing the population aging. Good pension system can be in different forms depending on political response to weighting different objectives of pension systems and country specific conditions. Ultimate response to demographic pressure requires stable and high economic growth and effective government in any pension systems. At the same time, different types of pension scheme involve different types of risk and different ways of sharing those risks. As a consequence, there will be different types of redistribution of resources within the different schemes.

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Summary

This paper sets out the economic analytics of modern pension systems and its components. After introductory discussion, successive sections consider the effects of different pension arrangements on labour markets, on the distribution of burdens and benefits. These areas are controversial and politically highly salient. The relevance of the article is caused by the crisis in government pension system in many developed countries, due to not only the demographic factors, but to the challenges of the global economic and financial crisis. The objective of this paper is to define what is meant by a public and a private pension scheme, analyze its risks and overview the options of the further pension systems' development.

Keywords: pension scheme; private pension plans classification; risks; reforms.

UD classification: 368.914:339

THE ESSENCE OF LIFELONG EDUCATION: THEORETICAL AND APPLIED ASPECT

Stepan Y. Vovkanych; Olha M. Kashuba*

1. Introduction

Contemporary dynamics of global socio-economic relations, the making of post-industrial society, globalization, stronger integration links, introduction of innovative technology, growing of world economy competitiveness set new strategic challenges to be solved. One of the most important goals for the national economy is the transition to the knowledge-driven economy based on higher role of information technology, development of intellectual capital and introducing post-industrial models of society development.

Studies reveal that the developed countries have made the transition from the industrial society to the informational society where knowledge and creative approach are far more efficient resources than any material means of production. According to the World Bank, physical capital in the contemporary economy comprises 16% of each country's national treasure, 20% are natural resources, and 64% – human, with up to 80% in Germany and Japan [1, p.112].

Economists have calculated that about 2/3 of the world treasure is encapsulated in the human capital made of employee's knowledge and ability to adjust to the new knowledge-driven economy. As a result, the key factor in the transition period from industrial to post-industrial economy is generation and dissemination of knowledge for the socio-economic development of the country.

The need for the knowledge-driven economy is especially crucial for Ukraine. Recent economic evaluations showed that if our country stimulated the development of the intellectual capital, with its 5% of the world's scientific potential, it could expect $100 billion US Dollars worth of revenue annually, which is ten times higher than Ukraine's raw material export. Japan's share in global economy is 34% of technology sold over the world, the US – about 33%, Russia – 0.1%, Ukraine – nil [2]. Thus Ukraine's primary strategic goal is to develop its human resources.

An important role in the development of human capital stemming from knowledge generation and dissemination belong to the lifelong education. Its significance for the country's economic development is indisputable due to how it shapes an intellectual component in the system of knowledge-driven economy. The need to research lifelong education is stipulated by the following factors of the knowledge-driven economy: intellectual capital is the most promising and competitive economic resource on the world market; knowledge-generating and implementing technology is a constituent of economic growth and investment, ever-increasing role of education in the generation of new knowledge and information used for solving economic and social problems.

Thus, establishment and development of the lifelong education system is now a very pressing problem for Ukraine.

The issue of lifelong education in the context of knowledge-driven economy has been researched by many Ukrainian and foreign scholars. Among the world father-founders of the human resource doctrine and post-industrial theory are D. Bell, H. Becker, M. Blaug, W. Deisard, P. Drucker,

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* Stepan Y. Vovkanych; Doctor of Economics, Professor; Senior Researcher in the Institute of Regional Studies of National Academy of Science of Ukraine

Olha M. Kashuba; Assistant of faculty of company economics and investments of the Institute of Economics and Management; National University "Lviv Polytechnic"; Email:<1kom@ukr.net>

R. Inglehart, D. Riesman, E. Toffler, P. Pilzer, H. Clodt. Polish researcher R. Patora studies lifelong education as an important component of educational services. Russian economic researcher studies these issues as well: S. Beliakov, V. Inozemtsev, S. Glazyev, T. Kliachko, V. Shchetinin and others. Ukrainian scholars who worked on problems of human resource capital are: A. Ambrosova, L. Antoshkina, Y. Vovkanych, N. Holikova, M. Danko, H. Dmytrenko, Y. Dutkevych, O. Hrishnova, O. Serdiuk, L. Semiv, M. Stepko, B. Klymevko, A. Krykliy, A. Kolot, V. Nykyforenko, L. Kuzmenko, L. Fedulova, L. Yankovska and other well-known scholars. However, all these researchers view lifelong education no as a holistic research issue but rather in the context of higher education development and human resource capital overall.

Analytical review of scientific sources proves that Ukrainian and foreign researchers diverge in their treatment of lifelong education. It also lacks systemic approach to studying socio-economic essence of the lifelong education. In most cases this phenomenon is viewed through pedagogical prism. It is also important to note that the rapid social development, transition to knowledge-driven economy and information society adds new characteristics to this notion and reveals its essence through more complicated functions.

The objective of this paper is to substantiate the essence of lifelong education based on the results from analytical review of informational sources and applied sociological research into the understanding of lifelong education by various categories of its participants.

2. The essence of lifelong education

The idea of lifelong education has a key importance for the development of contemporary society. Nowadays, lifelong education is a study object in pedagogy, sociology, and economics. The roots of lifelong education are found in Ancient philosophers' treatises – Confucius, Socrates, Aristotle, Solon, Plato, Seneca. Lifelong education, education activity as a special life goal for each person was advocated in the Roman Club speech "Education is limitless," in particular in E. Fore's paper "Learn to be" [3, p.18]. A historical overview shows that lifelong education was seen both as a practical aspect and as a pedagogical concept. For the first time this idea was presented at the 1965 UNESCO conference by a well-known theoretician of lifelong education P. Legrand. His idea was that a human being needs to grow as a personality, activity subject and communication throughout lifetime.

With the UNESCO's recognition the idea of lifelong education has radically changed the contemporary concept of education. We no longer speak of a particular period in the person's life when they get education before starting independent work, but rather of a continuous education that takes a lifetime. Lifelong education is an essential element of higher education in Europe. The education policy that Western Europe implemented in the 1970-s was a very significant factor that influenced the implementation of lifelong education based on humanism, democracy, mobility, leadership, transparency and continuity. Its essence lies in the fact that higher education ceased to be limited to the elite but rather became open to masses, more flexible forms, with new types of educational institutions appearing and some of them structurally belong to universities. For example, in Europe, these are short education programs that vary in their social composition of students, in the content and objectives of educational process (diversification of higher education) [4, p.30].

International legal practice treats the notion of lifelong education quite broadly. In particular, the UN Convention on Technical and Vocational Education, Convention on the Recognition of Studies, Diplomas and Degrees in Higher Education in the European States, International Convention on the Recognition of Studies, Diplomas and Degrees in Higher Education in the Arab and European States bordering on the Mediterranean, the International Labor Organization XXX Resolution on Youth Employment, project concept for the model Education Code for the CIS countries regard lifelong education as a fundamental principle for higher education reform.

Post-Soviet research space views lifelong education more as a category of pedagogy. Historically, most fundamental views on the lifelong education are the following three [5, p.68]:

- the first view stipulates that this idea is as old as the humanity itself (O. Darvinsky, H. Gumiliov, G. Yagodin);

- the second view says that this idea appeared in modern times characterized by active processes in the spiritual, social, productive, economic and scientific domains (A. Kuptsov, V. Osipov);

- according to the third view, the idea of lifelong education has existed for a while but only recently did it acquire a new sense (O. Vladyslavliev, G. Zinchenko, V. Onushkin, N. Pobirchenko).

Thus, the essence of the lifelong education is changing in relation to historical circumstances and social needs.

The research into the essence of lifelong education in the international practice has produced numerous terms. The most common term in scholarly literature is lifelong education, alongside with continuing education. Some authors resort to the term recurrent education. When speaking of adult education and wanting to emphasize its independence from formal educational structures, scholars talks of the out-of-school education and non-formal education.

The analysis of literary sources showed that scientific publication, proceedings of research conferences and training seminars very often use the notions of lifelong education and continuing education. It is thought that these two notions should not be perceived as the same because there are significant differences between the two. According to the definition given by [6, p.13] "lifelong education provides with possibility to stay in the common of civilization development, to maintain competitiveness throughout your lifetime, to strengthen state national security, society and personality… to teach a human being to efficiently, systematically and consistently master new knowledge and information as they permanently accumulate and develop, it means to provide with a life-long education meant to become a style of socio-individual life in the information society." The category of lifelong education emphasizes continuing learning, re-training, increasing qualification, self-education, traineeship, learning throughout the lifetime.

On the contrary, the category of continuing learning is used to refer to technology and mechanisms for training specialists and professionals [6, p.13].

In other sources continuity means some succession between all stages of educational process, particularly, between updating knowledge and skills, competence for designing a new action path; between introduction into the system of knowledge and revision [7, p.30].

However, the research into the etymology of notions of lifelong and continuing education has revealed the identical meaning.

The Great Dictionary of Ukrainian Language defines lifelong as "not interrupted, unbroken; happening all the time without intermittence, permanent" [8, p.43], and continuing as "lasting continually, constantly, without stops = continuous" [8, p.610]. The abovementioned fundamental monograph studies the notion of lifelong educations and the following are used to define lifelong: "education for people who did not complete the educational cycle in their youth; the term encompasses a whole range of possibilities for primary, secondary and post-secondary education provided by public and private educational institutions for the person to acquire academic and professional knowledge, as well as knowledge that will help them to have quality leisure and develop their personality" [8, p.43]. To our mind, more expedient for the practical use in the context of developing socio-economic processes is a notion of lifelong education under consideration.

In Ukraine, the principle of lifelong education is reflected in numerous legal normative acts, in particularly, in the Strategy for Economic and Social Development of Ukraine (2004 – 2015), in regional development strategies until 2015, annual President's Addresses, in action programs of the Cabinet of Ministers of Ukraine since the time Ukraine was declared independent, the National Doctrine for the Development of Education, Laws on Education, Decrees by the Ministry of Education and Science of Ukraine. For example, the Law of Ukraine on Higher Education and the National Doctrine for the Development of Education consider lifelong education as fundamental educational values.

Foreign researchers say that "lifelong education is crossing the line from "desirable" personal investment into "essential" personal investment since more than one diploma is required to maintain your position on the dynamic job market" [9, p.104], thus emphasizing the significance of the lifelong education as a means of increasing professional qualification in relation to job market demands.

L. Antoshkina views lifelong education from positions of personal development as a long-ranging form of leisure with personal benefits [10, p.18].

The interrelation between lifelong education and social policy is emphasized by Rector of European University Professor I. Tymoshenko. He thinks that the state and society lifelong education is growing a leading domain in terms of social policy, mechanism of creating professional and cultural potential, condition for social production. He also points out that "the structure of lifelong education is split into two substructures: basic and additional education; which later comprise four subsystems basic general, basic vocational, additional general, additional vocational" [11]. Thus, the emphasis goes to the structure of lifelong education and the subsystems that comprise it.

Another researcher considering lifelong education from the systemic approach is S. Pobirchenko. According to him, lifelong education systems is "a complex of public and other educational institutions that provide an organizational and essential unity, successive interrelation of all stages of education, which provides possibility for temporary break and resuming of learning, choice of individual education trajectory, increasing qualifications, re-training with purposes of higher level of general education and professional competitiveness, in relation to job market demands" [5, p.69].

According to I. Mykhaylichenko, lifelong educations is a phasic and holistic in its elements process taking the entire lifetime and ensuring continuous development of creative potential of a person and enrichment of their spiritual world [12].

Thus, stipulated by the stage of implementing the Bologna process into the Ukrainian education, the researchers view lifelong education as a process comprising basic and additional education, and which, on the second stage, involves alternating between learning activity in specifically designed educational institutions and professional activity [13].

Thus, the developing of personality in the lifelong education takes place in stages and is made up of basic education (preliminary education preceding individual's professional activity) and post-basic education (further learning combined with practical activity in the social production domain) (fig. 1).

According to the procedural approach lifelong education is made up of stages of basic and additional education, involves successive alternation between learning activity in specifically designed educational institutions and professional activity. So, the distribution of educational resources throughout the lifetime is considered more expedient than their concentration in during the young years.

The rigid sequence of education – work – vacation – retirement becomes optional; there is a chance to change this sequence in relation to social demands and personal needs and wishes.

It also means:
- more rational distribution of learning and working periods;
- diving the learning on the preliminary or basic stage or on the post-basic stage;
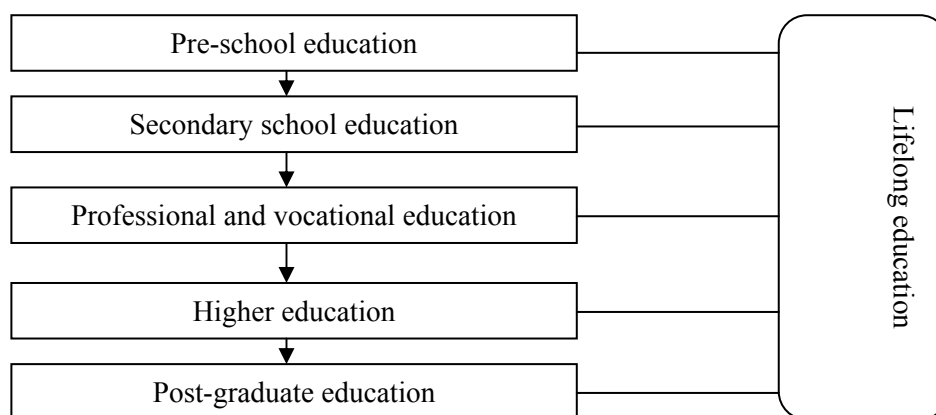- acquiring the necessary knowledge, skills, competences, values as the need for them arises.

Fig. 1. Interrelation of education elements in the concept of lifelong education

In such system the choice of educational level is not tied to a certain age and shifts within the system are based not exclusively on a certain minimum of knowledge, but rather on the person's overall development and intellect, social status needs and aspiration for self-improvement.

To summarize the theoretical aspect in research of lifelong education, we need to discriminate between major scientific approaches to its treatment, for example:

- factor of personality development throughout the lifetime;

- fundamental principle of reforming higher education;

- system of public and other educational institutions;

- leading domain of social policy, prerequisite for production development;

- phasic and holistic in its elements;

- means of increasing professional qualification according to job market demands.

The applied aspect of research into the essence of lifelong education can be defined by studying public opinion on the peculiarities of regional development of lifelong education. The first part of the study applies to the understanding of lifelong education by different categories of participants in the lifelong education system in Lviv region, so that later we will be able to compare key points of perceiving this notion.

The sociological study was carried out on the category of respondents who are direct participants and consumers of education services. These categories include: young people over 18 who completed their secondary education and move on to realize their further educational and vocational plans, students of vocational schools, universities of all levels of accreditation; employees at enterprises of different forms of ownership as direct and main potential consumers of adult education services; administration of educational institutions as direct participants and executors of educational process, employers representing enterprises and institutions of different forms of ownership as the party which always requires qualified and educated employers and makes use of their knowledge and skills. Participants of the survey were people of the above mentioned categories over 18 who form supply and demand on the job market and in the system of lifelong education. Research materials as primary questionnaires were processed on software SPSS Version 14.

The results of the sociological poll undertaken during 2009 in Lviv region aimed to find out the respondent's view on lifelong education showed no unanimity in understanding the concept. The novelty of the research lies in the fact that we questioned those categories of respondents who represent both suppliers of lifelong educational services (university administration) and employs its results (employers), and the direct subjects of the lifelong education systems (employed or unemployed people, students).

Thus, answers to the question "What do you think lifelong education means?" that we posed to Lviv employers and university faculty revealed mostly personal perception of the lifelong education and understanding it as a factor for intellectual development (table 1).

Tab. 1. Distribution of answers to the question "What do you think lifelong education means?" (university administration and employers)

Answer options to the question "What do you think lifelong education means?"	Distribution of answers, in % of the total amount of respondents	
	University administration	Employers
Fundamental principles of the contemporary educational system	29	27
Means of adaptation to new professional demands on the job market, socio-economic transformations	24	30
Way of personal and intellectual development	37	32
Factor of active development of educational services	8	5
Successive alternation of learning activity in educational institutions with professional involvement	18	16

Source: based on the author's sociological study

As could be seen from the poll results, a third of all respondents think that lifelong education is first and foremost a source of personal development. Treating lifelong education as a means of intellectual developments was evidenced by 37% of university administration representatives and 32% of employers. With a view that universities aim to increase the innovative component of the learning process and to tech students learn individually, while employers are interested in engaging specialists with high intellectual level and able to self-improve, this position is understandable.

As a result, lifelong education is becoming a fundamental principle of the contemporary education system. Such is the opinion of 29% of respondents from university administration and 27% of employers. Apparently, reforming the Ukrainian system of education stipulates the transition to a multi-level dynamic system of specialist training which will provide possibilities for an individual to acquire a certain educational and qualification level in a desired fields, and to provide their mobility on the job market.

A high percentage of employers' answers go to lifelong education viewed as a means of adaptation to new professional demands on the job market. It stems from the fact that lifelong education is called to train new innovative personnel able to increase their qualification level according to the dynamic demands from the environment, display creativity, adaptability, ability to create innovations. In the longer run it would mean a higher effectiveness in the workplace and higher employer's satisfaction with the work of his employees, which in turn would lead to economic development.

Practice has shown that the majority of specialized knowledge is renewed every 7-9 years. So, in order to be an up-to-date specialist, you need to study continuously. Yet, the university administration is more reluctant to consider lifelong education as a means of adaptation to new professional demands on the job market and socio-economic transformations, and that might serve as a partial explanation for a very low knowledge level of university graduates

in relation to professional demands from the employers. Such answer also evidences the need for university administrations to review their approaches to providing educational services – to replace teaching students' information on a certain subject with the methods to renew their own knowledge and skills, which would be more in line with the idea of lifelong education.

A small amount of the respondents from university administration and employers attach the meaning of development factor to the lifelong education. This gives 8% and 5% from the total number of respondents correspondingly. But all the respondents agree that the lifelong education has a multi-aspect manifestation and is closely related to the country's educational system and personal motives of individuals to learn, and to the job market.

The position of understanding lifelong education by the categories of respondents, who are direct recipients of educational services in the system of lifelong education, has a clear social tendency. Answers to the question "What does lifelong education mean to you?" provided by students and working population show a close connection between lifelong education and professional self-fulfillment (table 2).

Tab. 2. Distribution of answers to the question "What does lifelong education mean to you?" (working population* and students)

Answer options to the question "What does lifelong education mean to you?"	Distribution of answers, in % of the total amount of respondents	
	Working population	**Students**
Learning throughout lifetime in combination with working activity	34	32
Possibility to individually choose methods and forms for self-fulfillment	26	29
Means to overcome knowledge ageing	16	21
Guarantee of social stability and competitiveness on the job market	28	28
Possibility to quickly adapt to new technology and professional requirements	6	20

Source: based on the author's sociological study

*including the unemployed (respondent with education and employment or able to work)

Results of the sociological study allowed us to see that working population and students attach great importance to lifelong education, estimate highly its permanent nature that gives opportunity to combine learning and working. This is the understanding of lifelong education displayed by 34% of the respondents from the working population, and 32% of students surveyed.

Under the circumstance of education democratization a great factor for students is the chance to choose individually forms and methods for self-fulfillment independent of the stage of the person's professional development. This understanding of lifelong education was displayed by 29% of surveyed students and 26% of the working population, and this means liberalization of the professional fulfillment under the integration tendencies and departure from the traditionally imposed norms of career growth.

Unanimous are the positions of a great number of respondents on the lifelong education as a guarantee of social stability and competitiveness on the job market. 28% of the working population and students think so. Apparently, this stems from the function of lifelong education in the socio-economic development of the region. High competition on the job market requires

a constant increase of qualification level of employees and changing approaches to training students.

This might explain who 20% of the students surveyed who are focused on perspective knowledge think that lifelong education provides a chance to quickly adapt to new technology and professional requirements. It relates to the introduction of the state-of-the-art information technology into virtually all spheres of society, development and implementation of new computer software, computerization of production etc.

On the contrary, the working population hardly views lifelong education in such context at all.

Only 6% of the respondents answered affirmatively to this question. And yet the working population shares the view of 21% of the students that the lifelong education is a means to overcome knowledge ageing in the contemporary economy, which means they are ready to learn during the entire lifetime.

Thus, for the employed population and for students lifelong education first and foremost means a factor of success on the job market and social stability, which in turn guarantees prosperous life.

Thus, the applied aspect of studying the essence and functions of lifelong education reveals it close connection to the sphere of knowledge and skills application, in such a way reflecting the motivation for learning.

3. Conclusions

To summarize the abovementioned we need to say that the essence of lifelong education needs to be defined through its complexity of understanding in the theoretical and applied contexts. We suggest that lifelong education be regarded as a systemic approach to the complex nature of the system, in particular: both as a unity and as a subsystem of higher levels; a multitude of elements with hierarchical subordination; reflection of connections between elements in a system; using numerous models to describe separate elements, subsystems and of the overall system.

Thus, lifelong education is a complex, multi-level, open and strictly operating system of interaction between government authorities, employers and citizens to implement the principles of lifelong education, that requires a substantial normative, legal, financial and information support, includes both traditional and innovative methods of learning, displays professional motivation and provides the development of intellectual resources capital on the road to knowledge-driven economy. Principal features of lifelong education are succession, continuity, motivation, adaptability, innovativeness, quality, prospectiveness, integrity, rationality, flexibility, wholeness, individualization.

The suggested definition allows us to understand the essence of lifelong education, encompasses all its participants, and point to the major principle of their interaction, allows defining forms of implementing lifelong education and proves it consistency and motivation.

Thus, the results of the undertaken research proved that lifelong education is a unique social institution whose goal is both to develop and increase human resources capital, and also to shape the future of the state, society, organization and personality.

Lifelong education allows maintaining on a high level the development of human potential, to develop competitiveness, to implement innovations into all fields of activity.

That is why a wide access to all forms of lifelong education in the information age is an important indicator of growth of the intellectual potential of the society, development of democracy, and a prerequisite for the implementation of contemporary information technology into the economy.

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Summary

The paper reveals the essence of lifelong education from the systemic approach based on synthesis of analysis of results from analytical review of information sources and applied sociological research into the essence of lifelong education by various categories of respondents. The offered determination enables integrally to understand essence of continuous education, engulfs all its participants, specifies on basic principle of their co-operation, gives possibility to define the forms of realization of continuous education and specifies on its sequence and purposefulness.

Keywords: knowledge-driven economy; intellectual capital; lifelong education; functions of lifelong education; job market.

CREATION SCIENCE AND TECHNOLOGY PARKS AS A COMPONENT OF INNOVATION IN ECONOMIC DEVELOPMENT

Inna Ukhanova; Elena Voronova *

1. Introduction

Science and technology research parks are seen increasingly as a means to create dynamic clusters that accelerate economic growth and international competitiveness. A concept that is now 60 years old, research parks are widely believed to encourage greater collaboration among universities, research laboratories, and large and small companies, providing a means to help convert new ideas into the innovative technologies for the market. In this way, research parks are recognized to be a proven tool to create successful new companies, sustain them, attract new ones – especially in the science, technology, and innovation sector – and make existing companies.

Today, countries as diverse as China, Singapore, India, and France are among those undertaking substantial national efforts to develop research parks of significant scale and scientific and innovative potential.

In many cases, these research parks are expected to generate benefits that go beyond regional development and job creation. Indeed, to the extent that research parks are effective, they have the potential to shift the terms of global competition, not least in leading technological sectors.

The first research park was established in Menlo Park, California, in 1948. Early successful parks, established in the 1950s and early 1960s, include the Stanford Industrial Park (est. 1953) in California, Research Triangle Park (est. 1958) in North Carolina, and Waltham Industrial Center (est. 1954) in Massachusetts.

To better understand the role that research parks can play as sources of innovation, should explore the international experience of technology and innovation parks, which play an important role in national economy.

A university research park is a cluster of technology-based organizations that locate on or near a university campus in order to benefit from the university's knowledge base and ongoing research.

The university not only transfers knowledge but expects to develop knowledge more effectively given the association with the tenants in the research park.

The elements of:
- a national innovation system include competitive firms and a competitive environment;
- an effective educational system, strong university research;
- a legal system with property rights;
- a capital market that includes venture capital.

All this determines important science and research parks in the national innovation system of economic.

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* Ukhanova Inna; Department of International Economic Relations; Odessa State Economic University; Email: <inna.uhanova@gmail.com>
Voronova Elena; Department of International Economic Relations; Odessa State Economic University;

The extant literature in economics, geography, management, and public policy does not offer a fully developed theory about the formation of parks. Case studies have documented the institutional history of a number of research parks, university affiliated or not.

2. The theoretical basis for the creation of technological and scientific parks

Scholars have not yet formally tied the emergence of parks to cluster theory, although cluster theory has been applied to the formation of biotechnology and other science-based agglomerations of firms near universities so the potential application is not unreasonable.

Drawing on cluster theory – and location theory was, in part, a prequel to the popularization of cluster theory, as reviewed by Goldstein and Luger, and Westhead and Batstone – one could argue that there are both demand and supply forces at work that result in the clustering of research firms near universities [1, p.249-263; 2, p.72-93].

On the demand side, there are sophisticated users of developed technologies within a park, and the search costs for such users are minimized by locating on a park. Of course, there are disadvantages associated with being in a park, mainly greater competition for the developed technologies. On the supply side, there is skilled and specialized labor available from the university or universities involved in the park in the form of graduate students and consulting faculty, although there is also more competition for that pool of human capital.

Also, for a firm, location on a park, especially a university park, provides a greater opportunity for the acquisition of new knowledge – tacit knowledge in particular. As well, for the university, having juxtaposed firms provides a localized opportunity for licensing university-based innovations.

The theory of agglomeration economics emphasizes knowledge spillovers and enhanced benefits and lowered costs caused by the presence of multiple organizations and the externalities they create. And, Audretsch, Breschi and Lissoin provide empirical support for the agglomeration effect [3, p.673-709; 4, p.975-1005].

Henderson and Krugman emphasize conceptually as well as empirically the importance of location per se with regard to knowledge spillovers. Localization has an effect on resource prices. To the extent that new technology embodies new knowledge, geographic closeness implies lower new technology prices and thus presumably greater usage. Firms achieve economies of scale more easily with newer technologies [5, p.47-70; 6, p.11-13].

Arthur underscores the related importance of network externalities with regard to such scale economies [7, p.116-131]. If that technology had a university origin, then creating such a park, from the university's perspective, and locating in the park, from a firm's perspective, gives positive feedback to continue the path dependency of the particular technology.

3. The role and features of the establishment and functioning of technology and science parks in some developed economies

Here are some examples of scientific and research parks that operate in both developed and developing countries, but in both cases, play an important role in the innovation component of the national economy.

The early science parks in the United Kingdom of Great Britain (more U.K.), built in the 1980s, tend to be owned by universities and operated as income-generating properties. Since technology transfer and business incubation have emerged as important drivers in the development of modern economies.

In the 1990s and in the 21st century, parks have been developed in the U.K. and in Europe with capital funding from regional development agencies which see science parks as tangible evidence of their region's developing knowledge economy.

Many of these parks are partnerships between government and local universities, which in the U.K. receive funding from central government for this "third-mission" activity.

Today about 11 percent of parks are privately owned, 19 percent are university-public partnerships, 27 percent are university-owned, and 43 percent are partnerships between universities and other public or private.

In 2003, the UKSPA contracted with Angle Research to examine the impact of science parks on the U.K. economy. UKSPA is the authoritative body on the planning, development and the creation of Science Parks that are facilitating the development and management of innovative, high growth, knowledge-based organizations. They examined some 900 companies altogether, comparing the economic and innovation performance of park tenants with similar firms located outside parks. The results showed that the single most important factor affecting the performance of science parks is the state of the sub-regional economy in which they operate. Also, the companies in parks were found to have higher growth rates, in terms of both turnover and employment, and better access to risk financing [8, p.23-28].

Manchester Science Park (MSP) which is one of the older science and technology research parks (more S&T parks) in the U.K., started in 1984 as a 22,500-square-foot building on a 15.5-acre site. Today there are 305,000 square feet of buildings on three sites that employ about 1,100 people.

Like so many parks, MSP was created as an economic development initiative. Manchester was badly weakened by the downturn in manufacturing of the 1980s, suffering job losses and much personal pain. Having heard about and visited Research Triangle Park, representatives of Manchester government, the university, and the commercial sector came together to set up a science park, raising an initial capital investment of 210,000 Pounds.

The park has received only limited public funding in its 24-year history, in the form of gap funding for three of the buildings. All the partnership activities of tenants and the university have been paid for out of MSP's profits. The park has never paid a dividend to investors, who are content to see the value of their holdings increase as a result of park activities.

In measuring success, the park uses the strategic objectives of economic development and knowledge exchange. The first metric is growth in tenant companies.

The park management also provides assistance to its companies and even tracks the alumni companies to monitor their development. In 2007, for example, MSP found that 79 percent of the companies operating in 2001 were still in business. By comparison, the average survival rate of all firms in Manchester is 64 percent. MSP also found that 70 percent of companies that left the park were still operating in the city region [9, p.661-674].

A new S&T park is unfolding in Monterrey, Mexico. The core ingredient in the Monterrey park strategy is to prepare for long-term alliances among universities, businesses, and government. The park will be oriented to achieve economic growth and quality of life through the "triple helix" of education and innovation.

Main features of the park include a total area of 175 acres, investment in infrastructure of $100 million, and investment in buildings and equipment of $150 million. Projected employment over the next five years is 3,500 researchers and engineers.

Two business incubators have been designed, one for nanotechnology and one for biotechnology, at a cost of $20 million. The state's first seed and venture capital fund is being assembled by private partners, the government, and the national bank to a level of $30 million.

Six years ago, Mexico began providing tax incentives for those who invest in R&D, absorbing 30 percent of annual R&D expenses.

Long-term goal of creating a science park in Monterrey (2025):

- increase the state's GDP per capita from \$15,975 to \$35,000 by 2020;

- become one of the world's 25 most competitive regions;

- consolidate a world-class education, research, and innovation system;

- demonstrate to the regional population the importance of education, knowledge and innovation in their lives;

- redesign the curricula of the education system in Nuevo Leon to innovation;

- enhance the existing universities and centers, and attract new research centers and investment in technology-based companies;

- promote innovation in existing companies through tax incentives and other measures;

- create new innovation-based companies using appropriate financial instruments;

- generate the necessary legal framework, governance, programs, strategic projects, and mechanisms to sustain park development for 25 years [10, p.304-342].

Main centers in the park include a variety of groups, in operation or under construction. These include universities and public research centers in different fields, including electronics, biotechnology, and mathematics, advanced materials, food industry, nanotech, water research, and others. The three major universities are critical in providing the expertise to compete in these complex new fields.

Because of this ongoing research, the park already has an important set of private firms located or planning to locate in the park, including AMD, Motorola, PepsiCo International, Owens Corning, and Infosys.

Sandia National Laboratories were established in New Mexico in the late 1940s to develop nuclear weapons. While Sandia remains a national security laboratory, its mission has broadened into other national security arenas, including energy and microelectronics, which rest on a broad base of science, technology, and engineering research.

The new Sandia Science and Technology Park has grown out of that research base and sits at the opposite end of an "innovation corridor" from the laboratories. Between them is the multi-building complex of MESA, Microsystems and Engineering Sciences Applications. This corridor represents a \$500 million investment by the Department of Energy (DOE).

The 240-acre park was founded in 1998 to attract industry in support of the Sandia mission. The park is unusual in having three founding partners: Sandia, Technology Ventures Corporation, and the city of Albuquerque.

The initial purpose of the park was to create joint research and development opportunities, commercialize technologies, bring in new business, strengthen supplier-based "collaboratories," and foster regional economic development.

Statistics the dimensions of the park: 27 companies, 2,113 employees, 18 buildings, 897,000 square feet of occupied space, 67 developed acres. Funds-in and in-kind services flowing from tenants to Sandia, such as CRADAs and licensing agreements, have totaled \$17.6 million, and DOE/Sandia in-kind services to tenants (CRADAs) have totaled \$2.7 million. In the other direction, contracts from Sandia procurement to tenants amount to \$244.5 million.

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NASA Ames Research Center in California – one of ten NASA centers – has an unusual history. It began as a 500-acre NASA property in 1939, to which an additional 1,500 acres was transferred following the deactivation of the Naval Air Station at Moffett Field in 1994.

Since 1998, NASA has sought to develop the NASA Research Park (NRP) on the property, with the goal of creating a world-class, shared-use S&T campus for government, academia, nonprofits, and industry.

Its research programs, in addition to the educational institutions mentioned above, include CREST (Center for Robotic Exploration and Space Technology), M2MI (machine to machine intelligence), Bloom Energy (fuel cells), and UAV (unmanned autonomous vehicles.) It also includes collaborations and contracts with many small firms.

In 2005 the park signed an MOU with Google to build 1 million square feet of new facilities for large-scale data management and collaborations in massively distributed computing and bio-info-nano convergence. In 2006 a NASA-Google Space Act Agreement for Research and Development Collaboration was signed, with plans for up to 100 rental units of housing on 40 acres and new R&D labs.

NRP has also begun discussions to build a major campus with a consortium of universities, led by UC Santa Cruz. The consortium will lease about 70 acres for research, education, and innovation. Goals are to develop new technologies emerging from the convergence of bio-info-nano-scientific research, autonomous systems and robotics, renewable energy sources, technologies for long-term sustainability of human life, and managing innovation in the emerging world.

Research Triangle Park was founded in 1959 by business, government, and academic leaders. The park has had a long-term economic impact on the region. Per capita income growth in Raleigh-Cary and Durham were far below the state average and national averages before the park was formed; today the per capita income of the region significantly exceeds the U.S. average and far exceeds the North Carolina average.

In the 1960s it was one of the poorest regions in the southeastern United States and today is among the wealthiest regions in the southeast. The park's university connections are "rich and robust," and each of the three university partners is involved in governance, leadership, and helping set strategy. The park employs some 40,000 full-time workers in 24.5 million square feet of developed space. The economic impact is $2.8 billion in capital investment and $2.7 billion in annual payroll.

When the park began operation, about 11 percent of the employment in the region was in new-line or high-technology industries, and today this proportion exceeds 50 percent. Strength of the park is its diverse industry mix: 29 percent of tenants specialize in life science, 21 percent in information technology, 13 percent in materials science and engineering, 15 percent in business and professional services, and 11 percent in scientific associations, foundations, and institutes.

It was not always so: the early park was dominated by a few large companies. Between 1997 and 2007, the number of companies increased three-fold, with the number employing fewer than 250 employees rising from 53 to 150 [10, p.208-246].

The Beijing Park. The park hosts over 20,000 enterprises and 950,000 employees, receiving total income of 850 billion Yuan (about US$ 110 billion). More than 800 enterprises have income exceeding 100 million Yuan.

Of the industries represented in the park, the majority (56.6 percent) are classified as

information technology, 12.5 percent as "new energy," 12.3 percent as biomedicine, 9.4 percent as advanced manufacturing, and 8.4 percent as new materials. The park has attracted almost 10,000 "sea turtles," she said, who have set up 4,200 companies in Zhongguancun Science Park.

The Suzhou Park established in 1994 in a location. Suzhou today is known for its "innovative spirit and ability to attract top talent world-wide." It is a joint development between the Chinese and Singapore governments, unprecedented, it is considered first among all regions in China in "pro-business mentality," efficiency, and consistency of policies.

Located 80 kilometers west of Shanghai, Suzhou has taken its place at the high-tech frontier of the global economy. In land area only 0.1 percent and in population 0.5 percent of China, it accounts for 2.3 percent of GDP, 1.5 percent of financial revenue, 10 percent of imports and exports, and 8.3 percent of foreign investment [11].

Government support is critical. The Chinese government has invested more than US$ 1.4 billion in the Suzhou park alone.

Indian Institute of Technology-Madras. By about 1999, the S&T park movement began to take off, he said, as India's entrepreneurial spirit was being liberated. Initially, India took advantage of its strong cost advantage, but this advantage is disappearing as India moves up the value chain.

The backbone of Indian higher education in science and engineering is formed by its 12 S&T institutes of national importance. These include the seven Indian Institutes of Technology, five of which were formed soon after independence in the 1950s (including Dr. Ananth's institute in Chennai); one was added in 1995 and another in 2001. The strong national recognition and status of the ITs makes them logical anchors for research parks as they provide leadership in every field of science and engineering.

The objective of the Indian science and technology parks is to promote and foster the spirit of innovation. The nation's parks still have a long way to go in terms of the infrastructure and support systems necessary for competitive R&D. Nonetheless, economic growth has been remarkable – consistently.

The objective of the Indian science and technology parks is to promote and foster the spirit of innovation. Nonetheless, economic growth has been remarkable – consistently around 9 percent, he said, with manufacturing growing at 12 percent.

The parks are intended to:

- incubate early-stage entrepreneurial ventures based on technology and innovation;
- facilitate networking with professional resources for the incubated companies;
- identify technologies and innovations that have potential to be commercial ventures.

Indian research parks are still relatively small and not generally associated with universities. The bigger ones have varying mixes of tenants and partnerships. One group of parks is the Andhra Pradesh Biotech Parks.

These include:

- Shapoorji Pallonji (SP) Biotech Park near Hyderabad. It has about 140 acres under development and contains about 17 companies with an investment of about Rs 4 billion (or approximately US$93 million).
- The Marine Biotech Park occupies 218 acres near Visakhapatnam. In association with the Andhra University, it focuses on marine resources, marine foods, nutraceuticals, and fisheries.

- Additional IITs will be inaugurated in 2008-2009. The ICICI Knowledge Park is focused on facilitating business-driven R&D. It is located on 200 acres of land near Hyderabad and holds 13 companies with about Rs 420 million (or approximately US$9.8 million) invested.

- The state of Andhra Pradesh also has an Agro Park on 200 acres in the International Crops Research Institute for the Semi-Arid Tropics campus. The park comprises an Agri-Biotech Park, an Agri-Business Incubator, a Hybrid Seeds Consortium, and SAT Ecoventure. Three ventures have been developed in the Agri-Biotech Park, among them a facility for testing aflatoxin contamination in food crops.

- In Tamil Nadu Ticel Bio-Park has been developed in 2004 by the Tamil Nadu Industrial Development Corporation on a five-acre site at a cost of Rs 625 million (or approximately US$14.5 million), in collaboration with Cornell University; it now has three occupants.

- A newer research park is the Society for Innovation and Entrepreneurship, set up in 2004 on the campus of IIT-Bombay (located in Mumbai) as a business incubator. It now includes facilities covering 10,000 square feet and is supported by the Department of Science and Technology, the Technology Development Board, the National Entrepreneurship Networks, the IIT-Bombay alumni, and the Ministry of Communication and Information Technology [12, p.78-95].

4. Conclusions

Science parks, in their many different forms, now exist in most parts of the world and they are seen as a proven policy tool to spur the economic growth and to enhance the technological competitiveness.

The wealth and competitiveness of nations increasingly depends on their ability to convert new knowledge into products for the market. It should be noted to highlight the growing role of research parks in helping universities balance their 21st century missions in education, research, and commercialization.

Given the growth of new research parks around the world, important is the development of their successful performance in the future. You can select a set of factors required for success. One of the most important factors is the presence and involvement of a large research university or laboratory supporting a critical mass of knowledge workers.

Also, key is availability of funding over a sustained period. Strong and committed leadership is also essential to facilitate and guide the development of the park's physical infrastructure and quality-of-life amenities. Finally, and not least, a successful park needs skilled entrepreneurs and managers.

Talented and motivated individuals and teams in the private sector are needed to commercialize the knowledge generated. If the benefits of a successful park are to be realized over the long term, a critical combination of these factors must be present, although they are not sufficient to ensure success.

That research parks should not a priori be considered a primary element of a nation's innovation system. While successful research parks stimulate two-way knowledge flows between universities and industry, the conditions where such beneficial interactions can take place require further study.

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Summary

The article is devoted to the functioning of technology and science parks in developed economies. The analysis of scholarly works on problem creates innovative structures in the national economy. The role of technology and science parks as innovative component of the state economy is defined. The experience of the world's leading science and technology parks in various developed economies: the experience of the United Kingdom, Singapore, India, the United States and China. The basic ingredients for success in creating innovative structures in national economies and the factors that require further study.

Keywords: science research parks, technology research parks, university research park, innovative technologies, elements of a national innovation system, scientific and technological development.

UD classification: 330.342.23: 330.341.1

EXTENDED TECHNOLOGICAL MODEL OF AN OPEN ECONOMY

E. S. Yakub; S. P. Manzhula[*]

1. Introduction

Economic and social processes in Ukraine are increasingly involved in the process of globalization. Beyond the export and import relations the migration processes increased appreciably. An essential problem of our country is brain drain (the outflow of skilled personnel) and influx of unskilled labor from other countries.

The dynamics of the closed production system can be described within the framework of the von Neumann's linear technological model (LTM) [1, p.1-9]. LTM has a wide application range in economic modeling; it is able to represent practically any economic process, proceeding in such a closed system [2, p.89-93]. The extended version of LTM accounting on reproduction of human resources (HR) has been suggested recently [3, p.417-423].

The only economic system which is really closed one is the world economic system. When modeling the economic system of a selected country it is always necessary to keep in mind that it is not closed.

The aim of this work is generalization of the extended Neumann's linear technological model [3, p.417-423] on an open economy.

In the model of general economic equilibrium developed by John von Neumann [1, p.1-9] the closed economy is considered in a maximum common way as a cyclically working set of M processes, consuming and producing a finite number N of products. Thus all of products, produced in a certain period, are consumed during the following one. An enormous literature is devoted to the Neumann's model, its review one can find in the monograph of Intriligator [4, p.310-314].

2. Extended linear technological model

In the modern matrix formulation [4, p.311] of LTM for a closed economy is described by the following set of dynamic equations:

$$\mathbf{A} \cdot y(t) = \mathbf{B} \cdot y(t-1) \tag{1}$$

$$p(t) \cdot \mathbf{B} = p(t-1) \cdot \mathbf{A} \tag{2}$$

Here $y = \{y_1, y_2, \ldots, y_m\}^T$ is column vector of the processes intensities, and $p = \{p_1, p_2, \ldots, p_n\}$ is row vector of prices on products produced/consumed by these processes, t = 0,1,. is an index of a discrete time period, $\mathbf{A}$ and $\mathbf{B}$ are, correspondingly, (N X M) input and output matrices.

Von Neumann proved the existence of the unique solution of the above system of equations (and inequalities) of the model, which correspond to balanced growth of economy orientated on its maximum efficiency. Original Neumann's equations are more general than (1) and (2) including a set of inequalities, providing zero intensities for unprofitable processes and zero prices on the unconsumed products. LTM is a model general enough for the closed balanced economy which does not contain some obvious assumptions about character of processes and their motive forces (e.g. method of production and exchange, reasons and preferences, determining eventually the behavior of a single economic agent).

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[*] E. S. Yakub; Dr. Sci. (Phys. and Math.); Odessa State Economics University; Cybernetics Department; Email:<yakub@oseu.edu.ua>
S. P. Manzhula; Odessa State Economics University; Cybernetics Department; Email:<manzhula_s@mail.ru>

At the same time in Neumann's LTM all consumed resources are considered as replenishable and the specific role of HR (or labor supplies, which actually are always limited) is not reflected. HR reproduced only within society in a natural non-production (noneconomic) process, and requires certain inputs for its reproduction. An attempt to introduce this additional non-production process in the Neumann's LTM, which provides the reproduction of HR, was proposed in our recent paper [3, p.417].

The general statement of problem in this work was as follows. Neumann's model was updated by adding HR as such a specific product, which is consumed by every production processes without an exception, but reproduced only in non-production process mentioned above. This additional process provides reproduction of HR, i.e. employable population, and consumes various commodities and services (educational, medical etc.), which make possible the renewal of HR and maintain their certain reproduction rate.

Intensity y_0 of non-production process and HR price (payment for unit of employed HR, wages) p_0, labeled by index 0, appear as first elements in the extended column vector of the processes intensities $\hat{y}(t) = \{y_0, y_1, y_2, \ldots, y_m\}^T$ and in the extended row vector of prices $\hat{p}(t) = \{p_0, p_1, p_2, \ldots, p_n\}$. The A and B matrices are expanded accordingly by zero lines and zero columns forming the augmented ($N+1 \times M+1$) $\hat{A}$ and $\hat{B}$ matrices.

Note that HR is consumed only in production processes ($j=1, 2, ., M$). In the non-production ($j = 0$) process they participate as a part of population but as a matter of fact are not utilized as HR getting no payment.

Additional elements a_{0k}, ($k = 1, 2 \ldots, M$) of the matrix $\hat{A}$ represent the measure of HR consumption in the production sphere, thus all of $a_{0k} > 0$, because not a single production process can operate without HR. And in the non-production process HR are not employed: $a_{00} = 0$.

Equations of the extended model after replacement of vectors $y(t)$ and $p(t)$ by vectors $\hat{y}(t)$ and $\hat{p}(t)$, and A and B matrices, accordingly by matrices $\hat{A}$ and $\hat{B}$, formally match equations (1) and (2). However the account of the HR specific features allows simplifying these equations.

Both an initial Neumann's model and its extended version [3, p.417], are applicable only to a closed economy. At the same time the real economic systems usually are open. Every company, corporation or independent country, has its own trade balance, even when exchanged by products with counterparts.

To study the economy in this case it is necessary to utilize an open model, i.e. to take into account both import and export. The model of the economic system of any country, being a model of an open system, must represent economic links with other countries. Starting from the general model of the closed world economy, we will develop below the model of an open economy of a specific country.

3. Extended technological model of an open economy

We will present the model of an open economy within the framework of the extended LTM considering the closed world economic system as consisting of two subsystems: economy of a selected country (for example, Ukraine) and the entire economy of all other countries.

The open economies of selected countries always can be considered as parts of a more general closed economic system (world economy). If the economy of the considered selected country brings in only a small contribution to the world economy, the problem of modeling such open economy is considerably simplified, because there is no need to take into account its back influence on the world economic system. For open economies of relatively small countries (small open economies), whose contribution to the world economy is not crucial, the last one serves as a distinctive «thermostat», specifying many their exogenous parameters.

Consider the world economy composed in general case from M production processes which produce N of products. In the extended model the number of these processes is increased by non-production processes reproducing HR both in the specific country under consideration and abroad. Accordingly, in the number of products must be included both domestic and foreign HR.

Many attempts to describe the open system on the base of the closed technological model have been made (see, for example, Refs. [5, p.337-383; 6, p.252-258]). The idea of extending the Neumann 's approach on the open systems has been already proposed by us before [7, p.210-215]. All the products produced in the world economic system consist of products, which are produced only in one of its subsystems and do not have analogues, and products, producible in its different subsystems, having insignificant differences in consumer properties and hence being interchangeable.

We will divide the great number of all N material products into two groups: domestic and foreign ones. Even when domestic products there are similar to the foreign ones, their prices in different countries will differ. It results, firstly, from the difference in technologies of their production, and secondly, from the presence of custom barriers. Below we will distinguish between domestic and foreign products, even if they are interchangeable. In the most general case we suppose that $N = 2n$, where n is a number of all physically different goods, produced in the world economic system. If a similar product is not produced in the certain subsystem, the corresponding coefficient of technological matrix B will be set to zero.

Notice that now to extend LTM we have to add not one but two kinds of products representing HR: domestic HR (labeled by index 0), and foreign HR (labeled by index n+1).

Let's denote domestic products by the index of D, and foreign ones by the index F. Accordingly we will introduce two extended n+1 - dimensional vectors: one for domestic prices: $\hat{p}_D(t) = \{p_0, p_1, p_2, \ldots, p_n\}$ and second for prices on foreign products: $\hat{p}_F(t) = \{p_{n+1}, p_{n+2}, \ldots, p_{2n}\}$. Below we consider the corresponding extended 2n-dimensional 'full' row vector of prices as:

$$\hat{p}(t) = \{\hat{p}_D(t), \hat{p}_F(t)\}. \tag{3}$$

Following the same procedure, we subdivide all M production processes into domestic (marked by index D) and foreign processes (labeled by index F).

Similarly, two additional non-production processes must be included in the extended 'full' column vector of intensities $\hat{y}(t)$: domestic non-production process with an index 0, and foreign one having index m_D+1. The full $\hat{y}(t)$ vector consists now of M+2 elements; its constituents are m_D+1-dimensional vector $\hat{y}_D(t)$ of the domestic processes intensities, and m_F+1 -dimensional vector $\hat{y}_F(t)$ of the foreign processes intensities; thus the number of production processes in the world economy remains $M = m_D + m_F$:

$$\hat{y}(t) = \{\hat{y}_D(t), \hat{y}_F(t)\}. \tag{4}$$

Within this generalized model two technological matrices of dimension $(2n) \times (m_D + m_F)$ exist. The augmented input matrix $\hat{A}$ is:

$$\hat{A} = \begin{pmatrix} \hat{A}_D & \hat{A}_E \\ \hat{A}_I & \hat{A}_F \end{pmatrix}, \tag{5}$$

where, $\hat{A}_X$; (X=D, T, I, F) matrices are as follows:

$\hat{A}_D$ (n+1 x m_D+1) is the consumption of domestic products and HR by domestic processes (internal consumption of products and HR);

$\hat{A}_E$ (n+1 x m_F+1) is the consumption of domestic products and HR by foreign processes (export of

products and HR);

$\hat{A}_I$ (n+1 x m_D+1) is the consumption of foreign products and HR by domestic processes (import of products and HR);

$\hat{A}_F$ (n+1 x m_F+1) is the consumption of foreign products and HR by foreign processes.

Because in both non-production processes HR is not utilized as such, in the definition of Eq.(5) $a_{00} = a_{n,0} = a_{0,m_F} = a_{m_F,m_F} = 0$.

According to the subdivision of products and HR given above, and taking into account that domestic products are never produced by foreign processes, and no domestic process produce foreign product, the extended technological output matrix $\hat{B}$ will look like:

$$\hat{B} = \begin{matrix} \hat{B}_D & 0 \\ 0 & \hat{B}_F \end{matrix} . \tag{6}$$

Here two matrices: $\hat{B}_D$ (**n**+1 x **m**$_D$+1) and $\hat{B}_F$ (**n**+1 x **m**$_F$+1) characterize, accordingly, outputs of domestic and foreign processes.

In addition, there are a few other zero elements in the matrix $\hat{B}$ defined by Eq.(6). HR are not produced by production processes, and non-production process does not produce material products, therefore in matrices $\hat{B}_F$ and $\hat{B}_D$ the first line and column have generally only one non-zero element, i.e. all b_{ij} except b_{00} and $b_{m_D+1\,n+1}$ are zero.

In the world economy, as in any LTM of a closed economic system, two balances must be maintained 1) material balance and 2) balance of payments. To provide the description of an open economy of the selected country it is necessary to extract from these balances corresponding balances kept in the domestic economy interacting with the world economy importing and exporting products and HR.

Thus, the material balance for the general system Eq.(1) can be written down for two groups of products as follows:

$$\begin{cases} \hat{A}_D \cdot \hat{y}_D(t) + \hat{A}_E \cdot \hat{y}_F(t) = \hat{B}_D \cdot \hat{y}_D(t-1), \\ \hat{A}_I \cdot \hat{y}_D(t) + \hat{A}_F \cdot \hat{y}_F(t) = \hat{B}_F \cdot \hat{y}_F(t-1) \end{cases} \tag{7}$$

These equations show that every product or HR, produced within any subsystem during certain period, is consumed in it or exported. So, $\hat{A}_E \cdot \hat{y}_F(t)$ is a vector of export of the selected country in terms of value, including HR migration as well; and $\hat{A}_I \cdot \hat{y}_D(t)$ represents value of the imported products, including HR, which are utilized in the selected country during this period.

Taking into account the specific features of HR, mentioned above, it is possible to write those equations (7), which correspond to consumption of domestic HR in production processes:

$$\sum_{j=1}^{m_D} a_{0j} \cdot y_j(t) + \sum_{j=m_D+2}^{m_D+m_F+1} a_{m_D+1j} \cdot y_j(t) = b_{00} \cdot y_0(t-1) .$$

The first term in the left side indicate the consumption of domestic HR in domestic processes, and the second one the same in foreign processes (the outflow of HR from the selected country).

The balance of payments of the general system Eq.(2) also can be rewritten separately for domestic and foreign processes:

$$\begin{cases} \hat{p}_D(t) \cdot \hat{B}_D = \hat{p}_D(t-1) \cdot \hat{A}_D + \hat{p}_F(t-1) \cdot \hat{A}_I, \\ \hat{p}_F(t) \cdot \hat{B}_F = \hat{p}_D(t-1) \cdot \hat{A}_E + \hat{p}_F(t-1) \cdot \hat{A}_F \end{cases} \tag{8}$$

This system of equations shows that every domestic and foreign process defrays its own expenses, consisting of inputs of domestic and foreign products, by its own outputs.

In particular, for domestic non-production processes:

$$p_0(t) \cdot b_{00} = \sum_{i=1}^{n} p_i(t-1) \cdot a_{i0} + \sum_{i=n_D+2}^{2n+2} p_i(t-1) \cdot a_{i0} \ . \tag{9}$$

This condition shows that the earnings of households must cover their consumer disbursements, consisting of expenses on domestic and imported products.

We note that unlike the domestic balance of payments, to purchase some products at the oversea markets, every country must have an available stock of foreign currency. It can be obtained only by selling the equivalent amount of own products abroad.

Supposing that the foreign trade balance of the open domestic economic system (export-import) exists in equilibrium.

Let's take into account that the selected country (we suppose this country has inconvertible domestic currency) can expend on importation in a certain period only a sum equal to value of its exports during the previous period:

$$\hat{p}_D(t)\hat{A}_E \hat{y}_F(t) = \hat{p}_F(t-1)\hat{A}_I \hat{y}_D(t-1). \tag{10}$$

All the income of domestic economy consists of revenues earned inside the country and value of its exports.

Multiplying both sides of first line of Eq. (7) by vector $\hat{p}_D(t)$ from left we obtain the equation of material balance for domestic economy:

$$\hat{p}_D(t)\hat{A}_E \hat{y}_F(t) + \hat{p}_D(t)\hat{A}_D \hat{y}_D(t) = \hat{p}_D(t)\hat{B}_D \hat{y}_D(t-1). \tag{11}$$

We can write down finally the full set of equations of the extended LTM of an open economy, taking now Eqs. (7-9) into consideration, as follows:

$$\begin{cases} \hat{A}_D \cdot \hat{y}_D(t) + \hat{A}_E \cdot \hat{y}_F(t) = \hat{B}_D \cdot \hat{y}_D(t-1), \\ \hat{A}_I \cdot \hat{y}_D(t) + \hat{A}_F \cdot \hat{y}_F(t) = \hat{B}_F \cdot \hat{y}_F(t-1), \\ \hat{p}_D(t) \cdot \hat{B}_D = \hat{p}_D(t-1) \cdot \hat{A}_D + \hat{p}_F(t-1) \cdot \hat{A}_I, \\ \hat{p}_F(t) \cdot \hat{B}_F = \hat{p}_D(t-1) \cdot \hat{A}_E + \hat{p}_F(t-1) \cdot \hat{A}_F. \end{cases} \tag{12}$$

We note that the solution of equations (12) must satisfy also the constraints (10).

In the case of a small open economy, first terms in second equations of (7) and (8) systems become negligible and the system of equations of the open economy (12) can be additionally simplified by taking into account only first equations from the systems (7) and (8), in which the elements of

vectors $\hat{p}_F(t)$ and $\hat{y}_F(t)$ now are considered as exogenous factors:

$$\begin{cases} \hat{A}_D \cdot \hat{y}_D(t) + \hat{A}_E \cdot \hat{y}_F(t) = \hat{B}_D \cdot \hat{y}_D(t-1), \\ \hat{p}_D(t-1) \cdot \hat{A}_D + \hat{p}_F(t-1) \cdot \hat{A}_I + \hat{p}_D(t) \cdot \hat{B}_D \end{cases} \tag{13}$$

This system includes m_D+n+2 equations (m_D+1 for elements of vector $\hat{y}_D(t)$ and $n+1$ for elements of vector $\hat{p}_D(t)$).

Returning to the initial von Neumann's model in terms of A_D, A_D, B_D and B_F matrices, we arrive to another form of Eq.(13), including m_D+n equations determining two vectors $\mathbf{y_D}(t)$ and $\mathbf{p_D}(t)$:

$$\begin{cases} \mathbf{A}_D \cdot \mathbf{y}_D(t) + \mathbf{A}_E \cdot \mathbf{y}_F(t) + \mathbf{C}(t) = \mathbf{B}_D \cdot \mathbf{y}_D(t-1) \\ \mathbf{p}_D(t) \cdot \mathbf{B}_D = \mathbf{p}_D(t-1) \cdot \mathbf{A}_D + \mathbf{p}_F(t-1) \cdot \mathbf{A}_I + \mathbf{D}(t-1) \end{cases}, \tag{14}$$

Besides there are two additional equations, according to extra variables y_0 and p_0:

$$\begin{cases} \sum_{k=0}^{m_D} a_{0k} y_k(t) + \sum_{k=m_D+1}^{M} a_{0k} y_k(t) = b_{00} y_0(t-1) \\ p_0(t) b_{00} = \sum_{k=0}^{n} p_k(t-1) a_{k0} + \sum_{k=n+1}^{2n} p_k(t-1) a_{k0} \end{cases}. \tag{15}$$

Here the elements of C and D vectors are defined as:

$$c_k(t) = a_{k0} y_0(t) + a_{k+n\,0}\, y_{m_D+1}(t) \quad \left(k = \overline{1,n}\right) \quad,$$

$$d_k(t) = p_0(t) a_{0k} + p_{n+1}(t) a_{0\,k+m_D} \quad \left(k = \overline{1,m_D}\right).$$

The first equation in the system (15) actually represents a constraint on possible intensities of domestic and foreign production processes implied by available HR produced by domestic non-production process.

The second equation of the above system determines dynamics on domestic wages p_0 accounting consumption of both domestic and imported products inside the selected country.

4. Conclusions

In this work we derived the set of the Neumann's processes-product dynamic equations extended by account of HR dynamics and wages for small open economy Eqs. (14-15).

Knowing the elements of matrices $\mathbf{A}_X; \left(X = D, T, I, F\right)$ as well vectors $\hat{p}_F(t)$ and $\hat{y}_F(t)$, one can evaluate the desired vectors of prices $\hat{p}_D(t)$ and intensities $\hat{y}_D(t)$, describing economic dynamics of that small open economy within the extended LTM from Eqs.(14-15) with account of constraints (10).

The proposed modification of LTM provides the possibility to study the interrelated dynamics of economic processes and labor supplies, in particular, tracing of labor migration processes.

The approach proposed here can be developed further by adding, for example, of dutiable import, which affects the cost of imported products.

Utilizing a similar model of an open economy, it is possible also to investigate import turnover,

amount and structure of export, import and its interrelation with domestic production on internal market.

Because the same product here can be treated both as product of domestic and external economy, it is possible to predict the dynamics of its price, both on domestic and world markets.

While estimating the elements of $\mathbf{A}_D$ and $\mathbf{A}_I$, $\mathbf{A}_F$ and $\mathbf{A}_E$ matrices it is possible to investigate the degree of dependence of the selected country from the certain imported products and foreign manpower, to analyze the competitiveness of its export products abroad and the demand on the domestic labor market etc.

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Summary

In this work the extension of the von Neumann's linear technological model proposed earlier is further generalized on an open economy of a small country. The proposed modification of the linear technological model provides the possibility to study the interrelated dynamics of economic processes and labor supplies, in particular, tracing of labor migration processes.

Key words: linear technological model; open economy; human resources.

UD classification: 330.42; 330.44.

FORMING AND REALIZATION OF THE INFORMATION POLICY IN THE UKRAINIAN REGIONS

N. S. Zavizena[*]

1. Introduction

Information plays an important part in the state management system. On the one hand functioning of the democrat system is impossible without high level development structure of the society and on the other hand – without effective but the main thing, built on principles' politicians and administrators' legality and solidarity for the citizens. But not always, territorial administration organs' activity is opened for the population and we see it well in mass media. By the way, these or those issues are linked with the information policy of the state and regional administration. They are responsible for giving information to the population, conducting seminars, science conferences, "round tables". These issues are popular among the administrations and politicos, political parties and national movements and other unions. Famous foreign and Ukrainian scientists such as H. T. Artamonov, D. Bell, V. D. Havlovskyi, A. S. Halchinskyi, R. A. Kaluzhnyi, In. Stigler, A. Toffler. V. S. Tsymbaluk studied the sphere of informational technologies information and its realization and influence on social-economic regions' development. The latest works in the information theory belong to such scientists as V. S. Ponomarenko, M. H. Tverdokhlib, O. V. Kostrov, O. O. Kozyrev, V. M. Hlushkov, A. P. Kolmorov, K. Shennon, N. Winner and others.

The positive side of publications reports articles monographs found its reflection in problems and questions of theoretical types.

Many scientific researches study the theme and content of the state authorities' information policy.

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The scientists try to answer: who is responsible for the state information policy and its realization. And, in general, one can involve the basic principles of the state information policy.

2. The meaning, forming and realization of the information policy

According to scientists' and politicians' conclusions the meaning of state information policy and territorial administration organs policy is not determined. Although, today the forming process and the main directions in the state information policy are working, but the used methods of such policy are not made [1].

The scientific meaning of the phenomenon "information and its essential characteristics", appeared in the society of the information processes. The state and local authorities' organs role, information regulation mechanisms and information space control and also the state and mass media interrelations will be the subject of study for a long time.

The scientists, who specialize in this theme, think: state information policy (SIP) is the aims, which reflect state national interests in mass media strategies directions and the realization systems [2, p.137].

Foreign researchers think the main principle of the forming information policy for any state is the principle of confidence. SIP must be directed to the forming relations of the social partnership, talks between the citizens and authorities the improvement image of the state in the world social opinion [3, p.9; 4, p.4].

[*] N. S. Zavizena; associate professor, Candidate of Education; International University for the Humanities; Odessa

For the last decade legal principles of the information society has been formed in Ukraine: normative-legal documents are accepted, which regulate society's attitude to the state authority information, electronic documents circulation and digital subscription, creating electronic documents circulation and digital subscription, creating electronic information resources, developing telecommunications, planning managing and regulating radio frequency resource. Supreme Rada (Ukraine's Parliament) adopted the law about the main principles of the information society 2007-2015 in February 2007 (N 653-p). It is ratified the Plan of the information society realization principles in Ukraine 2007-2015. Ukraine has discharged its obligations, adopted at the World Summit to create national electronic strategy. Today the normative–legal information base has five Ukraine Laws, four Ukraine President Decrees, twenty five decrees of the Cabinet of Ministers, KMU, Ministry of Transport, Ministry of Communications directions, reported in Ministry of Justice.

Normative–legal base in forming and realization the information policy through the regions of Ukraine includes such laws of Ukraine as "National information programme"74/98/-VR, the main principles of the information society in Ukraine 2007-2015 537-16, "The National Conception information programme" 75/98 VR. "About information" 2657-12. Supreme Rada decrees of the National information programme (NPI) for next years "The Order of regional programme and information project", "The guide of the National information programme". It is forming the system of the national electronic information resources in the order of Legalization and using computer program's in the executive power and other activities, which are determined by the Cabinet of Ministers decrees, also "The order of the computer programs legalization in the executive power from 04.03.04 N 253", "The ratification of the National electronic information resources register" from 17.03.04 N 326, "The ratification of the information, the executive power systems and also enterprises, institutions and organizations " from 03.08.05, "The ratification of the industry programme and information programme" from18.12.2001 N 1702, "The ratification of the National information program" from 31.08.1998 N 1352.

It's necessary to mark the adoption of the Ukraine's Laws: "National information programme", "National information programme conception", Ukraine President decrees:" The development of the National global Internet and providing general access", played an important role in the development of Ukraine information system. The Ukraine President Decree: "the latest information technologies tasks", which determined information society as the priority direction in the state policy, influenced on the information society.

Today, the informative legal base and technological foundation for electronic documents circulation is created in the State. Ukrainian laws define the main legal principles of the electronic documents circulation and using electronic documents, legal status of the electronic digital signature (EDS) and its usage by the juridical and physical persons and also it is defined infrastructure of the EDS and its subjects. A number of normative legal documents of the Ukraine Cabinet of ministers settled questions, connected with the EDS technological infrastructure system and its subjects also the realization of the documents circulation with EDS, it is determined: forming order, implementation and realization of examination National, sectoral and regional informatization programs, their individual tasks (projects), use of computer programs in the executives; of the executive power; provision of telecommunication services and more.

In addition, the essential meaning of the development of information society is to provide information of administrative services by state authorities via the Internet within the objectives for the implementation of national electronic information system "Electronic government" establishing the procedure for publishing on the Internet information on the activities of executives, introduced measures to ensure openness and clarity of the executive and established procedures and requirements for content and technical maintenance of the executive.

At the same time it should be pointed that normatively-legal base the informatization needs further improvement, in the National and regional informatization programs.

Technical information security issues are resolved by 10 of the Law of Ukraine, 8 Decrees of the Ukrainian President, 24 decisions and orders of the Cabinet of Ministers of Ukraine, 19 orders of the executive authority. Besides, 39 regulations and four ISO were involved.

However, some issues aren't still sufficiently regulated. They are: personal data protection, electronic commerce, state information resources protection. Each year the State Informatization Committee (SIC) of Ukraine prepares and submits to the Cabinet of Ministers of Ukraine reports of the state regions informatization work.

Informatization and information society analysis indicates that there are all necessary conditions for successful building information society in Ukraine: the world famous cybernetics school activities; formed a number of legal information society principles, which regulate social relations for the electronic information resources creation, protection of intellectual property rights, the introduction of electronic document-based on digital signature, data protection; improving the management information area, preparing a large number of high qualified specialists in ICT, mathematics, cybernetics, and the growing fleet computers, modern telecommunications systems and facilities, communications; Internet spreads rapidly and electronic administration technology elements implemented. The first time since 1995-1999, the informatization and the Information Society development sphere received effective top officials support, one began to resolve the problem of information society.

However, the effectiveness of NPI, as in the whole process of the information society realization, defined by the Law of Ukraine "The Main Information Society principles in Ukraine in 2007-2015", Supreme Rada of Ukraine 01.12.2005 № 3175-IV "Parliament recommendations of the Information Society Development Programme", by the Government and other documents, it is insufficient and does not meet the potential of Ukraine. Problems and difficulties of socio-economic and political development of Ukrainian society related to the use of information technologies components and infrastructure, despite the existence of the Information and the laws of the National Program, which must work. First of all, the lack of systemic approach is often mentioned, but rarely implemented.

Billions have already been invested but Ukrainian global informatization did not take place. Instead of it:

- low-yield company of the total computerization are focused on solving basic problems of the perfunctory level (while the annual computer market sales more than 3.5 million units);

- the increase of the mobile services, it is annually spent more than ten billion hryvnias in Ukraine (there are 55.3 million mobile subscribers on 01.01.2009).

- Internet is a toy for a considerable part of users (on 01.01.2009 the Internet – users in Ukraine made up over 10 million users).

The financial crisis has captured all the territory and society aspects and remains the main influencing factor in the informatization processes and society in the world and in Ukraine in 2008 and the first half of 2009. The results of this influence are seen in different ways by the variety of scholars and specialists. Some of them think the crisis is a positive phenomenon, which allows optimizing the structure, establishing economic mechanism, leading responsibility in demand with supply, stimulating investment and innovation processes, accelerating the introduction of new innovation and communication technologies, etc. Contrary opponents point to the economy large losses, a substantial improvement of social and political tensions, rising unemployment, lower living standards, deteriorating crime situation, increasing threats to the national security, etc. In any case, this phenomenon should be taken into account when it is forming and realizing state informatization policy and the Information Society in Ukraine. World leading countries experience, such as the U.S. shows that one way to reduce the negative effects of the financial crisis is to implement the same investment and innovation policy in the informatization society development sphere.

European Union at the Seventh Framework Programme announces the information society development as a key direction to overcome the financial crisis. Therefore, the Programme of the Cabinet of Ministers of Ukraine "Overcoming financial crisis and the ways of development" for the first time included in separate section" Information Society Building", which is defined such priorities as: realization of all executive electronic documents and digital signature creating systems, creation the conditions for state authorities information resources integration of all levels; access to the information and increase the variety and a number of services provided by the state entities and agencies to use electronic media and Internet, increased efficiency of the National Informatization Program formation and implementation; drafting of the State program realization in state administration software open source, creating new and improved current regulatory framework in the information sphere, harmonization with EU standards IT products and services standards. The draft strategic document "Ukraine 2020: national modernization strategy" was developed by the Ministry of Economy of Ukraine with the help of central authorities and state institutions "Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine" also provided a separate unit of the issues above .

At the same time the management functions and regulation realization in this area are signed the least financial investment compared to any other sphere, though the computer equipment sale in Ukraine takes a significant share of GDP [5, p.24].

The analysis showed only 0,5% of 300 mln. hrn., foreseen by central public authorities in 2009 year in the state budget for the projects in the field of informatization, were distinguished to the Public Committee of Informatization for the realization of management function in this sphere which is the best index among all central executives (State Consumer Standard – 53% , Forestry – 69,3%, State Statistic Committee – 87.1%, State Land Committee – 67,9%, Ministry of Transport – 38,8%, Ministry of Regional Construction – 62,8%, etc.).

As a result of the National Informatization Program it is possible to see that in all done directions and tasks, it is not quite what we want, or it is insufficient. This happened not only because of the crisis in the economy, but mainly because of the absence of a systematic approach to planning and organization of work within the NPI. Departure from principles of the state regulation informatization, gaps in the mechanisms of coordination, of course, did not contribute to the consolidation efforts in society and the rational use of financial and human resources, so principles of the self-accounting of the projects, return of the budget funds and etc. didn't develop. Moreover, the lion's share of the expenditures for the informatization of all budgets is scattered on different target programs and spent avoiding the NPI (from 0,8 to 1,0 billion hrn. annually). The national program of informatization determines the strategy of the decision of the problem of providing informative necessities and informative support of the social, economic, ecological, scientific and technical, defensive, national, cultural and other activities in the areas of the state indication.

The concept of national information policy shows that for the last period Ukraine has made considerable steps in the implementation of European and international standards of freedom of speech and information. The ramified legal base is formed in an informative sphere. The model of mutual relations between power and mass media was radically transformed. Proper conditions were created for the free, independent and pluralistic media. There is a positive dynamics in the development and structurization of home media market. Substantial advancement was done on the way of integration of Ukraine in the global information space.

These trends induce us to think home informative sphere is in progress and can become a foundation of information society in Ukraine on the assumption of realization of a focused and consistent state policy.

At the same time, development of information sphere runs into certain problems, as follows:

▪ imperfection of the informative legislation of Ukraine;

- rejections of the state-administrative decisions system, which further development is aimed at providing of strategic system in an informative sphere;

- the lack of a consolidated vision underestimation value information directions, value information and state development communication aspects, consolidation European and euroatlantic society integration;

- journalists' rights violation to the access of the information, editorial policy interference of the media owners, administrative pressure of the local administrations and local authorities on journalists, prosecution critical materials prosecution, leaders local media release;

- lack of the state support production and distribution of home informative product, which does not meet the case of society;

- national informative space products of bad quality, which does not meet society's requirements, destroys the system of public values, has pernicious influence on the spiritual and physical health of population;

- Ukrainian level integration into the global information space remains low, and the presence of Ukrainian information resources is insufficient;

- high informative Ukraine dependence on the foreign states and media – structures;

- property relations irregularity for the media;

- monopolization trends in television, radio and printed media;

- Ukrainian language level in the audio-visual (electronic) and printed media is insufficient.

The analysis of these or those problems of information indicates on improving state policy in this sphere. In general, the Conception is aimed at creating conditions for building developed information society in Ukraine, ensuring the constitutional rights and civil rights to freedom of speech, providing informative resources and infrastructure development, introduction of the modern information and communication technologies, national moral defence and cultural values.

The Conception's financing comes true within the limits of the state and local budgets, due to contributions of international investments international organizations and other sources. Budget financing volumes will be determined annually during the budgets drafts for the current year, based on specific tasks and real financial capacities. Central authority executive branch Ministry can execute trade programs and information projects only as a part of the National Informatization Program. Regional peculiarities of the informatization government patronage project and regional aspects of the sectoral information programs are taken into account during the formation of the regional informatization programs. Regional programs and projects of informatization are created by the local executives as a componental part of the National Program of Informatization and conform to the General state customer of the National program of informatization. Regional peculiarities of national projects of informatization of government and regional aspects of the sectoral programs of informatization are taken into account during the forming of the regional informatization programs. The implementation of the regional organization programs and informatization projects is fulfilled by the structural departments which are determined by local executives.

The local government informatization programs and projects are formed by these authorities and should be accounted for the National informatization program of informatization, accepted and implemented according to the general state principal. In general, forming and implementation of the National Informatization Program is financed by the State Budget of Ukraine and other sources, which are not prohibited by the legislation of Ukraine. Introduction of the charges to the State Budget of Ukraine, which are necessary for realization of the National informatization program, is obligatory.

Analysis of the regional development computerization has shown that during the last years computer network information - communication networks had expanded. During 2004-2009 there is a

permanent increase of amount of enterprises, which use computer, but in its turn leads to an increase in common use of computers. According to the computer technologies entities who use it in regions, was found that the largest number of computerized economic entities located in Kiev (24,1% of the total), as well as in Donetsk (8,1%), Kharkiv (7.0%) and Dnipropetrovsk (7,0%), and the fewest – in Sevastopol (0,24%), Chernivtsi (1 , 27%), Ternopil (1.29%) and Kirovohrad (1,33%) regions.

3. Conclusions

It was determined that one of the best ways of improving information support of the regional socio-economical development is expanding the access to Internet. According to the estimates by IKS-Consulting, in Ukraine in 2009 the total number of subscribers of the broadband access (BA) to the Internet (private and corporate) was about 2.46 million, of which almost 2.2 million are home users. At the end of 2009 year the level of BA in Ukraine approaches 12,4% from the general amount of households. There were built more than 2500 kilometers of fiber-optical communication lines and were put into operation by all operators, including 2.1 thousand km of "Ukrtelecom" corporation. "Ukrtelecom" corporation remains the leader of broadband Internet access. According to the experts, the total number of subscribers is about 1,5 million. According to monitoring information market and communication technologies it was found that Ukraine falls behind from the most developed countries by the degree of integration into the global web-space for the parameters: a) density and technological excellence of telecommunications networks; b) the number of Internet-users; c) share and ranking in the national segment of the web. A positive dynamics at the telecommunications market will promote further growth of home Internet-users. Improbably, that the crisis phenomena and related to its decline population solvency will slow this process substantially, as: a) the increase of a percent of territories and population, covered by the TCNS of new generation, while stable tariffs on connecting and maintenance are remained unchanged; b) the cost of Internet-services in Ukraine is now fully accessible for the wide layers of population.

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Summary

The problems of the social information and economic development support in the region are examined in this article. Special attention is paid to the trends of forming and realization of informative policy in the regions of Ukraine on the basis of existing experience and own methodological positions of new theoretical and principles of the informative development systems and analytical providing of social economic policy. Basic directions of the social and economic informatization development of the region are grounded; the increasing informative efficiency concept of the socio-economic policy is worked out.

Keywords: information policy; information technologies; regions informatization; regions information providing; national information policy.

UD classification: 32+332.021+332.143

SOCIO-ECONOMIC ASPECTS OF ENERGY EFFICIENCY CONTROL SYSTEMS FOR REFRIGERATING INSTALLATION

Volodymyr Zhyvytsya; Oleg Onishchenko; Eldar Vaynfeld; Fedir Dyshlevy [*]

1. Introduction

Energy efficiency as well as coefficient of performance (c.o.p.) of the refrigerating equipment is constantly being enhanced, but much remains to be done in this field. Compression is the most widely used refrigeration technology and electrical energy in it is the most commonly used source of energy [1, p.156-210; 2, p.134-141; 3, p.188-191]. The efficiency of a refrigeration plant is measured by using the c.o.p. The c.o.p. describes the relationship between the refrigeration effect provided by the plant and the energy consumed by the compressor; both types of energy are being expressed in the same units. The improvement of the energy efficiency of refrigeration plants is both socially and economically important process, since it reduces the main contribution of the refrigeration sector to the global warming through the energy consumption lowering. Issues are indirect emissions of CO_2 induced by the consumption of energy needed to operate refrigeration plants.

To manage operation and decision making problems we have to know how the given refrigeration plant works on the end-user site in real life from the energy consumption point of view. The experience on sites could give us cost data related to real energy consumption per refrigeration output. It might be considerably different from the refrigeration design. In many cases the losses of electrical energy could be found only after an execution of some complex measurements. Almost all existing control systems could not apply continuous measurements to find a flaw, then to provide technical diagnostics and to improve current situation. We have to measure a value of this parameter, before to say something about energy efficiency. The key issue here is to know the specific power consumption, for what we need to measure refrigeration output, which, in its turn, leads to measurements of refrigeration mass flow rate.

There are many methods to measure the above values, but most of them can be used only for special tests of refrigeration equipment or systems at the factories and are not practically available at customer sites [4, p.26-32; 5, p.230-267]. In other words, the technically practical and economically acceptable, and not yet commonly known way for continuous measurement of specific energy consumption should be suggested.

2. Task setting and solution

The set of requirements to the approach should be as follows:

- refrigerator energy efficiency monitoring should be done continuously;

- determination of energy efficiency, quantity of produced artificial cold and consumed energy should be done for any chosen by end-user time interval;

- low cost.

The application of such method could be saving money due to competent management of the given refrigerator.

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[*] Volodymyr Zhyvytsya; professor; Odessa National Maritime Academy; Department of Ship Electrical Engineering; Email:<vl.zh@mail.ru>
Oleg Onishchenko; associate professor; Odessa State Academy of Refrigeration; Email:<olegoni@mail.ru>
Eldar Vaynfeld; assistant professor; Odessa National Maritime Academy; Department of Ship Electrical Engineering; Email:<vaynfeld@i.ua>
Fedir Dyshlevy; Cadet; Odessa National Maritime Academy; Department of Ship Electrical Engineering

The purpose of this paper is to examine how to use motor-compressor characteristics together with necessary measured data in a refrigeration unit for indirect determination of refrigerant mass flow in small and medium capacity systems.

Proposed monitoring system should be constructed in the way where continuously occurs:

- measurement of electrical power that feeds the refrigeration unit, and, as a result, subsequent calculation of consumed electric energy amount;

- measurement of refrigerant temperatures and pressures at necessary points of the reverse cycle and calculation the appropriate specific enthalpy values;

- indirect determination of refrigerant mass flow and subsequent calculation of produced artificial cold amount.

Determination of energy efficiency for the given refrigeration unit as the ratio of produced cold to the electrical energy consumed, a comparison of this value (as option) should be done with: designed, theoretical, idealized for the Carnot cycle, manufacturer data (which the manufacturer claimed for the given unit), or technically acceptable for considering installation.

Results of the above comparison should be formalized in understandable terms for end-user (e.g., in color: «green» - energy efficiency is within the acceptable thresholds, «yellow» - energy efficiency is below the norm, «red» - energy efficiency is much lower than the norm). In the case of reducing energy efficiency, the analysis should be done to evaluate technical condition and operation level of refrigeration unit with the aim to make a decision on their further use (repair, replacement, etc.).

Accumulation and prolonged storage of necessary measured and calculated parameters, trends identifying future behavior of considered unit (improvement, deterioration or stable value of energy parameters) and their indications also should be provided.

A distinctive feature of proposed method is the way of indirect refrigerant mass flow determination. Content of the method is as follows: we should measure the current values on electrical motor terminals, namely – voltage, current and active power. Further knowing from manufacturer the nominal motor parameters we could calculate the mechanical power on the motor shaft. Simultaneously the pressures and temperatures at correspondent certain points (see below) should be measured, than for those points the correspondent enthalpy values should be calculated. The next two steps are to find the specific refrigeration capacity and the specific compression work. Power on the motor shaft comprises of permanent mechanical losses and compression work. To determine the latter we could multiply previously calculated power at the shaft by the special coefficient - α. It is well known that α is placed within the range 0.85…0.95. Next step is to determine the refrigerant mass flow assuming that the considered plant is under quasi-stationary conditions.

Figure 1 depicts the algorithm that is used to show what parameters (values) should be measured and calculated to find the specific power consumption (ε).

The amount of heat removed (Q_{12}) and energy supplied (W_{12}) could be found when integrating instantaneous values of refrigerating capacity and true electrical power input within a certain chosen time interval t_1, t_2.

The last step is to find ratio $\varepsilon = Q_{12} \big/ W_{12}$, which is based upon measured parameters and reflects the "quality" of supplied energy use.

The more detailed mechanical power definition on the electrical motor shaft (or, the same, on the direct drive compressor) is shown below. Basic information needed is the motor manufacturer data which present nominal values of parameters, next are values measured directly on electrical motor terminals, also the phase-substitution circuit will be used.

Power consumption in nominal regime

$$P_{el\,ter\,nom} = \frac{P_{shaft\,nom}}{\eta_{nom}} \quad . \tag{1}$$

Stator nominal current

$$I_{el\,ter\,nom} = \frac{P_{shaft\,nom}}{3 \cdot U_{el\,ter\,nom} \cdot \cos\varphi_{nom} \cdot \eta_{nom}} \quad . \tag{2}$$

Total losses

$$\Delta P_{\Sigma\,curr} = \Delta P_{copper\,s\,curr} + \Delta P_{copper\,r\,curr} + \Delta P_{iron\,curr} + \Delta P_{add\,curr} \quad . \tag{3}$$

Then the current mechanical power at the motor shaft (at the compressor shaft)

$$P_{shaft\,curr} = P_{el\,ter\,curr} - \Delta P_{\Sigma\,curr} \quad . \tag{4}$$

Above the formulas for three-phase asynchronous motor has been used, but the similar calculation could be made for any other electrical machines used in refrigeration engineering.
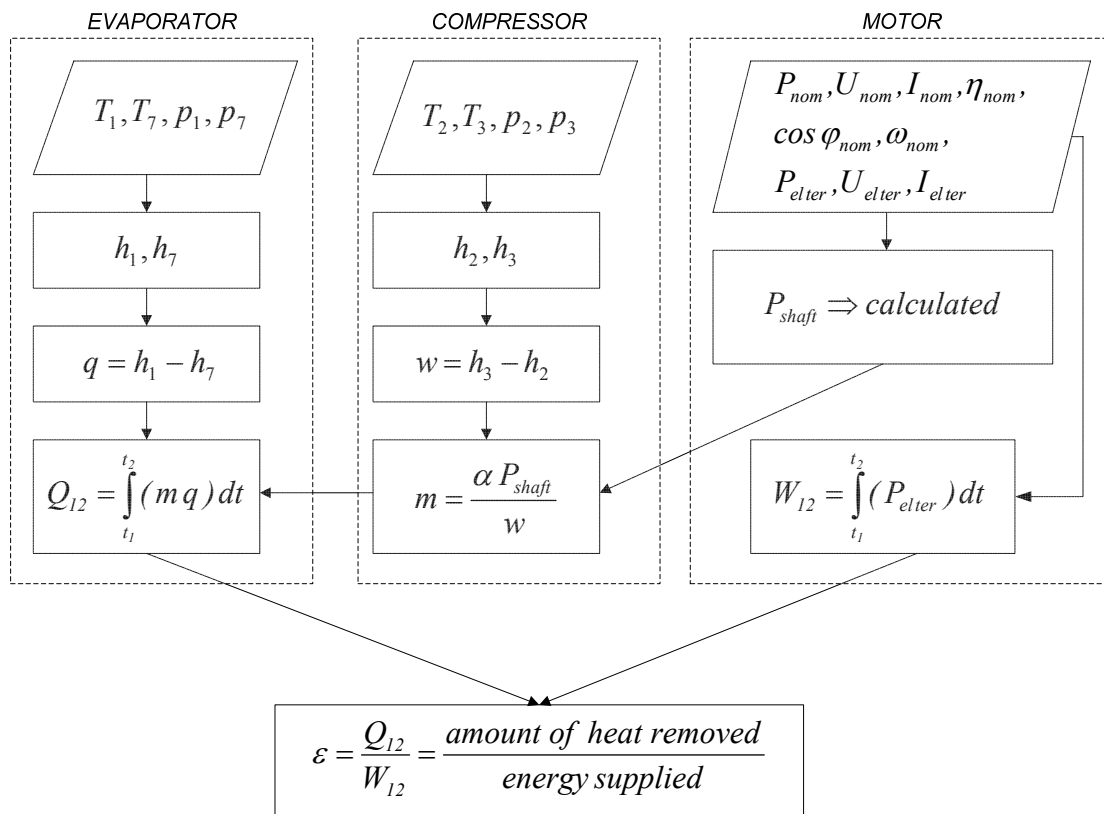

Fig. 1. Algorithm for determination of the specific power consumption

On the basis of carried out analysis for existing methods to control, estimations of power efficiency and mathematical models for small productivity refrigerating compressor installations (RCI) research tasks are validated. It is shown, that the effective decision of RCI control problems is impossible without mathematical modeling of dynamic and static modes of their work. From positions of automatic control theory, the analysis of basic properties of household refrigerating devices (HRD) and air micro compressors (AMC) devices for artificial ventilation of lungs is carried out. Mathematical models (MM) of HRD and AMC with use of fundamental laws of refrigerating engineering and hydro gas dynamics are suggested.

Mathematical models are created and problems of identification of parameters for some modern

electric executive mechanisms of compressors (EEM) are solved: an asynchronous, brushless direct current, switched reluctance motor (SRM). Sharing of created MM for HRD, AMC with developed MM of EEM have allowed to synthesis highly effective different function control systems for HRD and AMC. The created MM has allowed using already on design stage of control system an estimation of their power properties resultants.

The single-channel control system for HRD evaporating temperature is developed. The new system has allowed to essentially lower the energy consumption, to raise power factor (up to 0,98), to lower (from 3 to 7 %) mass and dimensions parameters of HRD hermetic compressors, to ensure their functioning under essentially lowered voltage supplied, to reduce starting currents and to provide astatic temperature control for HRD refrigerating chambers. The two-channel control system for HRD is developed. This new system has allowed, at the expense of simultaneous extreme control on minimum energy consumption for evaporating and condensing temperatures to lower energy consumption, in comparison to known "hysteresis" system, up to one and a half times.

The fuzzy control systems for AMC are developed. The difference from known fuzzy regulators is in application of the formalized rules for fuzzy conclusion, also the shift of accessory functions and robust realization of PID-ALGORITHMS for control systems. Created system for AMC has shown high efficiency of control processes for pressure/flow of air-gas mixes in lung artificial ventilation devices.

Mathematical model and block diagram of control system for HRD providing realization of partially-invariant control laws to static loading from the hermetic compressor have been developed. It is shown, that application of suggested control system allows to lower speed pulsations (up to 9 %), to expand the range of productivity control (not less than to 3 times) and to lower mass and dimensions parameters of hermetic compressors. All developed MM are verified by means of automatic control systems experimental samples and the measuring equipment.

MM are created and highly effective, providing extreme control (minimum of network current, also COP maximum) system is suggested for asynchronous EEM in hermetic compressors, both for usual manufactured type also developed for the first time. Methods of MM for switched reluctance motor (SRM) in EEM compressors have developed. Methods of calculation are suggested and experimental samples of control system with switched reluctance motor (SRM) are created. The mathematical model and the experimental stand for SRM identification parameters are created. On the basis of developed detailed EEM for SRM and some experiments, the Kostenko control laws were expanded on the control systems with SMR EEM. The change in a design of asynchronous three-phase electric motors for the hermetic compressors has been suggested, which provides decrease of mass and dimensions parameters of hermetic compressors for not less than 7 % when supplying energy from controlled inverter with increased frequency.

Algorithms of power factor proof-readers in compressors control systems are improved. The design of combined position gauge and SRM rotor speed is suggested. On the basis of SCADA environment and DSP processor, the multichannel information measuring system is created. Small-sized piezoelectric gauges of pressure and flow of gas and liquid mediums are developed. All these listed designs have passed experimental tests.

New methods of identification of electric refrigerating factor and parameters for basic elements of control systems are suggested. The experimental stand is developed and studies of HRD are carried out in its productivity control mode which confirmed high efficiency of created control system. The suggested control systems are introduced on machine-building enterprises of Ukraine.

3. Conclusions

Low cost of the proposed system could give a possibility to install it on all new domestic refrigerators and relatively large capacity commercial systems to inform end-users. Implementation of this method of monitoring energy efficiency will allow most efficient use of energy resources through the timely conduct of steps necessary to control operations to repair and maintenance.

Further development in the area could become as a system for troubleshooting and diagnostics, often called also as FDD - fault detection and diagnostics, which should be able to locate the place, e.g. machine, device or group of devices in refrigeration plant, where improper operation significantly reduces efficiency of the entire refrigeration system.

Nomenclature

α – coefficient, (-)

η – efficiency, (-)

ω – angular velocity, (s-1)

ε – specific power consumption, (kJ/kW·h)

h – enthalpy, (kJ/kg)

h – height of motor axis, (mm)

I – current, (A)

M – torque, (N·m)

m – mass flow rate, (kg/s)

p – pressure, (Pa)

P – true power, (W)

Q – amount of heat, (kJ)

q – specific enthalpy, (kJ/kg)

T – temperature, (K)

U – voltage, (V)

W – energy, (kJ, kW·h)

w – work, (J)

Subscripts

1 – beginning of time interval, evaporator outlet

2 – end of time interval

7 – evaporator inlet

el ter – electrical terminals

shaft – at the shaft

nom – nominal

mech – mechanical losses

add – additional

curr – current value

r – rotor

s – stator

copper – belongs to electrical losses in windings

iron – belongs to magnetic losses in iron

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Summary

The proposed systems could be included in domestic or low-powered commercial refrigerators for continuous monitoring of energy efficiency, or, in other words, to check the "quality" of electrical energy consumption, which in turn presents their technical conditions and levels of management and operation.

Keywords: control; household refrigerating device; air micro compressor; identification; electrical executive mechanism; mathematical model; hermetic compressor; energy efficiency.

UD classification: 658:68.231

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Summary

The proposed systems could be included in domestic or low-powered commercial refrigerators for continuous monitoring of energy efficiency, or, in other words, to check the "quality" of electrical energy consumption, which in turn presents their technical conditions and levels of management and operation.

Keywords: control; household refrigerating device; air micro compressor; identification; electrical executive mechanism; mathematical model; hermetic compressor; energy efficiency.

UD classification: 658:68.231

THE INCREASING ROLE OF RATING PROCESSES FOR INTERNAL MANAGEMENT AND INVESTOR RELATIONS OF ENTERPRISES

Volker Tolkmitt[*]

1. Executive summary

Competences of management are an essential part for the success of companies. They count, as so called, "Soft Facts" in processes of evaluation. Because of the fact that company crises usually start with strategic weaknesses obliged to management mistakes in market and competition analysis followed by wrong operational decisions of the management the importance of management competence is weighted very high by analysts. In fact the management competence is essentially influenced by their qualification and experiences. Both are indicators for the ability of managers to analyse current market situations and to forecast future economic development. These characteristics build the foundation basis for successful management.

2. Introduction

A company has a lot of stakeholders like managers, investors, lenders, customers, suppliers, and regulators with different views. They all use financial statements and business or rating reports to gather information about the company: E.g. managers to improve the performance, lenders to evaluate the likelihood of collecting on interests and principal and stockholders to forecast earnings, dividends, free cash flow and stock prices. All these information is usually collected, structured and analysed by the Controlling. In the literature for every stakeholder are recommendations for the right ratio mix. The problem investigating into this topic is that every author presents his own mix and ratios with little differences in the calculation. Helfert published a ratio matrix for the different analysis areas according to the viewpoint [1, p.98]. While external stakeholders try to evaluate the probability of stable relations, especially the complete and punctually payment, need internal stakeholders information of Controlling for ratios and key figures, forecasts, planning and budgeting, decision making and risk management.

Sound financial planning is essential to business success. It forces managers to be consistent in their goals for growth, investment and finance [2, p.837]. In the last decade the importance of reports to external stakeholders of an enterprise was steadily increasing [3, p.76]. Further more banks and other investors interpret a lack of information about a company as an additional risk [4, p.1]. Business partners and investors evaluate their partners by analyzing financial data as well as "Soft Facts" with ratios.

The complexity of the management decision making process and the raising number of operative decisions by more and more employees results in the necessity to build up strong internal systems for quick and successful management decisions. On the other hand efficient and successful management operations need defined objectives and parameters, which are regularly documented, forecasted and measured. For internal management processes analysis of information with well designed instruments is a value driver for the company.

3. Financial statements and rating reports

Accounting and analysis are crucial for two important matters of management. Firstly to analyze the past development managers need the financial analysis. Secondly to predict future development decision makers have to have financial planning instruments. Finally the existence of both methods

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[*] Volker Tolkmitt; Prof.; Dr.; Faculty of Economics; University of Applied Sciences Mittweida (FH); Germany

and the use of these instruments for controlling reasons is an essential part of valuation in external and internal rating reports.

Financial analysis examines and judges the financial conditions of a company [5, p.561]. Financial ratio analysis let you calculate and compare relationships derived from information in the financial statements [6, p.65].

The main goals of financial analysis are:

1. Comparing the firm's performance with that of other firms in the same industry.

2. Evaluating trends in the firm's financial position over time.

Financial analysis can help the management to identify deficiencies in current and improve future performance. A short statement that expresses the importance of financial planning is articulated by Ross et al., who say that financial planners have six Ps: "Proper Prior Planning Prevents Poor Performance" [7, p.127].

Fabozzi and Peterson state that financial planning allocates the resources of a company to reach its investment objectives and point out some reasons why financial planning is crucial: it helps managers estimate the impact of a specific strategy on the financial position of the Company, its cash flows, its reported earnings, and its needs for external financing. By developing financial plans, managers can better react to changes in the market situation. Managers become more aware of the sensitivity of the cash flows and its financing needs to changes in sales or some other element. It helps managers comprehend the tradeoffs referring to its investment and financing plans [8, p.938].

Rating agencies like investors ask for information about financial statement analysis and financial planning. Additionally to that the absence of those information or the absence of instruments, which deliver the information is appreciated as a heave risk of such a company. In the next step it is useful to examine the areas of interest more in detail.

4. Key figures and their interpretation

Fabozzi and Peterson present some methods to forecast sales [8, p.941]. They point out that sales forecasts are uncertain because they are influenced by other factors, such economy, industry, and market conditions. However, it is possible to assign significant degrees of uncertainty in the forecast. They describe and analyze essential instruments for creating key figures and interpreting these instruments. They mention the importance for regression analysis as a statistical method to discover correlation effects or possible relationship between different parameters, for example sales and capital expenditure. Further more they focus on market surveys, pro forma statements and economic assumptions. Finally according to Fabozzi, Peterson the "Opinions of Management", the experiences with the firm's markets, customers, products and competitors should result in forecasts. Without data analysis this could lead into an over optimistic view of the management.

Ratios and Controlling instruments like the Balanced Score Card can help to avoid misinterpretation of experiences as well as a short term "Muddling-Through-Strategy". By using those instruments it is important to concentrate on a few but essential key figures in the core business areas of a company. Statistics, forecasts and deviation analysis of financial-, market-, personnel-, process- and technical ratios deliver fundamental information for management decisions.

Figure 1 shows the importance of ratio based management decisions. Becker analysed with his study in 2008 the relevance of controlling and management behavior in Middle-Sized Companies in Germany [9, p.41]. Following this empirical study managers rely on ratios plus something. While no manager answered to act only ratio based, answered nearly 50% of the peer group that they base their decisions essentially on ratios and nearly all managers argued, that ratios should be taken into consideration. So, decisions usually base on key figures, but far not only.
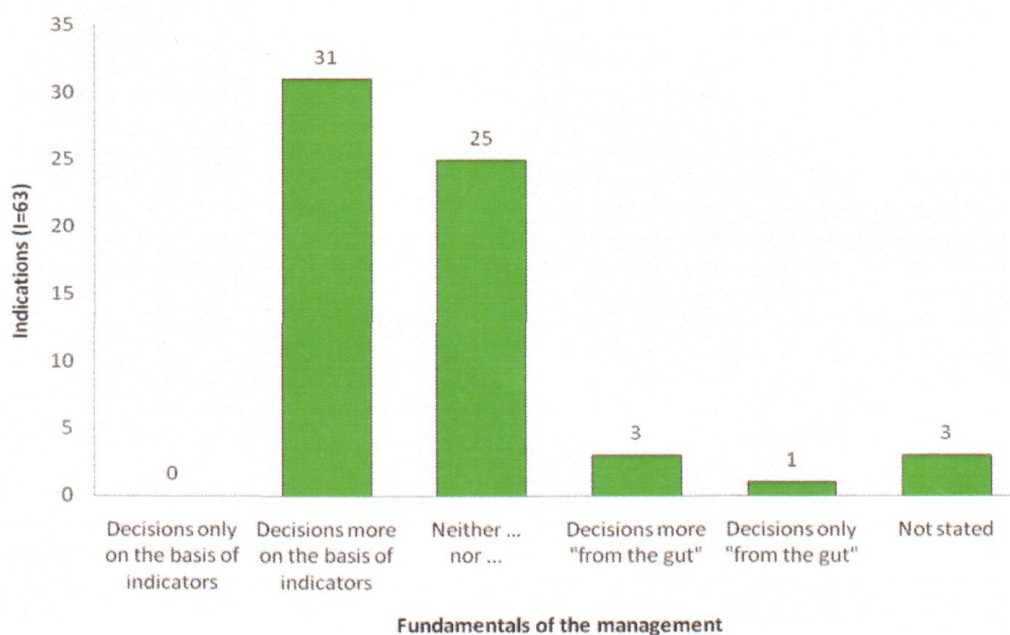
Fig. 1. Foundation of Management with Ratios and Controlling

Further more the study shows, that the most important reasons for quantitative analysis and interpretation of ratios are the information to owners, the foundation of management and Controlling. Managers mentioned as still important information to other stakeholders like creditors, investors on the capital market. In any case there is a lot of motivation for the management of companies to work with these controlling instruments. Transparency as well as strong and quick information to stakeholders will be future parameters of success.
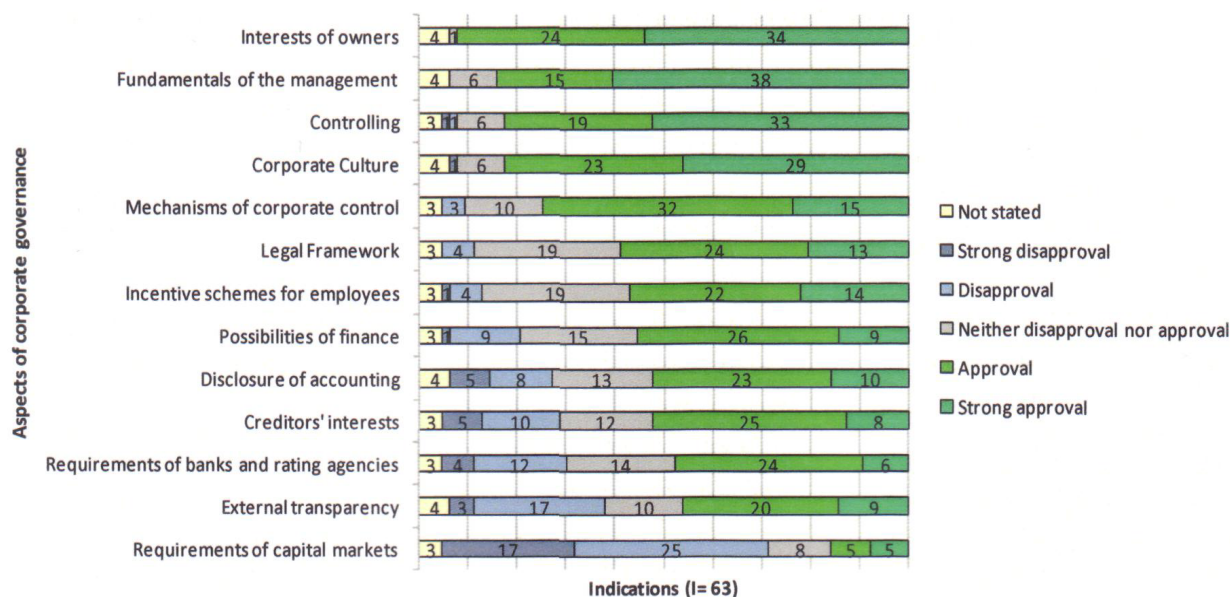

Fig. 2. Reasons for Ratio based reports and analysis

The main influencing factors are the Interests of owners, the Fundamentals of the management and the Controlling [9, p.38].

5. Importance of ratios for management decisions. Conclusion

The conclusion of a survey on managerial decisions was: managers make their decisions based on intuition. But they feel more at ease if the decision is prepared by a formal quantitative analysis [10, p.290]. From this perspective the financial statement analysis is a tool to get a look on

companies in a standardized and simplified way. Depending on their legal form and their size firms are obliged by the commercial laws to publish their financial statements. This is a good source of information for the evaluation of a Company. Actually the importance of a more complex quantitative analysis including "soft facts" is much higher in modem management analysis of all parts of the business.

In opposition to that the relevance of controlling and information systems as management instruments were raised in the last few years heavily. Management decisions are more and more ratio based. Analysis reports to stakeholders are more and more important. Becker confirmed with his empirical study the increasing role of analysis, ratios and controlling. Accounting and auditing are fundamental elements for analysis of enterprises.

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Summary

Finally to identify, to work with and to interpret key figures is very important for economic success. A lot of key figures is delivered by data from accounting. Other important data are delivered by analists and research institutions. To interpret rating reports by banks, agencies or analysts is decisive in modern decision making processes. Furthermore innovators and founders of companies go very often bankrupt because of lack in economic knowledge and management competence. That's why in a global economic environment and complex business structures the role of standardized business reports and analysis tools is increasing.