

University of Bielsko-Biala

## **Human Capital Management:**

innovative aspects of transformational economies

### **Monograph**

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For a long time, it has been well-known that human capital is a key component of economic development. However, the very existence of human capital does not suffice, but the crucial issue is how it is organized, or managed.

In this monograph researchers from several countries highlight some of the challenges facing management of human capital in a particular Central and Eastern European context. This perspective has until recently received relatively little attention from researchers. Nevertheless, the combination of human capital management and transformation economies opens up for new insights into the dynamics of several sectors, such as public-sector organizations, enterprises, regional development, and even football leagues.

Economic development has been fast in some countries, regions or sectors in Central and Eastern Europe, while lagging behind in others. In general, the level of education is good in a global comparison, but regardless of this, economic growth has not taken off everywhere. This somewhat paradoxical development requires a deeper understanding, where one of the focal areas should be how human capital is managed.

Keywords: Human Capital, management, transformation economies, Central and Eastern Europe, economic development.

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## INTRODUCTION

The problems that face the management of human resources and human capital are, as never before, acute in modern science. The introduction of relevant, adequate and effective human capital management is not only at the forefront of the development for modern enterprises, but is also an important factor in the sustainable development of any country. Disregarding fundamental insights into the management of human resources in modern entrepreneurship can easily lead to violation of such laws in modern entrepreneurship leads to the emergence of various kinds of economic, financial, social imbalances. Management of such imbalances, which still frequent, has a significant impact on prosperity in the society, which, among other things, calls for studying the regional features of human resource management.

The authors' points of view and research results presented in this monograph are focused on the improvement and harmonization of the theoretical and methodological basis, scientific and methodological approaches and applied organization features of human resources management. The authors outline general aspects for management of human resources as an innovative instrument in transformative economies. They stress on the role of human capital and its management on the way to sustainability. The authors also define regional aspects of human resources management.

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## **PART 1 ORGANIZATION FEATURES OF HUMAN RESOURCES**

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### **1.1 Rationalization of organizational structure at the graduate department**

Graduate departments are the basic subdivisions of universities and the main elements in its organizational structure. Most career guidance activity, organization and provision of method for the academic process, performance of scientific research and the involvement of students, grant and agreements activity, publishing of scientific studies, theoretical and practical training of students (including organization of practical study in enterprises), assistance in graduates' employment and maintaining contact with them, deserve more attention from research. Besides, academic staff of the graduate departments participates in the work of Specialized Councils for theses defense, Scientific Councils, Quality Councils, as guarantors of the educational programs etc.

Given the fact that there is a large number of tasks assigned to graduate departments with their mostly limited resource base (personnel, financial, research, technical and technological etc.), we face the problem of scientific justification for the choice of a rational organizational structure.

Problems on personnel management in Higher Educational Institutions (HEI) were studied by a number of scientists. Kratt defines conceptual approaches to the reform of HEI management system [5]. Kaminsky studies the theoretical and methodic fundamentals to improve HEI personnel management [4]; Lukyanets and Zotova regard the question to introduce informational systems into HEI personnel management [6]; Zagoriy studies the wage system problem and the rating of lecturers' professional activity and also the rating of departments at universities [2]; Bakulina investigates the essence and role of innovative technologies in personnel management, which develop intellectual potential of both HEIs and regions [1]; Pochtovuyk analyzes the impact of personnel on HEI image formation [9].

However, the problems to choose rational organizational management structures for graduate departments, have not been subject of any significant number of studies. A round table called "Organization of graduate department's activity under conditions of education integration" (September, 25, 2014 in Kyiv) was devoted to this issue. Optimal approaches to improve organizational and functional interconnection between graduate departments, determination of peculiarities and investigation of methodic bases to form effective organizational structures, have not been determined yet.

- **Organizational and methodic provision of the educational process:** elaboration and updating of curricula; elaboration and updating of disciplines, their methodic support (printed and electronic): working regularities, textbooks, tutorials, synopses, guidance, cases, slides etc.; processing, correcting and supporting of distance learning courses, e-learning courses, examenarium; lectures, seminars, individual classes, consultations, supervision of obligatory home papers, course papers and graduation works, distance teaching, communication with students (informing, consulting etc.) via e-mail and other electronic connections; organization of students' traineeship, supervision of traineeship, traineeship reports acceptance etc.; training of students for participation in scientific Olympiads;
- **Scientific activity:** search and submission of applications for international and national grants; negotiations, forming and implementation of economic agreements; initiatives for theme formation; scientific research performing within the framework of grants, economic agreements, initiatives for themes of theses (PhD, Dr of Science); supervision of PhD theses and consultations of doctoral theses; writing of reports based on theses and review of scientific publications; organization and control of the students' scientific activity; students' training for participation in national and international research papers contests; publishing activity (abstracts, articles, monographs etc.); participation in scientific conferences on different levels; execution of scientific research and scientific studies in other organizations (domestic and foreign); organization and implementation of scientific conferences, including students' conferences; publication of scientific periodicals (collection of works, journals);
- **Career guidance activity:** meetings with future entrants (in colleges, schools, PTS, other HEIs) and with people, who influence entrants' choice of future HEI and major (lecturers, parents etc.); career guidance activity in social networks; support, publishing and spreading of printed and electronic advertising materials; lessons, scientific circles in schools, colleges, PTS; organization of various competitions for future entrants; organization of acts directed at enterprises and institutions in order to allow entrants to know their future profession; organization of meetings with graduates, who have achieved success in their professional activity, with well-known specialists, and other interesting people; publication of materials about majors and professional activity related to it; students', lecturers' and graduates' achievements in printed and electronic media; participation in round tables, programs on TV, forums,



which demonstrate the advantages of a certain profession, training at concrete HEIs and at concrete departments; organization of professional holidays, meetings with graduates, meetings with schoolchildren and students; establishing and supporting contacts with public organizations;

- **Activity with employers:** establishing and supporting contacts with employers; involving them in the design of curricula, formation of content of disciplines when applied to the educational process; organization of meetings between students, graduates and employers, assisting graduates in employment; conducting joint research; testing the research results;
- **Organizational activity:** participation in meetings of the Special Council on thesis defense; participation in meetings of Scientific Councils at HEIs (of institutes or faculties); participation in the Quality Council; participation in different meetings at university (with Dean, on distance learning issues, on career guidance activity etc.), and in institutional events of university and faculty; conducting activity by responsible persons in those fields required by HEI administration or faculty (institute); work in admission committees; participation in the work of the Scientific and Methodical Commission of the Ministry of Education and Science (MES) of Ukraine; participation in the work of Expert Board of MES Ukraine; organization and participation in jury work of students' scientific papers contests and students' Olympiads (on national and international levels); performance of duties of Head of Department, Deputy Head of Department, educational programs guarantor, Deputy Dean (Director) etc.; preparation of licensing and accreditation, organization of MES Ukraine expert commissions' licensing (accreditation) of majors in various department;
- **Provision with paid service:** formation of lists of paid services provided by departments, creation of proper organizational structures, development and coordination of their regulatory provisions; search for consumers, formation and execution of contracts, their documentary support; formation of a clients' base;
- **International activity:** foreign scientific training or teaching abroad; international grant activity; searching for foreign partners and support for contacts with them; foreign specialists' involvement to the educational process, supervision of theses; organization and supervision of students' international training; support of the programs "included semester", "double diploma"; career guidance activity abroad aimed at the involvement of foreign students, post-graduates, and doctorates;

- **Promotion of the department and majors on Internet:** creating content and site support for departments; organization and conducting work in groups in social networks; directing personal pages of members of staff; presenting of lecturers' publications in repositories and other Internet-sources; teaching of educational and methodic materials on Internet-resources etc.;
- **Publishing activity:** formation and design of scientific publications (materials of conferences, monographs), preparations for publishing; structuring scientific journals; developing educational and methodic editions (textbooks, educational guidance, lectures, methodic guidance); producing reports of SRW, grants etc.; design development and preparations for publishing advertising materials; designing publications of departments (printed and electronic).

This comprehensive list of tasks (not complete) indicates that the personnel of a typical department, consisting of 10-15 persons and with a traditional organizational structure of the management system, will not be able to perform them. The analysis carried out justifies the claim that those tasks are time-consuming. Only if there is a relevant plan or schedule, they can be carried out. However, understanding the realities and conditions under which HEIs function, show that a plan or schedule would have to be constantly updated, which is impossible in practice.

In order to find ways to solve this problem related to the choice of rational organizational structure to control graduate department's activity, traditional [7, 8] and modern [10] such structures were analyzed which appear in various spheres of human activity. According to results of the analysis, a decision was made to use project-matrix organizational structure in connection with a "pulsatile" one [3]. According to lecturers, employees and post-graduates of the departments, in addition to their main activity, they need to make a choice of projects (activities) which are interesting for them. Projects have to be led by those who are mostly interested in them. The number of performers in any concrete project is changing over time (accordingly, the project team is "pulsing"), depending on demands. For example, it may increase before the start of a scientific conference. When the conference ends, the project might enter a stand-by state. Participants always "migrate" between projects, depending on their interests and the requirements of the project. In one project they may be managers, but performers in another, while being absent in other projects. Heads of the Department carry out general coordination according to strategic views.

A practical check of the suggested approach was performed at the Marketing and Management of Innovative Activity Department at Sumy State University (MMIA SSU),

which teaches specialists in three majors: “Entrepreneurship, commerce and exchange activity”, specialization “Exchange activity” (Master Degree program); “Management”, specialization “Management of Innovative Activity” (Master Degree program); “Marketing” (Bachelor and Master Degrees).

The formation of the organizational structure to control MMIA department activity is carried out in the following order.

1. Brainstorming to develop distinguished projects. A number of ideas that were repeatedly mentioned and discussed are then on the agenda at the meetings of the department. Coordinators (responsible performers of projects) and possible participants of the project group are appointed.
2. Some types of activity are distinguished which all members of department, lecturers and post-graduates, have to carry out (Table 1.1).
3. The scheme to distinguish employees of the department by separate projects is developed (Table 1.2). Individual employees’ surnames at the department are not mentioned in the Table 1.2. There are only category and number (lecturer 1, post-graduate 4 etc.), and also the functions which they perform in the project (part of the project activity, performed by them).

It should be noted that some activities require particular qualification and skills, especially artistic decoration (design) of events and publications of the department, the website or administration of the journal of the department. Such activities are performed by employees with special qualification and skills.

4. General scheme of organizational structure in activities (projects) management, conducted by MMIA Department is shown in the Table 1.3.

The issues mentioned above can be shown formally.

Set of works, performed by the whole staff (general activities):

$$A_{gen} = \{A_{gen1}, A_{gen2}, \dots, A_{genn}\}. \quad (1.1)$$

Set of projects, conducted by the department:

$$P = \{P_1, P_2, \dots, P_m\}. \quad (1.2)$$

Set of activities of  $i$ -project:

$$AP_i = \{AP_{i1}, AP_{i2}, \dots, AP_{ik}\}. \quad (1.3)$$

Set of employees at the department:

$$W = \{W_1, W_2, \dots, W_s\}. \quad (1.4)$$

Table 1.1

Activities, performed by the whole department

Activities	Category of employees	
	Lecturers	Post-graduates
<b>Organization and methodic activity</b>		
<b>Working regularities development and updating</b>	From time to time, if it is necessary	-
<b>Conducting lectures for classes</b>	According to the schedule, obligatory	Within the framework of the pedagogical practical training (seminars), obligatory
<b>Development, correcting and support for distance learning courses, examinarium courses and others.</b>	Always, obligatory	-
<b>Communication with students via electronic means (e-mail, social networks)</b>	Always, obligatory	-
<b>Development of educational and methodic materials</b>	Always, obligatory	As one wishes
<b>Advanced training</b>	According to the schedule	-
<b>Scientific activity</b>		
<b>Scientific research performance within the framework of department's theme</b>	Always, obligatory	Always, obligatory
<b>Thesis research conduct</b>	For the degree of Dr of Sciences (as one wishes according to schedule)	For the degree of PhD, obligatory
<b>Writing of reports on theses and review of scientific publications</b>	According to scientific interests and qualification degree	-
<b>Supervision of students' research papers</b>	Always, obligatory	As one wishes
<b>Preparation of scientific publications</b>	Always, obligatory	Always, obligatory
<b>Participation in scientific conferences</b>	Obligatory, according to the schedule	Obligatory, according to the schedule
<b>Training in other organizations abroad</b>	As one wishes	As one wishes
<b>Promotion of department and majors in Internet</b>		
<b>Personal pages</b>	Always, obligatory	Always, obligatory
<b>Placing of scientific and methodic publications to the SSU repository</b>	Always, obligatory	Always, obligatory

Table 1.2

Distinguish of the employees from department by projects (fragment)

Project (activities)	Employees							
	Lecturer 1	Lecturer 2	...	Lecturer 18	Lecturer 19	Post- graduate 1	...	Post- graduate 9
Development and updating of curricula	Guarantor of the program 076			Coordinat or				
...	...	...	...	...	...	...	...	...
International activity	Coordinat or							
...	...	...	...	...	...	...	...	...
Publishing of journal		Activity with authors			Coordinat or			
...	...	...	...	...	...	...	...	...
Producing materials						Writing reports		Writing monographs

Table 1.3

General activities, performed by department's staff

Employees	Part of general activities (see Table 1.1)	Part of activities by department projects (see Table 1.2)	
		As a main employee	As a currently busy employee
Employee 1	Development of educational and methodic materials, preparation of the scientific publications...	Journal publishing, ...	Organization of scientific conferences, search for economic orders, ...
...	...	...	...
Employee 28	Theses research, personal pages control on department site, ...	Development of curricula, international activity, ...	Training of students...

Then set of activities, assigned to  $i$ -employee, can be shown in the following way

$$A_w^i = A_{gen}^i \cup AP_o^i \cup AP_m^i, \quad (1.5)$$

where

$A_{gen}^i \subset A_{gen}$  – a part of activities of  $i$ -employee to the extent of general activities;

$AP_o^i \subset AP_{\Sigma}$  – part of activities of  $i$ -employee in the total amount of projects activities, conducted by him or her as a permanent performer;

$AP_m^i \subset AP_{\Sigma}$  – part of activities of  $i$ -employee in the total amount of project activities, conducted by him or her as a temporary performer (if it is necessary, his or her involvement in conference organization is limited only to the process of participants' registration and in providing materials to participants).

Practice shows that the selected variant is rational and allows efficient performance of various activities. The effectiveness of this organizational structure justifies that the department takes the second place in the rating of graduate departments of SSU for the second consecutive year. The staff of department includes 19 Lecturers, 9 Post-graduates, and 2 specialists on method. The list of main activities, performed by the department, is presented in Table 1.4.

The staff of the department, participating in various projects, gets experience to carry out different scientific and educational activities. It improves their qualifications, broadens minds, allows for the development and realization of their creative potential.

Besides, some organizational culture is formed, which assists staff cohesion, unifying employees' to create a favorable image and to promote the development of the department. An active use of computer informational technologies and active work on Internet form a web-culture [12], which is considered to be a constituent of the graduate department's organizational (corporative) culture (innovative) [11]). It defines specific activity in virtual space and it is a significant competitive advantage in terms of the information economy creation.

Summarizing the argument above, one can make the following conclusions:

- Systematization of activities, performed by typical graduate departments of domestic HEIs, is carried out in detail;
- The creative organizational structure of the graduate departments is suggested to be based on a systematic analysis of the literary sources and HEI activity. It is a combination of project-matrix and “pulsate” structures, which allows for carrying out various activities. It is flexible and adaptive enough, it leads to an ability to focus resources on the most important projects, helping to form an innovatively oriented corporative culture;

Table 1.4

## Indexes of main activities, performed by MMIA department of SSU

<b>Activities</b>	<b>Peculiarities and indexes</b>
Academic process (development and up-dating of curricula, giving classes etc)	One Bachelor Degree and three Master Degree programs in 3 majors. Full-time, Extra-mural and distant learning. Examinarium, E-learning
Publishing of educational and methodological materials	During the department's existence (founded in 2002), its members of the staff have published about 30 textbooks and manuals, over 100 textbooks and tutorials, about 100 compendia of lectures and methodological guidance
Training of scientific personnel	Post-graduate study and doctoral study in 3 scientific majors
Scientific activity	State budget, economic contract, initiative, grant theme (native and foreign grants)
Publishing activity	Journal "Marketing and Management of Innovations", indexed in DB Web of Science, Index Copernicus and others (printed and electronic versions)
Career guidance activity	Contest "Find yourself in marketing", joint study with practice, delivering classes at school, colleges etc. Cooperation with employers, promotion of department in social networks, administration of the website of the department
Publishing activity (scientific publications)	About 100 articles (including journals, indexed in Web of Science and Scopus), over 100 abstracts, several monographs (including those, which were published abroad) annually
International conference "Marketing of innovations and innovations in the marketing"	Every year after the conference, the conference proceedings collection and collective monograph are published
Participation in conferences outside SSU	Several dozens, including abroad
Academic mobility, training and teaching abroad	About 12-15 trips by members of the department staff annually
Training of students for participation in Ukrainian and international contests of students' research papers, Students' Olympiads, Contests of diploma projects etc.	About 10 victories annually
International academic mobility of students	The programs "Double diploma", "Included semester", trainings – annually
Thesis writing and defence	During the department's existence (since 2002) 3 doctor's theses and 27 PhD theses were defended

- An algorithm to form the suggested organizational structure of the graduate department at HEI is proposed. Formal dependences are presented, which describe this mechanism by means of mathematic apparatus of set theory;
- Practical approbation (during several years) of the suggested organizational structure at the graduate MMIA department of Sumy State University is performed, which supports the reasonability and efficiency of using this algorithm.

The results contribute to the education management development, particularly methodologic fundamentals of the graduate department's staff of a modern HEI. Further studies should be oriented towards the investigation of optimization of the theoretical and methodological bases of the staff's organizational and functional interconnection in line with its suggested organizational structure.

1. Bakulina N. Innovative technologies in the personnel management of university [Text] / Natalya Bakulina // Regional aspects of the productive powers development in Ukraine. - 2015. - Edition 20. - P. 120-126.

2. Zahoriy A. M. Peculiarities of the academic staff effective management at HEI / A. M. Zahoriy // Economic Bulletin of Donbas. - 2011. - № 1 (23). – P. 176-180.

3. Illiashenko S.M. Organizational and functional interconnection of the graduate department's staff: SSU experience / S.M. Illiashenko // Organization of graduate department's activity within the framework of education integration : collection of materials of the round table, Kyiv, September 25, 2014 / Edit by H.V. Onkovych, A. B. Kondrashykhin, I. M. Melnikova, V. Ye. Vinogradova. – K.: Institute of higher education NAPS Ukraine, 2015. – P. 38-39.

4. Kaminsky Bohdan A. Management of HEI's personnel: thesis of Candidate of Economics: 08.06.01 / Ternopil state economic university — T., 2006. — 214pages : table — reference list: pages 182-192.

5. Kratt O.A. Reform of high school management: background, specific nature and paradigm / O.A. Kratt // Scientific works of Donetsk national technical university. Economic issue. Edition 39–1. – Donetsk: DonNTU, 2011. – 274 p.

6. Lukyanets V. D. Introduction of informational systems for personnel management at higher educational institutions of Ukraine / V. L. Lukyanets, O. M. Zotova // Scientific Bulletin of Poltava university of economics and trade. - 2014. - № 6 (68). - P. 91-94.

7. Management for Bachelors : textbook: in 2 v. / edited by O. F. Balatsky, O. M. Telizhenko. – Sumy : PTH " University book", 2009. –V.1. – 605 p.

8. Management for Bachelors : in 2 v. / edited by O. F. Balatsky, O. M. Telizhenko. – Sumy : PTH " University book", 2009. – V.2. – 592 p.



9. Pochtovyuk A. B. Competitiveness factor as a way to form image of the higher educational institution / A. B. Pochtovyuk // Bulletin of Mykhailo Ostrohradskyi KNU. – 2011. – Edition 5 (70). – P. 156-158.

10. Toffler A. Metamorphoses of power: Translated from Eng. / A. Toffler. – M.: OJSC "Publisher "AST", 2004. – 669 p.

11. Shypulina Yu.S. Innovative culture of organization: essence, structure, approaches to evaluation // Marketing and management of innovations. - 2010. - № 2. – P.132-138.

12. Illiashenko S.N. Web-culture as a factor of company's competitiveness enhancement / S.N. Illiashenko // Marketing and Management of Innovation, 2014. - № 3. – P. 121-129.

## **1.2 Comprehensive approach to intellectual capital management<sup>1</sup>**

In the reality of global competition, intellectual capital gives enterprises the opportunity to provide competitiveness and to create value for both individual firms and the economy as a whole. The main function of intellectual capital is to increase income growth, and is to some degree as a consequence of the formation and realization of necessary knowledge system for companies. A knowledge system, in its turn, provides for highly efficient economic activity. Besides, intellectual capital is an indicator of the quality of a management system.

A knowledge system dictates the rate and character of the renewal of production technologies, which might in a short period of time turn into a competitive advantage.

The transition to a new stage of economic development has facilitated the research of intellectual capital. Ukrainian and foreign scientists have paid much attention to this matter.

A leader in intangible assets tends to do the following:

- studies the history of strategy, understands, and can articulate the differences between industrial/manufacturing era strategies and intangible intellectual capital asset strategies;
- thinks strategically about the central problems of the enterprise;
- advances and defends strategically sound strategies that use intellectual assets when they offer a superior solution;

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<sup>1</sup>The paper was written according to budget money from the Ministry of Education and Science of Ukraine, given to develop scientific-research topic № 0117U003922 “Innovative drivers of national economic security: structural modeling and forecasting” and scientific-research topic № 53.15.01-01.18/20.3II “Innovation management of energy efficient and resource saving technologies in Ukraine”.

- gets involved in strategic planning and promotes strategic conversations within the company;
- grows out of functional discipline management into executive leadership [1, p. 16].

In particular, Karl Sveiby (YEAR) has confirmed that people create profit. This is why investment in personnel are not to be concerned as expenses; the competence of employees is a resource to create prosperity.

In 1998 Annie Brooking investigated a model called “The Technology Broker's Audit” to determine the value of intellectual capital in a firm in money terms and presented the following structure: market assets, human assets, infrastructure assets, and intellectual property.

This model was investigated by managers in order to diagnose and to develop weak spots in the intellectual capital of firms. It is based on the method of directing questions in knowledge management, estimation of research and investigations amount and current brand value. The more positive the answers are, the more developed is intellectual capital [2].

Johann and Goran Russ (YEAR) worked out an index of intellectual capital (IC-Index). They divided intellectual capital into three groups: human capital, organizational capital and customer capital.

The aim of the IC-Index model investigation was to prognosticate profit from development of new projects and services through investing money into various types of intellectual capital. However, this was not achieved.

To measure intellectual capital assets both monetary (financial, cost) and non-cash methods are used.

Thus, depending on how intellectual capital and its elements are estimated, there are the following approaches [3, p. 22-34]:

1. Structural approach, based on using of various units for each element in the intellectual capital; it doesn't foresee general cost estimation; it is used in non-financial models.
2. Cost approach is used to determine total value of a company's intellectual capital, therefore the cost of its separate components is not calculated.

If there is no universal method to estimate intellectual capital it is necessary to apply both above-mentioned approaches.

When determining the intellectual capital cost of an enterprise, cost indicators are to be used. Cost, profit and market approaches are used depending on the specifics of the particular situation expenses [4, p. 336-345].

According to the profit approach, intellectual capital value is equal to the discounted incomes flow, expected to be received during the whole period this capital can be used.

An expense approach supposes that some assets cost is equal to either expenses spent earlier for its creation, or purchase, or expenses, which are necessary to buy an analogical asset.

But this method is rarely used to estimate intellectual capital, because expenses and results in scientific sphere are difficult prognosticated: sometimes great expenses are in vain, and sometimes only small efforts are needed for an important discovery, which allows for an improved position in market organization and to increased profits. Market approach foresees the estimation of some asset cost according to analogical assets, purchased and sold at the market (considering possible differences). This approach gives precise results, but its use is limited. It may be used only for those elements of intellectual capital, which have analogues. Sometimes one can use combinations of these approaches in practice [4, p. 336-345]. Sveiby's approach is of special interest. It distinguishes 25 methods, subdivided into 4 categories [5].

The first group of methods includes all those methods which are based on identification and estimation in monetary equivalent of separate assets or elements of the intellectual capital. As they are estimated, there is integral estimation of the intellectual capital in the company. Therefore, it is not necessary that all asset evaluations are concluded. A more complicated formula may be used.

Using methods from the second group, the difference between market capitalization of a company and stockholders' capital is calculated. The result is its intellectual capital value, or non-material assets.

Methods to calculate return from assets are based on calculating the difference in the ratio between profit of business entity for a certain period of time (considering taxes) and its material asset cost and analogical factor in the branch at a whole. The product of this difference and the value of material assets of business entity is the average profit from intellectual capital. Then it is possible to determine the cost of intellectual capital through direct capitalization or discounting for the monetary flow.

Methods from the forth group help to identify different components of the non-material assets or intellectual capital, to investigate and to give indicators and indexes through points counting. Using of methods by point system doesn't foresee getting monetary estimation of the intellectual capital. These methods are similar to methods of the diagnostic informational system [3, p. 22-34; 4].

Methods to measure intellectual capital have been developed in order to have a better understanding of all non-material assets types, but also with the purpose to create a theory, which explains how such assets have to be revealed and measured in order to estimate organization value. It is foreseen that confirmation of the market value estimations will lead to capital flow optimization, and as a result, market economy efficiency will increase. Thus, we can conclude that nowadays Sveiby's investigations have a consistent character and can be partially used in practice to measure intellectual capital of enterprises.

Q-Tobin coefficient, suggested by Tobin (YEAR), is used to estimate intellectual capital. It is calculated as the ratio between market value of a firm and its assets' proper value. If q-Tobin coefficient is more than 1, it describes high level of the intellectual capital, practical use of which gives a company the ability to earn very high profits. Today coefficient value for efficient companies is 5-10 units.

The coefficient value is higher in knowledge-intensive branches and for firms in computer technologies. In the software sphere, it can be several hundreds. The main factor in production is intellectual capital in such companies, and material assets do not in practice create value, functioning as infrastructural provision [3, p. 22-34].

Beside methods mentioned above, there is another interesting approach to determine the most available assets of the intellectual capital, called Economic Real Assets Value Enhancer (ECRAVE). This method is used to measure economic added value which is created by components of intellectual capital. The suggested way to calculate index EcRAVE is based on the assumption that economic profit is formed by a company during an increase of its profitability at the middle-branch level [6, p. 348-358]. Assumptions that intra-sectoral differences in company profitability are explained by unique non-material assets of each company, were used in studies of foreign capital markets [7; 8].

The method described includes three approaches: Customomics, Workonomics, Supplynomics [6, p. 348-358]. The first approach is based on the idea that relations with customers earn profit for a company. The company produces great amounts, larger than on average in the branch, or sell at a higher price. Therefore, the following factors are corrected:

- expenses for involving customers: high price or realization amount may be explained by high expenses to involve customers. Thus, in order to compare results of company activity with industry average, it is necessary to correct profit;
- company size; to balance its impact on factors, one has to compare not absolute results in company and branch activity, but relative ones, i.e. calculated per unit of the investment capital.

The formula to calculate economic added value, created owing to relations with purchasers is:

$$EVA_c = (TR - ComExp) - TR_{ind.adj} = \left( \frac{TR - ComExp}{IC} - \frac{TR_{ind} - ComExp_{ind}}{IC_{ind}} \right) \times IC, \quad (1.6)$$

where

$EVA_c$  – economic added value, created owing to relations with purchasers;

$TR$  – profit of the company;

$TR_{ind}$  – industry average profit;

$TR_{ind.adj}$  – industry average profit, corrected for expenses to involve purchasers costs of attracting buyers;

$ComExp$  – commercial expenses of the company (trade and marketing);

$ComExp_{ind}$  – industry average commercial expenses;

$IC$  – investment capital of the company, determined as sum of the percent duties and own capital;

$IC_{ind}$  – industry average investment capital.

According to approach Workonomics, key resource is human capital. The whole added value of the company is created by its employees.

Therefore it is also necessary to consider indirect expenses to involve capital and correct factor on the company size, expressed by employees' quantity. In spite of the approach Customomics, another factor of rating is used, because added value per one employee is observed as result of intellectual capital use.

Formula of the economic added value calculation, created by employees from the company, is:

$$EVA_w = VA - VA_{ind.adj} = \left( \frac{VA}{P} - \frac{VA_{ind}}{P_{ind}} \right) \times P, \quad (1.7)$$

where

$EVA_w$  – economic added value, created by employees from the company;

$VA$  – added value of the company, defined as difference between profit and material expenses;

$VA_{ind}$  – industry average added value;

$VA_{ind.adj}$  – industry average added value, corrected on the company size;

$P$  – number of employees in the company;

$P_{ind}$  – industry average number of employees.

Within the next approach Supplynomics one calculates economic added value, created by relations with suppliers. The example of such capital is stable business relations with

suppliers, and as a result, giving discounts by them. These discounts are shown in the factor of material expenses. The material expenses are corrected on the level of profit in the company and capital productivity. According to the mentioned above, one suggests formula to calculate economic added value, created by relations with suppliers:

$$EVA_s = \left( \frac{Costs_{ind}}{TR_{ind}} \times \frac{1}{C_{ind}} - \frac{Costs}{TR} \times \frac{1}{C} \right) \times TR, \quad (1.8)$$

where

$EVA_s$  – economic added value, created by relations with suppliers;

$Costs$  – material expenses of the company;

$Costs_{ind}$  – industry average material expenses;

$TR$  – profit of the company;

$TR_{ind}$  – industry average profit;

$C$  – capital productivity of company;

$C_{ind}$  – industry average productivity of capital.

We can conclude that suggested factors consider direct and indirect costs and may be calculated using data from open sources.

Depending on which resource is intellectual capital core for the company, one can choose proper factor.

However this approach has disadvantage: it doesn't give ability to compare companies which work at the international markets, in case if one compares industry average factors. Besides described methods to estimate intellectual capital, there are separate factors [4, p. 336-345], which describe possibilities to generate and accept ideas and plans of innovations and bringing them to the level of technologies, goods, organizational managerial decisions; are used mostly at the micro-level.

1. Index of the inventing activity ( $I_{i.a.}$ ).

$$I_{i.a.} = \frac{N_i}{N_w}, \quad (1.9)$$

where

$N_i$  – number of inventions;

$N_w$  – number of engineering and technical and scientific employees.

2. Index of the engineering and technical and scientific software ( $I_{i.s.}$ ).

$$I_{i.s.} = \frac{N_{t.s.e.}}{N_e}, \quad (1.10)$$

where

$N_{t.s.e.}$  – number of technical and scientific employees;

$N_e$  – total number of employees.

3. Index of the personnel educational level ( $I_{e.d.}$ ) at the enterprise.

$$I_{e.d.} = \frac{N_{h.s.}}{N_e}, \quad (1.11)$$

where

$N_{hs}$  – number of people with higher or secondary special education, which corresponds enterprise activity specialization.

4. Index of the highly qualified employees turnover ( $I_t$ ).

$$I_t = \frac{N_{rhqw}}{N_{hq}}, \quad (1.12)$$

where

$N_{rhqw}$  – number of employees with high qualification, resigned during the year;

$N_{hq}$  – total number of employees with high qualification.

5. Index knowledge renewing ( $I_{k.r.}$ ).

$$I_{k.r.} = \frac{N_{wat.}}{N_e}, \quad (1.13)$$

where

$N_{wat}$  – number of employees, who had advanced training or additional training during the last 3–5 years.

The intellectual capital structure is presented on Figure 1.1 according to Skandia's intellectual capital model. Skandia, the Swedish insurance company, has developed this model. It and shows the relationships between the different areas, which comprise intellectual capital.

In Skandia's model intellectual capital consists of several entities facets which may be defined as follows [10, p. 401]:

- Human capital consists of competence and capabilities of the employees. When an enterprise educates its employees, it increases its human capital.
- Structural capital consists of the results of intellectual activities in data and knowledge bases, documents, etc. Skandia suggests, "Structural capital is what is left after the employees have gone for the night".

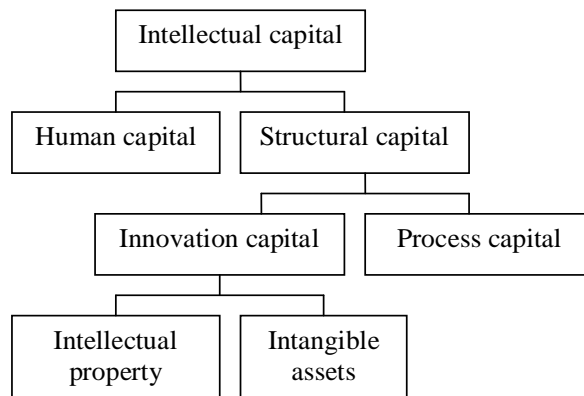


Figure 1.1. Intellectual capital structure [9]

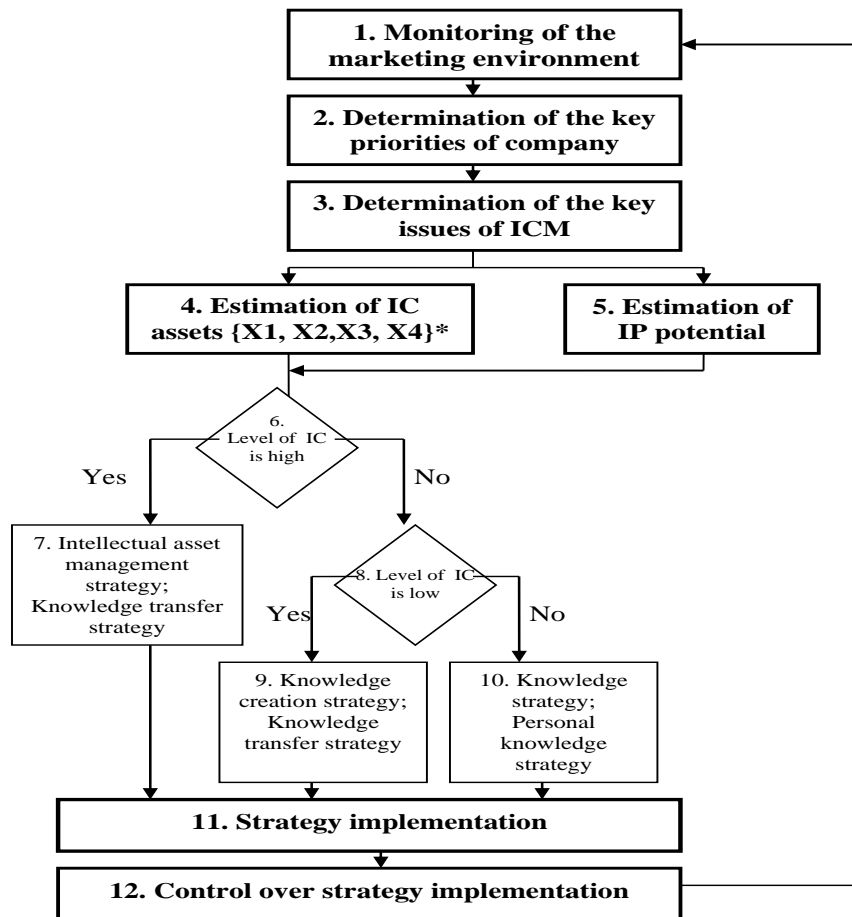
- Customer capital consists of the value of the enterprise's relationships with its customers.
- Organizational capital consists of embedded knowledge assets in the process and innovation areas.
- Process capital consists of the enterprise's value creating processes such as its organizational structure, management practices, systems and procedures, infrastructure computer systems and the like.
- Innovation capital consists of both explicit knowledge and hard-to-identify intellectual assets such as a positive culture.
- Intellectual property consists of documented and captured knowledge such as innovations, operational practices, patents, technology, educational programs, corporate knowledge bases, and designs and specifications of products and services.
- Intangible assets consist of the value of positive culture, community image, etc.

Now let consider the process of intellectual capital management (ICM) strategy selection (Figure 1.2).

K. Wiig highlighted five basic knowledge-centered strategies [10, p. 400]:

1. Knowledge strategy as business strategy emphasizes knowledge creation, capture, organization, renewal, sharing, and use in all plans, operations, and detailed activities to provide the best possible knowledge available at each point of action.
2. Intellectual asset management strategy emphasizes enterprise-level management of specific intellectual assets such as patents, technologies, operational and management practices, customer relations, organizational arrangements, and other structural knowledge assets. Management's task is to renew, organize, evaluate, protect and increase the availability and marketing of these assets.





\* X1 – human capital; X2 – process capital; X3 – intellectual property; X4 – intangible assets

Figure 1.2 – The algorithm of selection of intellectual capital management strategy [11]

3. Personal knowledge strategy emphasizes personal responsibility for knowledge-related investments, innovations and competitiveness, renewal, effective use and availability to others of knowledge assets within each employee's area of accountability. The objectives are continually to build knowledge and to apply the most competitive knowledge to the enterprise's work.
4. Knowledge creation strategy emphasizes organizational learning, basic and applied research and development, and motivation of employees to innovate and capture lessons learned to obtain new and better knowledge, which will provide improved competitiveness.
5. Knowledge transfer strategy emphasizes systematic approaches to transfer (i.e. obtain, organize, restructure, warehouse or memorize, repackage for deployment and distribute) knowledge to points of action where it will be used to perform work. This strategy includes knowledge sharing and adopting best practices.

Strategy implementation is phased process. It is necessary to adopt the system used for the intellectual capital management of the organization on this stage.

The system defines: what departments will be responsible for what, and what information systems are needed to monitor the implementation of the strategy, what retraining of employees will be required, etc. Moreover, is there control and strategy revision? The main objectives of ICM control is as follows: definition of what parameters and how to check; evaluation of the state of the controlled object in accordance with accepted standards, regulations or other benchmarks; elucidation of the causes of deviations, if any are be opened as a result of the evaluation; implementing adjustments, if it is necessary and possible. To pursue these strategies, organizations undertake specific programs and activities, provide supporting infrastructure capabilities, and sometimes create incentives to motivate individual employees, teams, and even departments and business units to cooperate with the new objectives.

1. Moore L. (2008) Intellectual capital in enterprise success: strategy revisited. John Wiley & Sons, Inc.
2. Bruking A. (2001) Intellektualnyiy kapital: klyuch k uspehu v novom tyisyacheletii / Per. s angl., pod red. L. N. Kovachin, Piter. (*in Russian*)
3. Chuprina O. O., Chuprin K. S. (2013) Metodologichni pidhodi do otsinyuvannya Intelektualnogo kapitalu, Visnik Natsionalnogo universitetu «Yuridichna akademiya Ukrayini imeni Yaroslava Mudrogo», № 3 (14). (*in Ukrainian*)
4. Evseev A. D. (2012) Metodologichni aspekti otsinki vartosti intelektualnogo kapitalu, Ekonomika promislovosti, № 3-4 (59-60). (*in Ukrainian*)
5. Sveiby K-E. (1996). Transfer of knowledge and the information processing professions. European Management Journal, Vol. 14, No. 4, Pp. 379-388.
6. Oskolkova M. A. (2012) Intellektualnyiy kapital v otsenke investitsionnoy privlekatelnosti kompaniy, Upravlenie korporativnyimi finansami, № 6 (54). (*in Russian*)
7. Aboody D., Baruch L. (2001). The Productivity of Chemical Research and Development. Working Paper. New York University, Stern School of Business.
8. Freeman Ch., Soete L. (1997). The Economics of Industrial Innovation. 3ed. MIT Press.
9. Skandia (1996) Supplement to Skandia's 1995 Annual Report, Skandia, Stockholm.
10. Wiig K. (1997) Integrating Intellectual Capital and Knowledge Management Long Range Planning. – 15 February 2016 – [Electronic resource] – Access mode: [https://www.researchgate.net/publication/222186650\\_Integrating\\_intellectual\\_capital\\_knowledge\\_management](https://www.researchgate.net/publication/222186650_Integrating_intellectual_capital_knowledge_management).
11. Shcherbachenko V.O. Selection of intellectual capital management strategies [Online] // Economic Processes Management: International Scientific E-Journal. 2016. 1.

### **1.3 Socio-ecological and economic content of development of human resources and labor motivation in the system of spatial forestry organization**

The intensification of sustainable development of the forest complex in Ukraine should be carried out under conceptual provisions that will ensure a harmonious, balanced and continuous transformation of the forestry area on a market-oriented basis:

1. Gradual expansion of the application of effective market relations in the system of forestry at different spatial levels of management, taking into account the critical assessment of foreign experience in the implementation of transformation processes in the forest sector.
2. Balanced and gradual transition to a variety of forms of ownership of forest lands, organizational and legal forms of forestry entrepreneurship taking into account the spatial characteristics of the functioning of forest ecosystems.
3. Activation of the implementation of the state forest policy in the context of the principles of sustainable development at different spatial levels of forest management with the definition of strategic guidelines (stages, priorities and mechanisms).
4. Effective empowerment of local self-government authorities, regional and local authorities for managing socio-economic and natural-resource development, as well as increasing the level of autonomy of territorial communities in solving the problems of spatial forest management, capitalization of forest resource potential.
5. Ensuring sustainable spatial forest management on the priority of the ecosystem, social and ecological concept in the forestry, promoting balanced development, and enhancing the role of financial and economic relations within the territorial forest resource capital [10].
6. Extensive and intensive acceleration of the transformational processes in the sphere of spatial forestry on an innovation-investment and entrepreneurial basis, as well as increasing the efficiency and effectiveness of cross-border cooperation in forestry.
7. Improvement of the institutional design of spatial forestry as a component of the economic space of the country, systematic regulation of production relations (especially financial and economic) of forestry entities, as well as principles of functioning of global forestry in the spatial dimension.
8. Promotion of integrated and multi-purpose forestry within the territorial forest-resource metaphysical area of forest management.

The implementation of the aforementioned directions for the activation and efficiency of the forest management transformation processes is a prerequisite for the ensuring economization and ecologization of rational use and reproduction of forest resource potential (capital). It also requires certain institutional and managerial changes in the system of development of human resources in the forest sector.

From these perspectives requirements on managers, specialists of the forest complex, their professional knowledge, competence, ability to carry out the spatial organization of environmentally oriented forestry production, multifunctional forest management on an innovative and entrepreneurial basis are increasing. The transformation of the forest management space implies the necessity of the ecosystem-oriented management of the labor process of forestry specialists, the increase of their environmental and economic efficiency, the improvement of the relevant criteria and indicators for assessing the work of personnel, material and moral stimulation of their activities with taking into consideration of ecosystem and environmental factors. Ultimately, the managers and specialists of the territorial forestry systems that are regarded as the most effective ensuring of the implementation of the goals and objectives of environmentally oriented forest policy, the functioning of forestry production (from the point of view of management, organization, planning, control and other components), the implementation of specific measures for protection, conservation and enhancement of forest potential [2, 3, 6].

The relevance of the study of different problems of the ecologization of forestry space, [11, 12] and, accordingly, the labor of managers and specialists is reflected in the statement of Finnish scientists: "The essence of the content of forest policy is to influence people's actions, using forest resources to achieve the setting goals "[5]. Ukrainian scientist, Zavadsky [6] also notes that the efficiency of the agricultural sector of the economy is only one-third determined by investments in machinery and equipment, and everything else depends on the human factor, the intellectual potential, the qualification level and the abilities of managers and specialists. Thus, implementation of the environmentally oriented policy, the transformation of the forestry space, the business and ecosystem functioning of the multicomponent forest complex necessitate the further development of the theory of environmental management in the direction of further improving the quality of human resources and human capital in this sector of the economy, improving the motivational mechanisms of the high-productive labor, legal and socio-psychological aspects of managers' and specialists' labor [14].

The effectiveness of environmentally balanced forest management and reproduction of forest resources in the territorial and spatial dimension is determined primarily by the

observance and constant maintenance of a certain logic and organization of the management process. The logical chain of cause-effect relationships in the sphere of environmental management, in particular in the organization of the management of ecologization of reproductive processes, can be characterized as follows: the actions of managers from the position of ecologizing managerial decision-making - environmentally oriented (responsible) production and economic behavior of specific employees, specialists (environmental and ecosystem friendliness of the labor processes) - an environmentally oriented production (forestry and timber) production activity of the personnel - environmental and economic efficiency of production and labor [6, p.177].

Environmental management of entrepreneurial forestry represents, in our opinion, the process of making effective management decisions with a view to greening the use and reproduction of forest resource potential (capital); this is the system of managerial mechanisms that provides the overall forest environmental and economic effect of coordinated labor activity of employees in the system of spatial forest management. The close interconnection of all components of forest biogeocenosis, as well as ecological, economic and social parameters of production, causes the presence of various elements of environmental management in all spheres of forest management, human resource development, and also the process of forestry work. It should also be taken into account that [8] there is a distinction between environmental management in terms of environmental safety of making-decisions and environmental management which includes specific environmental labor at the enterprise or in the region.

In our opinion, the process of making managerial decisions by managers and specialists, and also creating a material and moral motivation for environmentally responsible (conscious) production behavior of employees takes into account the activating the role of the environmental factor. Figure 1.3 presents an approximate system of components of the activation of role of the environmental factor in the process of productive work of managers, specialists in the system of spatial forest management.

According to the scheme presented below, activation of the role of the environmental factor in the process of productive work of managers and specialists, as well as environmentally responsible and conscious production behavior, is initially determined by the environmental component of forest policy at various spatial levels of forest management (global, national, regional and local) and the entrepreneurial nature of the economic mechanism of use and reproduction of forest resource potential (capital) of forest enterprises on the principles of the market economy, for example, based on the introduction of commercial calculation, based on the payment of completed forestry facilities.

*External environment:* environmentally oriented forest policy,  
economic mechanism of the nature management in forestry

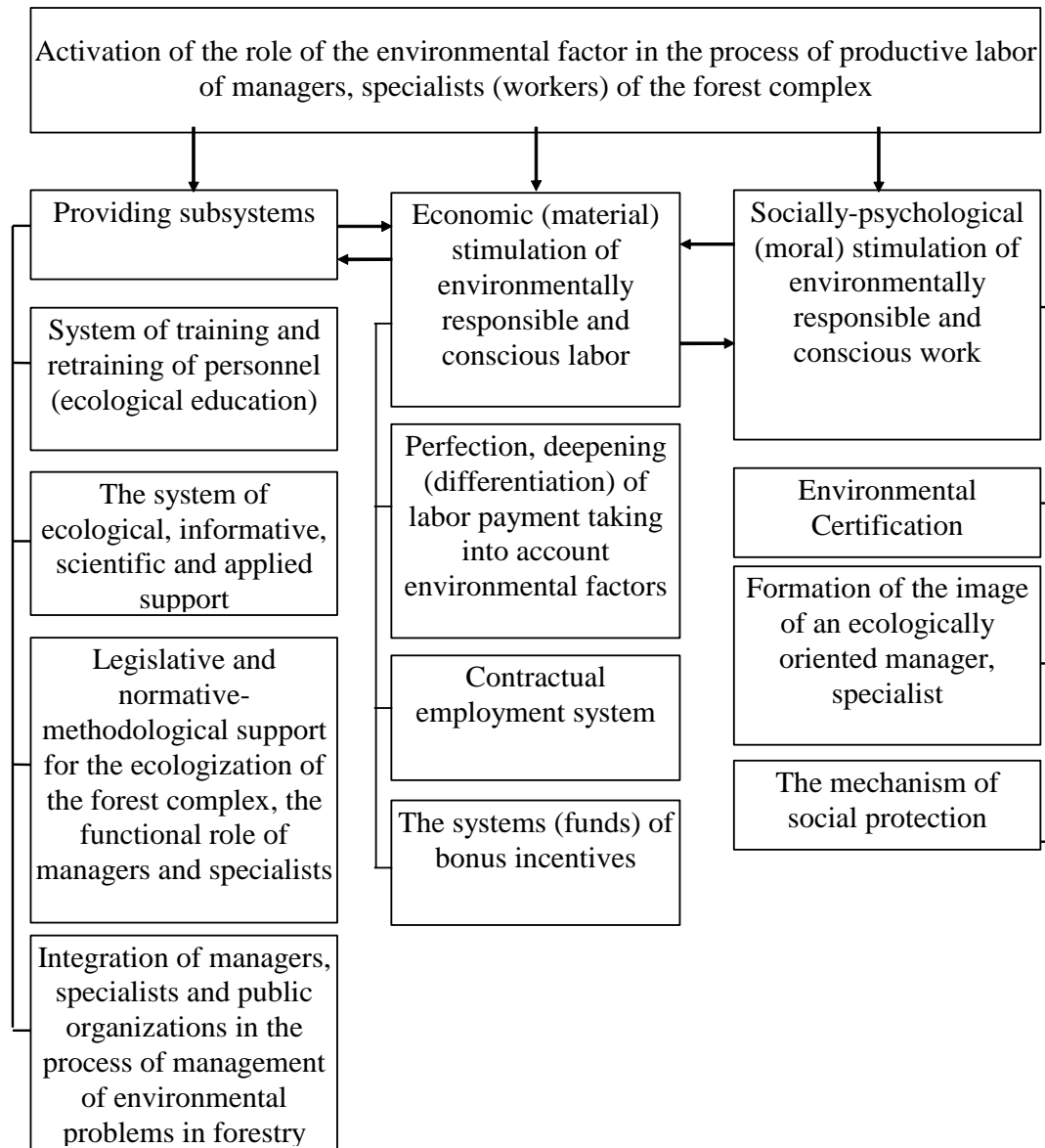


Figure 1.3 – The main components of the system of activating the role of the environmental factor in the productive work of managers and specialists of the forestry complex

Activation of the role of the environmental factor will significantly contribute to the economization and ecologization of forest resources' reproduction, as it opens up wider organizational opportunities for the application of various economic forms and methods (instruments, levers) of management of the forestry space [3]. The implementation of strategic guidelines for the gradual replacement of budget forestry financing will help to increase the role of incentives for the material and financial interest of specialists in the results of their labor.

Expansion and deepening of economic, ecological and social functionality and the demand for forest resources in the territorial and spatial dimension cause a reassessment of the functional role of not only the organizational and management structures of the forest complex, but all their employees (labor resources), their significance and potential in the future formation of the highly productive, environmentally sustainable and socially-economically significant forests.

The ecologization of the spatial forestry organization, the activation of the role of ecological (ecosystem) factor in the productive work of managers and specialists require legislative and methodological support, as well as the functional delimitation of job responsibilities, the social and environmental responsibility of specialists for the state and development of forest resource potential (capital), the efficiency of forest management. The issues of improving the use of specialists in the system of ecosystem forest management in the territorial and spatial dimension require a detailed analysis of the content of their work in the management process, which is reflected, for example, in the use of an annual time fund by specialists in jobs corresponding to their functions [6 , p.181].

The socio-ecological and economic effectiveness of multi-purpose forest management largely depends on the level and quality of the relevant professional knowledge and studies, as well as the competence of specialists in the sphere of the spatial forest management, the content of the improvement of educational programs of forestry institutions, as well as the activities of the Institute for Retraining and Advanced Training of Forest Management complexes for specialists, in the context of the principles of sustainable development and spatial organization of forests.

We should also note that the activity of non-profit organizations can become an important factor that determines the adoption of environmentally oriented making decisions by managers, specialists in the sphere of forest use and reproduction of forest resources. This problem affects various forms, methods of participation and involvement of population groups, non-profit organizations in substantiating, planning and developing solutions related to the forest conservation, protection of forest resources and commercialization of forest relations.

In ensuring the effectiveness of environmentally oriented activity of forest enterprises in the territorial-spatial context, oriented to achieving optimal forest-ecological and economic results, improvement on the basis of the market, forms and methods of organizing material and moral (socio-psychological) motivation of labor, oriented on increasing productivity and

ecosystem friendliness of forestry operations. At the same time, the formation of funds, instruments of payment and motivation of labor of forestry employees, taking into account the ecosystem nature of forestry production and forest management, is an integral part of the system of economic organization and stimulation of rational forest management, which should be aimed at increasing the level of interest and responsibility of forest owners (enterprises-forest fund holders) and forest users.

The system of economic motivation in the system of territorial and spatial organization of forest management **covers the following main directions:**

- program-targeted allocation of assets (financial resources) for the implementation of forestry development programs at various spatial levels at the expense of corresponding budgets;
- payment of forest management activities at planned and calculated prices, differentiated according to the ecosystem level (ecological compatibility) of the obtained results;
- preservation of budgetary allocations, irrespective of the availability of additional sources for forestry owners, as well as for the development of commercial relations in forestry production, with a view to ensuring a balanced implementation of the ecosystem services of public forests;
- providing tax benefits for forest owners and users of forest resources in the implementation of ecosystem innovations (environmental technologies and machines), as well as increasing the efficiency of forest regeneration processes, improving the breed composition of the ecosystem balance in the spatial dimension of forests.

It is important to note that in the context of transition to developed market relations in the sphere of territorial and spatial forest management, the existence of a balanced and rational wage differentiation depending on the labor participation of employees, the quality (ecosystem) of their labor, the labor and creative contribution of specialists to the final results of forest management, constant and variable parts of the wage fund are the most important tasks of managing the labor motivation in an enterprise.

Furthermore, we note that the solution of the problem of achieving the high ecological and ecosystem compatibility of forest management and reproduction of forest resource potential on the basis of organization and development of wage systems implies the use of more rational principles in the payment of labor market system:



1. Elimination of leveling, deepening of differentiation and individualization of payment for completed forestry operations, while observing reasonable ratios of minimum and maximum levels.
2. Stimulation of remuneration for the final forestry results with the maximum possible consideration of productivity and quality (environmental and ecosystem) of the work. And here it is important to emphasize that the long period of forest growing, which causes theoretical and practical difficulties in determining the final product of forestry production, certainly creates a certain complexity in the issues related to the formation of a system of performance indicators on an ecosystem basis.
3. Expansion of the environmentally oriented motivation of collective achievements, that is, payments on the overall results of forest management, for example, based on collective agreements and contracts.
4. Active greening of the system of labor contracts with managers, specialists of the forest complex, which involves the formation of requirements for quality, environmental friendliness of the work performed, and compliance with the principles of ecosystem management of forests. The duration of the period of forest growing, the objective complexity of the formation of forest ecosystems and causes the need for long-term retention of staff. This involves the use of a factor to strengthen employee motivation through the introduction of a consistent reward system [7].

Modern practices of forestry operations for the forest development, protection of forest ecosystems are often carried out formally and at a low organizational and technological level, which does not contribute to the formation of highly productive forests with a high level of socio-ecological functions. This situation is to a certain extent due to the financial and economic crisis in various sectors of the economy, while enterprises are not actually liable for low quality of forestry operations and the staff does not have economic incentives that would ensure their high quality. And here it is important to emphasize the fact that the determining system in the material stimulation of productive and quality labor belongs to the bonus system. In the process of formation of bonus systems (conditions, indicators, norms, rules) it is important to identify factors that determine the interest of personnel in higher quality forestry results.

Improvement of the bonus system for forestry personnel based on the activation of the role of the ecological (ecosystem) factor requires the implementation of **such measures:**

1. Identification and justification of the deeper interconnection and interdependence of ecological, economic, organizational, technological and social parameters of forest management, as well as quantitative, qualitative, resource-intensive capital indicators that affect the productivity of labor. In addition, it is also necessary to carry out economic evaluations of the implementation of forest ecosystem services [13].
2. This may also refer to the establishment of socio-ecological and economic relationships between the components of capital formation of an enterprise (in particular, human, intellectual, social, forest resources). More comprehensive coverage of the accounting and control of the phases (phases) of the forestry cycle, taking into account the ecosystem balance of forest plantations (in particular, the quality of planting material, forest conditions, ecodestructive factors for the reconstruction of low-yielding plantations) and forest use (use of environmentally safe equipment, in the process of logging, compliance with the standards of recreational load on forest biogenesis).
3. Improving the differentiation of the size of premium payments, taking into account the level of use, development and development of forest resource potential and quality (ecology, ecosystem) of forestry operations and multipurpose forest management.

For increasing the socio-ecological and economic efficiency of forestry personnel, it is necessary to use more actively the mechanism of environmental attestation. So, for example, assigning class ranks, categories and promotions should be carried out taking into account the results of forest-ecological activity of specialists in solving ecosystem forest management; introduction of environmental innovations and IT-management technologies; planning to increase the provision of ecosystem services for forests; timely detection and recovery of environmental and economic damage, etc.

Further we will emphasize that the ecological thought of the modern manager, a specialist who should be connected not only with a careful attitude to the forest resource environment, but also to the social environment – to working people, because they are engaged in the reproduction of forests, ensure the ecology and beauty of forest landscapes, their effective use [6, p.190]. The environmental thinking of the leader should thus become more systematic, holistic, and manifest as much as possible in specific managerial decisions and actions that receive internal, administrative (state), public recognition and approval (economic, social, moral, psychological). The environmental aspects of the manager's work, in principle, shape his or her image - as an environmentally oriented specialist, manager. The environmental thinking of the manager determines the overall ecological culture of the forestry enterprise.

It is important to emphasize that the spatial organization of forest management on market principles requires the presence of such an ecosystem management component as ecological culture.

Essential-content basis of the formation of ecological culture of spatial forestry is shown in Figure 1.4.

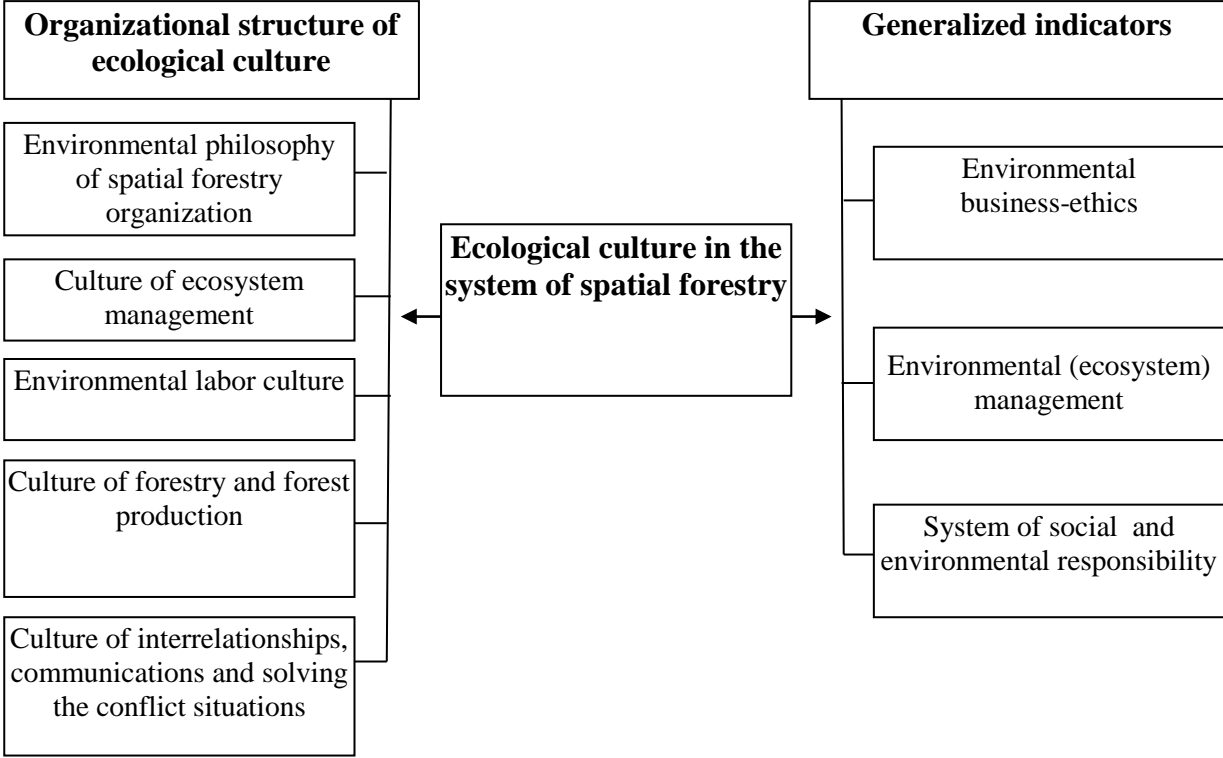


Figure 1.4 – Essential-content basis of ecological culture in the system of spatial forestry (developed by I.Yarova, taking into account [1, p. 74-75, 13])

In particular, the environmental philosophy of spatial forestry organization on the principles of sustainable development defines the mission, goals, forms and content of environmentally oriented management and management in the context of solving territorial, socio-ecological and economic problems, as well as the dominant ecological and social values of enterprises' development (for example, in relation to "production" of forest ecosystem services). All this forms the forest-ecosystem policy, as well as *ecosystem entrepreneurial business-ethics*. Socio-environmentally oriented relations between employees determine the nature of corporate interests, as well as promote effective forest management at various spatial levels.

An *ecosystem entrepreneurial business - ethics* in the system of spatial forest management can be defined, for example, as an integrated system of principles, directions,

generalizations and normative provisions in the knowledge of the peculiarities of the formation and development of forest management in the territorial-spatial dimension.

**Ecosystem business-ethics** forms the space (environment) for the formation of a moral and ethical institute of socio-ecological responsibility of working for the rational use and reproduction of forest resource potential (capital), timely forest management measures and ecological security of forest management.

Furthermore, it should be noted that recognizing the leading role of the economic (material) motivation of productive labor in the system of spatial forestry organization, it is obviously impossible to underestimate the effective significance of social factors in ensuring the quality of life. Forest management activities are carried out by people who work in a socio-economic crisis, have their own specific material and spiritual interests, creativity and professional qualifications in the form of *intellectual capital*. From these positions, a detailed analysis of the material, social and spiritual needs of the employees, their purposeful development should become an integral part of the economic mechanism for managing the *spatial forest organization*. The solution of the problem of forestry complex provision by qualified and environmentally oriented managers and specialists is directly connected with the formation of the mechanism of their social security. It should also be emphasized that the economical expenditure of budgetary funds for public forest needs is a possibility of maneuvering in the direction of creating special funds for the social security of forestry employees on the principles of their material and financial responsibility and interests.

In conclusion, we note that the further study of theoretical and applied aspects of the development of human resources and socio-economic motivation of labor in the system of spatial forestry organization, should be implemented on the basis of practical measures for reforming the management of the mechanism of forest management, and the transformation of the forestry space on the ecological and economic basis.

1. Spivak, V.A. (2001). *Corporative culture*. Piter. - 352p.
2. Yarova, I.Ye. (2008). Activation of the role of the ecological factor in the process of productive labor in the field of nature management. *Development of Ukraine in the XXI century: economic, social, ecological, humanitarian and legal problems: Abstracts of international reports.*– Ternopil.- pp. 62 - 63.
3. Yarova, I.Ye. (2007). Conditions for ensuring the effective functioning of the ecosystem: the personnel and motivational aspect. *Problems of management of innovative business of ecological direction: [monograph]*. Ed. by O.V. Prokopenko. Sumy.- pp. 277 – 283.

4. Zavadsky, I.(1996). Personnel management potential and personnel policy in the agroindustrial complex. *Economy of Ukraine* , 11, 64-68.
5. Riihinen, P., Tikkanen, I. (1993). The concept of forest policy in the market system. *Forestry*. – 1993, 2, 29-32.
6. Mishenin, Ye.V. (1998). Ecological and economic problems of nature management in the forest complex: [monograph]. Ed. by Ya.V. Koval - Sumy: GDP "Mriya - 1" LTD, 1998. - 272 p.
7. Ehrenberg, R.J, Smith, R.S. (1996). *Modern Labor Economics. Theory and public policy*. – Moscow: Moscow State University. - 800 p.
8. Dillik, T. (1993). The concept of "environmentally conscious leadership" enterprise. *Problems of theory and practice of management*, 4, 75-81.
9. Mishenin, Ye.V. (2012). Conceptual foundations for the formation of an environmentally oriented mechanism for environmental management. *Economist*, 3, 59-64.
10. Financial and economic mechanism of management of territorial natural-economic complexes. Ed. by acad. NAAS of Ukraine, doctor of sciences, prof. M.A Khvesik. Kyiv: DU IEPPS NAS of Ukraine, 2016. - 528 p.
11. Antonenko, I.Ya. (2008). Ecological and Economic Priorities for the Modernization of the Forest-Resource Complex in Ukraine: Macroeconomic Levers / Ed. by doctor of economics, prof. B.M. Danylyshyn. - Kyiv: KUTEP-Inform. -359 p.
12. Lytsur, I.M. (2010). Ecological and economic problems of spatial organization of forest complex of Ukraine. Ed. by D.Sc., prof., acad. National Academy of Sciences of Ukraine B.M. Danilishin. - Kyiv: RVPS of Ukraine of the National Academy of Sciences of Ukraine.- 317 p.
13. Mishenin, Ye.V., Dehtyar, N.V. (2015). Economics of ecosystem services: theoretical and methodological foundations. *Marketing and management of innovations*, 2, 243-257.
14. Mishenin, Ye.V., Yarova, I.Ye., Mishenina, H.A. (2014). Mechanism of the environmental management implementation on the forestry enterprises. *Marketing and management of innovations*, 2, 259 - 270.

#### **1.4 Diversity as a basic management tool for human resources in international organizations**

In the modern world, enterprises are developing their businesses in new markets and with new technologies, often going beyond the territory of their own country. They develop cooperation with foreign entrepreneurs and subcontractors. They open their branches in various countries in which they often encounter a culture different from theirs. As an effect, the scale of diversity they experience is larger than before.

Realizing the fact that diversity has a positive impact on improving quality and efficiency in the organization the companies have started introducing employees of various backgrounds to their teams. What is more, in some countries, changes resulting from the adjustment of the law to EU standards have forced companies to introduce rules against all kinds of discrimination. That is why organizations are obliged to employ, evaluate, promote and reward only on the basis of objective criteria, such as results and qualifications of the employee [10]. Aging societies also contribute to the phenomenon of diversity and the prevailing situation forces employers to introduce employees of all ages to their teams.

However, globalization is by far the most important factor responsible for increasing the aspect of diversity in organizations. "Globalization is a social process which weakens geographical limitations previously determining forms of social and cultural organization and increasing awareness of these limitations" [13]. Globalization and its dynamics are mainly contributed to the revolution in transport, industrialization, dissemination of computers and the Internet, i.e. technical progress in general. In addition, social progress visible in the unification of consumers' preferences, education as well as social factors have made globalization gaining momentum. As a result of globalization, the number of migrant employees, including those highly qualified, is increasing in different countries, which in turn translates into the diversification of human resources in organizations, especially in terms of culture [2].

Diversity can be seen in many aspects such as gender, age, sexual orientation, ethnic origin, language and any other elements on which employees differ from each other. They can be examined in three major areas like primary identity, secondary identity, and organizational identity (Table 1.5).

Table 1.5

Types of identities (Author's research based on [3])

<b>Primary identity</b>	<b>Secondary identity</b>	<b>Organizational identity</b>
Knowledge, predispositions, competencies, abilities, values, patterns of behaviour, personality, gender, age, race, language, physical fitness, ethnicity, nationality, sexual orientation etc.	Place of residence, material status, income, education, formal qualifications, professional experience, marital status, having children, religion, appearance, figure, clothing style, habits, hobbies, etc.	Position or place held in the organizational structure and hierarchy, nature of performed work, a range of decision-making powers, professional certification, additional employee benefits, etc.

Primary identity is also often referred to as the internal dimension of the individual. Features, which apply to this area are the distinguishing features of every human being and they relate to psychophysical features, possessed knowledge, predisposition and ability, awareness as well as shaped way of thinking, system of values, personal culture and norms, and beliefs.

Secondary and organizational elements of identity are related to the place held by a person in society. However, not all of them can be assigned to one category because e.g. education and professional experience do not always reflect the positions held in the organization.

### **Diversity management – risks and rewards**

In our private and professional life, we have encountered each and every aspect of diversity mentioned above. Most of them do not evoke any negative emotions in us. Differences in the workplace such as age or gender do not cause difficulties in the functioning of the organization. Obstacles appear when the organization becomes culturally diverse. However, as it has been mentioned before, it is an inevitable process that will increase over time. That is the reason why we should strive to create more and more multicultural enterprises and organizations, with a management system adapted to various needs. An organization should implement the appropriate policies and actions that will help employees to understand what is adequate and correct behaviour and what is not [4]. Managing cultural diversity takes place at the level of momentary intercultural mediations and interventions as well as at the level of shaping a lasting organizational culture, which makes it possible to prevent various cultural conflicts, e.g. conflict of values (Table 1.6).

Table 1.6

Three basic models (strategies) of intercultural management

(Author's research based on [8])

<b>Cultural domination</b>	<b>Cultural coexisting</b>	<b>Cultural cooperation</b>
Imposing your own culture while using various forms of coercion	Creating monoculture units in the organization associated with one another by people from the borderline of those cultures	Creating conditions where cultures infiltrate one another

### **Cultural domination**

The effect of applying the strategy of cultural domination or activities related to cultural cooperation is often the unification of culture in the organization. However, in the

case of cultural cooperation, we can observe the emergence of a "metaculture", or a different culture, which facilitates effective and fast intercultural communication.

Approaches to the multicultural aspect of an organization can be different, but it always should be directed towards respecting and appreciating every employee regardless his or her race or nationality. It is crucial to give the employees the opportunity of personal development and using their potential as it can have a positive impact on the development of the whole organization. In order to achieve a well-functioning multicultural organization, the management introduce different strategies. In some enterprises, an equal opportunities policy is introduced which main objective is to prevent discrimination in the workplace. Discrimination refers to all kinds of differences, i.e. age, gender, disability, race, nationality, etc. Discriminatory behaviour is sought to be completely eliminated through education and implementing equality regulations.

Completely different behaviours can be seen in the strategy that recognizes and strengthens the differences in the organization to emphasize that they are an important element in the current operations of the organization. This approach, despite the possibilities it creates, can give employees the opportunity to produce stereotypes and prejudices, which in turn can lead to conflicts. To help employees who are likely to be discriminated due to stereotypes, some organizations are introducing a strategy that aims to introduce equal opportunities programmes for development and promotion. These activities are often associated with training, thanks to which the feeling of value and position in the organization of an individual is strengthened. Unfortunately, this approach can also entail a risk of falling into stereotypes, because many people tend to generalize. For example, when introducing activities related to raising self-esteem for people with disabilities we risk emphasizing the opposite.

A completely different approach to differences in the organization is diversity management. It is a process of management and communication based on active and conscious development of an organization directed to the future, based on values, and starting from accepting existing differences, treating them as potential development. This is a process that creates added value for the company [7].

Diversity management - a personnel management strategy which assumes that diversity in the workplace is one of the key resources of the organization, contributing to its development and achievement of business goals [11].

Diversity management can positively influence forming of competitive advantage but at the same time lead to different types of conflicts. In order to define proper diversity management, Kandola and Fullerton created a list of 10 most effective actions in this area [1]:



1. Equal rights and the same benefits for both employees on full and part-time contract.
2. Freedom in the area of clothing.
3. Allowing additional days off for family care (e.g. extension of maternity leave).
4. The principle that benefits for employees' partners are also available for partners of the same sex.
5. Purchase of specialist equipment e.g. Braille keyboard.
6. Employing helpers, for people who need them.
7. Not paying attention to age when deciding about employment.
8. Training people involved in conducting equal opportunities for training in the company.
9. Providing support in caring for a child.
10. Allowing employees to take breaks for their own career development.

It is a fact that diversity management is a long process, which focuses on learning about many aspects of diversity and communicating this knowledge appropriately to all employees. Due to the wide range of activities in diversity management, mid-level management may not be prepared for the introduction of activities related to equal treatment of employees. Emerging difficulties can also stem from a lack of knowledge about the applicable laws and a lack of formal and informal solutions to counteract discrimination. This is the reason why a wide range of training courses should be provided including language training. These training courses should be adapted to the needs of the organization in such a way that they enhance proper functioning of the organization [5]. What is more, all activities in the area of diversity management should be communicated inside and outside the organization.

External communication of the actions undertaken concerning the issue of diversity helps to avoid misunderstandings and allows a favourable image of the company. Organizations cooperating with the company and potential clients perceive such companies as organizations open to cooperation and development. Improving the image is not the only benefit of diversity of employees in an organization. Diversity among staff fosters mutual learning resulting in complementing the competences of individual employees. In addition, diversity management improves the efficiency in the workplace through improving the atmosphere. The employee identifies more willingly with the organization which at the same time increases his or her loyalty. A good image of the company, as well as friendly atmosphere, can contribute to hiring and keeping talented employees that are in high demand. Benefits of diversity can also be seen in the area of group activities. Thanks to

diversity in terms of education, mentality and personality, it is possible to solve many problems as well as introduce different types of solutions. Greater adaptive abilities and therefore greater possibilities of choosing the company's representatives in negotiations guarantee a better understanding of consumer needs and also prevent monotony. Furthermore, in case of cultural diversity of the organization, it is possible to find new solutions and creative combinations. Diversified teams have more chances of introducing innovations thanks to creative solutions they can find and introduce. A fresh perspective on innovation is a real benefit when it comes to supporting diversity [12]. Organizations which manage diversity in an effective way are more flexible, which in turn allows them to adapt easily to the changing environment.

Diversity management in a company is therefore very important for the success of a diverse organization. However, attention to diversity needs to be paid already in the recruitment process. A recruitment process sensitive to diversity pays attention to the candidates with the highest qualifications and competencies that are attractive from the point of view of achieving the organization's goals [11]. The organization should not use various kinds of questions in the recruitment process that could classify candidates in terms of sex, age, nationality, ethnicity, religion, etc. Organizations that implement diversity management policies can direct their employment structure towards diversification. Moreover, through diversification of the sources of recruitment, organization can reach some specific groups of candidates in a controlled way.

### **Internationality equals diversity**

Diversity is not only diverse human resources but an issue that also affects entire organizations, which operate in many countries. By opening their branches in different countries, they encounter different cultures, habits, and values. We can distinguish enterprises undertaking various strategies depending on their way of acting on international markets [8].

Integrated national or regional strategies focus on nationwide or regional similarities and the application of similar strategies for their products in this area. Unfortunately, it has been noticed that such strategy contributes to doubling the functions and activities of the markets that are adjacent to each other. Therefore, similarities between countries have been sought and those which showed resemblance has been treated as a relatively homogeneous region. I Another strategy is based on treating differences between countries as a matter of secondary importance. Integrated product strategies have a global approach and therefore focus on such products. Companies applying such strategies most often offer several products of high quality and value. The integrated global strategy is based on a matrix

structure, which consists of combining the advantages of the product strategy with coordination on a national or regional scale. In order to be successful, this strategy must be based on a good information system that allows the free flow of information and on excellent corporate knowledge of global strategies and policies as well as of regional groups of products. We also distinguish multi-local strategies, which are based on decentralization and adaptation of products to local consumers, financial and tax systems as well as their norms and customs. However, in order to ensure unity of companies using a multi-local strategy, it is necessary that all the key employees of the company who are responsible for the quality of their products should follow the same standards, values, and patterns of behaviour. The ties should be kept using long-term plans developed by the company's headquarters and applied by all participating units. Such plans usually refer to the processes of launching new products or mastering new skills. It is also important to maintain standardization at the level of new technologies.

Apart from various types of enterprises that open their branches in various countries and adopt different strategies, we can also distinguish transnational corporations also known as multinational or transnational corporations. "International entities can be considered as an economic entity whose individual components (organizational structures) are located in more than one country." An international enterprise is thus a homogenous economic and technological structure, but at the same time, it is also an entity operating in various countries. In that case, enterprise headquarters and its subsidiaries (divisions and foreign branches) are subordinated to the laws of different countries and their sovereign powers" [6].

Transnational corporations strive to standardize products, sales method and quality features taking into account the specific nature of some markets. One of the global corporations, which uses such solutions is McDonald's. It is particularly important for this company to undertake adaptation activities. This company is trying to take into account customs, culture and characteristics of the regions concerned. In Germany, where it is customary to have beer with meat meals, McDonald's restaurants introduced such a possibility in their network. In the Scandinavian countries, where fish dominate the diet McDonald's restaurants introduced a larger selection of FishMac sandwiches, while in Spain a local meat dish has been introduced to the menu. These products, despite the varied composition, continue to be produced in high-quality company standards. Adapting to local markets bring a lot of benefits to McDonald's. For example, an increase in sales but also a reduction of costs of production as it often uses regional products. The diversity of countries, their preferences and traditions should be taken into account by any transnational company.

The concept of diversity management is a relatively new concept. This issue is more and more often mentioned in the literature. Regardless whether diversity applies to large corporations in the international market or diversified staff in an organization, nowadays it is without a doubt an important element of effective management. Despite many problems that diversity in an organization can bring, awareness that diversity can be a factor used for their competitive advantage is growing [9]. Due to changes in the modern world such as globalization, enterprises should strive to diversify employees as well as eliminating all signs of discrimination in order to reach a better level of communication and tolerance among people.

1. Armstrong M., (2007) Zarządzanie zasobami ludzkimi, Wolters Kluwer Polska-Oficyna, Kraków.
2. Bukowska U., Globalizacja w kształtowaniu jakości zasobów ludzkich, w: Makroekonomiczne aspekty zarządzania w warunkach kryzysu. Prace i Materiały Wydziału Uniwersytetu Gdańskiego.
3. Grzybek A., Podręcznik trenerski Zarządzanie Firmą Równych Szans, EQUAL, Fundacja Feminoteka, Warszawa 2008.
4. Jarczewska-Romaniuk A., (2004) Przedsiębiorstwa międzynarodowe, Oficyna Wydawnicza Branta, Bydgoszcz-Warszawa.
5. Keil M., Amershi B., (2007) Poradnik szkoleniowy, Zarządzanie różnorodnością.
6. Koźmiński A., (1999) Zarządzanie międzynarodowe, Konkurencja w klasie światowej, Polskie Wydawnictwo Ekonomiczne, Warszawa.
7. Koźmiński A., (2004) Zarządzanie w warunkach niepewności, PWN, Warszawa.
8. Lewicka D., (2010) Zarządzanie kapitałem ludzkim w polskich przedsiębiorstwach, PWN, Warszawa.
9. Próchniak J., Sadkowska J. (red.), (2011) Wydział Zarządzania Uniwersytetu Gdańskiego, Sopot.
10. Ricky W. Griffin, (1996) Podstawy zarządzania organizacjami, PWN, Warszawa.
11. Sznajder A., (2013) Przewodnik po zarządzaniu różnorodnością, W&B, Warszawa.
12. Trompenaars F., (2005) Zarządzanie personelem w organizacjach zróżnicowanych kulturowo, Oficyna Ekonomiczna, Kraków.
13. Wiankowski S., (2005) Dostosowanie sfery badawczo-rozwojowej w Polsce do funkcjonowania w Europejskiej Przestrzeni Badawczej, Instytut Organizacji i Zarządzania w Przemysle „ORGMASZ” Warszawa.

## **PART 2 MANAGEMENT OF HUMAN RESOURCES AS AN INNOVATIVE INSTRUMENT IN TRANSFORMATIVE ECONOMY**

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### **2.1 Marketing of human resources in modern innovative conditions of management**

The human capital asset theory developed by Bekker became increasingly popular during last crisis phenomena. Nowadays the situation in Ukraine is such that human capital investments are minimized because economic agents are governed by short-term goals and trying to economize, in other words to maximize current profit. However, using Bekker research to this situation, we can say the actions of the economic agents are not efficient. Compared to domestic companies, foreign companies are governed by long-term perspectives. Nowadays there is a practice of staff reduction at Ukrainian enterprises with the aim to economize. However, it would be more efficient to keep staff and use non-standard work status instead of discharging them. Smart companies do not to lose capital invested in employees by preventing staff loss by introducing reduction of working time.

Reduction of human investment in enterprises being a fact, it is difficult to say anything about the effects of requalification. First, there is the question of salaries for those who have undergone requalification. It would of course be recommendable if people were paid the same salary during requalification as during work time. Usually enterprises send employees to requalification without payment. Thus, enterprises refuse from paying for requalification. This can hardly be considered an optimal decision, because if a person is more educated in this sphere, he or she will produce more, and consequently it's possible to sell more and the employer will receive bigger profit.

It is probable that after the current crisis an increase of production will begin and this increase will be determined by innovations forcing employers to invest in requalification of employees. As a result, there will be an increase in human assets. At the same time, enterprises get the opportunity to use new equipment to increase their profit. The next aspect is that the Japanese model of employment status is more effective in the context of human assets, because it foresees great investments in human assets. Employees leaving the company and maximum profit receiving as the dividends from these investments. Ukraine has an

approach to labor system, which has similarities with the Japanese system. Our state must continue the traditions of human assets development in enterprises, maintaining social standards. The state must interfere if there are signs of employers exploiting employees with a reference to the crisis. It needs to learn about the experiences of China for its gross domestic progress during crisis conditions. It's necessary to pay more attention to education, identity politics and ecological politics. It's impossible to speak about increased qualifications of employees if the number sick-leave from sinusitis among employees is more than 60% and this is not the only disease affecting them. Investment in medicine is as important as in ecology.

The difficult ecological situation in Ukraine has been caused by unconscientious attitude of enterprisers and lax punishment for those violating environmental legislation.

Take for instance the European Union, where the norm of motor vehicle emissions is 5 euro, while being 2 euro in Ukraine and it's not the least variant. Maybe investing in machinery engineering and producing cars domestically could solve a range of problems:

- requalification of employees, increasing their competitiveness in the international labor market;
- new working places appearance;
- making cars according to euro standards will bring Ukraine closer to Europe;
- if problems with environment pollution would decrease, it will lead to a great improvement of future human assets.

Nowadays no country can deal on its own with ecological problems. All countries have to cooperate with other countries. It is necessary to concentrate practices of all countries in the international legal framework. Solving all these problems is possible only on the basis of international collaboration on a multilateral basis. This collaboration has the form of organizations of scientific and practical meetings; creating international organizations; making official agreements, which coordinate common efforts for environment protection and also direct activity of international social parties and organizations.

There is large number of international ecological organizations, which make different scientific research on human influence of climate, atmosphere, hydrosphere, bottom, plants and animals, earthquake and tsunami forecasting, works in the sphere of biological and genetic fallout from environment pollution (Figure 2.1).

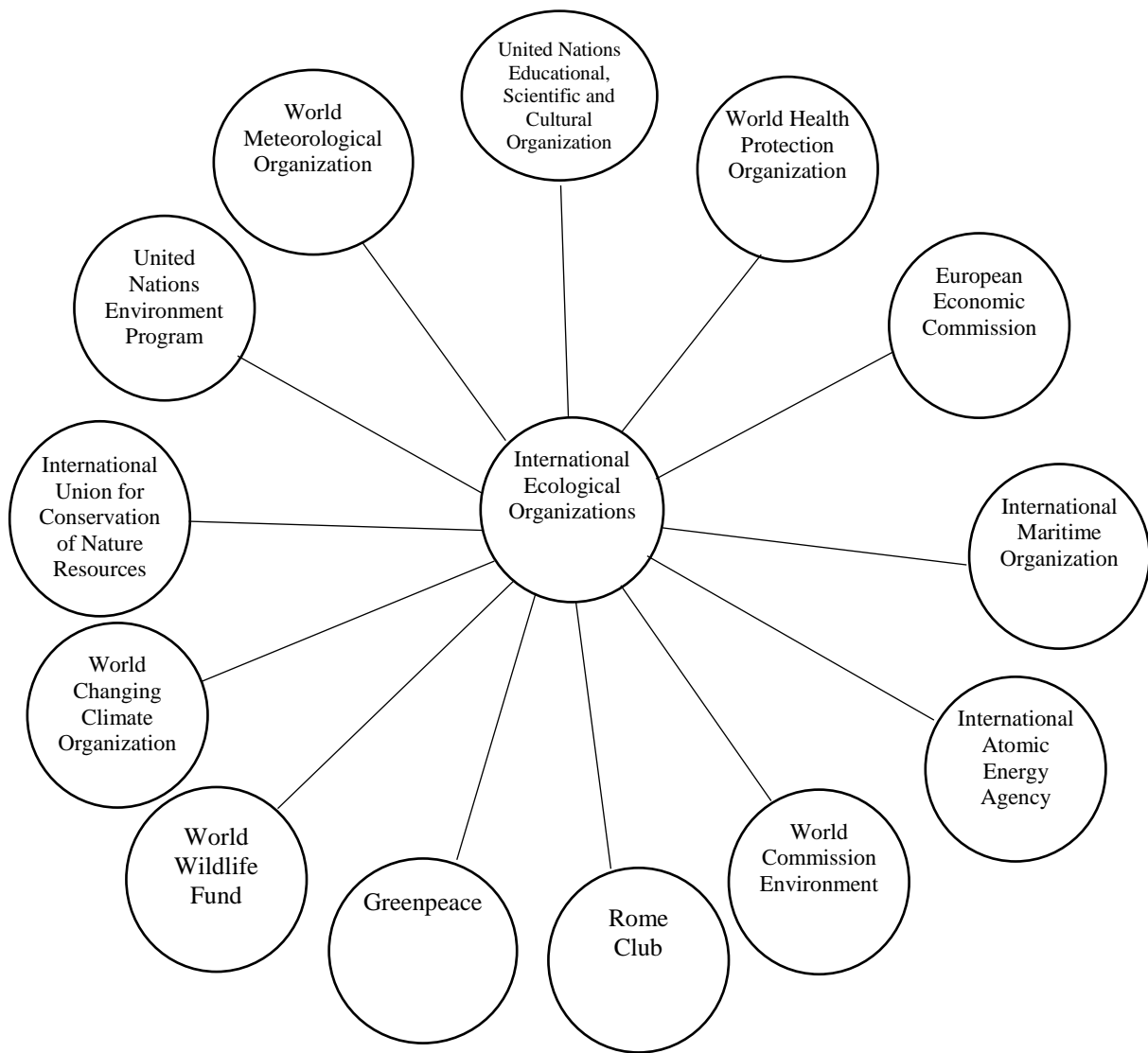


Figure 2.1 – International collaboration in the sphere of environment protection

The biggest and most authoritative independent global organization in the sphere of environment protection is World Wildlife Fund. Its main goal is to save the biodiversity of Earth, to temporary stop environment degradation of the Earth, and society planning international projects: “Climate change”, “Seas, which are in danger”, “Forest as a resource for life”, “Living water”, and also other companies such as “Trade of objects of wildlife”.

International forums help to develop environmental collaboration – Stockholm environment United Nations organizations conference (1972); Conference on security and collaboration in Europe (Helsinki,1975); Global forum of matter of survivability (Moscow,

1990); United Nations organizations conference of environment and development (Rio de Janeiro, 1992). As a result of collaboration between UNEP, WMO and UNESCO there were international complex global monitoring of environment pollution symposiums in 1979 in Riga, in 1981 in Tbilisi and in 1983 in Tallinn.

History of international ecological collaboration has existed for more than 150 years. So, the first environment protection international documents were adopted in the end of 19th century. But the largest number of environmental international documents was adopted from the beginning of second part of 20th century. The most important of them are Program United Nations organizations «Human being and biosphere» (1968), Environment Program (1972), European saving wild fauna and flora and natural biotopes agreement (1979), World soils charter (1982), European environment and health charter (1990), Convention on the kinds protection (1993), Convention of biological Diversity (1993), Convention on the climate protection (1984), Declaration about forest (1994), Order paper of XXI century (1992).

International cooperation in the sphere of environment protection is an important component of the foreign policy of Ukraine. Ukraine as a participant of United Nations has signed several international environmental agreements and together with other countries Ukraine continues to work on the task to rescue our planet from ecological disaster.

**«Garbage is not the stuff, it is art of connecting together different useful things and subjects, what defines their place on the dump»** Pol Konnett. Scientific-technological processes influence human development positively, makes our life easier, saves time for most people in the world, but at same time risk destroying nature. With the emergence of cars, planes, ships and other transport modes, human society easier has increasingly been destroying the environment. In the past, waste was dug or fired, the technologies of utilization was tied to duties, but nowadays demand is growing and the production of all kinds of goods is increasing. Technologies of utilization don't cope with such big capacity of recycling and this causes harm nature.

The main task of «Waste Management Systems INC» is utilization of waste. A company called «Waste Management Systems I toNC» has started operating in the sphere of using of innovative European technologies of waste collection, disposal and recycling in Ukraine. The company proposed to collect waste in underground high-capacity containers that give an opportunity to increase the interval between disposal of garbage, high-capacity, convenience, hygiene, place economize.



Nowadays «Waste Management Systems INC» is modern enterprise specialized in waste collection, disposal, utilization and recycling with a staff of more than 100 qualified specialists who had internship in CIS countries, Europe and in the USA.

«Waste Management Systems INC» is not complacent, it improves and increases the standards of its services constantly, takes part in international conferences, and seminars specialized in ecology exhibitions, takes part in improvement of ecological situation in cities.

In view of its innovativeness, the enterprise opened new job positions and made job descriptions for its employees. Making of programs «WMS INC- personnel» together with American, German and Russian specialists in this sphere became an innovative step in staff management. The main feature of this program was in the employees' scoring each other according to parameters: estimation of employee qualification, but also by its attitude to employees and their opinion. Each employee has his or her code for privacy. There are fragments of this program below (Tables 2.1 and 2.2) [1].

Table 2.1

According to work. Employee – full name. Code of this employee.

Circle chosen mark Date and time of giving

-	For whom – full name. For what – by your own words	+	Code
1		1	
2		2	
3		3	

Table 2.2

Trust opinion

-	For whom – full name. Why don't trust	+	Code
1		1	
2		2	
3		3	

Date of card giving to operator

Full name of operator and his signature

"For what – by your own words" – employees write in principle as they think. After giving back completed cards, an operator codes the employees and is responsible for the accuracy of the process.

A card is distributed every week at the same day of the week. The term for completing is till morning of the next day or some hours of one day.

Assignment of card is to help to correct reasons which damage effective enterprise work in time.

Operator puts data from all frames of the card.

Data from cards are summed up to each employee and put in total table (Table 2.3).

Table 2.3

Total table

Full name of employee	Week		Month		Quarter		Trust		Participation	
	-	+	-	+	-	+	-	+	-	+

"Participation" is identified from the number of employees which are estimated by all employees in two kinds of cards "According to work" and "Trust". For each estimated person it is "plus 1" taking into account the coefficient. If the employee didn't estimate any employee it is "minus 1" for him or her.

Data is summed up taking into account the coefficient; total value is estimated on the basis of codes of employees, depending on who works in which department and at which level. The results are rounded off to one mark after comma [1; 2].

Coefficients

**In this structure:**

- 1,5 – employee is at the level;
- 1,0 - subordinate, to direct;
- 0,5 – to subordinate, for 2 levels lower;
- 0,7 – to chief , direct;
- 0,3 – to chief, for 2 levels above.

**In parallel structure:**

- 0,6 – to employee at his level;
- 0,3 – to employee at the level above;
- 0,2 – to employee at the level lower.

**Database.** A database is kept "who, for whom, when and how many balls were given". According to this base it is possible to make extracts for a certain employee " who, for what, when and how many balls were given".

For all employees there is open to the list "for what" another employee gave balls for sharing the experience.

This program has helped to understand who fulfill their tasks and how, their attitude to their colleagues, are they present in the workplace or not, do they have the talent and skills, do they want to study. It was natural selection of candidates for innovative profession for Ukraine.

1. Пересадько Г. О. Сутність та концептуальні основи маркетингового дослідження // Вісник Сумського національного аграрного університету. Серія « Економіка та менеджмент». – 2015. – № 5.

2. Peresadko G.O., Pidlisna O.V., Gromyko N.G. General theoretical provisions of a company marketing strategic planning: monograph / Illiashenko, S.M., Strielkowski, W. (eds.). Managing economic growth: marketing, management, and innovations. 1st edition, Prague Institute for Qualification Enhancement: Prague, ISBN 978-80-906210-0-8, 640 pages.

## **2.2 Forms of work, employment and labor relations in the transformation period to the post-industrial technological paradigm and after**

The world of today at the eve of the third decade of the 21st century is witnessing an increase in unbalanced types of social, economic, political and technological developments i.e. deepening of non-linear, turbulent dynamics. One key reason for this is the crisis of the industrial-technological means of production, that is, of industrialism and "industrial civilization". On the other hand, however, the emergence of a new techno-complex forms the conditions for building a new technological and socio-economic paradigm. Sometimes the latter is called "Post-Industrial", "Information society" or "Innovative Type of Development" and others. An important "dimension" of the new emerging technological way of production is the problems created in the field of labor, employment and labor relations. We are witnessing polarization of the social and labor community and all society into several poles:

- On one pole is the so-called "Cognitariat" with high professional qualification and work characterized by a significant creative component. However, in the case of the "Cognitariat" there is also anxiety and even a syndrome of depression because of the social insecurity caused by professional intra-groups competition;

- The other pole is the so-called “Precariat” - a de-professionalized community characterized by job instability, frequent change of activity, organization and workplace, which therefore suffers from fuzzy social self-identification;
- The third pole - that of the “Lumpenproletariat”, whose existence as a social tendency is difficult to say that plays a positive role for the society. This is because very often the type of activity and living of the “Lumpenproletariat” is on the brink of the law;
- Fourth, because of the automation and implementation of robots, there is the problem of providing meaningful employment, which would create both individual motivation and a sense of social contribution.

For us the key solution is the formation of the so-called solidarity-creative economy and society. In such a society, the solution of the problem of employment is resolved by reducing the working time of employees. Here it is crucial how to use the increased free time. By organizing and self-organizing, free time can mean development of the creative abilities of the people, care for children and family and so forth.

The world today at the eve of the third decade of the XXI century is demonstrating an increase in the unbalanced type of social, economic, political and technological movement i.e. deepening of non-linear, turbulent dynamics. The future in the long-term and even in the medium-term perspective began to become unpredictable at global, regional, national and even local levels. The term “singularity” is describing this situation well. The era of “singularity” means such period when the previous models and concepts cannot work anymore, while something fundamentally new is coming, but we do not know how it will function.

One key reason for the “singularity era” is the crisis of the industrial-technological way of production, i.e. that of “Industrialism” or “Industrial Civilization”. We are facing the end of the opportunities for extensive development because of the environmental constraints. The non-renewable resources limitations are imposing these constraints.

The technological base created so far and the energy potential of humankind formed on this basis put an end to the existing extensive growth models. On the other hand, however, the techno-complex achieved so far forms the conditions for the construction of new technological platforms, which are considerably more socially and environmentally acceptable. In other words, technological conditions, which have been created lead gradually the Human civilization to a new production-technological and socio-economic paradigm. The latter is often called “Post-industrial” or “Information Society”. Recently, it has been called also “Knowledge Society”, “Innovative Type of Development” and others.

Such a situation is shaping many unpredictable threats but also challenges. The problem of creating new types of socio-economic interactions lies ahead of humankind. That why the problem related to the working person, who is at the centre of the social system, is extremely important and up-to-date. Today, in the context of the overlapping of the Industrial crisis with the systemic-structural crisis of the neo-liberal model of capitalism, we observe how the forms of labour, employment and social status of the working people, are more and more different from how the working class was traditionally defined. This, of course, does not remove but deepen further the antagonisms in such a class society as capitalism. However, definitely the key antagonisms of modern capitalism require a radical change of the existing ways of interactions and relationships.

Now new forms of work, employment and social status are demonstrating the above-mentioned antagonisms. Nevertheless, the future is posing other challenges and problems. The new emerging technological way of production creates an extraordinary social problem. In the conditions of high degree of automation, in the near future probably the jobs for the so-called "blue collars", as well as for the "white collars" will decrease substantially. We cannot wait for the problems to happen. We have to think of solutions in advance.

#### **About the "Cognitariat" as a "social body" of the new forms of labor**

In recent years, a new concept is attempting to capture the changing "social body", i.e. the social parameters and true essence of the new forms of work. The term "Cognitariat" expresses the changing characteristics of at least a part of what we still call "working class". The creator of the term is the Italian sociologist Franco "Bifo" Berardi. The term "Cognitariat" refers to the "knowledge employees", i.e. the "intellectual employees", those whose main potential is knowledge - programmers, scientists, engineers, doctors, architects, etc. In the words of Berardi - all those whose main work is the "info-labor". The "Cognitariat" is the "social body" of labor associated with knowledge. In this connection, Berardi notes, *"Mechanical industrial labor was characterized by the trait of substantial interchangeability and depersonalization and as a consequence was perceived as something extraneous, a task that was performed solely because one received a salary in exchange. Dependent salaried work was a pure service of time."*

*Digital technologies open up an entirely new vista for work. In the first place, they modify the relationship between conception and execution, then the relationship between the intellectual content of work and its manual execution. Manual labor tends to be carried out by automatically controlled machine-assemblages, while the innovative labor that produces the greater part of value is to be found in cognitive labor.*

*Therefore, high tech employees tend to consider their work as the most important, most singularized and most personalized part of their life – the exact opposite of the industrial employee's situation, for whom the eight hours of salaried service were a sort of a temporary death from which one awoke only when the stop-work siren went off.*

*In order to understand the meaning of the terms cognitive work and "Cognitariat", it is necessary to analyze not only the changes that have occurred in the process of work. There is a need also to understand what happens in the psychological dimensions and the dimension of desires in a post-industrial society. In the society of hyper-capitalism, work occupies a key place as a social attraction. The reason, on the one hand, is in the standardization of the entertainment. Well-being is measured now not in leisure time.*

*There is a change of values in view of the exceptional social anxiety caused by an important fact. The liberal attack on the working people is so socially devastating that work becomes central to the hierarchy of public attractiveness. Employees are obliged to accept work when and as much as the boss wants or to fall into poverty. "We have to settle for most work because economic survival is getting harder and urban life has become so sad that we are at least trying to exchange it for money" [1].*

In this connection, under the conditions of the neoliberal economy and society a new phenomenon of social life emerged - the syndrome of depressive panic. Alain Ehrenberg in "La fatigue d'être soi" describes this "*depressive panic syndrome as a pathology triggered by social conditions linked to the growing competition within the labor community for jobs and place under the sun ...*" [2].

### **The "Precariat" as a new form of labor in the conditions of "post-modern capitalism"**

The term "Precariat" is a hybrid word based on a synthesis between the term "proletariat" and the English word "precarious". The latter has multiple meanings – unreliable, dubious, dangerous, risky, unstable, impotent, casual, hesitant, fearless, unsustainable, and so on. In this case, it is a new category, a new social group, which some even call a new social class. These people do not come from the social bottom. Often, they have a high level of education.

As a rule, despite its sometimes-high qualification, the "Precariat" cannot find a job in their field of specialization. Because of that, they face de-professionalization,

as well as instability of employment, frequent change of activity, organization and workplace. As a result, self-identification with a particular job is lost and an organizational structure as well. There is a sense of constant insecurity and frustration. Labor and professional insecurity in young people lead to avoidance of social responsibility, the denial of family formation and the birth of children, even of permanent relationships with persons of the opposite sex. Moreover, for those who have families, it often breaks down with all the consequences for the children. There are serious consequences for the psyche and the self-confidence of the person. In the now classic work of British economist Guy Standing [3], the author gives the so-called „Four A" characteristics concerning the "Precariat":

- *First "A" - anxiety – i.e. anxiety due to the uncertainty of their overall existence;*
- *The second "A" - alienation – because they have to engage in work they did not want, did not learn about, and have to do it only because they have no other possibility. They despise it because they think that their potential far exceeds the opportunities offered by the workplace. But also because of this uninterrupted change, temporary, inconsistent and incomplete nature of the workplace, and even immoral occupation;*
- *Third "A" - anomie – inability for self-identification because of the breakdown of social connections, everything that connects the "precariat" in one way or the another with the society;*
- *The "A" - anger - comes because of the above three "A" [3].*

Even in developed capitalist countries, a significant proportion of the employed are already "Precariat". For example, in Japan, the "Precariat", the so-called "Freeters", are estimated at 20 million people. In the book of the famous French politician Marine Le Pen "Pour que vive la France"[4] is claimed that 1/3 of the work in France is carried out by the "Precariat".

### **About the “Lumpenproletariat” and "Lumpensocialism" in the conditions of neoliberal capitalism**

Initially the name “Lumpenproletariat” characterized the lowest layer of labour. However, in time, the term begins to denote decayed elements, marginal individuals without clear social-class consciousness, often with criminal behaviour - thieves, deceivers, pickpockets, wanderers, beggars, pimps, prostitutes and others - people with dubious sources of income and an even more dubious pattern of behaviour.

It is also worth mentioning such a feature of the “Lumpenproletariat” in many countries. It is about its "ethnic" or even "ethno-religious" colouring. In a number of societies, there are sometimes relatively isolated ethnic, minority, racial, religious or ethno-religious. In this case, it is important for us to emphasize that such a situation favours the tendency for a number of members of one or another of the abovementioned ethnic, religious or ethno-religious-minority groups’ persistently remaining generation after generation in the “Lumpenproletariat”. In this sense, in the public consciousness of a particular social system, steady stereotypes are sometimes created, placing a sign of equality between such a group and the lumpen status.

What distinguishes the Lumpenproletariat from the other strata, respectively the social groups and parts of them, which, in the dynamics of their social existence, can "collapse" to extremely low levels of employment and existence, as is the case with the already mentioned "Precariat"? It should be emphasized here that the key difference is in the "distance" concerning the search of a job. The “Lumpenproletariat” not only does not work, it sometimes cannot and sometimes even does not want to work.

This internal attitude concerning the job is the main characteristic of the “Lumpenproletariat” not only as a circumstance imposed from the outside against its will, but also as a model of social behaviour. In most of the cases the “Lumpenproletariat” despise work - that work that creates both value for the “Lumpenproletariat” itself and for the society.

On the contrary, with their way of living around and beyond the limits of the law, they become a disruptive power for the social co-existence. In this case, the most important thing for us is to understand the attitude of "the Strongs of the day" to this practical antisocial group. Here there is a new trend. In the former periods of capitalist development, the Lumpenproletariat was viewed as an evil, inevitable consequence of this socio-economic system. Therefore, the policy of the "Strongs of the day" toward the “Lumpenproletariat” was to use more "stick" than "carrot".

However, today we see another picture. For example in the US about 40-50 million inhabitants of this country receive "food stamps". Nowadays, in some so called developed countries are starting discussion concerning the implementation of the "Unconditional Basic Income" - UBI. [5] The latter means regardless whether a person works or does not work, whether that person wants to work or does not want to execute any socially useful work, but it will get an income that allows to live normally.



### **The new wave of labour and employment exclusion**

Today we are witnessing the transition to the so-called "Post-Industrial Era". Nowadays in Europe, this paradigm is starting to call the "Fourth Industrial revolution". Beginning in a relatively non-systematic way, this revolution starts to acquire an increasingly systematic momentum. In Germany, use the name "Industrie 4.0" [6], in Japan – "Society 5.0" [7], in Russia – "Sixth Technological Wave" [8], in Singapore – "Smart State" [9] and so forth. This revolution needs a new type of human factor. A human factor in which creative and innovative potential, self-motivation and self-management skills are of key importance.

At the same time, we have to admit that such a revolution brings massive dismissal if the current system of work organization and labor relations are preserved. In this context, we have to make a parallel with previous epochs. For example, before the Industrial Revolution, over 80% of the population was, as a rule, employed in agriculture. Today, because of the mechanization and automation of agriculture in high-productivity societies, those employed in farming constitute no more than 5-10% of the population. Today, when mechanization has entered the secondary sector – industry, employment rate in this sector fell to 15-20% of total employment. The majority of those employed have "escaped" in the tertiary sector, services. So far, there were "spare variants", that is, sectors that took over the released labor force. Under the new conditions, cyber-physical automation threaten to release a significant part of the labor population in the tertiary sector. This will create serious social problems with numerous, varied and long-term consequences for the development of human society in political, economic and cultural terms.

### **Instead of conclusion – the possible solutions to the problem**

For us a key solution for the problem is the formation of the so-called "Solidarity-Creative Economy and Society". The latter should have the following key parameters:

- Key indicator for assessing the effectiveness of this type of economy is not maximizing the profits of business agents, but social effectiveness of the community;
- The problems of lack of employment is solved by reduction of working time of the individual employee. This means that thanks to the increase of productivity due to the implementation of automatic devices and robots it will be possible the working week for an employee to be not more than 2-3 days with a reduced working time of no more than 6 hours per day;

- In the given case, the use of the huge reserve of free time created for society is of key importance. A reserve that should not be casual and meaninglessly wasted. To avoid the formation of a mass phenomenon of the man of "inaction", organizing and self-organizing free time is needed, especially for the purpose of:
  - Developing creative abilities of the people;
  - Care for children and spending leisure time with the family;
  - Various types of activities aimed at community-oriented support actions;
  - Active communication with other people, as well as time devoted to art, sports, hobby and similar activities.

Today's social paradigm is facing a dilemma:

- In the name of the over-profit of a small section of society to seek out how to deal with "redundant people" through creating vast strata of "people of inaction" living a meaningless life based on "Unconditional Basic Income";
- In the name of humanism, to carry out a radical transformation into a solidarity-creative society.

As last words, we have to say that the Human civilization is on the eve of profound social, economic and technological changes. To escape the risk this transformation as well as the results of it to be from humanistic point of view socially unaccepted we need maximum solidarity and creativeness. That is why we support the idea of creating solidarity-creative economy and society as a possible way to overcome the abovementioned risk.

1. "What does Cognitariat Mean? Work, Desire and Depression" in: Franco Berardi, Cultural Studies Review, volume 11, number 2, September 2005, Accessmode:<http://epress.lib.uts.edu.au/journals/index.php/csrj/index>,pp.57-63.

2. Alain Ehrenberg. "La Fatigue d'être soi. Dépression et société" Paris, Ed. Odile Jacob. 1998, 320 p.

3. Standing Guy (2011), The Precariat. The New Dangerous Class. London: Bloomsbury, 198 p.

4. Le Pen Marin (2012)"Pour que vive la France", Paris, Grancher, 251 p.

5. Unconditional Basic Income Europe in <https://www.ubie.org/>

6. GTA.Industrie-4.0. What-is-it? in <https://www.gtai.de/GTAI/Navigation/EN/Invest/Industries/Industrie-4-0/Industrie-4-0/industrie-4-0-what-is-it.html>

7. "Realizing Society 5.0" in [https://www.japan.go.jp/abonomics/\\_userdata/abonomics/pdf/society\\_5.0.pdf](https://www.japan.go.jp/abonomics/_userdata/abonomics/pdf/society_5.0.pdf)

### **2.3 Multiculturalism as a challenge in the contemporary human resource management**

Nowadays, it is particularly important not only by managers, but also employees to realize the importance of multiculturalism in achieving the goals of their organization. The cultural diversity of employees means that existing activities in the field of human resources management, as well as managers' skills are insufficient. Research shows As results from the research more and more international organizations include multiculturalism in the strategy and the policy of the organization, both in relation to actions towards clients, but also employees. The ability to build relationships between managers and subordinates employees in culturally diverse teams contributes to better meeting the needs of clients and organizational development. The first part of the article focuses on the concept of multiculturalism as well as levels and stages of multiculturalism of organizations. Subsequently, the actions to be taken in the area of human resources management are discussed, considering the cultural diversity of employees. The second part of the article focuses on the role of intercultural management in the work of contemporary managers.

Along with the ongoing process of globalization and migration of people, modern organizations are increasingly experiencing the phenomenon of diversity of human resources. In particular, this applies to organizations with branches in different countries. Employees who have a different system of values, norms and rules of conduct specific to the country from which they originate may affect the functioning of a branch in a given country. Lack of conscious, effective shaping of working conditions of a multicultural team can cause many problems for the organization.

The biggest challenge in managing people in a multicultural organization is to understand the culture of employees from different countries [14]. Managers in such an organization should be characterized by openness and flexibility in building relationships between people from other cultures, tolerance and respect for colleagues, the ability to build positive relationships in multicultural teams and adapt solutions in managing people to the needs and expectations of culturally diverse employees.

The aim of this article is to analyze the importance of multiculturalism in contemporary organizations and the special role of managers in shaping the working conditions and relations between employees in a multicultural environment. The research method chosen by the authors is the analysis of the subject literature in the field of international organization management and intercultural management, as well as research carried out by various authors in the area of the issues discussed.

## **Multiculturalism – the concept**

The process of globalization has had a significant impact on changing the perception of belonging to one's own nation or country. One of its symptoms was the phenomenon of ethnic revival and cross-cultural migrations. This has led to the emergence of multiculturalism.

In literature, multiculturalism has been considered by representatives of many sciences, e.g. sociology, psychology, philosophy or management [21, 25, 44].

In one of his publications, Golka defines multiculturalism as "the coexistence in the same space of two or more social groups with different cultural distinctive features: appearance, language, religion, system of values which contribute to the differences in mutual perceptions of the different effects. It is also important that the perception of difference takes place in the optics of individuals, small local groups, peers and neighbors "[11]. It also notes Golka also notes that one feature of multiculturalism is the appearance between the various components and connections according to the relationship, or which can form a variety of structures [13]. Golka also notes that the feature of multiculturalism is the emergence between various elements of dependencies and connections that can affect the creation of various structures [13].

Multiculturalism can also be perceived as a process approach in society, characterized by the universality, dynamics and intensification of the impact in time. These activities are implemented in relation to all societies, groups or individuals, where positive and negative effects may appear over time. [10, 36].

Multiculturalism is a phenomenon directly related to the interpenetration and delivery of various patterns in people's actions, using language, behavior, moral and religious norms, or adopted values. The common fate, tradition or identification of heroes have a great influence on the level of multiculturalism. The common fate, tradition or identification of heroes have a great influence on cultural diversity.. [31, p. 87].

The literature also recognizes multiculturalism as a response to discrimination and cultural diversity. The activities of people and organizations are focused on the equal recognition of, taking into account and respecting the diversity of cultural groups - building a society without prejudices and discrimination [11, p. 147-161].

Others, however, point out that multiculturalism directly refers to the organization itself in which this phenomenon occurs. Pointing out that a multicultural organization: "reflects the contribution and interests of different cultural and social groups in the mission, operations and product or service; (...) includes members of different social and cultural groups as full participants, in particular in decisions affecting the organization; (...) supports efforts to

eliminate all forms of social oppression and to educate others in a multicultural perspective. "[18, p. 1, 41, p. 214]. A similar approach to multicultural organization can also be found in other scientific publications [5, p. 41; 28, p. 69].

Stoner stresses in multiculturalism the diversity of environments and cultural factors affecting the functioning of the organization and the possibility of coexistence and cooperation of people from various backgrounds for the benefit of themselves and the organization [45, p. 197].

A multi-faceted approach to multiculturalism in organizations was also presented by Jackson and Holvino (1988), who presented four different aspects: social/cultural representation, elimination of racism and sexism, diversity of stakeholders and valuation and capitalization of people's diversity.

In summary, in the literature the term multiculturalism is defined ambiguously and needs to be developed. It is used to determine the existing cultural diversity of society by means of language, behavior or values recognized or treated as being in the process of defining social trends of changes taking place in them in the form of penetration or overlapping cultures. It can also mean building a society based on the principle of a democratic coexistence of different cultures or without discrimination and ethno-national prejudices. In a narrower sense, multiculturalism belongs to a single organization, in which actions are taken to eliminate social oppression, involve and educate all employees in various aspects of the functioning of the organization in a multicultural perspective.

Please note that this issue should be dealt with in terms of durability, multidimensional and voluntary intercultural contacts.

The existence of the phenomenon of multiculturalism in organizations means that the literature presents types and levels of multicultural development of organizations, where three levels of multiculturalism are indicated: coexistence; penetration and confusion; structural connection (Table 2.4) [35, p. 70].

According to Paleczny [35] to select a specific type of multicultural organization affects the number of activities carried out there. We are talking about relations between people that can improve or hinder the organization's goals.

Jackson Hardiman in 1981 developed a model describing the three levels and six stages in a multicultural development process (Figure 2.2). The stages are sequential. Experience from functioning and limitations at a given level contribute to the organization's ability to move to the next stage. The organization may show that it is on one, several or all levels of multiculturalism in individual cells, departments or departments departments or faculties [41, p. 213-215].



In the second level – non-discriminatory organization - two stages of multicultural organization development were also distinguished: organization of compliance and organization of affirmative activities. The organization of compliance openly allows women and racial minorities to work, but without violating the structure, mission and culture of the organization. It manifests itself mainly through active recruitment and hiring more racial minorities and women at the bottom of the organization. Sometimes they employ or promote "symbolic" racial minorities or women in managerial positions, usually in positions of service [19, p. 9].

An organization acting affirmatively commits to completely eliminate discriminatory practices through active recruitment and promotion of women, racial minorities and members of other social groups, which usually were denied access to the organization. In addition, the organization of affirmative action plays an active role in supporting the growth and development of these new employees and initiating programs that increase their chances of success and mobility. Despite the increase in access for members of different groups, all members of this organization are still required to comply with standards and practices derived from the parent group. [20, p. 175-193]

As in the previous two levels, also at the last third level - intercultural organization - the authors distinguish two stages: redefinition of the organization and multicultural organization. Redefinition of the organization is in transition between the image of the organization "anti-racist" or "anti-sexist" and the desire to find the impact of the activities undertaken by the organization on the ability of all members to participate and contribute to the growth and success of the organization. The organization's activities focus on the importance of examining the potential benefits of a diverse and multicultural forces. This organization is actively involved in activities related to the creation of the vision, planning and problem-solving oriented implementation of multicultural organizations. The redefinition organization begins to develop and implement strategies that divide power among all groups in the organization. It is looking for alternative management methods that allow inclusion, participation and empowerment of all members [16, p. 3].

A multicultural organization reflects the contribution and interests of different cultural and social groups in the mission and strategy. Measures are actions involving employees at different management levels to combat discrimination against social groups. Regardless of religious or social affiliation, it treats all its employees, clients or suppliers as full-fledged participants, especially in decisions shaping the organization. It often leads to wide external social responsibility, including supporting efforts to eliminate all forms of social discrimination and educating others in a multicultural perspective [34, p. 140-141].

In summary, more and more often in the literature one can observe attempts to describe the levels of multicultural development in an organization. Authors of various publications draw attention to the fact that within one organization there may be several levels and stages of multiculturalism depending on cells, departments or branches. This situation forces the managers insightful recognition of these levels, and adaptation to management tools.

### **Multiculturalism as an important element of modern human resources management**

Penc notes that multiculturalism has a strong influence on many important aspects of the functioning of international organizations, in particular [37, p. 1107]:

- transfer of technology and methods of production management;
- the spread of organizational innovation;
- horizontal integration processes of the objectives pursued and manufactured products within the organization;
- relations (degree of freedom) between the headquarters and foreign branches;
- interpersonal relations;
- human resources management of the organization;
- the conduct of negotiations.

Multiculturalism is increasingly noticed in human resource management. In particular, it is about the methods of selection, promotion and dismissal of employees, principles and instruments for assessing their work, remuneration and training, as well as shaping labor relations and conducting negotiations with employee organizations. It is at the same time important to leave subsidiaries a large degree of freedom in terms of tasks, including relation to the employees. This affects the better use of employees, thus increasing the competitiveness of the whole organization.

Senior managers of international organizations are increasingly aware that human resources management in their organization is inextricably linked to the management in terms of different cultures.

This is confirmed by the results of research conducted by Machowska-Okrój, according to which in over 90% of the surveyed organizations, respondents indicated that the influence of national culture on HR management processes is important [27, p. 205-206].

In turn, the results of research conducted among the management staff of 35 international companies operating in Poland indicate that "it is difficult to



determine the adequacy (origin) of personal practices in global organizations. They have branches in different countries where processes of mixing values, patterns and norms of behavior take place, as a result of which it is difficult to determine with certainty what cultural activities the applied human resources are based on. Thus, the tendency to universalize behaviors and personal practices is confirmed "[26, p. 285] Therefore, it can be stated that in the field of human resources management in organizations with branches in different countries, a selective selection of some methods and tools is carried out and adapted to the country in which the branch operates.

Research conducted in 2007 on the impact of the culture of origin of capital on the organizational culture of branches operating in Poland shows that the cultural diversity of the owners of the organization and the employees employed in them can cause numerous cultural problems reflected in the increase in employee redundancies.

An attempt to impose its own cultural patterns may be reflected in an increase in employee layoffs. This was the case for one of the Japanese companies studied, in which employees had to work in many task teams, fully identifying themselves and devoting themselves to the company at the expense of family life [47, p. 70]. It should be pointed out that transferring work patterns from other countries to their branch in other countries can often cause many problems in the area of human resources management, in this case it was a high rate of employee dismissals. Effective management of employees requires that managers modify their styles, methods and management techniques and adapt them to the culture in which their employees are based. Similar conclusions of the studies presented K. Nosewicz in one of his publications [33, p. 14-21].

Actions taken in the area of human resources management, as well as by individual managers should be based on the psychosocial foundations [46, p. 497]:

- a) understanding and respect for differences of others;
- b) tolerance of other views and beliefs, and other practices during work or making mistakes;
- c) identification of problems in the field of cultural differences;
- d) learning about the other culture and being sensitive to cultural aspects, so as not to offend anyone;
- e) encourage the integration of people from different cultures;
- f) using a simple form of language understandable for all participants in the communication process.

The introduction of these elements in an organization operating under multiculturalism make it better recognized if it is properly utilized diversity of activities of employees and the organization's environment in the international market. Introduction of the above elements in an organization operating in the conditions of multiculturalism will make it better to use the potential of culturally diverse employees and will be perceived as socially responsible in the context of intercultural management.

A. Góral, who is the president of a large international company Asseco Poland, draws attention to the important role of skillful selection of employees from different cultures and managing them in one organization [23, p. 28] An essential element of acquiring the right people for the organization is not only the use of modern tools of recruitment and selection, but also to take into account the cultural diversity of candidates and organizations to which they wish to be admitted. More and more attention in organizations is attached to training in cultural differences, which help to develop the right communication skills needed to work in a multicultural team. Employees after completing this type of training are more aware of their culture as well as being open to new cultures.

Multiculturalism can also influence the planning and implementation of career paths in the organization [2, pp. 252-259]. In some countries, the development of a professional career is the result of individual employee achievement (e.g. USA). In others, success is identified with group work, and the development of one's own career is a secondary benefit (e.g. Japan). [32, p. 35-54] Different approaches can also be due to promotion of effector knowledge and the work (e.g. United Kingdom) or associated with the social background, character traits or acquaintances (e.g., Spain) [2, 2010, p. 254-257].

Changes in human resource management in the conditions of cultural diversity also concern the introduction to work. Among the many employees who work abroad there is a change of identity. This is manifested, inter alia, with the problems of socializing, loneliness or longing for family and friends. [1, p. 319-327] That is why it is so important that the organization of the stage of introducing to work does not only end with showing the newly hired employee around in the organization and familiarizing him with his co-employees. It is important to create a comprehensive process of introducing to work based on long-term activities aimed at integrating all employees from different cultures.

The functioning of the phenomenon of multiculturalism in the organization also affects the system of assessments, which should take into account cultural flexibility. It means awareness of the cultural filters distort the images seen by the people and issuing judgments often derived from them [29, p. 85-94]. Therefore, setting criteria for the evaluation of

subordinates on the basis of their ways and rules of conduct in a group of culturally diverse buildup can cause conflicts and isolation of the individual progressive contrary to the rules in force in the society. Therefore, setting the criteria for the assessment of subordinates based on one's own ways and rules of conduct in a culturally diverse group may result in the build-up of conflicts and isolation of individual persons who do not comply with the rules applicable in a given society.

Significant impact on the motivation and involvement in international organizations is also a selection of the appropriate managers. Research conducted in 1993 shows that employees from with managers from North-Western Europe work better than Central and Eastern Europe. Respondents indicated that managers from the former group of countries had a higher orientation on results, valued more team work and were better able to inspire employees to work, and were more flexible and positively oriented in dealing with the environment [1, p. 319-327]. This is also confirmed by research conducted on a population of 1,500 top-level managers from several European Union countries by Harris Research (London). They show that 25% of respondents think that they work best with German managers, 17% with French managers and 10% with British managers. Italian managers were the worst rated - 28% of respondents considered them the least trustworthy. [24, p. 79-80].

The diversity of activities that are undertaken by international organizations in the area of human resources management, in which people from different cultures work, writes in their works S. Przytuła. In one of the German corporations with a branch in Poland, the following forms of multicultural support in the organization are used [39, p. 61-62]:

- gender – employment and promotion of women, in particular in managerial positions;
- age Management –in the surveyed organizations there are 4 generations of employees working together;
- internationality – the organization's activities focused on the development of intercultural competence in employees in the form of, for example, a forum of knowledge and cross-cultural experiences and various employee initiatives, eg Diversity Day;
- work culture – the use of different forms of flexible employment, which allows for maintaining an optimal work-life balance among employees.

It is clear from the quoted examples and research results that in multicultural organizations solutions in the area of human resources management must be flexible and should take into account the needs and expectations of culturally diverse teams - both employees and managers.

### **Intercultural management as a challenge in the work of contemporary managers**

M. Rozkwitalska [43, p. 225] writes that "intercultural management focuses on organizational issues in international systems and interactions of the multinational employees' community". According to G. Hofstede [15, p. 79] "intercultural management focuses on organizational behavior in international systems, on interactions of people coming from more than one culture, operating as part of organizational roles" [22, p. 88].

Intercultural management is undoubtedly one of the key challenges in the work of contemporary managers. Such managers, working in multicultural environments should be characterized above all by high motivation to operate in diverse cultural circles, the ability to continuous learning, openness to changes, flexibility and sensitivity in dealing with other cultures. Important features and skills of such managers are also self-confidence, tolerance to stress, speed of action and decision-making, intelligence and courage. In addition, creativity and innovation as well as current knowledge about the market on which the company operates and in the field of different cultures.

"Having intercultural competences, which are manifested inter alia by the ability to adapt in a culturally diverse professional environment, openness and sensitivity to other cultures, the ability to apply management instruments in the conditions of many cultures (...) are today considered as key elements of desirable and even required competences contemporary managers ". [49, p. 54]

It should be emphasized that in the case of working in a multicultural environment, training of employees in the field of cultural awareness and sensitivity is particularly important. Managers of multicultural teams should therefore ensure that everyone is accepted and treated equally by colleagues, regardless of country of origin and cultural differences.

According to the authors, in addition to the introduction of mandatory training in the field of cultural differences for employees, such a program in multicultural companies should be supplemented with activities improving the managers themselves in the following areas:

- developing personal competences of intercultural managers and key employees within two subgroups of skills: specific cultural skills (knowledge of language, norms, customs, specific events in a given country) and general cultural skills (empathy, perception from" their "perspective, emotional resilience, flexibility);
- creating cultural synergy (environment conducive to achieving high efficiency) by ensuring commitment at all levels, determining models of desired behaviors, knowledge of law, creating support groups, introducing changes in the way work is done, paying attention to language, rituals [40, p. 413].

In addition, if it is assumed that a manager with a vision of cultural diversity plays a significant role in the development of the organization plays. Such a manager perceives he or she would probably need a new kind of organization supporting fair distribution of resources and the fulfillment of all its members In addition, if one assumes that a manager plays a significant role in the development of the organization with his vision of the functioning of the organization, then in the conditions of cultural diversity he will probably see the need for a new type of organization that promotes the equitable distribution of resources and self-fulfillment of all its members in multicultural conditions. (Table 2.5). The aim of the changes taking place in the organization for multicultural organization, which will be accentuated actions to increase human diversity, social justice and the implementation of a humane society.

Table 2.5

Changes in the manager's approach to the functioning of the organization [19, p. 18]

	Monocultural	Non-Discriminatory	Multicultural
<b>Nature of Society</b>	Harmonious Similar interests Needs to improve but basically OK		Conflict Different interests Oppressive; Alienating; Needs Radical Change
<b>Oppression Liberation Model</b>	Dominance Assimilation Survival and social acceptability	Desegregation Integration Adaptation and full use of human resources	Pluralism Diversity Equity; Empowerment; Collective Growth
<b>Self Interest in Change</b>	Basic rights of individual  Best person is rewarded		Interdependence  Ecological survival
<b>Values and Ideology</b>	Efficiency and economic survival		Development of human and societal potential

Intercultural management requires from managers primarily high sensitivity to cultural issues, the ability to quickly adapt to diverse environment, effective communication at the crossroads of different cultures [38, p. 32].

An effective manager managing a multicultural team should be aware of what motivates his or her employees, taking into account their needs, often different due to cultural differences. It should also be able to identify the expectations of employees from different cultural backgrounds related to the training and development process and shaping their career paths.

Managers responsible for intercultural management should, above all, be flexible and tolerant, apply appropriate management styles and communication patterns, and their managerial activities should combine culturally diverse employees [7, p. 85-93].

In the literature, an additional element is indicated, which is identified with a manager functioning in a multicultural environment, namely cultural intelligence. It is defined as an individual ability to function and effectively manage cultural diversity [8, p. 27] based on communication skills, interpersonal skills, as well as the personal qualities of a tolerant diversity manager or flexibility [6, p. 150]. Having a manager of cultural intelligence can greatly eliminate communication barriers and help build an effective example for other team members how to proceed in a multicultural environment [17, p. 254-255].

Suchwise, multiculturalism is a very important element of modern human resources management. It should be emphasized that "cultural diversity is usually a serious challenge for the organization as a whole. It is important, however, that it should be treated as a source of positively evaluated changes, and not just an obstacle to the smooth functioning of the enterprise "[9, p. 170].

Multiculturalism and human resources management are interrelated with each other and, as the literature confirms, occur only in mutual relations.

It is very important when managing people in a multicultural environment to implement such solutions (eg in terms of motivating employees, assessing their work or designing training and development), which will allow to fully meet the needs and expectations of non-heterogeneous cultural groups.

Managers who want to effectively contribute to the success of a multicultural organization should pay special attention to communication and the way to build relationships in culturally diverse teams. A manager working in an international, multicultural environment should have diverse skills, and these are particularly important for learning and adaptation, managing interpersonal relationships, and the ability to cope with difficult situations, such as conflict situations [30, p. 195-196].

In addition, managers operating in an international and multicultural environment should be characterized by openness, understanding of other cultures, high cultural intelligence and shaping a culture in the organization that enables achieving success on a global scale, in a culturally diverse environment [4, p. 337-339].

In conclusion, human resources management in organizations, multicultural and intercultural management today require from managers the ability to learn from other cultures, adapting to new situations and change management skills and cultural diversity [3, p. 145-155].

1. Bargieła, I., Witkowski, S. A. (2006). Organizacje międzynarodowe na tle przemian tożsamościowo-kulturowych, Prace Naukowe Akademii Ekonomicznej we Wrocławiu, Tom 1130, Sukces w zarządzaniu kadrami: kapitał ludzki w organizacjach międzynarodowych, Wrocław.
2. Białas, S. (2010). Kulturowe podłoże różnic i podobieństw w wybranych praktykach zarządzania zasobami ludzkimi w przedsiębiorstwach francuskich i niemieckich. [w:] Krzykała-Schaefer, R. (red.). Zarządzanie międzykulturowe w jednoczącej się Europie. Wydawnictwo Wyższej Szkoły Bankowej w Poznaniu, Poznań.
3. Bloom, H., Calori, R., De Woot, P. (1996). Zarządzanie europejskie. Poltext, Warszawa.
4. Cappellen, T., Janssens, M. (2010). Characteristics of international work: narratives of the global manager, "Thunderbird International Business Review" July 1.
5. Cox, T. Jr. (1991). The Multicultural Organization. Academy of Management Executives 5(2).
6. Crowne, K.A. (2009). The relationship among social intelligence, emotional intelligence and cultural intelligence, „Organization Management Journal” nr 6.
7. Davis, K., Newstrom, J. W. (1989). Human Behavior at work (8th Edition), McGraw-Hill College, New York.
8. Earley, P.Ch., Ang, S. (2003). Cultural Intelligence: Individual Interactions Across Cultures, Stanford University Press, Stanford, California.
9. Gajek, K. (2009). Dynamika procesów wielokulturowych w organizacji. Studium przypadku. Problemy zarządzania, Tom 7, nr 3(25).
10. Gajek, K. (2013). Zmiany kultury organizacyjnej w perspektywie wielokulturowej, Acta Universitatis Lodzianis Folia Oeconomica 283.
11. Glazer, N. (1997). We are All Multiculturalists Now. Harvard University Press. Cambridge-London.
12. Golka, M. (1997). Oblicza wielokulturowości. [w:] Kempny, M., Kapciak, A., Łodziński S. (red.) U progu wielokulturowości. Oficyna Naukowa, Warszawa.
13. Golka, M. (2010). Imiona wielokulturowości. Warszawskie Wydawnictwo Literackie MUZA S.A., Warszawa.
14. Heninborch-Buhaj, M. (2009). Współczesny menedżer HR w zarządzaniu przedsiębiorstwem wielokulturowym. [w:] Juchnowicz, M. (red.) Kulturowe uwarunkowania zarządzania kapitałem ludzkim, Oficyna Wolters Kluwer. Kraków:
15. Hofstede, G. (2000). Kultury i organizacje, PWE, Warszawa.
16. Holvino, E. (2008). Developing multicultural organizations: a change model, (1-9). Pobrane z: <https://naaee.org/sites/default/files/mcodmodel.pdf>.
17. Ismail, A., Reza, R., Mahdi, S. (2012). Analysis the relationship between cultural intelligence and transformational leadership, "International Journal of Business and Social Science", vol. 3 no. 14.
18. Jackson, B.W., Holvino, E. (1988a). Multicultural Organization Development. PCMA Working Paper, (nr 11). Pobrane z: <https://deepblue.lib.umich.edu/bitstream/handle/2027.42/51124/356.pdf;sequence=1>.

19. Jackson, B.W., Holvino, E. (1988b). Developing Multicultural Organizations. *The Journal of Religion and the Applied Behavioral Sciences*, 9 (2).
20. Jackson, B. W. (2014). *Theory and Practice of Multicultural Organization Development*. [w:] Jones, B. B., Brazzel, M. (red.). *The NTL Handbook of Organization Development and Change*, Wiley, San Francisco.
21. Jedlecka, W. (2011). Wielokulturowość w procesie integracji europejskiej, *Acta Universitatis Wratislaviensis. Przegląd Prawa i Administracji*, tom 86, Wrocław.
22. Kaczmarek, B. (2016). *Zarządzanie międzykulturowe - wybrane aspekty*. [w:] Glinkowska, B. (red.). *Internacjonalizacja przedsiębiorstw. Uwarunkowania, procesy, wyniki badań*, Wydawnictwo Uniwersytetu Łódzkiego, Łódź.
23. Kowalik, F. (2016). Zaczynał od produkcji keczupu. Teraz jest królem przejęć, *Forbes*, nr 10.
24. Kuc, B.R., Żemigła, M. (2010). *Menedżer nowych czasów*. One Press. Warszawa.
25. Kurczewska, J. (1997). Odkrywanie wielokulturowości i współczesne ideologie. Rozważania wstępne. [w:] Kempny, M., Kapciak, A., Łodziński, S. (red.). *U progu wielokulturowości*. Oficyna Naukowa, Warszawa.
26. Listwan, T., Stor, M. (red.) (2008). *Zarządzanie kadrą menedżerską w organizacjach międzynarodowych w Polsce*, Wydawnictwo Uniwersytetu Ekonomicznego, Wrocław.
27. Machowska-Okrój, S. (2009). *Kulturowe aspekty zarządzania zasobami ludzkimi*. [w:] Bernat, T. (red. nauk.). *Teoretyczne i praktyczne aspekty funkcjonowania gospodarki*, Print Group Daniel Krzanowski, Szczecin.
28. Maltbia, T.E., Power, A.T. (2009). *A Leader's Guide to Leveraging Diversity: Strategic Learning Capabilities for Breakthrough Performance*. Routledge, London and New York.
29. Matsumoto, D.R., Juang, L. (2007). *Psychologia międzykulturowa*. Gdańskie Wydawnictwo Psychologiczne, Gdańsk.
30. Maznevski, M., DiStefano, J. (2000). Global leaders are team players: developing global leaders through membership on global teams, "Human Resource Management", June 1.
31. Nikitorowicz, J. (2000). Spotkanie i dialog kultur - wymiar edukacji międzykulturowej [w:] Pilch, T. (red.). *O potrzebie dialogu kultur i ludzi*. Wyd. Akademickie Żak, Warszawa.
32. Noordin, F., Williams, T., Zimmer, C. (2002). Career commitment in collectivist and individualist cultures: A comparative study. *International Journal of Human Resource Management*, 13(1).
33. Nosewicz, K. (2016). Japońskie metody i techniki zarządzania oraz ich zastosowanie w polskim przedsiębiorstwie. [w:] Małkus, T., Woźniak, K. (red.). *Perspektywy doskonalenia instrumentów wspomagających proces zarządzania*, *Journal of Modern Management Process*, Vol. 1, No. 2.



34. O'Beare, K., Kerr, S. (2015). *Creating inclusive organizations*. [w:] Watt, S.K. (red.). *Designing Transformative Multicultural Initiatives: Theoretical Foundations, Practical Applications, and Facilitator Considerations*. Sterling. Stylus Publishing LLC, Virginia.
35. Paleczny, T. (2004). *Typy tożsamości a procesy globalizacji*. [w:] Gorlach, K., Niezgoda, M., Seręga Z., (red.). *Władza, naród, tożsamość. Studia dedykowane Profesorowi Hieronimowi Kubiakowi*. Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków.
36. Paleczny, T. (2008). *Komunikacja międzykulturowa w globalizującym się świecie, „Państwo i Społeczeństwo”, nr 1.*
37. Penc, J. (2008). *Encyklopedia zarządzania: podstawowe kategorie i terminy*, WSSM, Łódź.
38. Pocztowski, A. (red.) (2002). *Międzynarodowe zarządzanie zasobami ludzkimi*, Oficyna Ekonomiczna Grupa Wolters Kluwer, Warszawa.
39. Przytuła, S. (2015). *Interakcje międzykulturowe w filii niemieckiej korporacji działającej w Polsce – studium przypadku*. *Nauki o Zarządzaniu Management Sciences*, 1 (22), Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu.
40. Rakowska, A. (2006). *Bariery kulturowe w transferze wiedzy w organizacjach globalnych*. *Prace Naukowe Akademii Ekonomicznej we Wrocławiu*, Tom 1130 *Sukces w zarządzaniu kadrami: kapitał ludzki w organizacjach międzynarodowych*.
41. Reynolds, A. L., (1997). *Using the Multicultural Change Intervention Matrix (MCIM) as a Multicultural Counseling Training Model*. [w:] Pope-Davis, D.B., Coleman H.L.K. (red.). *Multicultural Counseling Competencies: Assessment, Education and Training, and Supervision, Multicultural Aspects of Counseling Series 7*. SAGE, Thousand Oaks, USA.
42. Rogers, L. (2017). *Diversity from a Multicultural Organizational Perspective*. [w:] Rogers, L., im Lee, S., Harper, J. K., Fujimoto, D. (red.). *Readings on Diversity Issues: From hate speech to identity and privilege in Japan*. Living Within Diversity Press, Japan.
43. Rozkwitalska, M. (2007). *Zarządzanie międzynarodowe*, Difin, Warszawa.
44. Sadowski, A. (2016). *Wielokulturowość jako czynnik zrównoważonego i inteligentnego rozwoju Polski*. *OPTIMUM. Studia Ekonomiczne*, nr 4 (82).
45. Stoner, J., Wankel, C. (1994). *Kierowanie*, PWN, Warszawa.
46. Szaban, J.M. (2012). *Zachowania organizacyjne. Aspekt międzykulturowy*. Wyd. Adam Marszałek, Toruń.
47. Wachowiak, P. (red.) 2008. *Kulturowe i kadrowe problemy internacjonalizacji przedsiębiorstw*, Wydawnictwo SGH, Warszawa.
48. Wall, V., O'Beare, K. (2008). *Multicultural Organizational Development (MCOD): Exploring Best Practices to Create Socially Just, Inclusive Campus Communities*. Pobrane z: <https://www.pdx.edu/sites/www.pdx.edu.studentaffairs/files/MCOD%20Best%20Practices.pdf>.
49. Zajac, Cz. (2011). *Kulturowy kontekst międzynarodowego zarządzania zasobami ludzkimi, „Problemy Zarządzania”, vol. 9, nr 4.*

## 2.4 Improvement of the Human Capital of Security Services – Overview of the Issues

Many disciplines of knowledge are interested in improvement-related issues [1]. When analysing the issue of improvement, every discipline focuses on developing its own potential, as it were, which entails a certain domination of one broadly-defined discipline over another. However, this Chapter aims to focus on the issue of improvement and development with regard to the potential of the human capital of Polish Security Services and attempts to outline the key points for further studies in this area.

The development and improvement of human capital is an issue that is broadly discussed and defined in a multitude of ways. In the most general sense, it can be said that the essence of human capital improvement are all those processes which aim to improve human activity and to increase the quality of the competences, knowledge, attitudes and values possessed [2]. From a broader perspective, human capital improvement can be regarded as a process consistent with the guidelines of the ISO 9004:2000 standard, which assumes the following sequence (Figure 2.3) [3].

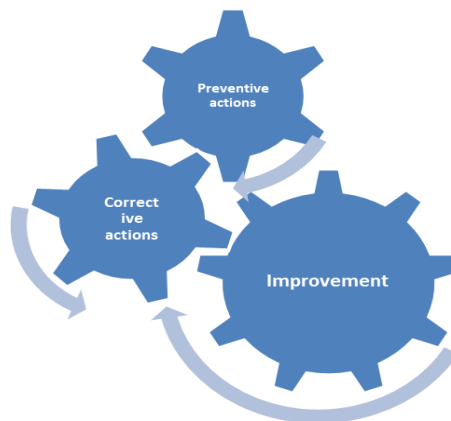


Figure 2.3 – Sequence of improvement activities in accordance with ISO 9004  
(Author's research)

Analysing the diagram presented above, one can conclude that human capital must be improved in relation to the specific reality of a given organisation, its goals, strategy and mission [4] and is a constantly renewing process. One may not decide that an ideal and perfect state which needs no further human capital improvement has been achieved. Human capital must improve itself for various reasons, such as factors affecting the organisation and the reality of the civilisation in which a given organisation exists. Mayo proposes a division that is relatively simple in terms of structure, into general determinants and specific

determinants, which influence the development of the human capital improvement process [5]. Mayo aptly notes that general determinants are defined by the strategy and mission of a given organisation, which set out the general path for all departments of the organisation and are supplemented by specific determinants, which depend upon the needs of a given organisation at a specific time in its development. Presently, it is worth noting that a very important general determinant, which also influences specific determinants, is globalisation [6]. At present, it is globalisation that is responsible for emerging trends and passing fads, which often influence the development of organisations and changes in the business culture, which form the human capital of organisations. An important element of human capital improvement is the determination of specific goals, the achievement of which can be defined as a success. As shown by studies on success definition, the understanding of this term itself depends upon many factors, such as one's position in the hierarchy of a given organisation as well as one's knowledge, skills and education [7]. Regardless of occupational category, but based upon lifelong learning, human capital improvement determinants can be presented in the form of a system of coordinates, where determinants arising from personal and psychosocial traits are placed on the horizontal axis, whereas the expectations of the employers, society and other customers in the process are placed on the vertical axis, with both axes meeting at ethical standards (Figure 2.4) [8].

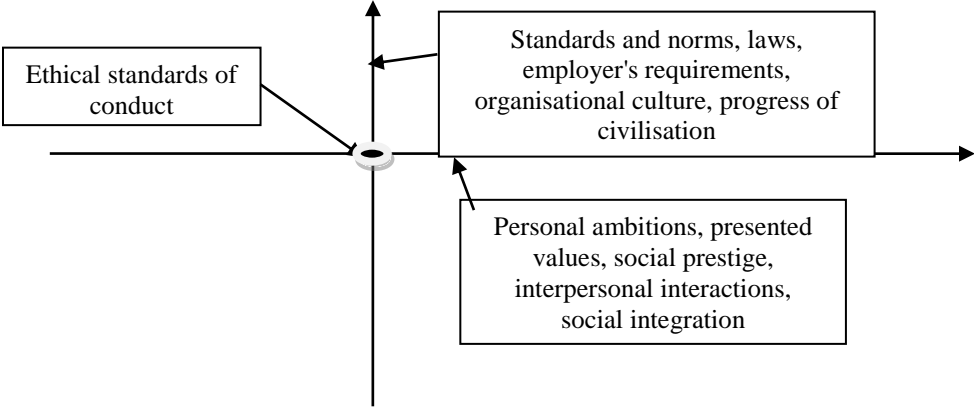


Figure 2.4 – Model of planes determining human capital improvement  
(Author’s research based on [8])

Therefore, it appears that human capital improvement is a process that is both complex and simple. It is readily apparent that an organisation cannot be developed without lifelong improvement of the human capital, which, building its potential upon the team's diversity,

creates the key factors of the organisation's success [9]. However, human capital can only be fully improved when an organisation is free of prejudices and discrimination – by providing its employees with equal opportunities and encouraging them to notice their strengths arising from the fact that they can work on equal terms whilst being different from one another [10]. Human capital improvement itself is, naturally, a phenomenon which continually combats the formation of inequalities within a team and the phenomenon of marginalisation in an occupational category and in the society [11].

In the case of the improvement of the human capital of security services, it must be noted that historically, safety was the basis for functioning and development. However, it was not treated and analysed scientifically as it is now. Public safety itself, which Bernard Wiśniewski equates with civil safety, is defined as a certain state when the citizens of a given country do not feel endangered by other people or by nature [12]. Such a state of affairs where citizens live without fearing for their safety is made possible by the efficient operation of state and self-government administrative authorities [13]. It is worth noting that in Poland, the turn of the 20th and 21st centuries brought about the creation of many new safety units. Presently, safety services can be generally divided as shown in the diagram below (Figure 2.5).

<b>Securityservices</b>		
public	self- governmental	private

Figure 2.5 – Classification of security services by their supervisory authority  
(Author’s research)

According to the current data of the National Security Bureau, the safety potential [14] is built upon the human capital comprised of the **following units** [15]:

1. Judicature, comprised by Courts of the Republic of Poland, which constitute the third power in accordance with the principle of the separation of powers [16];
2. Public Prosecutor's Office;
3. Security Services;
4. Prison Service;
5. Internal Security Agency;
6. Foreign Intelligence Agency;
7. National Fiscal Administration.

**In the area of public safety and order:**

1. Police
2. Fire Brigades
3. Government Protection Bureau
4. Border Guard
5. Municipal and Communal Police (as self-governmental institutions)
6. Property protection companies: specialist, armed, personal.

**In the case of security services, human capital is improved on the following planes:**

1. Intellectual – where the officers of each unit diagnose their own needs and the changes occurring within the society. They also conduct activities aimed at broadening their knowledge of the law, tactics and safety methodology.
2. Physical – many units require field and office work, hence active officers of the Police, Border Guard, Fire Brigades, specialist armed physical protection units and other units undergo cyclical training and physical fitness examinations. This type of improvement is particularly important, as it provides a basic sense of safety for the officers themselves, and consequently also for the citizens, in the physical protection sphere.
3. Interpersonal – an important element, aside from specialist knowledge and physical fitness, is the ability to build interpersonal relations, which build confidence in a given unit [17]. Confidence, veracity and loyalty are the values which build the internal security culture and in a time of crisis, are the conditions for the building of social leadership by a given unit [18].

Therefore, improvement of safety units requires the use of innovative improvement methods, which are based not only upon the classic physical abilities training or lectures, but also upon integrated programmes, which will be supplemented with virtual reality exercises. In the contemporary world, where virtually everyone has access to the Internet, improvement in this area appears to be fundamental. Therefore, the improvement of the human capital of security services should presently be based upon such elements as [19]:

1. Process-based approach in organisation management.
2. Management of the diversity of the human capital of a given unit's members.
3. Interpersonal and intercultural relations management.
4. Implementation of modern technological solutions supporting the operational activities.
5. Relations management based upon the equal opportunity policy.

6. Creation of an appropriate atmosphere for a 'learning organisation'.
7. Monitoring of the work progress and building of a work responsibility culture.
8. Clear and realistic conditions for promotion with the unit.

However, one should remember that in any unit, certain barriers related to everyone's abilities as an individual may appear. The literature on the subjects of both human capital improvement and **securitology** put a person and their interests at the heart of their deliberations [20]. In addition to abilities, a person also has many faults and limitations, which create various barriers, blocking the ability to improve human capital. Examples of such barriers include:

1. high costs of human capital improvement
2. lack of health-related capabilities
3. advanced age
4. lack of abilities within a given area of competence, e.g. languages
5. intra-institutional determinants
6. lack of motivation for further improvement

With regard to the improvement of the human capital of security services, it appears that a mixed male-female culture is present because both a can-do spirit and achievements as well as the willingness to work and improve oneself are valued [21]. The improvement of the capital of Polish Security Services is the **sine qua non** of efficient operation of said services in the global world; this means chiefly the openness of uniformed organisations to new ideas, activities of young officers [22] and openness to the new and unknown, particularly with regard to training design and trainer selection [23].

1. Kucharczyk, K (2014), *Lex coelibatus nella dottrina giuridica della Chiesa Cattolica*, PUL, Roma.
2. Król, H (2006), *Kapitał ludzki organizacji [in:] Zarządzanie zasobami ludzkimi. Tworzenie kapitału ludzkiego organizacji* Król, H., Ludwicyński, A. (eds.) PWN, Warszawa.
3. Norma ISO 9000:2000 (2001), *Systemy zarządzania jakością. Wytyczne doskonalenia*, PKN.
4. Szaban, J (2011), *Zarządzanie zasobami ludzkimi w biznesie i w administracji publicznej*. Difin, Warszawa.
5. Mayo, A (1998), *Creating and Training and Development Strategy*. Institute of Personnel and Development, London.
6. Kucharczyk, K., Łajca, P (2017), *Zjawisko globalizacji we współczesnym świecie [in:] Polonia Journal 5-6/2017*, Wydawnictwo Wyższej Szkoły Ekonomiczno-humanistycznej w Bielsku-Białej, Bielsko-Biała 2017.

7. Kupczyk, T (2009) *Kobiety w zarządzaniu i czynniki ich sukcesu*. Wydawnictwo Wyższej Szkoły Handlowej we Wrocławiu, Wrocław.
8. Abramski, O., Sapiński, A (2014) *E-learning jako innowacyjna forma podnoszenia kwalifikacji zawodowych osób dorosłych na przykładzie grupy zawodowej nauczycieli - wybrane problemy* [in:] *Journal of Modern Science* 2014; 3, Józefów.
9. Sapiński A, *Diversity management as the key factor of success of further education colleges – case study // Economic Processes Management: International Scientific E-Journal*. 2016. №2. – [Electronic resource] – Access mode: [http://epm.fem.sumdu.edu.ua/download/2016\\_2/2016\\_2\\_6.pdf](http://epm.fem.sumdu.edu.ua/download/2016_2/2016_2_6.pdf).
10. Jamka, B (2011) *Czynnik ludzki we współczesnym przedsiębiorstwie: zasób czy kapitał? Od zarządzania kompetencjami do zarządzania różnorodnością*. Oficyna Wolters Kluwer business, Warszawa.
11. Czarkowski, J (2009) *Spółeczeństwo oparte na wiedzy - Nowe obszary zagrożenia wykluczeniem* [in:] *Edukacja Dorosłych*, ATA, Warszawa.
12. Wiśniewski, B., Zalewski, Z. (eds.) (2006), *Bezpieczeństwo wewnętrzne RP w ujęciu systemowym i zadań administracji publicznej*. Wydawnictwo WSA w Bielsku-Białej, Bielsko-Biała.
13. Gierszewski, J. (2013), *Organizacja bezpieczeństwa społecznego*, Difin, Warszawa. <https://www.bbn.gov.pl/pl/bezpieczenstwo-narodowe/system-bezpieczenstwa-n/bezpieczenstwo-publiczn/5977,Potencjal-ochronny.html>
14. Ściborek, Z., Wiśniewski, B., Kuc, B., Dawidczyk, A (2017), *Bezpieczeństwo wewnętrzne*. Wydawnictwo Adama Marszałka, Toruń.
15. Szczaniecki, M, Sójka-Zielińska, K.(opra.) (2009), *Powszechna historia państwa i prawa*, LexisNexis, Warszawa.
16. Rotter, J.b (1980,) *Interpersonal Trust, Trustworthiness and Gullibility* [in:] *Amercian Psychologist*.
17. Zand, D.E (1997), *The Leadersip Triad: Knowledge, Trust and Power*. Oxford Press, New York.
18. Rajkiewicz, M., Mikulski, R (2016), *Tendencje zmian w systemach zarządzania. Problemy integracji oraz wdrożenia*. Wydawnictwo Politechniki Łódzkiej, Łódź.
19. Korzeniowski, L. F (2017), *Podstawy nauk o bezpieczeństwie. Zarządzanie bezpieczeństwem*. Wydanie II, Difin, Warszawa.
20. Białas, S (2013) *Zarządzanie zasobami ludzkimi w otoczeniu międzynarodowym*, PWN, Warszawa.
21. Kucharczyk, K. (2015), *Pedagogiczne i prawne aspekty mobbingu*, w: *Sociální pedagogika ve světle společenského, institucionálního a individuálního ohrožení*, Institut miezborovych studii, s.r.o., Brno.
22. Rae, L (2003) *Planowanie i projektowanie szkoleń*, Oficyna ekonomiczna, Kraków.

## **PART 3 REGIONAL FEATURES IN MANAGEMENT OF HUMAN RESOURCES**

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### **3.1 Management efficiency in Russian super league football clubs in 2016 and 2017**

The Russian Super League ranks sixth by its clubs' budgets while the Russian national team lags behind occupying the 60th place in the world rankings. Players' salaries do not correspond to their actual on-pitch performance. The problem may lie in the low level of football management efficiency, more specifically, in the 'pay-levelling' system in Russian football, which does not incentivize players to improve their performance but instead puts them in the same position as civil servants.

We accept the fact that the results demonstrated by Russian football clubs reflect the amount of funds invested in their development. At the time of writing this paper, football club 'Krasnodar' ranked in the world 56th by its performance and had a budget of 75 million dollars. 'CSKA' ranks 70th with the budget of 80 million dollars. In order to win, for example, the Euro Cup, these clubs should reach the level of 'Liverpool' with its budget of 440 million dollars. These are obviously very different levels, which means that the managements of Russian football clubs are facing a challenge of expanding their potential, which, among other things, requires careful selection of players.

Another side of this question is a paradoxical situation when the Russian Super League ranks sixth by its clubs' budgets while the Russian national football team lags behind and occupies the 60th place in the world rankings. The question arises as to the cause of this paradox. It is particularly important to understand the reason for this situation since in the FIFA World Cup 2018, the Russian team will have to meet thirty-two of the world's strongest teams.

Modern football is not only about sport, it is a huge business. The Fédération Internationale de Football Association (FIFA) with its 240 member states surpasses the UN in membership, the UN having only 191. The FIFA comprises over 300,000 clubs and approximately 240 million players. According to the Federation's reports, its annual revenue is 700 million dollars, 96% of which is event-related. While in 1984 companies paid the Federation 2 billion dollars for sponsorship, in 2006, it was already 16 billion. Football clubs also have a certain income but none of them can earn so much only by selling tickets. Clubs make money primarily through advertising, merchandise sales, and by selling their players to other clubs [1].



In the largest championships most of the revenue of the leading Italian, English, Spanish and German clubs is generated through advertising campaigns. The contract with the title sponsor, whose logo is put on payers' T-shirts, brings such organizations tens of millions of dollars while contracts with television companies for broadcasting games, hundreds of millions. Dutch and French clubs, which have not had any European triumphs for more than ten years, have been making money by selling their players. All this makes footballers' performance and their value crucial for their clubs' finance.

There are several famous programs for training in football club management. In 1995, the International Centre for Sports Studies (CIES) was created as a joint venture between the FIFA, the University of Neuchâtel, the City and State of Neuchatel. This centre is targeted at professionals in the sports market. Another example is the University of Liverpool, which offers an MBA course for young people interested in the football industry. One more similar MBA programme has been recently launched by Cass Business School, which ranked 47th among the world's best universities in 2006, according to the business school ranking by the Financial Times.

One of the crucial aspects for management of a top-level football club is the relationship between three key figures: the investor, the club's president and the coach. At first sight, this might seem as a linear relationship: the president reports to the investor and the coach to the president. This relationship, however, is much more complex: according to Milan Tomic, who was the manager of 'Crvena Zvezda' (also known as 'Red Star Belgrade'), power in a sports club is usually decentralized. In his book 'Basics of Sports Management' he refers to this phenomenon as 'ad hococracy' [2]. Tomic describes the situations when there was no strict division of responsibilities between the managers of the club, which did not prevent the club comprising twenty teams from achieving enormous success in Yugoslavian football. Thus, we can conclude that the main weakness of sports club management is that it fails to achieve a balance between the sport-related and financial sides of any decision making. This aspect, however, is not included in any of the above-mentioned training programs.

Most of the works about rating methods in sport focus on clubs. For instance, the following on-line resources deal with the finance of football clubs: Swiss Ramble, andersred blog, Footballeconomy.com, Forbes Sports Money (Scelles, 2014). In his work, Scelles (2013) discusses the factors that shaped the development of sport in the period between 2004 and 2011.

Such consulting companies as Deloitte and Brand Finance conduct regular studies of football clubs' financial performance (2015). The investment analytics of JP Morgan, Gran

Thornton and Jefferies can be used as a basis for designing a rating model of football organizations. CIES Football Observatory and transfermarkt.de study transfer value of football players. Many American researchers seek to find a correlation between sports and business activities of professional clubs (Alexander, Kern, 2004; Fort, 2006 and Miller, 2007).

The questions of value assessment of sports clubs are discussed separately. For example, Markham (2013) developed his own original model to evaluate sports clubs, which included a variety of approaches such as the evaluation of certain clubs' revenues and expenditures and comparing them to those of other clubs. Damodaran (2014) analyzed income and expenses of teams, measured the level of risk for sport investors and proposed a general model for the evaluation of the Los Angeles Clippers. Scelles, Helleu, Durand and Bonnal (2015) analyzed determinants of team values, compared American and European teams and proposed to incorporate the number of fans and followers on social media and player values in value models [3, p. 7].

In general, it should be noted that there is a large literature on efficiency and its assessment, but few studies address the question of efficiency in sports industry. Among such studies, we must mention Chelladurai and Haggerty's, who applied the model of organizational effectiveness of Canadian national sport organizations (1991). A similar study of Greek sport was conducted by Papadimitriou and Taylor (2000). Wolfe, Hoerber and Babiak have identified the factors that determine efficiency in student sports and have found out how these factors interact (2002).

This study assesses the correlation between the professional excellence of football players in the 2016-2017 Russian Super League and the level of their salaries.

Thus, this study pursues the following objectives:

- firstly, to describe the methodology of building the most accurate and reliable rating scales of footballers;
- secondly, to analyze the correlation between the on-field and financial performance of clubs by using the case of the Russian Football Super League in 2016 and 2017;
- finally, to show how the balance or the lack of balance between the club's sports and financial performance allows us to assess the efficiency of the coach.

In football, a team is normally assessed by the number of completed technical and tactical actions (TTAs), the percentage of mistaken actions, and the distance the players run with maximal and submaximal energy. In 1986, Godik calculated that the coefficient of correlation between TTAs and the results of matches played by the team's closest rivals was about 0.2 [4] in football. In basketball this coefficient is 0.34, which means that the situation

is not too different (1). Therefore, the coach's expert assessment becomes important since its correlation with the results of matches can even exceed 0.6. Nevertheless, the potential of the coach's assessment is also limited. The main problem is that in football there is too much information to be processed by one person. A coach cannot predict how his team should perform in an ordinary match in order to, for instance, win the UEFA Cup; he needs IT-assistance to do that. Sergei Skorovich, the coach of the Russian national mini-football team, engaged this author to assess his team, which led to changes in the team's composition and thus enabled it to achieve success.

This author has created methodology for assessment of teams and players, which will be briefly described further [5, 6].

#### **Technical and tactical confrontations:**

- There are sixty different types of technical and tactical confrontations such as back-pass, ball control, aerial confrontations, groundmoves, and so on.
- Players realize scoring opportunities through heading, from the left or from the right or from a non-standard position.

#### **Value of confrontations**

- The value of winning a confrontation is equal to gained chances of scoring a goal from the end point in relation to the initial point on the football pitch.
- The total value of all the confrontations won and lost by a specific player is a part of the difference created by the team.
- If we calculate the value of confrontations, it will improve the accuracy of the coefficient of correlation with games results from 0.2 to 0.8-0.9, which allows us to get rid of the information noise.

#### **Tactics**

- Tactics in football implies redistribution of pressure to benefit stronger players, who are pitted against weaker opponents (in the same game component).
- A player creates a difference through tactics, for example, by maximizing the competitive advantage they gain from favourable 'exchanges'. ('Exchange' is a term used by football coaches about the situations when specific players of one team are pitted in such a way that they oppose specific players of the rival team. 'Exchanges' refer to pairs these two teams are thus split in). Therefore, the difference is equal to the product of the player's advantage in the game component by the number of such confrontations.

## Rating

- All the results of the team or specific players in different games are converted into ratings, which allow us to assess their performance more accurately.
- The rating of a player and/or a team is automatically projected on an abstract average participant of this tournament.
- The rating has a linear connection with the difference thus created. A 400-point difference in the rating of two teams corresponds to the game's score 7:3 (the advantage of 4 goals with 10 as the total sum of goals scored and missed).
- The algorithm of rating calculation and the structure of linear equations help us establish correspondence between the expected and actual results.
- The existing FIFA/Coca-Cola Ranking is misleading since its calculation procedure results in disparity between the generally perceived quality and the world ranking of some teams. Thus, at all European and world championships teams with lower positions in the ranking defeat those with higher positions.

Weaker teams are satisfied with such situation since it gives them extra opportunities for forming the so-called 'groups of death' for stronger teams and so on. This stalemate situation which results from leaders always being in the minority. Football has thus fallen victim to its own popularity.

- The coach's ranking depends on the team's position in financial and sport rankings.

## Player's rating

- corresponds to the rating of the team consisting of such players;
- corresponds to the correlation between the value of the won and lost confrontations during the match and the average opponent in this tournament;
- falls exponentially during the match from the number of confrontations with the different speed of various components.

Data and methodology. In order to calculate the ranking, we need to solve a system of linear equations:

$$\left\{ \begin{array}{l} Rt_I = \sum_{\substack{J=1 \\ I \neq J}}^N \delta_J \times Rt_{Jcop} + \Delta_I \\ Rt_{CPEД} = \left(\frac{1}{n}\right) \times \sum_{I=1}^n Rt_I \end{array} \right. \quad (3.1)$$

Let us use the following hypothetical competition as an example (Table 3.1).

Table 3.1

## Hypothetical competition

Team	1	2	3	Scored and missed goals	Rt
A		6:4	7:3	13:7	2200
B	4:6		6:4	10:10	2000
C	3:7	4:6		7:13	1800

Result:  $Rt(A)=2200$ ;  $Rt(B)=2000$ ;  $Rt(C)=1800$ . Let us now check our solution. A defeated B with the score 6:4, which results in 200 points. The corresponding difference is  $2,200 - 2,000$ . A defeated C 7:3, which results in 400 points. The corresponding difference is  $2,200 - 1,800$ .

$$\left\{ \begin{array}{l} Rt(A) = \left( \frac{6+4}{13+7} \right) \times Rt(B) + \left( \frac{7+3}{13+7} \right) \times Rt(C) + \frac{13-7}{13+7} \times 1000 \\ Rt(B) = \left( \frac{6+4}{10+10} \right) \times Rt(A) + \left( \frac{4-6}{10+10} \right) \times Rt(C) + \frac{10-10}{10+10} \times 1000 \\ Rt(C) = \left( \frac{7+3}{7+13} \right) \times Rt(A) + \left( \frac{6+4}{7+13} \right) \times Rt(B) + \frac{7-13}{7+13} \times 1000 \\ (Rt(A) + Rt(B) + Rt(C)) / 3 = 2000 \end{array} \right. \quad (3.2)$$

Experiment description. We observed matches of the ninth round of the Russian Super League on 2.10.2016. After processing the video data, we calculated ratings for all 204 players of the Russian Super League who participated in the matches. The advantage of Player A over Player B in the rating means the difference in the number of goals scored and missed during the match played between the teams consisting of Players A and B.

What interests us is how much this assessment of a player can vary in different matches (Table 3.2).

We can see that for sixteen players of 'CSKA' and 'Krasnodar' the rating is relatively stable while only the rating of three players of 'CSKA' has demonstrated significant fluctuations in their performance. Two of these players were reported to have been injured.

Now let us analyze the Super League players' salaries Table 3.3.

These thirty-four pairs of results have allowed us to draw the following formula:

$$\text{Salary} = 1,558 + 0,000331 \times Rt \quad (3.3)$$

Table 3.2

Variability of values of 'CSKA' and 'Krasnodar' players' performance in the match of the Super League and the European Cup tournament (round 9, Russian Championship, 2016)

№	'CSKA'	'Rostov'	'Tottenham'		'Krasnodar'	'Schalke'	'Rubin'
9	Traoré	<b>2957</b>	<b>3141</b>	6	Granqvist	<b>2597</b>	<b>2426</b>
24	V. Berezutski	<b>2941</b>	<b>2901</b>	9	Ari	<b>2459</b>	<b>2253</b>
4	Ignashevich	<b>2783</b>	<b>3231</b>	8	Gazinsky	<b>2449</b>	<b>2137</b>
25	Eremenko	<b>2650</b>	<b>2701</b>	11	Podberezkin	<b>2353</b>	<b>2336</b>
17	Golovin	<b>2601</b>	<b>2808</b>	98	Petrov	<b>2283</b>	<b>2027</b>
66	Natkho	<b>2586</b>	<b>2664</b>	55	Jędrzejczyk	<b>2199</b>	<b>2399</b>
8	Milanov	<b>2515</b>	<b>2509</b>	22	Joãozinho	<b>2186</b>	<b>2223</b>
7	Tošić	<b>3032</b>	<b>2477</b>	77	Kaboré	<b>2153</b>	<b>2439</b>
42	Shchennikov	<b>2320</b>	<b>2880</b>	38	Kouassi	<b>2145</b>	<b>1996</b>
2	Fernandes	<b>2316</b>	<b>3014</b>				
2	Fernandes	<b>2316</b>	<b>3014</b>				

We applied this formula to calculate the expected salaries (this result is given in the last but one column of the table). In this case, the total sum of the annual payments made to players of the Super League would be 482 million dollars. This figure, however, does not correspond to the global trend of the correlation between the player's salary and their actual performance. In 2015, 'Sportingintelligence' published the average value of players of 32 national teams taking part in the final matches of the 2014 FIFA World Cup in Brazil. Analyzing these data, we can observe a correlation between the growth in players' salaries and their field performance and to rank the teams in descending order according to how undervalued their players (Table 3.4).

Table 3.4 shows that the most undervalued footballers play in the Colombian team while the most overvalued ones, in the English one, which reveals the difference in the economies of these two countries.

Table 3.4 also illustrates that on average a gain of 100 ranking points brings a salary increase of 0.651 mln dollars (we can find all the available data on football clubs' budgets on the web-site).

The general trend is that every budget increase of one million dollars corresponds to a gain in seventeen ranking points in the annual ranking. One of the eleven team players can increase the team's ranking by seventeen points if he is  $11 \times 17 = 187$  points stronger. For a 100-point increase the club can offer him 0.535 million dollars. The figures 0.535 and 0.651 are quite close to each other.

Table 3.3

## Real and recommended salaries of Super League players

№	Ranking	Salary, mln dollars	№	Name	Club	Russian salary trends, mln dollars	Global salary trends, mln dollars
1	3273		7	Ananidze	Spartak	2.63	9.36
2	3032	1.6	7	Tošić	CSKA	2.55	7.80
3	3028		33	Maurício	Spartak	2.55	7.77
4	3006		23	Mevlja	Rostov	2.54	7.63
5	2991	2.7	16	Bocchetti	Spartak	2.54	7.53
6	2957		9	Traoré	CSKA	2.53	7.31
7	2955	3.0	8	Glushakov	Spartak	2.53	7.30
8	2948	2.2	4	Criscito	Zenit	2.53	7.25
9	2948		44	Navas	Rostov	2.53	7.25
10	2947		18	Kutepov	Spartak	2.53	7.24
11	2941		47	Zobnin	Spartak	2.52	7.20
12	2941	1.9	24	V. Berezutski	CSKA	2.52	7.20
13	2932	1.4	3	Wernbloom	CSKA	2.52	7.14
14	2892	4.5	21	García	Zenit	2.51	6.89
15	2892		5	Vasin	Ufa	2.51	6.88
16	2886		7	Giuliano	Zenit	2.51	6.85
17	2878		16	Noboa	Rostov	2.50	6.79
18	2859	2.2	19	Smolnikov	Zenit	2.50	6.67
19	2846		8	Maurício	Zenit	2.49	6.59
20	2823		84	Gaŕcan	Rostov	2.48	6.43
21	2819	1.6	4	Granat	Rostov	2.48	6.41
22	2808		9	Zé Luís	Spartak	2.48	6.34
23	2783	2.0	4	Ignashevich	CSKA	2.47	6.17
24	2742	5.0	9	Kokorin	Zenit	2.46	5.91
25	2736	2.0	13	Neto	Zenit	2.46	5.87
26	2714		6	Nadson	Krylya Sovetov	2.45	5.73
27	2685	3.6	22	Dzyuba	Zenit	2.44	5.54
28	2683		77	Tigiev	Anzhi	2.44	5.53
29	2663	2.0	14	Yusupov	Zenit	2.43	5.39
.....	.....	.....		.....	.....	.....	.....
211	1287		13	Nekhaychik	Orenburg	1.98	<b>-3.56</b>
212	1119		3	Yatchenko	Krylia Sovetov	1.92	<b>-4.66</b>
213	1066		55	Yanbaev	Lokomotiv	1.90	<b>-5.00</b>

Table 3.4

## Players' performance and salaries at the 2014 FIFA World Cup

<b>№</b>	<b>Country</b>	<b>Undervaluation of players</b>	<b>Average salary in the national team of 2014</b>	<b>Rating of the national team in the period 2010-2014</b>	<b>Average expected salary depending on the team's performance</b>
1	Colombia	2.80966	0.93	3066	3.73966
2	Chile	2.28456	1.39	3056	3.67456
3	Ecuador	1.58927	0.92	2877	2.50927
4	Bosnia	1.41759	1.3	2909	2.71759
5	Holland	1.25905	3.06	3155	4.31905
6	Algeria	1.21941	0.73	2791	1.94941
7	Mexico	1.08424	1.08	2824	2.16424
8	Switzerland	0.95484	1.6	2884	2.55484
9	Russia	0.89624	2.57	3024	3.46624
10	Costa Rica	0.84633	0.4	2683	1.24633
11	Greece	0.83411	0.92	2761	1.75411
12	Iran	0.82123	0.36	2673	1.18123
13	Australia	0.56888	0.71	2688	1.27888
14	Japan	0.44894	1.52	2794	1.96894
15	Ghana	0.23478	1.63	2778	1.86478
16	Nigeria	0.17183	1.4	2733	1.57183
17	USA	-0.07676	1.59	2724	1.51324
18	Croatia	-0.21925	2.39	2825	2.17075
19	Brazil	-0.32727	5.74	3323	5.41273
20	Honduras	-0.36225	0.58	2525	0.21775
21	Uruguay	-0.3712	2.9	2880	2.5288:
22:	Cote d'Ivoire	-0.54804	2.53	2796	1.98196
23	Argentina	-0.62759	4.53	3091	3.90241
24	Italy	-0.63945	2.68	2805	2.04055
25	France	-0.85846	4.52	3054	3.66154
26	Portugal	-0.8804	3.93	2960	3.0496
27	North Korea	-0.89	0.89	2321	0
28	Cameroon	-0.92387	2.04	2663	1.11613
29	Belgium	-1.83355	4.46	2895	2.62645
30	Germany	-2.03404	6.62	3196	4.58596
31	Spain	-2.76699	7.06	3151	4.29301
32	England	-2.81718	6.01	2982	3.19282



Let us calculate the salaries of Super League football players on the basis of the above-described global trend (see the last column of Table 3.3). The result is really surprising. In the interval between 176 and 213, the salary values become negative, that is, 38 players of the Super League would actually have to pay their teams for the right to play. If we add these negative values, we will get a figure close to that of the total spending on all players' wages – 492 million dollars.

In Russia, sponsors of a football team are often companies in the oil and gas, materials, or banking sectors. These companies do not willingly choose to become sponsors – they often have to make a 'socially significant contribution', that is, support football teams in exchange for government contracts. In this situation, sponsors consider their invested funds as unavoidable expenses and do not care about their profitability. This is what engenders corruption.

There is no objective, impartial assessment of players and teams in Russian football since the level of a player's excellence is usually assessed by the club's coach or president. This is when the player's agent enters the game. Unfortunately, the FIFA and the Russian Football Union have made a number of substantial errors. Attempts were made to eliminate agents from this process on the grounds that they stimulate corruption: for instance, an agent might try to bribe the coach to set a high transfer cost for a player. In a similar way, an agent might approach the coach of the national team. In team sports, the value of a contract of a national team player is approximately 25% higher than that of an ordinary footballer, which means that we are likely to see a group of players whose level does not conform to the Super League level. The rating of a player equals the rating of a team consisting of such players. A team can gain an advantage of 1,000 points over its opponent only when one team scores as many goals as they want and never misses a ball. If all players of this team are weaker than their opponents, nothing will save the team from losing this game. The tactical struggle starts only when there are several players who are better than some players of the opposing team. To achieve this, players must 'fit' within the 1,000-point interval. The difference between the performance of a leader and that of an outsider among the Russian Super League players is 2,100 points. In the 1000-point interval there are 98 players of the Super League (9 teams) and the ones who do not fit into this interval are uncompetitive. Thus, 38 players out of 204 have demonstrated nothing to be paid for. Naturally, such situation can be caused by other factors: players might be recovering from injuries, be stressed or overworked, and so on. We cannot draw any firm conclusions

by using fragmentary data such as salaries or accuse the agents of corruption if their players have failed to make the most of their abilities. What we need is to solve the problem, not blame the agents.

In 2016, the 'CSKA' coach Leonid Slutsky resigned on his own accord after winning seven trophies in seven years of work. The journal 'Theory and Practice of Physical Culture' published a paper on the methods of assessment of the coach's efficiency by analyzing the financial and sport-related aspects of the club's work (see website ra-first.com). On this website we have created an information service to monitor the top football clubs' performance.

The parser reads the data on football clubs' results and calculates their ratings by solving the above-mentioned system of linear equations. This information can be supplemented with the data on the club's budget for the following season. Basically, the efficiency of the club's management is assessed by building a direct correlation between the budget and the rating. Then, we calculate the club's expected rating by taking into account the club's budget and compare the result with the actual rating. We can judge about the efficiency of the club's management if a club with a small budget can win a higher position in the table. Most of this dividend is brought by the coach of the club (Table 3.5).

Table 3.5

Efficiency of head coaches (data as of 12.2016)

<b>Position</b>	<b>Efficiency</b>	<b>Name</b>	<b>Rt sport</b>	<b>Rt finance</b>	<b>Club</b>	<b>Budget, mln dollars</b>
44	268	Kononov O.	3174	2906	Krasnodar	75
88	177	Slutsky L.	3092	2916	CSKA	80
98	165	Lucescu M.	3280	3115	Zenit	185
139	71	Cherevchenko I.	3006	2935	Lokomotiv	90
162	26	Rakhimov R.	2846	2821	Terek	30
168	14	Gadzhiev G.	2803	2788	Amkar	13
221	-114	Goncharenko V.	2679	2792	Ufa	15

It would be interesting to know how 'CSKA' management is planning to reach the Champion's League after replacing a more efficient coach with a less efficient one, a similar situation has occurred to 'Krasnodar' (Table 3.6).

Figure 3.1 shows the correlation between the age and performance of 204 Russian Super League players. There used to be an assumption that the player's performance peaks at the age of 25 (2). The graph clearly shows, however, that there are actually two peaks – at the

age of 24 and 28. It is known that in sprint, records are rarely renewed after 24, in long-distance running, after 28. Therefore, we can suppose that these two peaks are related to the qualities most required for both of these physical activities. Players' salaries can also be expected to reflect these dynamics.

Table 3.6

Leading KHL coaches in 2015

Effect	KHL coaches	Club	Year of birth
166	Pēteris Skudra	Torpedo	1973
155	Artis Ābols	Dinamo Riga	1973
139	Andrey Nazarov	Donbass	1974
126	Mark French	Medveshchak	1971
125	Kari Jalonen	Lev	1960
123	Anatoly Emelin	Avtomobilist	1964
117	Oleg Znarok	Dynamo Moscow	1963
109	Sergey Svetlov	Admiral	1961
98	Ari-Pekka Selin	Barys	1963
78	Dmitry Kvartalnov	Sibir	1966
67	Michael E. Keenan	Metallurg	1949
55	Jukka Jalonen	CSKA	1962

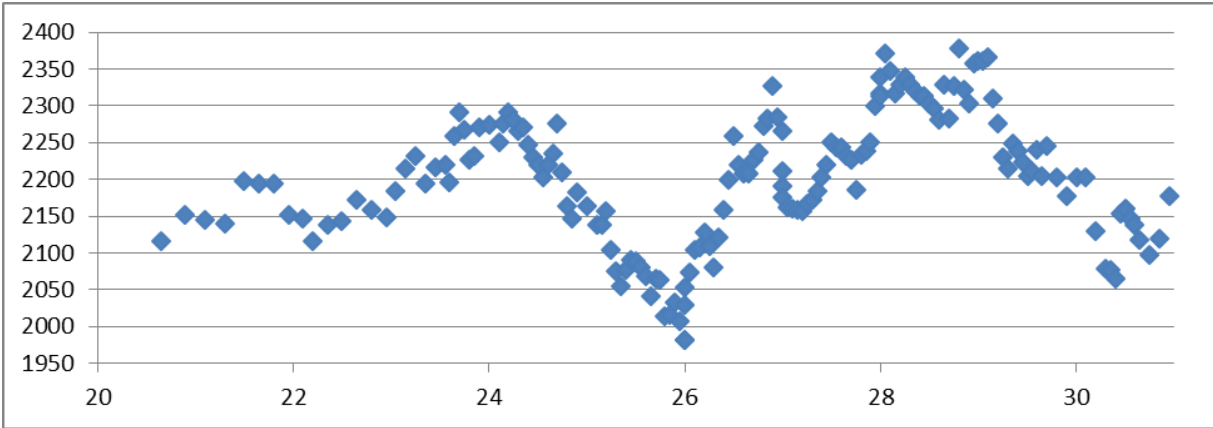


Figure 3.1 – Correlation between the Russian Super League players' performance and their age

According to the available data, the coefficient of correlation between the Russian Super League players' average salaries and their on-field performance is 0.138. Thus, we are dealing with a 'pay levelling' trend, which does not affect, however, some leaders of the

national team. In Russia, there is no proper football management. Footballers do not seek contracts with overseas clubs and instead turn into a kind of civil servants paid just because they occupy their work places.

At the moment government regulation dominates in the sports sphere, while the government should, on the contrary, avoid interfering in sports. Investors should encourage and support independent assessment of players.

Football is funded by sponsors, not the Russian Football Union. Therefore, the Union's objective should be to attract more investments to football and to help football clubs use them efficiently. It is recommended that the Russian Football Union should assess its own efficiency by the number of players participating in the five leading championships (England, Spain, Italy, Germany and France). It is also recommended to stimulate the exchange of teams between the leagues and abolish the so-called 'legionnaires' quota', that is, the limit on the number of foreign footballers playing for Russian football clubs.

Agents should be orientated more towards working with Latin American players rather than African players.

Club presidents should be choosing coaches by applying a balanced approach and assessing both the team's on-field performance and its financial situation.

1. Innovative System of Assessment of Efficiency of Basketball Players/ Burov I. V., Polozov A.A./ World of Scientific Discoveries, № 9.1(21) 2011. Science and Education. P.363.

2. Panoyan A. Nineteen Billion in One Gate// RosBusinessConsulting: online journal. 2012- [Electronic resource] – Access mode: <http://www/rbc.ru> (last accessed date: 24.12.2012).

3. Polozov A.A. Ranking in Sports: Yesterday, Today, Tomorrow. – Moscow: Sovetsky Sport, 2007. – 316 p.

4. Optimal Composition of the Russian National Team for the 2018 FIFA World Cup as of 10.2016/ Polozov A.A. /Theory and Practice of Physical Culture, 2017.

5. Handbook of Ratings. Approaches to Ratings in the Economy, Sports, and Society / A. Karminsky, A.Polozov/ International Publishing house “Springer”, 2016., 360c.

6. Polozov A.A. Tactical Effect//Theory and Practice of Physical Culture. 2002. №6. P. 55.

7. Age-related Career Peaks of a Sports Judge and Coach/ A.A.Polozov [et al.] // Theory and Practice of Physical Culture. 2016. № 1. P. 80.

8. Tomić M. Basics of Sports Management. - Moscow: International Academy of Football and Sports Industry, 2005. - 152 p.

9. Football: Yearbook. 1986 / Compiled by S.A.Savin, A.S.Soloviev]. - Moscow: Physical Culture and Sport, 1986. -77 p., illus.

### **3.2 Study of the knowledge needs as the basis for the improvement of local government officials training in Ukraine**

The implementation of the administrative and decentralization reforms in Ukraine critically depends on the ability of local authorities to efficiently address new challenges, which arise with the expansion of their powers. This would require a high level of professional competence from officials of local self-governing structures, and thus it actualizes the need to improve the system of their professional training. In addition to that, the necessity to ensure the relation of the curricula, plans, and disciplines content with the real needs in knowledge as well as to monitor and assess the quality of relevant educational services becomes evident [1]. Thus, the study of knowledge requirements and how to meet them can be considered the single most important component of improving the system of local government officials' professional training.

Many scientists in Ukraine have investigated problems of civil servants' professional training system formation and development, in particular, Mamatova [2], Borodin & Chikarenko [3], Zolotaryov [4], Tolkovanov [5] and others. Studies in this field specify the peculiarities of knowledge management in government bodies [2], identify the staffing problems in state authorities [3], are centered on the prospects of the specialized knowledge sharing platforms creation [2], justify the methodological bases of the civil servants' knowledge requirement analysis. Moreover, they assess the actual needs for knowledge to perform the authority functions accurately [4, 5, 7]. The results available from certain surveys assessing the needs of knowledge for officials [4, 7] testify the dynamic nature of the question. For example, in 2013 officials mentioned the following as the most required knowledge for carrying out their tasks: office work knowledge and skills, computer literacy, official parlance, organization of the workplace and time management, applying legislation, etc. [4]. In 2017, following a decentralization processes resulting in an extension of authorities to 7-9 areas, among the most significant areas where new knowledge is essential, officials of local bodies denote: environmental protection and waste management, administrative procedures, financial and tax legislation, public procurement, the use of international aid, accounting, etc. [7]. Therefore, it is logical to assume that in connection with further development of the decentralization process, new areas of local bodies' performance and responsibility will emerge. In our opinion, strategic management and project management areas will be of paramount interest in this respect. Therefore, the study of the readiness of local government

officials to accomplish these tasks successfully in terms of adequacy and availability of relevant knowledge, constitutes the goal of this paper.

This article presents the results of a sociological study conducted in February 2018 with the aim of studying the needs among local government officials for new knowledge in united territorial communities (UTCs) of Ukraine. The needs are caused by the expansion of powers and greater autonomy in the decision-making in the territories' development. The study was intended to cover regions with different intensity of decentralization processes (the percentage ratio of area covered by UTCs to the total area of the region), thus all regions of Ukraine were divided into three groups: regions with low intensity (0-19%), regions with average intensity (19.01-38.01%) and regions with high intensity (38.02-57.02%). The regions covered by the survey were selected on the basis of average intensity in the group. Thus, the sample included regions with an intensity indicator closest to the average in the group: for the low intensity regions' group - Kharkiv (the intensity of decentralization is 11.7%), for the average – Poltava (26.28%) and Kherson (26.11%), for the group with the high intensity - Dnipropetrovsk (50.39%). Regions with threshold values of intensity (the highest and the lowest among all regions of Ukraine) were also included: Zhytomyr (56.35%) and Zakarpattia (4.82%). Additionally, it was decided to include the Sumy region (intensity is 33.52%) due to the researchers' access to personal communications with the local authorities. Consequently, it was planned to investigate 154 UTCs in 7 regions of Ukraine.

The survey was conducted by sending a letter to the official email account of the UTCs' governing bodies with a reference to the questionnaire created with Google Forms. The contacts were found through relevant Internet pages of the regional state administrations (RSA) and UTC.

Responses were received from 24 officials - representing 20 UTCs. Therefore, the study actually involved about the 9 % of UTCs in the investigated regions. This counts for only 3% of the whole UTCs created in Ukraine.

When commenting the responses on the intensity of decentralization processes in the regions, it should be pointed out that the representatives of UTC local bodies in Dnipropetrovsk region (high level of the decentralization intensity) appeared to be the most active. They submitted 18.2 % of responses to the request. This allowed for analyzing 10 % of UTCs in the region. Among the 10 answers received, 5 were provided by officials of one UTC, so actually 6 UTCs in the region were covered. The Poltava and Kherson UTCs (the average level of decentralization intensity) gave an equal number of responses –

2 for each region. For the Poltava region this covers only 4.8% of the existing UTCs, and for Kherson – 7.1 %. The reaction in Zhytomyr region, which is the leader in Ukraine in terms of the decentralization processes intensity, was contrary to the expectations, rather moderate - only 6.8 % of UTCs responded. In the Sumy region, the study involved the 7 officials of local authorities, and thus 24 % UTC were covered. Regions with a low decentralization intensity (Kharkiv and Zakarpattia) did not participate in the study by not sending any response to the request.

While analyzing the results obtained, it should be emphasized that the quality of the governing bodies performance in Ukraine, despite implementing reforms, remains rather low. This is expressed, firstly, in the irrelevance, incompleteness, and unreliability of publicly available information about the local authorities (in particular, the contacts of UTCs). Secondly, a low level of publicity and openness of the authorities was observed, in particular by the local self-government bodies of the newly established UTCs. This is further confirmed by the low level of their participation in the study.

Several aspects of the training system organization should be considered, including content, methodology and communication tools. An analysis should include a systematic study of the knowledge needs from the point of view of each of these elements. Given that, the content should be formed on the basis of the problem issues that public servants face in their routine activities. The study of methodological and communication components should in our opinion encompass the ways of sharing and disseminate knowledge. Furthermore, the actors involved in this process should be defined. Thus, the analysis of the needs will serve a starting point for the development of training programs, modules, and new disciplines in terms of their content. They could be the framework for the selection of learning forms and tools (i.e. the methodological and communication elements of the training system).

Taking into account the aforesaid, the main results of the study can be presented.

First, it should be noted that the study involved women and men in equal numbers, mainly of the age 23-50 years (91.7%). Most of them are representatives of the V and VI position categories in local bodies (37.5% and 33.3%, respectively), and the IV - 12.5% (position categories according to [6]). That is, their activities are related to making decisions on the development of the territory as a whole, the organization of governing bodies, the adoption of strategic decisions, and the determination of mechanisms of their implementation. The 10 officials of UTC local self-government agencies in Dnipropetrovsk region were, as mentioned above, the most active, representing 41.7% of the total number of respondents. The

officials from UTCs of Sumy region (the intensity of decentralization is higher than the average) – totaling 7 persons, which constitute 29.2% of respondents. At the same time, representatives of the IV and V position categories were more active in Dnipropetrovsk region, constituting 70% of the total number of respondents in this region, while in Sumy region the biggest share was represented by persons holding positions of the VI and VII categories (57% of respondents in the given region).

When asked about the need for additional knowledge for more effective management of the development of the territory, 96 % of the respondents agreed that such a need exists, and only one person indicated that there is no such a need, because there is enough knowledge available. At the same time, all respondents indicated that they would like to receive additional information on modern approaches in management of territorial development.

The majority of respondents were improving their qualifications during the last year (83%) and within the last 3 years (12.5%). At the same time, there were also those who improved their qualifications more than 5 years ago (1 person).

75 % of respondents are satisfied with the level of their own knowledge regarding territorial management, but believe that additional knowledge would still be valuable. Another 21 % of respondents are not satisfied with their actual level of knowledge and would need additional training. One respondent (4 %) is more than satisfied with the level of knowledge, considering it more than sufficient. Young people are more skeptical when assessing their own knowledge – 43% of them are not to be satisfied. The same thought was expressed by one-third of respondents aged 41-50 years. Half of those who are rather dissatisfied with their own knowledge and who are in need of more knowledge are officials of the IV category, while the others represent the VI and VII categories (one person for each). It is important to point out that persons, rather dissatisfied with their own knowledge, constitute the majority (67%) of the surveyed in IV category. This suggests that decentralization processes are accompanied by the serious challenges for local government officials, especially for senior management (chairs and secretariat) of city and village councils. Therefore, an important task is to create opportunities for meeting their knowledge needs through coordinated and joint actions of scientific and educational institutions, non-governmental organizations and government bodies that coordinate the processes of local government reforming.

During the study of communication mechanisms and methods of knowledge transfer and dissemination, it was found that the most common way of obtaining knowledge for



respondents is the seminars held in the Regional State Administration (RSA) – 46%, as well as training organized by non-governmental organizations (46%). Only 2 persons (8%) chose other categories such as videoconferences (1 person) and "various practical classes, exchange of experience with other colleagues, which are possible during the meetings held in the RSA and development centers" (1 person) (Figure 3.2).

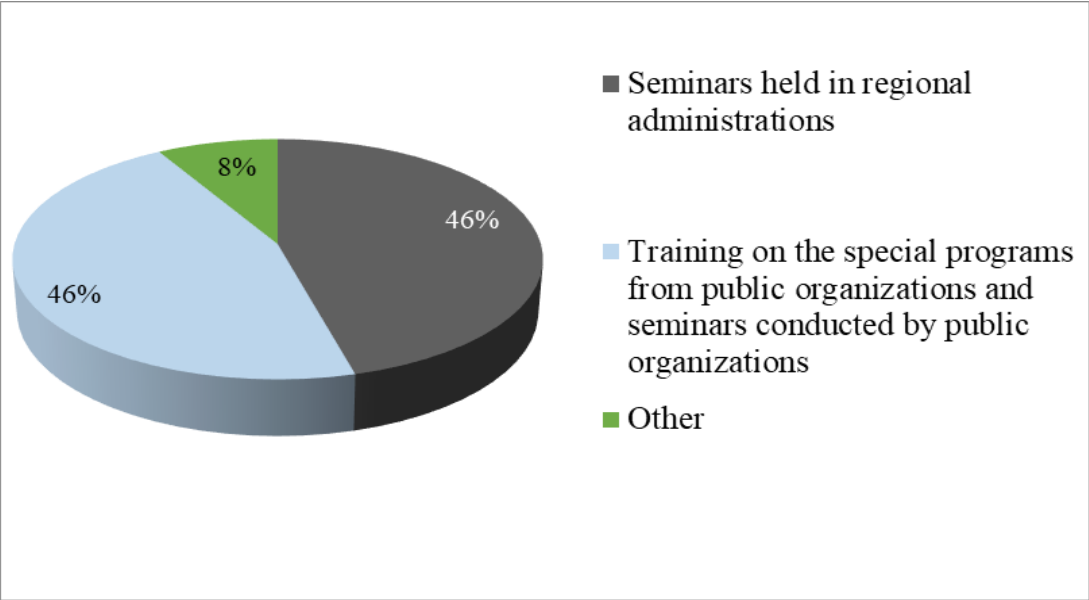


Figure 3.2 – The most typical way to acquire knowledge

It should be emphasized that respondents aged 23-40 are more involved in cooperation with non-governmental organizations. Special programs and seminars from non-governmental organizations are the most typical ways of acquiring knowledge for them (62 %), while in the age group 41-60 the most typical forms of training are workshops held in the RSA (67%). To some extent this allows for suggesting that older people are more likely to trust government structures (due to the public administration traditions in the post-Soviet space, and in particular in Ukraine) while the younger rely more on non-governmental organizations. This should be taken into account when organizing such events.

Considering the possible alternatives of knowledge transferring it is desirable to proceed from the wishes of representatives of the target group (Figure 3.3). The majority of respondents identified group seminars (75%) as the most convenient way for obtaining new knowledge. An equal share of respondents (12.5% and 12.5%) pointed out that the most suitable way is distance learning and self-study with the use of method materials.

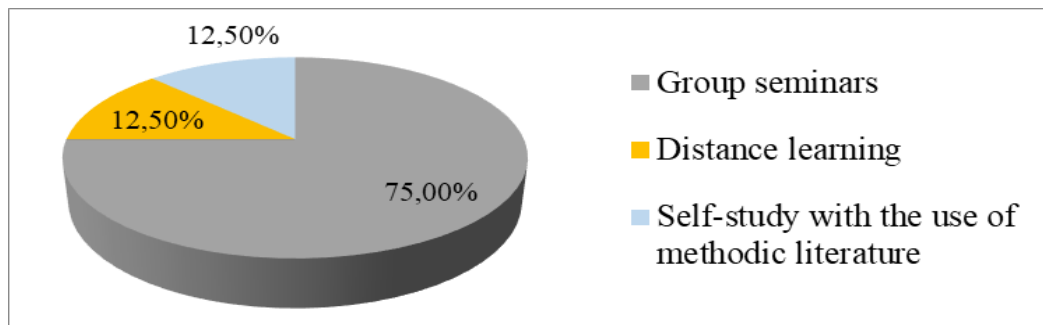


Figure 3.3 – The most convenient way to acquire new knowledge

The results of this study indicate that areas in which the processes of decentralization are taking place, are rather informatively saturated (largely due to the activities of public organizations). A total of 54.2% of respondents indicated that all necessary information for making management decisions and management organization is accessible. However, 41.7% indicate that necessary information is partially accessible and 1 person (4.1%) did not agree with the accessibility of all necessary information. This is very important from the point of view of selection and content filling as well as the selection of methods for carrying out training activities for civil servants.

In this context, it is quite significant that by the assessment of the level of knowledge gained during the last visited training workshop (internship, course, program, etc.), 50% of respondents indicated that they were rather satisfied although they had to study some things on their own, while 41.7% of respondents indicated that the obtained level of knowledge fully met their expectations, and 8.3% of surveyed have noted dissatisfaction as a lot of information was unnecessary while important issues had not been disclosed.

Therefore, the study of the main problematic issues that arise during the implementation of functions and power determined by the law, should be seen as an important aspect of the knowledge needs analysis in terms of the local authorities officials training system improvement (Figure 3.4).

According to the Figure 3.4, among the most problematic areas where the need for new knowledge is particularly tangible, respondents indicated such as investment attraction and development of relevant projects for attracting external financing, designing projects for infrastructure development, as well as strategic planning. It should be emphasized that according to the results of previous studies conducted nearly a year before, in 2017, the project management issues were not included even in the top 10 of the most important areas for raising the professional level and 75-77% of UTC leaders and their deputies assessed the level of their competence in this area as rather high [7].

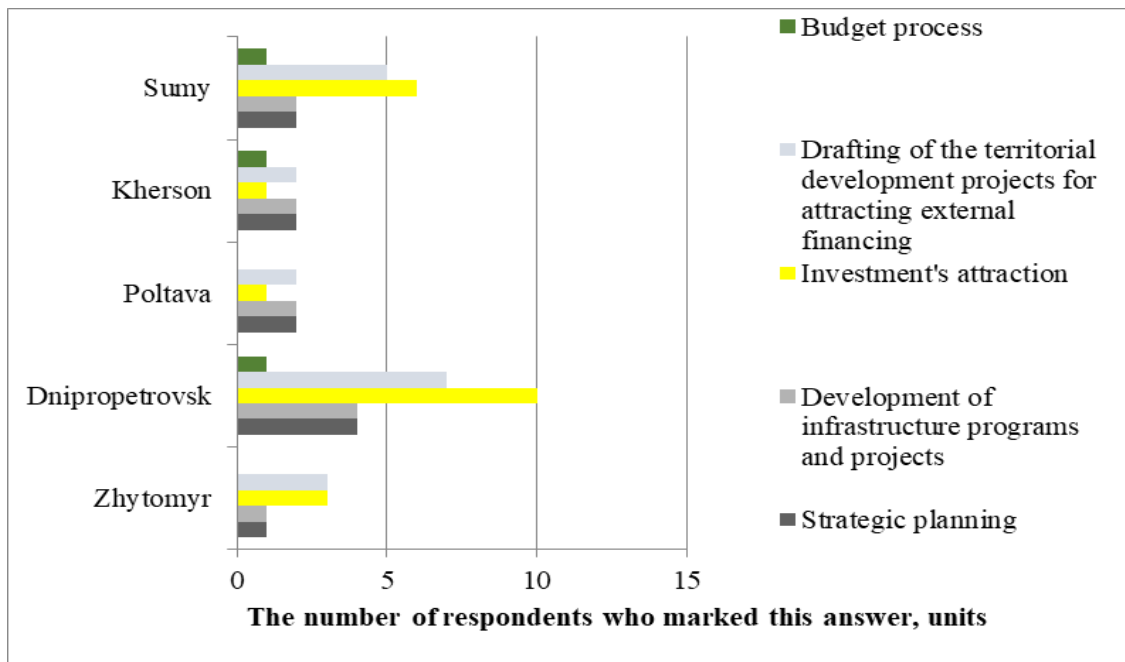


Figure 3.4 – Problem areas where the need for new knowledge is most noticeable

It should be pointed out that the problems of strategic management are less relevant for regions with higher intensity of decentralization processes (for Zhytomyr and Dnipropetrovsk it constitutes the 12.5-15% of the total number of marked problem issues) than for the regions with average intensity (Poltava – 29%, Kherson – 25%). Respondents from the Sumy region marked a quite wide range of problematic issues, in which the theme of strategic planning covers only 12.5%. This region has a higher indicator of decentralization intensity than the average in the appropriate group of intensity (33.35%), so this gives a reason to conclude that the intensification of decentralization processes affects the information saturation of social transformations space. The knowledge needs are being changed with the alteration of stages of UTC development from the initial, where the most important issue is the definition of the general principles of community development through strategic planning to the stage of strategy implementation, where project management skills become especially important.

The study of topics of the last visited seminars allows for determining the extent to which the existing knowledge needs are satisfied. Since this question in the questionnaire was open-ended (respondents had to point the title of the occasion independently), the results were summarized through the defining of the wider thematic groups (Figure 3.5).

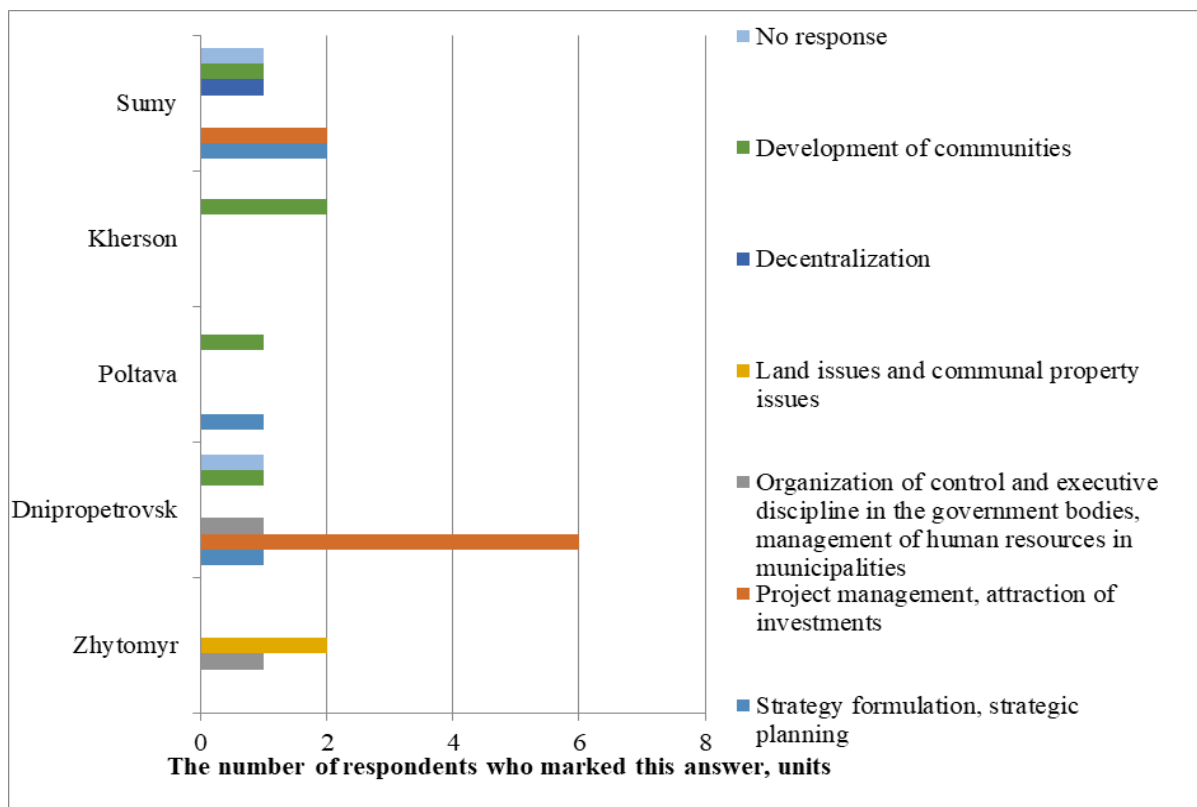


Figure 3.5 – Thematic directions of the last visited seminar / internship / training program

Having regard to the data presented in Figure 3.5, it may be concluded that the knowledge needs of local bodies officials, taking into account their regional differentiation (see Figure 3.4) are not completely satisfied. In particular, the topics of the last workshops visited by officials of Zhytomyr and Kherson regions did not meet their real knowledge needs as the strategic planning and project management issues were not covered. Thus, the peculiarities of the processes of decentralization in the regions create the problem space for the development of the contextual component of educational programs and events.

The results of this research indicate that the local bodies officials in newly formed united territorial communities feel a need to obtain additional knowledge of modern approaches in the management of the territories development, and in particular, regarding the implementation of the strategic management and project management practices. To build an efficient system of knowledge transfer it is important to ensure the equal involvement of different actors: the government structures that carry out coordination activities on the course of reform, but in particular regional state administrations, as well as non-governmental organizations. While developing the content of educational materials and activities, the organizations engaged in the educational and informational consulting occasions should take into account the most problematic areas the civil servants face. The decision about the

selection of training forms and tools should also be thoroughly considered. In particular, while choosing the ways to transfer knowledge, it is advisable to take into account the age and gender characteristics of the target group of individuals, as well as the areas of their professional activity and positions they occupy.

Taking into account the low activity of the participants in the study, the results should be considered not representational, especially at the national level. At the same time, the data obtained and the conclusions drawn could be seen as an informational basis for the development of training programs, individualized for the needs of certain officials, communities, regions, etc.

1. Concept of reforming the system of professional training of civil servants, heads of local state administrations, their first deputies and deputies, local self-government officials and local council members: Decree of the Cabinet of Ministers of Ukraine, December 1, 2017, No. 974-p. – [Electronic resource] – Access mode: <https://www.kmu.gov.ua/ua/npas/pro-shvalennya-koncepciy>.

2. Mamatova, T. (2012). Knowledge management in public administration: methodological foundations and ways of practical implementation in Ukraine. *Public Administration: Theory and Practice*, Vol. 2 (10), 27-32.

3. Borodin, Ye. I., & Chykarenko, I. A. (2012). Training of civil servants and local government officials: a problem-oriented aspect – [Electronic resource] – Access mode: [http://archive.nbu.gov.ua/ejournals/Patp/2012\\_1/12beipoa.Pdf](http://archive.nbu.gov.ua/ejournals/Patp/2012_1/12beipoa.Pdf).

4. Zolotaryov, V. F. (2014). Analysis of the needs for improving qualifications of civil servants and local self-government officials on the example of the kharkiv oblast. *Theory and practice of public administration*, Vol. 2, 196-203. – [Electronic resource] – Access mode: [http://nbuv.gov.ua/UJRN/Tpdu\\_2014\\_2\\_30](http://nbuv.gov.ua/UJRN/Tpdu_2014_2_30).

5. Tolkovanov, V. (2017). Analysis of the situation regarding vocational training, retraining and professional development of civil servants and officials of local self-government bodies in Ukraine. Partnership for Urban Development (PROMIS). – [Electronic resource] – Access mode: [http://pleddg.org.ua/wp-content/uploads/2017/07/Analytical-report\\_Institution-Training-2017\\_7\\_July\\_Final.pdf](http://pleddg.org.ua/wp-content/uploads/2017/07/Analytical-report_Institution-Training-2017_7_July_Final.pdf).

6. About service in local government bodies: Law of Ukraine, 07.06.2001, No. 2493-III. – [Electronic resource] – Access mode: <http://zakon0.rada.gov.ua/laws/show/2493-14>.

7. Study on the needs for training of representatives of local self-government bodies of the united territorial communities: results of the sociological research: analytical report. (2017). Kyiv International Institute of Sociology, Program of Council of Europe "Decentralization and Territorial Consolidation in Ukraine", Ministry of Regional Development, Construction and Housing and Communal Services of Ukraine, National Agency of Ukraine for Civil Service. – [Electronic resource] – Access mode: <http://www.slg-coe.org.ua/wp-content/uploads/2017/06>.

### **3.3 Evaluating regional intellectual potential for managing sustainable innovation development: the case of Sumy region Ukraine**

Only enterprises with sufficient level of innovative potential can count upon high competitive positions and dynamic innovation development under the conditions of transformational economy. One of the key elements of innovative potential is intellectual potential which synthesise the intellectual components of human activity, makes the latter creative and innovative and allows to go beyond the frames of traditional automatic procedures.

The main prerequisite for strategically managing innovation potential is evaluation of its components' levels, the results of which provide the basis for the formation of management decisions on improvement of both potential components and their efficient use.

Existing scientific approaches to intellectual potential evaluation do not allow to optimise its particular indicators. The importance of mentioned issues and imperfections in existing theoretical and methodical approaches to evaluating regional intellectual potential determines the topicality of this research.

This research aims to improve theoretical and methodical approaches to the evaluation of intellectual potential of a region for the system of regional strategic management. Within the framework of the general aim of this research, the following tasks are formulated: to determine the position of evaluating the level of intellectual potential among the functions of regional strategic management, to identify optimal levels for its main indicators for Sumy region of Ukraine and its main industrial socio-economic systems. (Historically the main industrial activities of the province are: chemical mechanical engineering, pumping and energy mechanical engineering, agricultural machine-construction, instrument-making industry and radio electronics, etc.).

In system of strategic management of innovation development at a regional level the important aspect is managing every component of innovation potential. At the present stage of economy's development the priority direction for innovation potential development can be named the improvement of intellectual potential one of the main functions of intellectual potential management is its level evaluation.

Well-grounded decision making on intellectual potential management is expected to be based on evaluation results for its particular components, which would allow to identify the "bottlenecks" of entire system development.

Against this background one possible approach seems to be to estimate how the level of intellectual potential depends on how close some indicators are to their maximal values and, or correspondingly in relevant cases, how close they are to their minimal values.

For the relative indicators (ratios) another approach can be used. The world-scale example can be represented by the following initial data – for various regions of the world published by the World Bank (Table 3.7, collected by the authors based on [1, 2]).

Table 3.7

Some Data to Analyse Intellectual Potential: the Case of World Regions and Ukraine [1, 2]

<b>Indicator</b>	<b>Research and development expenditure (% of GDP)</b>	<b>High-technology exports (% of manufactured exports)</b>	<b>ICT goods exports (% of total goods exports)</b>	<b>ICT service exports (% of service exports, BoP)</b>
World	2.23	17.9	11.3	30.6
Ukraine	0.62	7.3	0.8	31.4
Lower middle income countries	0.56	10.2	8.4	47.7
Europe & Central Asia	1.93	16.4	4.6	33.1

Here the indicators are represented at the level of country, worldwide total and two more categories of countries which particular country fall into. In chosen example of Ukraine the latter categories are income-related (Lower-middle income country) and geographical (Europe & Central Asia). The indicators to analyse intellectual potential level are economic and characterise (directly and indirectly) the value of different aspects of intellectual and innovation activity such as, for instance, domestic spendings on research and development (can be considered as investments in intellectual potential improvement) and high-technology exports (can be referred as outcome of mentioned investments). A country can be simply compared to the world aggregate value but for more relevant comparison it can be put into some category of countries - usually according to income level or geographical connections.

If R&D expenditures share in Ukraine is to be compared to the world total, it seems more than three times smaller. But at the same time among lower middle income countries

Ukraine is six percentage points above the total. Geographical category which Ukraine also falls into (Europe & Central Asia) consists of countries with more than two times larger share of GDP spent on R&D in total estimation. All this options for comparing intellectually targeted investments allow to clarify strategic plans for potential development: from European integration targets to taking into account income level per capita for balanced socio-economic policy. Regarding the results of intellectually and innovatively targeted investments situation for Ukraine is worse - the smallest share of high-technology exports both comparing with world aggregated indicator and totals for countries categories. Further analysis can consider in more details the situation where compared to Ukraine lower-income countries in general have lower level of R&D investments but greater share of high-tech exports. The factors of such mismatch and dynamics of these indicators appears to be of interest of analysts and decision-makers as well.

In the last two columns of the Table 3.7 there a couple alternatives for assessing innovativeness of economy and outcomes of intellectually targeted investments. Information and communication technologies are traditionally associated with modern and innovative kinds of activity, so the share of ICT sector in an economy (or as in our example - in export) can serve as an estimate for innovation intensity of the country or the region (another more specific indicators might be shares of production with use of nanotechnologies or biotechnologies). Division into ICT goods and ICT services are also interesting for regional comparison as it describes structural differences among economies concentrated more on manufacturing the “hardware” or providing services using it (both options vastly include intellectual activity and creative approaches).

The involvement of Ukraine’s economy in ICT international industry is practically opposite for ICT goods and ICT services as former constitute less than a percent of exported goods while the latter is almost one third of exported services. Of course, general structure of Ukrainian economy with share of all kinds of services in it is a topic of additional research as well as the structure of national export worldwide. But even brief comparison with world aggregated ratios (with more than ten times smaller share of ICT goods for Ukraine but almost world-total level of ICT services in export) allows to make strategic conclusions on intellectual potential and its most efficient application.

The general trend is preserved for both lower middle-income countries and the region of Europe and Central Asia: the share of ICT goods of all exported goods is much smaller than the share of ICT in exported services. But while as a part of certain geographical region (Europe & Central Asia) Ukraine is close to corresponding service



exports indicator for ICT sector, the countries of the same income category seem in general more ICT oriented in their service exports. To sum up at this point, to identify and formally represent the potential for improvement there need to be some optimal values to serve as targets for each particular indicator. Theoretically classified and substantiated with empirical evidence to support the reasoning, these optimal values may be far from their maximums or minimums.

In accordance with the approach mentioned above in the beginning of this section we choose the following main coefficients (or relative indicators in percentage) can characterise the level of intellectual potential at a regional level with use of official statistics for Ukraine [1, 2]:

1. Share of innovation active enterprises in industry (% among all industrial enterprises of the region);
2. Share of researchers among employees engaged in R&D (% among all such employees including technicians and support team);
3. Share of young researchers (% under the age of 35) engaged in R&D;
4. Share of low waste and resource saving innovative technological processes implemented (% among all innovative technological processes which were implemented by regional industrial enterprises).

The first three describes the innovation-oriented intellectual activity within the region in terms of demand among local business, quality of intellectually-intensive work performers and the prospects of innovation development in terms of engaging young professionals. We are able to imagine the region where all enterprises without exceptions are officially involved in innovative technologies and products development and implementation. Some may say that it is to become an entry requirement for every market but still nowadays we may define some optimal levels empirically and formulate our regional development strategic goals accordingly. Among the employees state statistics in Ukraine classify researchers, technical staff and support personnel. The share of researchers can theoretically be as high as 100% but economically it appears to be reasonable not to distract professional researchers from their intellectually-heavy activities and make them perform technical and support work as well. Aging population of employees in particular industry also can be considered as negative factor strategically. System of education and training for new employees is vital for such system to renew itself. But also the fresh perspective and creative ideas together with readiness to risk and explore something new are by-products of attracting youth somewhere as well. However, even just theoretically understandable that 100% of researchers below 35 years of age is meaningless

development goal for a regional scale. That is why actual values from empirical data are helpful in defining strategic objectives. As we are going to see further at state level, comparison of region among themselves and with aggregated nationwide values already gives the idea of possible optimal potential level.

The last fourth refers to the place of environmental sustainability in regional innovation development instead of more traditional indicators of innovation performance such as, for example, share of innovative production in GDP. If new technologies are implemented without saving resources or reducing the amount of waste in production process it may serve as a warning sign for strategic development of the whole socio-economic system of the region. Cheaper artificial material, for example may become a huge success for separate company or regional economy but in the long run without investing in recycle of this new most likely long-lasting chemical substance the total gains and profits may well be reduced by pollution with production wastes. Such negative effect of innovations needs also to be included into strategic planning at state and regional level.

It is also should be noted that even aiming at maximal or minimal level of listed above indicators implies the respective costs. According to the law of diminishing returns the gradual addition of variable resource (like labour) to some fixed resource (like land or capital) from a certain point results in less additional (marginal) product per each added unit of variable resource.

Therefore for identifying the optimal levels of intellectual potential indicators it is needed to compare the expected marginal results with respective expected marginal costs of gaining those results. So the values of intellectual potential indicators can reasonably be improved up to a point where the expected marginal costs of its maintenance ( $C_i$ ) become greater than expected marginal results of its use ( $R_i$ ). Evaluated in this way optimal level of an indicator would imply the greatest expected results gained from the use of intellectual resources. Further increase of indicators levels beyond their optimal levels would not mean additional gains. On the contrary, the system (region or an enterprise) would suffer losses in overall revenue. Graphically represented, the optimal value is the point where lines of marginal results and marginal costs cross ( $R_i = C_i$ ). If expected marginal results are greater than expected marginal costs ( $R_i > C_i$ ) the intellectual potential indicator should be improved, if otherwise expected marginal results do not exceed the marginal costs expected for their gaining ( $R_i < C_i$ ), further increase in the level of this indicator is unreasonable.

As the potential can be defined as an opportunity to increase the productivity of used resources, the increase in intellectual potential indicators beyond their optimal

levels which do not result in corresponding improvement in resource use can not be considered as potential increase. So their further (irrationally extensive) increase should not improve the potential level estimate. That is why optimisation of intellectual potential indicators is proposed instead of their maximisation (minimisation). Optimisation means choosing the level for each of indicators to be related to the greatest effect from the use of the corresponding resource. That would allow to minimise inefficient spendings of financial resources on the intellectual potential improvement.

Integral estimate for the regional intellectual potential (IP) we propose to calculate according the following formula [3]

$$IP = \sum_{i=1}^n (1 - \delta_i) \cdot w_i \quad (3.4)$$

where:

$IP_i$  - the  $i$ -th indicator of regional intellectual potential;

$n$  - the number of indicators of regional intellectual potential;

$\delta_i$  - relative estimate of the  $i$ -th indicator of regional intellectual potential;

$w_i$  - the weight of  $i$ -th indicator.

If the largest value of  $IP_i$  is desirable - the relative estimate ( $\delta_i$ ) is calculated as

$$\delta_i = \frac{IP_i}{IP_i^{opt}} \text{ in case } 0 \leq IP_i < IP_i^{opt} \quad (3.5)$$

$$\delta_i = 1 \text{ in case } IP_i^{opt} \geq IP_i \geq 1, \quad (3.6)$$

where:

$IP_i^{opt}$  is the optimal value of indicator (coefficient) for regions of particular country.

If the smallest value of  $IP_i$  is desirable the calculation is the following

$$\delta_i = \frac{IP_i^{opt}}{IP_i} \text{ in case } IP_i^{opt} > IP_i \geq 1 \quad (3.7)$$

$$\delta_i = 1 \text{ in case } 0 \leq IP_i \leq IP_i^{opt}. \quad (3.8)$$

The use of the proposed approach for potential evaluation allows the integral regional indicator not to be artificially enlarged by the coefficients which exceed their optimal level. Results of such calculations can serve for comparison among the regions and defining their groups with making conclusions on further development strategy. If analysis results show the

need of improvement of intellectual potential the particular components of integral indicator should be considered with identifying the main factors which can be attributed to insufficient potential level and relevant measures for improvement.

In case of Sumy region, for example, we can use overall values for Ukraine (average among all regions) as optimal for calculations (Table 3.8).

Table 3.8

Components of Regional Intellectual Potential: the Case of Ukraine and Sumy Region  
(Calculated by authors based on [4,5])

<b>Indicator</b>	<b>1. Share of innovation active enterprises, %</b>	<b>2. Share of researchers in R&amp;D, %</b>	<b>3. Share of young researchers in R&amp;D, %</b>	<b>4. Share of low waste and resource saving innovative technological processes implemented, %</b>
<b>Ukraine (total values for all regions combined)</b>	17	65	25	21
<b>Sumy Region</b>	20	64	29	20
<b>Minimal value among regions of Ukraine</b>	10	35	18	18
<b>Maximal value among regions of Ukraine</b>	31	85	43	81

Also maximum/minimum values among the same Ukrainian regions can be used if we do not have any other theoretical reasoning for defining optimal value. So if average value for regions of Ukraine is used the four intellectual potential indicators mentioned above is the following:

1.  $\delta_1 = \text{Innovation\_Active\_Enterprises}^{\text{Sumy}} / \text{Innovation\_Active\_Enterprises}^{\text{Ukraine}} = 20/17 = 1.176$  (or 1 for total indicator calculation).
2.  $\delta_2 = \text{Share\_of\_Researchers}^{\text{Sumy}} / \text{Share\_of\_Researchers}^{\text{Ukraine}} = 64/65 = 0.98$ .
3.  $\delta_3 = \text{Young\_Researchers}^{\text{Sumy}} / \text{Young\_Researchers}^{\text{Ukraine}} = 29/25 = 1.16$  (or 1 for total indicator calculation).
4.  $\delta_4 = \text{Low\_Waste\_Processes}^{\text{Sumy}} / \text{Low\_Waste\_Processes}^{\text{Ukraine}} = 20/21 = 0.95$ .

So we can see that Sumy region values are above respective averages in two indicators out of four. Total indicator for Sumy regional intellectual potential is the following (for this example the weights are taken as equal to 0.25)

$$IP^{Sumy}=(1-1)\times 0.25+(1-0.98)\times 0.25+(1-1)\times 0.25+(1-0.95)\times 0.25=0+0.005+0+0.0125=0.0175.$$

In general Sumy region show average result for Ukraine. So measures for further improvement can be identified during careful consideration of particular indicators - in our current case that would be share of researchers and share of low-waste and resource-saving processes which are below average level for Ukraine. Such analysis is informative if our target is to identify regions with lowest levels of intellectual potential and bring decide what can be done to bring them to average level.

If the goal of our analysis is to define the regions-leaders of intellectual potential and to develop a strategy for others to come to their level as close as possible the optimal values for our calculations should be different. In this case for each indicator a maximum/minimum value can be found and all other values can be compared to them.

For Sumy region calculations are the following:

1.  $IP_1 = \text{Innovation\_Active\_Enterprises}^{Sumy} / \text{Innovation\_Active\_Enterprises}^{UkraineMAX} = 20/31 = 0.645.$
2.  $IP_2 = \text{Share\_of\_Researchers}^{Sumy} / \text{Share\_of\_Researchers}^{UkraineMAX} = 64/85 = 0.75.$
3.  $IP_3 = \text{Young\_Researchers}^{Sumy} / \text{Young\_Researchers}^{UkraineMAX} = 29/43 = 0.67.$
4.  $IP_4 = \text{Low\_Waste\_Processes}^{Sumy} / \text{Low\_Waste\_Processes}^{UkraineMAX} = 20/81 = 0.25.$

So this time Sumy region values are never equals to respective optimal value (maximum among the regions of Ukraine) in any of four indicators. This can be explained by the selection of indicators - all of them are “positive” factors with theoretically direct correlation with regional intellectual potential (greater values mean greater overall indicator).

It is worth to be mentioned that Kyiv was not included into comparison as a separate region despite administratively it is one and has. So without its special capital-city region, leading territories are the following. For the share of innovation active enterprises the leader in Ukraine is Mykolaiv Region, therefore it would be reasonable to look at its local business climate and regional innovation promoting measures for an example and inspiration. For the share of researchers in R&D Ternopil Region has their maximum concentration of 85% but the highest share of their young representatives is in Kirovohrad Region, so attractiveness of intellectual labour in these regions seem to be also of interest for policy-makers. Finally, the maximum share of low waste technological processes implemented (81%) is also attributed to Ternopil Region, which may be connected to local environmental policy as well.

In addition, none of the maximum values among analysed regions is considered to be theoretically “excessive”. If some concerns appear on the fact that, for example, 85% share of researchers among all who employed in R&D is “too much” for some reason - the reasonable optimum can be reduced to 75% or 66%. Therefore, some regions will exceed this new optimal value and get 1 as a value for further calculations of total indicator according to the proposed methodology. Total indicator for Sumy region intellectual potential is the following (for this example the weights are also taken as equal to 0.25)

$$IP^{Sumy}=(1-0.645)\times 0.25+(1-0.75)\times 0.25+(1-0.67)\times 0.25+(1-0.25)\times 0.25=0.355\times 0.25+0.25\times 0.25+0.33\times 0.25+0.75\times 0.25=0.42.$$

As a result, Sumy region shows much greater improvement potential because of higher levels to reach as the optimal ones.

To improve regional strategic management system regarding intellectual potential and its development, a methodological approach was offered based on taking into account optimal value for intellectual potential indicator as a comparison base. Instead of maximising or minimising relative indicators and coefficients, a more flexible tool for analysis allows for defining intellectual potential level without going beyond its optimum. Basic examples were shown for differences in use of country average values and corresponding maximums/minimums among its regions in the assessment of the intellectual potential of Sumy region in Ukraine. However, the approach described provides a range of other options for optimums selection based on initial development goals, data availability and analysis requirements.

1. World Development Indicators: Science and technology – [Electronic resource] – Access mode: <http://wdi.worldbank.org/table/5.13#>.

2. World Development Indicators: The information society – [Electronic resource] – Access mode: <http://wdi.worldbank.org/table/5.12#>.

3. Prokopenko O.V. Shkola V.Yu. Evaluation of intellectual potential level in the system of strategic managing an enterprise innovation development. - Marketing and Management of Innovations. - 2010. - №1. - P.127-131 – [Electronic resource] – Access mode: <https://essuir.sumdu.edu.ua/handle/123456789/3293>.

4. Research and innovation activity in Ukraine (Statistical yearbook 2016) - State Statistics Service of Ukraine, Kyiv 2017 – [Electronic resource] – Access mode: [http://www.ukrstat.gov.ua/druk/publicat/kat\\_u/publnauka\\_u.htm](http://www.ukrstat.gov.ua/druk/publicat/kat_u/publnauka_u.htm).

5. Regions of Ukraine (Statistical publication 2016) - State Statistics Service of Ukraine, Kyiv 2017. – [Electronic resource] – Access mode: [https://ukrstat.org/en/druk/publicat/kat\\_e/publ2\\_e.htm](https://ukrstat.org/en/druk/publicat/kat_e/publ2_e.htm).

### **3.4. Innovative model of personnel compensation system in Georgia**

#### **Peculiarities of the innovative compensation system and the principles of functioning**

Effective system of human resource management is a critical factor for the organizations and institutions operating in all the sectors. In the wake of the current development, it becomes obvious that improvement of the service provided and gaining the trust of the society is impossible without motivating employees, evaluation of their performance, precise determination of their responsibilities and development of an organizational culture.

It should be noted that there is a lack of a clear human resource management policy in Georgian companies. In many cases, it is represented by just administrative procedures and is regarded as an operational activity, even though everyone is well aware how important each employee is for the organization to succeed.

A salary is a compensation paid to the employee on a periodic basis for performing the duties imposed. It is important that the staff of an organization is familiar with the functioning principles of compensation system. In this way, the employee is aware in what direction he/she should develop his/her skills or what parameters should be improved so that he/she gets more benefit and better contributes to the success of a company at the same time.

The sense of fairness is a strong stimulating factor and personnel will have such feeling only in case they know for sure what they are paid this amount of salary for and how they can increase their income.

The traditional algorithm to determine the amount of salary includes: 1. Job description; 2. Classification of job positions; 3. Labor market analysis; 4. Determination of a job price; 5. Determination of a salary. Improvement of a personnel compensation system is essential for successful functioning of any company operating under market conditions. The possibility of increasing the personnel efficiency at the expense of staff reduction is limited. Therefore, first of all, the main attention should be focused on the improvement of labor organization and compensation system. It is essential to find solutions that will facilitate effective use of the salary budget.

When it comes to employee compensation, most managers are busy asking: "What do I have to pay to?" That is not an easy question to answer. A better question might be: "What do I want my compensation package to say?"

Compensation packages can be linked to business structure, employee recruitment, retention, motivation, performance, feedback and satisfaction. Compensation is typically among the first things potential employees consider when looking for employment. It is important, therefore, to give a lot of consideration to your business's compensation structure. After all, for employees, compensation is the equivalent not to how they are paid but, ultimately, to how they are valued [23].

In order to determine personnel policy of a company, it is advisable to approve the pyramid of personnel positions along with the structure of a company (Figure 3.6). This pyramid provides a possibility to arrange the positions in a company by different categories in a logical order. This arrangement will be used both for the remuneration system and for socio-economic analysis. This pyramid clearly shows the place of the personnel employed in a particular category in the structure of the company's hierarchy, the types of decisions he/she will have to make and the level of responsibility he/she has to undertake.

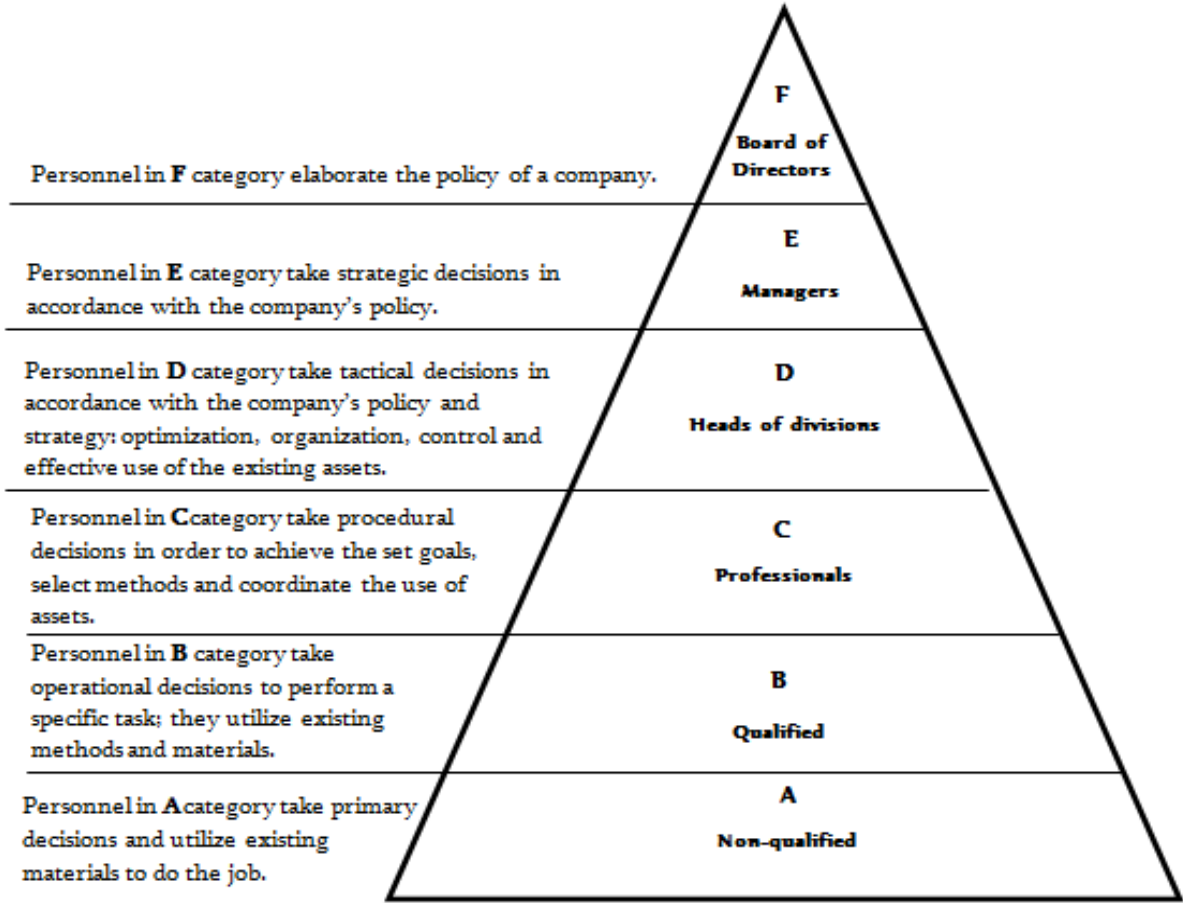


Figure 3.6 – The pyramid of personnel positions [24]

The Pyramid of personnel positions shown above is unified and in fact, it can be used in any company. It might be slightly changed considering the peculiarities, organizational



policy, goals and structure of a definite company, but general structure and concept of the pyramid should be maintained. For example, in a very small company the E and D categories can be combined into one common category, which does not change the concept of applying this model of pyramid.

The positions of the personnel in the presented unified pyramid are arranged according to the following principles: the personnel in F category elaborate the policy of a company. This category is represented by Board of Directors - the management team. The personnel in E category take strategic decisions in accordance with the company's policy. For personnel (managers, heads of departments, etc.) in this category professionalism, higher education at graduate level, experience and special skills are required. The personnel in D category take tactical decisions in accordance with the company's policy and strategy. Such decisions refer to the optimization, organization, control and effective use of the existing assets. This category combines the positions, which require professionalism, higher education and experience. Such positions include heads of divisions, heads of office/offices, chief accountants. The personnel in F category take procedural decisions in order to achieve the set goals, select methods and coordinate the use of assets. This category includes the positions, which require professionalism, higher education (generally, by specialty), like heads of groups/brigades, specialists, engineers, dispatchers, lawyers, accountants, translators, programmers, economists. The personnel in E category take operational decisions to perform a specific task, utilize existing methods and materials. Positions in this category demand a certain qualification from the employee, but higher education is not necessary. These can be technicians, secretaries, assistants, clerks, mechanics, drivers. The personnel in D category take primary decisions and utilize existing materials to do the job. Positions in this category do not demand any special education or qualification. Such positions include cleaners, guards, employees.

Determination of a proper amount of salary is a certain difficulty while developing or modifying a compensation system in a company. In this case, considering the following factors is of high importance: 1. Salaries should correspond to the situation in the labor market. Relatively low salaries will result in the outflow of qualified staff, but relatively high salaries will not be justified as they can badly impact on the financial situation of the company. Therefore, it is important to select the optimal option when neither the employees nor the economic indicators of the company suffer. 2. The remuneration system adopted by the company should be accepted by the employees and recognized as fair. 3. The amount of the salary should be determined in accordance with the ranking of positions based on the

existing structure of the company. That is, the higher the position of the employee, the higher the salary should be determined. But the difficulty is to find out how much higher his salary should be compared to the salary of the lower position, so that the difference is optimal considering the socio-economic factors. 4. Determining optimal range of salaries for the positions arranged in different categories according to the structure of a company. That means determination of maximum and minimum salaries for employees belonging to the same rank of positions. 5. Determination of salaries within the range of positions by categories. 6. Determination of internal rules of the company on the principle of changes in salary. In this case, it is important that the employees know exactly what prospects they have in terms of salary changes.

The proposed compensation system implies determining the range of salaries for the positions divided by categories using the established salary coefficients for the categories of positions. The advantage of determining the salary range by this method is that it allows significant economy of time and resources needed for the study of the labor market. Instead of studying the labor market in order to determine the level of remuneration for each position, this method requires determination of only two parameters: 1. Determining a minimum salary for the lowest positions in the company (typically cleaner, employee, guard); 2. Determining a maximum salary for the same positions with the same method.

Minimum salary is the lower level of compensation of the employee. In other words, more than a minimum salary can be paid and is needed to be paid, but less than the minimum salary cannot be paid. Minimum salary determined for the positions of the category will be the minimum salary earned in the company. In Georgia there is a mixed system of compensation, which includes the elements of position-based and career-based systems. Public officials are selected through a competition. However, promotion to a higher position is also possible.

### **Personnel motivation methods in budgetary organizations**

Stimulating employees is one of the most important means of achieving the organizational goal. The choice of the form of motivation and its proper application have a significant influence on increasing workforce performance. If the leader responds to the expectations the employees have depending on their needs, the motivation increases. This means that the goal will be achieved and the level of satisfaction of the workforce is high. It is also possible that some forms of motivation do not respond to the interests of the employees at all, i.e. the management do not take into consideration the characteristics that separate the individual from the group, which means that the manager uses a form of motivation as a

uniform formula and does not consider individual characteristics. This leads to reduction of motivation among the employees and as a result, achieving the goal is quite complicated.

There is no specific method of measuring motivation according to the situation. However, the level of motivation can be determined by the level of productivity, the turnover of the employees, frequency of non attendances and complaints, with the level of enthusiasm in management activities and the innovative ideas of the employees. It is necessary to obtain the trust and support of employees, which is possible through a policy of effective motivation. When the employee feels to be respected by their administrative managers, which expresses in trust toward them and in fair delegation of the responsibilities among them, then motivation and commitment increase. In local as well as the foreigner scientists opinion one of the main functions of motivation is the achievement of labour satisfaction, which is not easy to achieve because we can just get it within the impact of lots of factors (Figure 3.7).



Figure 3.7 – Labour satisfaction model

Managers seek to motivate employees to achieve the high level of their performance. As a result, managers have the employees who work hard, go to work regularly, stop at nothing and always find the power to achieve the mission of the organization in order to make a positive contribution in a common work. However, the level of implementation of the work depends not only on motivation, but also for other factors. The skills and the environment must be considered. The relationship between these three factors gives us the following formula. [20, p. 87]:

$$\text{Implementation} = \text{Motivation} + \text{Skill} + \text{Environment} \quad (3.9)$$

It is important for managers to focus on the basic principles of motivation and to develop the effective policies, since we will not be able to achieve the desired results just in the framework of the effective structure and qualified personnel, if the employees do

not work together in order to achieve the main goal. Therefore, in parallel with the early concepts of management, modern theories are important as well. In addition, taking into consideration that the majority of modern people are more informed, educated, and skilled in more practical way than their predecessors, we are more intensely aware of the challenges of their working motives.

The theory, which would offer an unified and universal concept of motivation, does not yet exist. However, in the motivation theories, various scientists have suggested important conclusions and opinions that could become a powerful and effective motivational arsenal in the hands of the motivated manager. Let's sum up some of the underlying principles of Laurie J. Millins, which have influenced modern experienced practitioners for personnel management [21, p. 245-255]:

1. Motives that makes people drive are always individual. Most companies operate complex programs of personnel motivation for all staff, but do not take into account the individual peculiarities of each employee individually. The importance of power, authority, money, stability, recognition, approval, disciplined procedures and environment are different for different people.
2. Motivation cannot be have done with just one factor as usual. Motives are always complex. In modern management of human resources it is accepted to be identified no less than three-four main motives. Often, these factors are interconnected and to make an impact on one of the factors without taking into consideration the other ones is just waste time and strength.

In our opinion, it is very important to take into account the individual characteristics such as: professionalism, judgement skills, analytical thinking, intellect, culture, perception speed, induction discussion, religion, cognitive abilities, practical skills, psychological type and much more.

Management, according to the goals, is more popular in the private sector, but in recent times interest in public organizations is also increasing. The uniqueness of this method is that the focus is concentrated on the result. It is important to integrate the objectives of both the individual subdivisions of the employed and the whole organization as well in one spatial working area and make clear them for each employee. Afterwards, it is essential the effective planning and monitoring. The strategic plan, mission, tasks need to be considered for the introduction and implementation of this method. The main goals should meet the SMART criteria that should be specific, measurable, achievable, realistic and time-consuming. The employee must be actively involved in the process of setting and forming goals.

The main advantage of employee assessment according to the main goals is that it is oriented on its outcomes. Some, especially the public organizations sometimes are so involved in everyday routines that they lose the significance of the final destination, the result. The management aims to force employees to constantly focus on the results and in this way promote the organization to facilitate closer to its main mission.

As for the disadvantages, one of the most dangerous is to create an unhealthy environment in the organization. By focusing on the main outcome, the employees give less attention to the selection of the means and ways for fulfilling the results, which creates the tendency to establish an unethical and sometimes illegal behaviors as a result. In this case all the means and methods are getting acceptable for employees to reach the mean goal. In order to avoid this danger, it is very important to implement an effective control mechanisms and constantly focus on the behavior of employees and the maintenance of harmonious working environment.

There are various possibilities of improving the employee motivation for private sector enterprises. Managers have a number of options and they are not limited to use any of them. The situation of increasing the employee motivation in public and state sectors is quite different. There are a number of characteristics that make public sector different from the private sector. These are:

- Public sector depends on public finance, state budget or the local self-government budget, where spending is limited; while the private sector can increase stimulation funds on the bases of increased profit;
- Appointment and promotion of officials in public sector is quite different from the similar processes in public sector;
- Most of the decisions made by the heads of various levels of public sector institutions belong to a wide range of decisions that need to be agreed with. While in the private sector decisions can be made based on the current situation.

These peculiarities lead to the restrictions in terms of motivating employees in public sector. It is critically important that the manager should know exactly what expectations the public officials have since the wrong decision about raising the motivation of the staff will hurt not only the employee, but may also cause problems to the implementation of the state projects.

Therefore, public sector managers should know a combination of different methods of raising motivation and apply an appropriate form of motivation depending on a particular person and case.

### **The state of study of the issue**

Forms of motivation are studied by a number of Georgian and foreign researchers; however, the area of their study is mainly limited to private sector. Some of the small papers are also dedicated to studying the motivation of the people employed in public sector. The forms of motivation used in the private sector are important in the public sector as well and application of such methods has a quite good effect.

Based on the works of these researchers, we have tried to formulate mechanisms for the motivation of the employees in the public sector separately. For this purpose, we have conducted our own research and used the appropriate literature in Georgian and foreign languages, which provides general forms of motivation, as well as motivation of staff employed in public institutions. It can be said that Georgian scientific literature on management mainly studies and reviews motivation, its factors and forms of motivation in general.

The factors affecting the motivation of the people employed in public sector is not discussed separately. As for foreign literature, there is very scarce information about the complex study of motivation in public institutions. It might be assumed that the authors consider that there is almost no difference between the motivation of the people employed in the private and public sectors. However, there are a few studies [5, 10] where the issues of motivation in public sector are discussed separately. In our opinion, the reason why in Georgian scientific literature only little attention is paid to the motivation factors for the employees of the public sector while human factors of motivation are determined is that books on management [1] published in Georgian are mainly represented by textbooks, therefore, this issue is not widely covered by them.

The authors of the paper express their gratitude towards Georgian authors as these textbooks are completed works and provide basis for the study.

### **The main idea**

The interest to the formation and increasing of the employee motivation was observed as early as in ancient times. Motivation has always been a powerful tool that positively affected the achievement of the organization goal.

Different theories of motivation have been developed at different times. The precondition for the development of these theories was the objective situation, which was characteristic for the social life and social condition of these periods [1]. Currently, the following theories of motivation are most commonly used (Table 3.9):

Table 3.9

Key motivation theories (Author's research based on [1, 10])

<b>№</b>	<b>Name of the Theory</b>	<b>The Concept of the Theory</b>	<b>Author</b>
1.	Paternalistic theory	Labor relations: with the purpose to prevent the process of staff outflow and improve the productivity, the system of additional benefits and rewards is introduced in an enterprise, which is implemented at the expense of the entrepreneur.	R. Owen
2.	Carrot and stick theory	The method of rewards and punishment, which has been applied for a long time as an effective tool.	J. Bentham.
3.	Scientific Management Theory	The scientific management system should provide the producer with the knowledge for rational management.	P. Taylor
4.	Social theory	The influence of social groups on the formation of human needs.	E. Mayo
5.	Theory of the hierarchy of needs	Human needs are organized in a hierarchy; satisfaction of the lower hierarchy needs automatically leads to moving to the higher hierarchy.	A. Maslow
6.	Two-factor theory of motivation	Determining the impact of external and internal factors of motivation.	F. Herzberg
7.	XandYTheories	The impact of a positive and negative management style on a human.	D. McGregor
8.	Need Theory	There are three types of needs that are characteristic for people; these are: achievement, power and affiliation.	D. McClelland
9.	Expectancy theory	Just the existence of an active need is not enough to motivate a person. The person should also hope (have an expectation) that the type of the behavior he/she has selected will truly satisfy him/her.	V. Vroom
10.	Equity theory	An individual is motivated to have and maintain fair relationships with co-employees. According to the same theory, relationships are fair when the expenses of the participants are proportional to their income.	J. Adams
11.	Goal-setting theory	The behavior of an individual is determined by the goals he/she sets for himself/herself at a given moment.	E. Locke
12.	Complex theory of five variables	Combines the elements of expectancy theory and equity theory. There are five variables (factors) in the model: effort, expectation, performance, rewards and satisfaction.	J. Porter E. Lawler

These are the basic theories used in modern management to explain the process of motivation and apply it in reality. Mostly, these motivation theories are based on practice and

are tested in real situations. However, there are cases when the current situation does not correspond to this or that theoretical model. Therefore, this provides the need to choose the right combination based on which the situation is evaluated and the correct form of motivation is selected.

Increasing the motivation of the people employed in public sector is possible in various directions. Skilled managers always know what needs the attention to be paid for, how to increase the motivation and how to direct the energy of the staff in a proper direction. He/she can use various ways to increase the motivation; he/she can apply widespread forms of motivation or develop a new approach based directly on a person or the peculiarity of the job performed (or to be performed). Managers in private sector try to apply various tools of motivation – they can thank the employees, reward them with gifts or with extra paid leave; send them on a holiday with their families; offer flexible working hours; send them to get education and improve qualification and support their career advancement in this way; promote them; etc. These forms depend on the importance of the job to be performed for achieving the goal of a company on the one hand and on the tangible and intangible resources owned by the company on the other hand.

The situation is quite different in public institutions, whose budget is approved on central or local level. It includes all material or intangible (less) stimulation mechanisms and great effort is needed to change them. Therefore, there are only a few stimulation tools for the employees in the public sector. In most cases, the manager prefers to pay a monetary bonus from the bonus fund and to equally divide it on all employees. This leads to the feeling of injustice and thus, reduces the motivation of the employee. Although such an approach cannot be justified, the managers do not need much improvisation and application of different forms of motivation. It should be noted as well, that in public sector, even bonuses are limited and regulated and cannot fully meet the expectations public officials may have. Application of other forms of motivation is quite rare. So rare, that employee can not actually notice it.

While developing the strategy and tactics of the correct motivational expectations in public sector, it is necessary to focus on the areas in which the officials are employed. In the development of the strategy, the main task of the manager along with creating appropriate work environment for the employees is to get them acquainted with the public importance of the job.

### **Research methodology**

In order to prepare the study, a survey was conducted; over 120 people employed in public sector were interviewed. Since any research is related to the intrusion in personal life of the interviewees and requires some time and energy from them, participation in the



research by the respondents was voluntary [2] .With the purpose of protecting the interests of the respondents, interviewing was based on the principles of anonymity and confidentiality.

The geographical area of the survey covered legal entities under public law, ministries, municipality administration offices and educational institutions on the territory of the Autonomous Republic of Adjara. In addition, public officials employed at the office of Guria state governor took part in the survey.

People belonging to different age groups employed in the public sector of were selected by random selection method; their age varies from 23 to 65 years. This allows us to find out the difference in the opinions by age categories. We did not group the respondents by sex, as in our opinion forms of motivation used in public sector are equally acceptable for males and females (Figure 3.8).

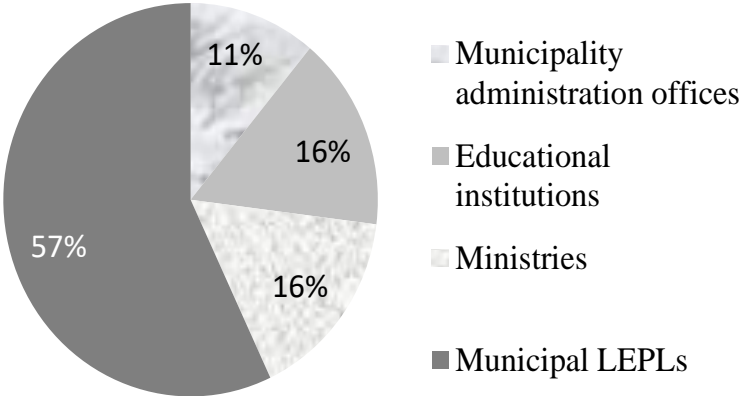


Figure 3.8 – Distribution of public officials participating in the survey by workplace

A closed questionnaire was prepared for conducting a survey. The questionnaire covered the questions regarding the type of motivation preferred by the employees in public sector and the type of motivation used in their organizations. In addition, the questionnaire offered the respondents different forms of motivation - both material and non-material. The respondents had to rank motivations from 1 being the most desirable to others by increasing the numbers. After the respondents completed the questionnaires, they were processed using the principles of Likert scaling [2, p. 10]. This allowed us to find out what kind of motivation is preferred by public sector employees, what forms of motivation are offered by the organization and what expectations the employees have. The study was conducted according to the age categories that allowed us to identify differences between the views by age categories.

### Research outcomes

Material motivation is important for most of the respondents as they think that the set of motivation covered by material motivation fully increases the stimulus of the employee; non-material motivation is not so important for them (Figure 3.9).

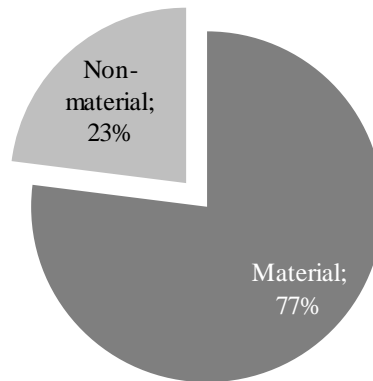


Figure 3.9 – The type of motivation you prefer

The majority of the respondents (53%) believe that their organizations mainly use forms of material stimulation, 33% think that non-material stimulation is used in their organizations and only 14% believe that both forms of stimulation are used. However, there are some respondents who believe that although material stimulation is used, it happens so rarely that it can be considered that the institution does not use any form of stimulation at all.

Analysis of the outcomes of the study of public sector employees provides the following picture:

Career advancement is the most important form of motivation for the people employed in public sector; friendly working environment and positive attitude from managers are other important factors. We grouped the outcomes into material and non-material forms of motivation and presented them in the Table 3.10.

As for the age groups of the respondents, most of them belong to the age group of 27-45 years. They consider that promotion and support in improvement their qualification are the main factors of motivation. In their opinion, it is directly related to career growth. Financing one's studies is also very important. Respondents aged between 45-65 years consider that main forms of motivation are friendly environment, fixed working hours and corporate events. Accordingly, we can conclude that most of the people employed begin to care for their career advancement at the age of 30 and this lasts until they are 45. Most of the public sector officials at the age of 45 care for having a rest and gaining positive attitude from managers; and only very few of them consider that corporate events are good form of motivation.

Table 3.10

## Outcomes into material and non-material forms of motivation

<b>№</b>	<b>Non-material form of motivation</b>	<b>Rank score</b>	<b>№</b>	<b>Material form of motivation</b>	<b>Rank score</b>
1.	Career advancement	972	1.	Bonus pay	842
2.	Friendly environment	925	2.	Cash award for good job performance	820
3.	Promoting improvement of education and qualification	918	3.	Financing one's studies	646
4.	Regulated working time	804	4.	Insurance	581
5.	Resting	650	5.	One-time monetary assistance	504
6.	Corporate events	448			

Among the forms of material motivation bonus payments hold the first position, followed by cash award for good job performance, etc. Priorities differ in case of different age groups here as well. In particular, career advancement and financing one's studies represent important forms of motivation for the employees up to the age of 45, while insurance and monetary assistance are more important for older people. It is very important that management structure be formed in an innovative way. The world constantly changes and the companies must change with it. The best companies never stop, but introduce innovations day after day so that the innovations become a part of their activities. However, it is commonly known that no organization with diversified labor can create an ideal working environment for its employees. [22, p. 318].

It should be noted that working environment have also the big impact to the motivation of an employee. When an employee is in a stressful environment, his/her health deteriorates, his/her emotional balance reduces and he/she experiences a chronic stress and inability what leads to the diminished labor productivity in the final run. On the other hand, the studies show that such losses cost a company a lot. Therefore, it is better to timely respond to the problems leading to the undesirable situations, solve the questions and manage the conflicts in order to avoid extra costs and nuisances. However, it should be noted that the solution of the concrete problems is not a goal of the conflict study, as it is only the onset of the problem to be solved. The principal goal is the conflict prevention and efficient management of stressful situations. (Paresashvili N. 2016) [22, p. 318].

Based on these results, we can conclude that the main basis of motivation for the people employed in public sector is career advancement and support for learning and

improvement of professional orientation. However, after a certain period, such motivation moves to the second and the feeling of stability becomes important for the employees. It is not difficult to understand as there is a shortage of jobs in Georgia. When a person gets a job in public sector, for a certain period he/she has a feeling that he/she has found a stable job. As a result one agrees on all the suggestions and has no special requirements. But afterwards, if his/her age allow him/her; the main thing is to move up on the hierarchical ladder.

Accordingly, it can be said that jobs in public sector in Georgia are not only prestigious, but also offer the employees better conditions compared to the private sector - the employees have a feeling of more stability and hope for promotion. Therefore, they are doing their best to maintain job. They do not try to move to private sector and get interested in their own business. There are frequent cases when a person moves from the private sector to a lower position in public sector. This means that in Georgia, there is a large imbalance between the public and private sectors in terms of material or non-material motivation.

For the development of a motivation strategy public sector managers should use to interaction of such factors such as characteristics of internal and external areas. An individual and the job performed by the employee are important factors of the internal area of public sector, while the environment, organization and society represent the main characteristics of external area. The strategy and tactics of motivation will be based on that interconnection (Table 3.11).

Table 3.11

Strategy and tactics for increasing the motivation  
of the people employed in public sector

<b>Factor</b>	<b>Strategy</b>	<b>Tactics</b>
Individual	Integrating motivation of the employees in the non-commercial (public) sector in the management process	Selecting the staff, whose main motivation is serve the society
Job	Making each employee understand the importance of the job	Definition of social significance of work, determination of clear forms of motivation
Environment	Development of a supporting environment in a non-commercial (public) sector	Development of working structures, which improves self-regulation. Development of a stimulation system
Organization	Integration of community service and organization mission	Promoting leadership by establishing values
Society	Providing positive social environment towards public service	Cooperation and consideration of the values established in the society, assistance by society to help them to gain experience in the public sector, use of mass media

The table is adapted by us based on the paper by James L. Perry, Annie Hondeghem-Building Theory and Empirical Evidence about Public Service Motivation - International Public Management Journal, 2008 [5]

As the table shows, for determining and increasing the motivation in public sector, it is necessary to bring the job, as a tool for achieving public welfare to the employee; this means that the main motivation for the employee should be not only the existence of ego-motivation, expressed in the material or non-material self-motivation, but interpretation of public service as "serving people". In this case we can think that the public sector will become an employment area not only for people who take care of only their own motivation, but for the people for whom the interests of the country and society are important. Obviously, selection of employees with such criteria is quite difficult. However, it should not difficult identify among the public sector employees individuals with "high ideals of public service". We should also mention here that only this characteristic is not enough, it should become the basis of knowledge, commitment and dedication.

#### **Conclusions and proposals:**

1. Dependence of the public sector on central or local budget largely determines the peculiarities in terms of motivation in this sector. The range of motivation tools and methods is much wider in private sector compared to public sector; therefore, the managers should pay attention to the expectation of the people employed in public sector;
2. Application (and rare application) of only one form of motivation does not allow the employees to perceive stimulus; therefore, managers should focus on this factor and offer the employees both material and non-material stimulating methods;
3. As age matters when discussing the motivation factors, managers should also pay attention to this factor and offer different forms of motivation to the employees of different ages. Such forms of motivation like career advancement, encouraging learning and vocational education should be offered to younger personnel (up to 40-45 years old). Material stimulus, stable and friendly environment can be offered to the older employees. Corporate events and excursions do not provide enough motivation and, therefore, development of a motivation strategy based on these factors is a mistake; however, they play an important role in building and strengthening corporate and organizational spirit;
4. Both external and internal factors should be considered while development of the motivation strategy. Special interest should be paid to the concept of public job, as "serving the state and the society". This will increase spiritual motivation;

5. As being employed in public sector is associated with “guaranteed” employment, manager is obliged to create a friendly environment, but the person employed in public sector should not feel self-satisfaction and should care to improve his/her achievements.
6. The successful employees should be periodically recognized by managers in private communication process as well as publicly; It may happen several times a year in the form of giving to the employees various certificates or medals. This culture will further enhance in each employee the sense that they are the core members of the working group for one main goal;
7. Meanwhile each employee is working hard to improve their skills, the management staff should be well-intended to involve them in the setting and formulation of the strategy as well as the implementation and monitoring of it. This event will increase their productivity.
8. Also, it is very important to create the informal relationships, which can be achieved by excursions and some field activities. Such events have a positive effect on motivation of employees, and also it rises a sense of responsibility in each employee.
9. A friendly atmosphere should be established, which will have a positive impact to the working outcomes in the framework of healthy or even unhealthy competition.
10. As studies have shown that social security and ensuring have a significant impact to the motivation of the employees. The Employees working in the Georgian public sector are provided with the medical insurance, but it may conduct some other events that will further enhance the social security of employees.

In our opinion, implementation of these measures in public sector will further increase employee motivation and allow the managers to diversify forms of motivation under limited resources for providing incentives. As a result public sector will become not only prestigious but it will also attract the people, who care not only for improving their own material and other conditions, but those, who consider that public sector allows them to serve their country and society.

1. Gechbaia B., Devadze A., (2015) Human Resource Management. Tbilisi.
2. Paresashvili N., Gechbaia B., Chagelishvili A., (2017) Challenges to the Managers Employed in Multinational Companies; 2nd international and scientific conference on the Challenges of Globalization in Economics and Business. TSU, Tbilisi, November 3-4, conference proceedings, pp. 481-486.

3. Machavariani Sh., (2015) Basics of Management (theories, concepts, practical approaches).
4. Tsuladze L., (2008) Quantitative Research Methods in Social Sciences, Tbilisi.
5. Jiayi Bao Andy Wu., (2017) Equality and Equity in Compensation.
6. Balachander, Subramanian, Yan Liu, Axel Stock., (2009) An empirical analysis of scarcity strategies in the automobile industry. *Management Science* 55(10) 1623–1637.
7. Bao, Jiayi, Benjamin Ho. (2015) Heterogeneous effects of informational nudges on pro-social behavior. *B.E. Journal of Economic Analysis & Policy* 15(4) 1619–1655.
8. Bernstein, Shai, Arthur G Korteweg, Kevin Laws, (2017) Attracting early stage investors: Evidence from a randomized field experiment. *Journal of Finance* 72(2) 509–538.
9. Breugst, Nicola, Holger Patzelt, Philipp Rathgeber, (2015) How should we divide the pie? Equity distribution and its impact on entrepreneurial teams. *Journal of Business Venturing*, 30(1). P. 66–94.
10. Haltiwanger, John, Ron S Jarmin, Javier Miranda, (2013). Who creates jobs? Small versus large versus young. *Review of Economics and Statistics* 95(2) 347–361.
11. Jordan, Jillian, Katherine McAuliffe, David Rand, (2016). The effects of endowment size and strategy method on third party punishment. *Experimental Economics* 19(4) 741–763.
12. Abraham H. Maslow, (2008) *Motivation and Personality*, 3-rd edition.
13. Brian Tracy, (2016) *The Four Factors of Motivation*, American Management Association.
14. James L. Perry, Annie Hondeghem (2008) *Building Theory and Empirical Evidence about Public Service Motivation - International Public Management Journal*.
15. Hosking D.M., (2013) *Management and organization*.
16. Lambin Jean-J., (2014) *Market-Driven management*.
17. Motivationcivil servants: information and conclusions for practitioners, (2014) UNDP Global Centre for Public Service Excellence.
18. Ronald R. Sim, (2002) *Organizational Success through Effective Human Resources Management*.
19. Сурков С.А – Построение структуры организации на основе системы мотивации – [Electronic resource] – Access mode: <https://www.ippnou.ru/print/000329>.
20. Ricky W. Griffin, Gregory Moorhead, (2013) “Organizational Behavior- Managing People and Organizations”, Canada, 11Th Edition, 87 Pages.
21. Laurie J. Millins, (2007) *Management and Organizational behavior*, New Jersey, Financial Times Management; 8 Pap/Psc edition, 245-255 pages.
22. Paresashvili N. Corporate culture in Terms In Terms In Terms Of Labor Diversity, *Proceedings of papers, Brno*, pg. 318.
23. Sarah L. Fogleman, (2001) Kansas State University, *Western Dairy Business Magazine*.
24. Jabua, D. (2012) *Formation and Management of Human Resources in Energy System of Georgia*. Tbilisi. p. 71.

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