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ORGANIZATIONAL LEARNING FOR SUSTAINABLE DEVELOPMENT – CORRELATION WITH THE NATIONAL CULTURE DIMENSIONS FRAMEWORK

Knowledge has become a key resource and the driver of economic progress. The distribution of welfare in the world demonstrates that the richest countries are the ones that have the knowledge, not natural resources. Creating a knowledge-based society is the foundation for sustainable development. Key factors influencing the creation of a knowledge-based economy are investments in education, research and development and application of new technologies. Nevertheless, culture, attitudes and values that affect people's commitment to continuous improvement and learning, can also play an important role in creating a knowledge society for sustainable development. In this paper authors are making an attempt to identify the basic values of employees in several Serbian companies by means of factor analysis approach, with special emphasis on the national cultural dimensions framework and its utility.

Keywords: cultural dimensions, knowledge, knowledge society, knowledge-based economy, sustainable development, learning and training

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1. Knowledge society and knowledge-based economy

The term “knowledge based economy” has been frequently used in the literature over the past fifteen years. Lisbon Declaration 2000 (EU) endorsed the EU perspective as a leading world economy and that member countries should achieve this goal by becoming “knowledge based economies” (knowledge-based economy).¹

Science, research and technological development are established as the EU policy priorities. To meet these objectives, all EU Member States support small and medium-sized enterprises, research centers, colleges and universities in a variety of research and technological development activities, including intensive cooperation. Investment in education and human capital development, research and development, fostering creativity and entrepreneurship and other innovative activities, are also priorities of development policies in the OECD and BRIC countries of emerging economies.

In the past, industrial era was characterized by mass production as the dominant mode of value creation. During this period, the financial capital had a decisive role and tendency to produce a greater number of products, meaning that the creation of value depends on the quantity. On the contrary, the value of the knowledge economy is in creating quality manufactured products, by the workers who have the necessary knowledge, skills and abilities. The characteristic of knowledge-based economy is that economic flows are increasingly based on the use of new ideas, information, acquiring new knowledge and skills and knowledge transfer, and less on material resources. Continuous investment in knowledge, creativity and innovation of employees and development of human capital is an essential condition for the survival of organizations in the present time markets. Modern society regulates conditions where the learning process does not end after the basic education cycle and acquisition of specific experience. The knowledge frontiers are extended constantly and the term of lifelong learning is more frequently in use. The concept of lifelong learning has emerged as a response to the growing need for qualified personnel and the need for retraining. Constant and lifelong learning is becoming a strategic objective of management in organizations. Investing in education is becoming a crucial factor in the functioning of the organization. The consequences of failing to invest in knowledge can be detrimental for the organization and for society as a whole.

Crucial factors in the development of a society are the people and their ideas. Value of human relations, knowledge within the company and the exchange of that knowledge, concepts and ideas in organization is immense. Therefore, the main mission of managers in modern organizations is to encourage employees to develop ideas and their ability to innovate. Both managers and employees need to master the new knowledge quickly, to use modern technology, to be ready to collect information from the organization as well as from the environment.

¹ <http://www.europarl.europa.eu/> (12.01.2017)

Currently, knowledge is linked to the individuals and it has become a resource, a public good. The use of knowledge has led to a revolution in productivity. In knowledge society managers and leaders have an important task to determine how existing knowledge can best be used to achieve results. Modern organizations are a kind of storehouse of knowledge. Their role is to assist the process of creating new leaders at all levels of hierarchy. Routines that one organization holds become knowledge for enterprises that allow it to develop and create a competitive advantage in the market. According to Kaplan and Norton, the ability of rapid acquisition of knowledge and its transformation into products and services becomes the main funnel to success.² Some organizations do not have the possibility of investing in research and development to create their own knowledge. To overcome this problem it is necessary to create partnerships and networks, alliances in the global market.

Educational institutions, research centers, the companies, as well as theoretical scientists, have realized that they must reinforce the links between the economy and knowledge for sustainable progress and survival. Davenport and Prusak cite three main objectives for the acquisition and transfer of knowledge through organizational cooperation:

1. To find the necessary knowledge that was not available through experience,
2. To connect the various entities of the economy and society,
3. To develop and improve mechanisms of organizational learning for the implementation of environmental protection and sustainable development.³

OECD economists distinguish four types of knowledge:

- a) A collection of facts or information (know what),
- b) Knowledge of the origin or foundation of the subject area (know why), which refers to the scientific knowledge,
- c) Knowledge as a set of special skills and abilities to do something (know how) and
- d) Knowledge that identifies an individual carrier (know who).⁴

In the knowledge economy, knowledge is perceived as a collection of relevant information originating from individuals and embodied in the finished product or service. However, as the individual learns the company must learn as well. The necessity of continuous learning, which is crucial for the survival of the company, leads to the emergence of a new concept of a learning organization. This means that the organization itself must try to monitor new trends and gain knowledge

² Kaplan, R. – Norton, D. (2001): *The Strategy Focused Organizations*, Harvard Business School Press, pp. 91;

³ Davenport, T. – Prusak, L. (2000): *Working knowledge: How organizations manage what they know*, Harvard Business School Press, pp. 58;

⁴ [http://www.oecd.org/site/worldforum/\(14.12.2016\)](http://www.oecd.org/site/worldforum/(14.12.2016))

that will enable its development, which essentially have to be sustainable. Learning organizations are the foundation for development of knowledge society and knowledge-based economy. In learning organizations teamwork and sharing of information among employees from different hierarchical levels in the organization is strongly encouraged. This way the effectiveness of the knowledge increases.

Some of the reports reveal that the creation of knowledge-based society and sustainable development involves encouraging co-ordination between key factors, such as: investing in education, research and development and practical application of research results, and the use of information and communication technologies.⁵ The ability to innovate is also one of the most important factors of change and success. In the knowledge based economy, innovations are essential for the survival and vitality of enterprises and national economies and society as a whole. In the knowledge society it is important that managers have the skills and ability to effectively manage organizational knowledge and encourage the creativity of employees that can be accomplished through a variety of innovations.

2. Sustainable development and knowledge

The concept of sustainable development was explicated in the late XX century. Although there is no universally accepted definition, sustainable development is usually associated with the environmental protection, social development and economic and political issues. The most commonly cited definition of sustainable development comes from the well-known Report of The World Commission on Environment and Development in 1987, "Our Common Future" and it reads: "Sustainable development seeks to meet the needs and aspirations of the present without compromising the ability to meet those of the future"⁶.

Energy crisis, scarcity of natural resources, pollution and environmental degradation has become critical to the survival of the human population and sustainable development. Knowledge as an essential factor in the modern economy can contribute to a better and more efficient use of natural resources - water, energy, land. In that context ecological knowledge has a special importance. It can contribute to the diminishing of environmental damage by humans and to support of the ecological balance in production and other processes, people and ecosystems. In addition to the three pillars of sustainability - economic, social and environmental, that are crucial for establishing a model of sustainable development, the important factors are education and knowledge acquired through education.

⁵ Momirović D, Nestorović O i Milosavljević G. (2010): *Menadžment i održivi razvoj u vremenu svetske ekonomske krize*, Međunarodna naučna konferencija MENADŽMENT 2010, Kruševac, str. 437-440.

⁶ <http://www.un-documents.net/wced-ocf.htm> (04.01.2017)

According to Nobel Prize winner James Tobin, in more advanced economies of the XX century the contribution of labor and capital to the economic growth was only 12%, and the contribution of knowledge to productivity was over 80%. This tendency was especially evident in Japan where over 95% of the growth came from knowledge, and only 5% from other factors.⁷ Studies of the key growth factors in the most developed countries during the second half of the XX century convincingly showed that there has been a fundamental change in their structure.⁸ Changes have indicated that the classical factors such as labor and capital reduced their contribution in the value of the factors involved, but not because of scarcity, but because of the fact that intangible factors such as knowledge, scientific research and information gave far greater contribution to economic growth and development. Knowledge aimed at improving the human factors of production and investment in human resources has had a decisive impact on sustainability. A better future for the community, in the interest of their own and future generations can only be built by educated, socially and environmentally conscious and responsible people. However, for the broad social acceptance of these ideas social institutions are crucial, as well as knowledge, education and culture of people.

The National Strategy for Sustainable Development of the Republic of Serbia affirms the commitment to knowledge-based economy in the future. Serbia needs extensive use of knowledge in all aspects of life. The Republic of Serbia has to implement knowledge based economy as a strategic task, defining the areas and directions of changes for sustainable development of the society as well as for the further improvement of the educational system.⁹

3. Values, culture and sustainable development

Historical changes of the dominant type of human activity from agriculture to industrial, the development of the “third sector” and “knowledge economy”, lead to many additional important changes. Rišar emphasizes that the new world economy is characterized by a radically different business models.¹⁰ “The new global economy is a new way of thinking which is enabled by the economic and technological revolution.”

⁷ Đukić P. (2013): Knowledge - based new economy and society: with regards to the sustainable development concept, *Economics*, DOI 10.7251/OIK1402008DJ, UDK 340.137:330.332.5

⁸ Dragutinović, S., Filipović, M. & Cvetanović, S. (2005): *Teorija privrednog rasta i razvoja*. Ekonomski fakultet Beograd.

⁹ Nacionalna strategija održivog razvoja, (2008)

¹⁰ Rišar, Ž. F. (2008): *Tačno u podne*. Beograd: Clio

The changes anticipated by the knowledge-based economy may have significant consequences for the employees. They are faced with daily challenges, experience the pressure to develop new skills and capabilities more rapidly and more frequently than before. If they are not prepared to learn, they become less efficient, unqualified and handicapped. They are threatened by possibility that the employer may replace them with those who can learn more quickly, or they could be excluded from the business processes. In the knowledge economy, the workers are not only hard-working but also have to be interested in the job. They have to think and create. Accordingly, it is necessary that employees have a positive attitude towards learning and continuous education and training, and it should become a part of organizational strategy and culture, as presented in a previous research of Paunković et al¹¹. The appropriate design of an organization depends upon many factors, but various researches have revealed that that optimal work of organizational system is achieved when the design of the organization is in accord with the underlying values and culture of the society. The organizational culture and the formal organizational structure must be harmoniously interrelated in order to have organizational culture functioning effectively as a part of managerial mechanism¹². Consequently, the structure and culture of an organization must be aligned with the national culture in which the organization is embedded¹³.

Conversely, national culture affects the organization, management and organizational behavior. The most cited research investigating the influence of national culture in organizations, management and conduct of the people in the organization, was done by Gert Hofstede.¹⁴ According to Hofstede, culture represents "the collective programming of the mind which distinguishes the members of one group or category of people from another".¹⁵ Hofstede has identified the most frequently used dimensions of national culture.¹⁶ Based on surveying attitudes of 116,000 employees within subsidiaries of IBM in 40 countries and 3 regions in 1980, Hofstede described four basic cultural dimensions, largely independent of each other:

¹¹ Paunković Dž., Jovanović V., Lončar D. (2016): *Organizational development and learning for sustainability - factor analysis of employees' values*, International Scientific Conference ERAZ 2016, Conference Proceedings – Knowledge based sustainable economic development p. 413-422

¹² Worley CG, Hitchin DE, Ross WL (1996): *Integrated Strategic Change: How OD Builds Competitive Advantage*. New York, NY: Addison-Wesley Publishing Company

¹³ Trompenaars, F. and C. Hampden-Turner (2004): *Managing People Across Cultures*. Capstone Publishing.

¹⁴ Hofstede G. (1981): Culture and organizations, *International Studies of Management & Organization*, Volume 10, Pages 4

¹⁵ Hofstede, Geert (2001): *Culture's consequences: Comparing values, behaviours, institutions, and organizations across nations*. Thousand Oaks, CA: SAGE Publications

¹⁶ *Ibid.*

- Individualism - Collectivism,
- Power distance,
- Uncertainty avoidance and
- Masculinity-Femininity

Identified dimensions relate to the basic values and assumptions shared by community members and key issues that each society faces. In every society there are almost the same problems, but not the same way of their resolution. Hofstede says that the first basic question facing every society and organization (company) is to regulate the nature of the relationship between the individual and the group. He has labelled this dimension as *Individualism - Collectivism*.¹⁷

Ensuring responsible behavior that allows the preservation of order in society is another fundamental issue that is generally facing all societies. The possibility of solving this problem is in the use of differences in power, relying on the role attributed hierarchical systems to enable socially responsible behavior. The problem of inequality among people which exists in every society is resolved through *Power Distance*. According to Hofstede, it is “the degree to which the less powerful members of organizations and institutions in a country accept the fact that power is unevenly distributed”.¹⁸

The problem of the avoidance of uncertainty and the way of reacting to unfamiliar and ambiguous situations, the attitude towards changes and the unknown, has been explained by the Hofstede’s dimension - *Uncertainty Avoidance*.

The attitude of society towards the achievements or relationships is explained with the dimensions of *Male versus Female values*. This dimension is often explained as the quantity versus quality of life.

The former Republics of Yugoslavia (Serbia, Slovenia and Croatia) were covered by the original IBM research. There is a significant similarity between the cultures of these countries, which could be explained by the Slavic origin of the nations in the former Yugoslavia. According to Hofstede’s research, Serbian national culture is characterized by:

- – The high degree of *Power Distance* – index 86;
- – *Collectivism* - index 25;
- – High *Uncertainty Avoidance* - index 92;
- – *Masculinity* - index 43.¹⁹

¹⁷ *Ibid.*

¹⁸ *Ibid.*

¹⁹ The Hofstede Centre, <http://geert-hofstede.com/> (18.01.2017)

The applications of national cultural dimensions and their impact on management practices in Serbia can be found in the research of numerous authors^{20, 21, 22, 23, 24}.

Dominant organizational culture in organizations can be better understood by application of the Hofstede's dimensions framework as presented in the research of Paunković and associates²⁵

4. Research

The aim of this study was to investigate the values of employees in certain organizations in Serbia, and delineate the group of factors that respondents considered significant using Factor Analysis. The unassuming goal was to determine whether there are respondents' values indicating their interest in learning and improving, and to explore the possible association with national culture dimensions according to Hofstede's model of national culture for Serbia, based on the obtained group of factors. The study included 54 examinees employed in the companies from the mining sector, located in the municipality of Bor. During the unstructured interviews and questionnaires, examinees were asked to grade (1- not important; 5 - very important) 12 questions on a scale of 1 to 5 in the questionnaire. The questionnaire was developed by the methodology which the authors described in details in their previous research.²⁶

²⁰ Paunković, Jane. (2014): "Educational Programs for Sustainable Societies Using Cross-Cultural Management Method." *Global Sustainable Communities Handbook: Green Design Technologies and Economics*, 387.

²¹ Jovanović M., Langović Milićević A. (2006): *Interkulturni izazovi globalizacije*. Beograd: Megatrend univerzitet

²² Bogićević Milikić B., Jančićević N. (2009). HRM trends in transition economies: Two reflections of the shared background, *Sociologija*, Vol. LI, N° 2

²³ Zakić K. Xinquan S. (2014): *Similarities and differences in business culture in the peoples Republic of China and the Republic of Serbia*, *Zbornik matice srpske za društvene nauke*, Issue 149, Pages:863-873

²⁴ Mojić D. (2007): Organizacije i nacionalna kultura, *Социологија*, Vol. XLIX, br.4, (str.347-368)

²⁵ Jovanovic V., Paunkovic J., Žikic S., Lončar D. (2016): *National culture and employees values in mining companies of eastern Serbia*, 6th International Symposium on Natural Resources Management, Zaječar, pp. 403-409.

²⁶ Paunković, Jane (2014): "Educational Programs for Sustainable Societies Using Cross-Cultural Management Method." *Global Sustainable Communities Handbook: Green Design Technologies and Economics*, 387.

5. Research results and discussion

Factor Analysis was used in order to identify the factors that represent the basic ideas and find the most important components and values of respondents in the survey. The following tables represent the descriptive statistics with an average score and standard deviation, and correlation matrix between the variables.

Table 1: *Descriptive statistics*

Questions from the survey	Average rating	Std. Deviation
Support from superiors	4,60	0,634
Participation of superiors	2,73	1,050
Obtaining clear instructions from superiors	4,62	0,661
Independence in work	4,29	0,800
Independent decision-making	4,17	0,734
Good relations with colleagues at work	4,83	0,382
Good communication with superiors	4,85	0,364
Verification of individual performance through the salary	3,96	1,154
Career development through individual impact	2,88	0,784
Support for professional training	4,48	0,804
Planning ahead for future events	4,15	0,937
Taking care of the present without thinking about future events	2,85	0,978

The level of the coefficient of correlation between variables for this analysis is over ± 0.3 . The table shows that there are correlation coefficients that are greater than 0.3 and that the following analysis is justified, and that the data is suitable for decision-making. Correlation coefficients were greater than 0.3 between the variables P1 and P3, P1 and P7 and between the variables P1 and P11, and are shown in the correlation matrix (Table 2).

After the leakage tests carried out for the analysis of the main components and calculation of a common variation over the extracted variance, the indicators that simultaneously vary were provided and thus in fact correlate to a new dimension which forms a set of common factors. To calculate the amount of common variability the Kaiser criterion was used.

Table 2: *Correlation matrix between variables*

Correlation coefficients		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12
	P1	1,000	,275	,324	,041	,111	,191	,405	-,075	,220	,273	,305	-,071
	P2	,275	1,000	,271	-,209	,062	-,070	,043	-,041	,105	,226	,023	-,060
	P3	,324	,271	1,000	,140	,059	,197	,482	-,200	-,049	-,014	,066	-,124
	P4	,041	-,209	,140	1,000	,481	,295	,222	,182	-,102	,176	,201	-,092
	P5	,111	,062	,059	,481	1,000	,179	,102	,193	,172	,056	,303	,065
	P6	,191	-,070	,197	,295	,179	1,000	,228	-,060	,129	,212	,350	-,230
	P7	,405	,043	,482	,222	,102	,228	1,000	-,154	,074	-,010	,243	-,068
	P8	-,075	-,041	-,200	,182	,193	-,060	-,154	1,000	,060	,126	,223	,082
	P9	,220	,105	-,049	-,102	,172	,129	,074	,060	1,000	,028	-,055	,130
	P10	,273	,226	-,014	,176	,056	,212	-,010	,126	,028	1,000	,368	-,453
	P11	,305	,023	,066	,201	,303	,350	,243	,223	-,055	,368	1,000	-,209
	P12	-,071	-,060	-,124	-,092	,065	-,230	-,068	,082	,130	-,453	-,209	1,000

After the application of the so-called rotation of factor space which has the ultimate aim of facilitating the interpretation of the results, it can be concluded which indicators can remain in the analysis. The orthogonal rotation is used and it displays the indicators with high variance values which vary in the new impact factors. Table 3 shows the total explained variability of main component analysis. Under the rules of analysis only those components (factors) in which the Kaiser criteria is greater than 1 are retained. These are the first four components with which the variance of the indicators correlated in 43.7% of cases.

Table 3: *The total variability explained by principal component analysis*

Basic	equivalents	variance		Extracted	summarized components	variability
Components	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	2,672	22,268	22,268	1,563	13,027	13,027
2	1,754	14,614	36,883	1,551	12,929	25,956
3	1,476	12,298	49,180	1,419	11,829	37,785
4	1,351	11,255	60,435	0,709	5,906	43,690
5	0,742	8,353	68,788			
6	0,849	7,075	75,863			
7	0,675	5,627	81,489			
8	0,641	5,338	86,827			
9	0,543	4,521	91,348			
10	0,424	3,532	94,880			
11	0,361	3,006	97,886			
12	0,254	2,114	100,000			

The following graph is presenting that the first four components (factors) are components for which the Kaiser criteria is greater than 1. This means that these four components are retained for the further analysis. Table 3 of total explained variance of main component analysis shows that the first and second component explains the 13% of variation, the third 12% and the forth 6% of variation.

Figure 1: Scatter diagram

To simplify interpretation, the rotation of saturation components was performed. The resulting strength of the correlation between the components is generally small, which means that these components are not mutually dependent and that it is correct to implement the “Varimax” rotation and to conclude that the data justify the components after this rotation. These are actually the values with the highest component weights. The following table exposes the matrix of original components with their saturations based on each indicator.

Table 4: *Matrix of original components with their saturations on the basis of each indicator*

Indicators	Factor			
	1	2	3	4
P1	0,274	0,139	0,591	0,216
P2	0,226	-0,181	0,351	0,197
P3	-0,013	0,271	0,601	-0,195
P4	0,178	0,855	-0,196	-0,093
P5	0,057	0,573	-0,062	0,429
P6	0,213	0,348	0,183	-0,031
P7	-0,009	0,386	0,601	-0,102
P8	0,126	0,142	-0,303	0,289
P9	0,028	-0,034	0,158	0,420
P10	0,999	-0,002	-0,001	0,000
P11	0,369	0,272	0,160	0,182
P12	-0,453	-0,023	-0,085	0,297

In the following table is the matrix of rotated components with their saturations on the basis of each indicator in the first, second, third and fourth components.

It is possible to allocate two variables with the highest values from the table - independence in work and independent decision-making. This would be a group of factors relating to the value of independence of the employee (Table 5.).

In the matrix of rotated components with their saturations on the basis of all indicators of the second component, variables with the highest values in the table are clear instructions from superiors and good communication with superiors. This is a group of factors relating to communication with superiors (Table 6.).

Table 5: *Matrix of rotated components with their saturations on the basis of each indicator of the first component*

Indicators	First component
Support from superiors	0,105
Participation of superiors	-0,123
Obtaining clear instructions from superiors	-0,005
Independence in work	0,772
Independent decision-making	0,695
Good relations with colleagues at work	0,274
Good communication with superiors	0,133
Verification of individual performance through the salary	0,341
Career development through individual impact	0,111
Support for professional training	0,166
Planning ahead for future events	0,330
Taking care of the present without thinking about future events	0,050

Table 6: *Matrix of rotated components with their saturations on the basis of each component of the second indicators*

Indicators	Second component
Support from superiors	0,449
Participation of superiors	0,124
Obtaining clear instructions from superiors	0,683
Independence in work	0,218
Independent decision-making	0,047
Good relations with colleagues at work	0,289
Good communication with superiors	0,701
Verification of individual performance through the salary	-0,301
Career development through individual impact	-0,026
Support for professional training	-0,110
Planning ahead for future events	0,150
Taking care of the present without thinking about future events	-0,130

Significant for the research of values of employees that determine their interest in learning and continuous improvement is the resulting matrix of rotated components with their saturations on the basis of each indicator of the third component. The matrix is shown in Table 7.

Table 7: *Matrix of rotated components with their saturations on the basis of each indicator of the third component*

Indicators	Third component
Support from superiors	0,200
Participation of superiors	0,166
Obtaining clear instructions from superiors	0,050
Independence in work	0,168
Independent decision-making	-0,097
Good relations with colleagues at work	0,205
Good communication with superiors	0,021
Verification of individual performance through the salary	0,021
Career development through individual impact	-0,099
Support for professional training	0,950
Planning ahead for future events	0,290
Taking care of the present without thinking about future events	-0,523

The following table shows the matrix of rotated components with their saturations on the basis of each indicator fourth component.

In the matrix of rotated components with their saturations on the basis of each indicator of the fourth component, the components with the highest values in the table are support by superiors and superiors participate in their work. This is a group of factors relating to the support of the employees by superiors.

Table 8: *Matrix of rotated components with their saturations on the basis of each indicator of the fourth component*

Indicators	Forth component
Support from superiors	0,487
Participation of superiors	0,433
Obtaining clear instructions from superiors	0,063
Independence in work	-0,372
Independent decision-making	0,157
Good relations with colleagues at work	0,017
Good communication with superiors	0,105
Verification of individual performance through the salary	0,067
Career development through individual impact	0,425
Support for professional training	0,236
Planning ahead for future events	0,232
Taking care of the present without thinking about future events	0,091

6. Discussion

The analysis indicated that employees in the companies where the research was conducted have positive attitudes towards learning and professional development presented by the average score of this question ≈ 4.5 . Support from superiors is very important to employees (average score 4.6), obtaining clear instructions about the job by their supervisors (4.62) and good communication with them, with an average score which is close to 5 (4.85). Minor average score given to the concern for the present in relation to the future, argues that their future is important even more important than the present.

The components with the highest values in Table 7 are support for professional development and a choice between present and future. These are the factors related to learning and development. According to the results it can be concluded that positive attitudes of employees towards learning and improvement can benefit organizations to operate on the principles of the knowledge-based economy. Nevertheless, there is one additional factor. According to Hofstede, characteristic of the Serbian national culture is a high degree of *Power Distance* and *Uncertainty Avoidance*. According to the survey, which has already been published in

the relevant scientific sources²⁷, and which is confirmed by this study, examinees (employees) find the support from superiors the most important, obtaining clear instructions from them as well as good communication with them. This means that *Power Distance* dimension is strongly expressed by respondents in the survey. Getting clear instructions from superiors can be also associated with a low tolerance for uncertainty, and a good communication with superiors with both *Power Distance* and *Collectivism*. Individualism versus collectivism in this study presented by the matrix of rotated components with their saturations on the basis of each indicator of the first component is thought-provoking as shown in Table 5. Specifically, in this matrix two components are extracted, independence in work and independent decision-making. Although the Serbian national culture is characterized by collectivism, it has some features that can be linked to individualism. Characteristics that can be linked to individualism are independence in choosing their own style of work and independent decision-making. These features belong in medium-to-high ranking, which confirms the research of Paunković and associates that Serbian culture is "Somewhere in between" of the West and East orientation^{28, 29}.

The results of this study suggest that employees have positive attitudes towards learning and training. Nevertheless, for companies to operate on the principles of knowledge-based economy, employees in organizations need support and clear guidance from superiors - managers (executives).

7. Conclusion

Knowledge-based economy is the foundation of modern social development, and the development of human intellectual capital is a prerequisite for business success in today's business environment. Various studies in theory and practice of the numerous relevant international organizations have affirmed the importance of the knowledge society and knowledge-based economy. Economically developed countries of the world today have special policies and strategies encouraging knowledge-based economy. According to the National Strategy for Sustainable Development a knowledge-based economy is a main objective of Republic of Serbia.

²⁷ Paunković, Jane. (2014): "Educational Programs for Sustainable Societies Using Cross-Cultural Management Method." Global Sustainable Communities Handbook: Green Design Technologies and Economics, 387.

²⁸ *Ibid.*

²⁹ Paunković J., Jovanović R, Stojković Z. and Stojković I. (2010): Sustainable implementation of information and communication Technology in health care. Case study of organizational and cultural factors. *Sibiu Alma Mater University Journals. Series A. Economic Sciences*, 3(3)

Systematic and continuous implementation of the process of learning and education become one of the most important forms of human resource development in the contemporary socio-economic environment. It is essential for every society to encourage knowledge and innovation and invest in innovation, research and development for progress.

This research has shown that among employees in the investigated companies, there is a positive attitude towards training and the attainment of new knowledge important for implementing concept of sustainable development. There is also a positive attitude towards the future, which is one of the basic principles of sustainable development.

The results obtained by Factor Analysis demonstrate that the attitudes and values of the employees in the mining companies operating in the municipality of Bor, are in accordance with the Serbian national culture model derivative from Hofstede's national culture dimensions framework. The model of Serbian national culture with the characteristically high power distance, collectivism and low tolerance of uncertainty was manifested in attitudes of employees as a need of support from superiors, clear instructions as well as good communication with superiors. Consequently and in accord with the model of the Serbian national culture characterized by high power distance and uncertainty avoidance, learning and training of employees are primarily subject of the support from superiors.

With the adoption of the Strategy of Scientific and Technological Development of Serbia for the period 2016-2020 "Research for Innovation", Serbia has initiated the process of system development that should enable innovation and knowledge transfer. This may well be a beneficial approach towards the knowledge-based economy and knowledge society that will contribute to the Sustainable Development of Republic of Serbia.

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ORGANIZACIONO UČENJE ZA ODRŽIVI RAZVOJ – KORELACIJA SA DIMENZIJAMA NACIONALNE KULTURE

Znanje je postalo ključni resurs i pokretač ekonomskog napretka. Distribucija blagostanja u svetu pokazuje da su najbogatije zemlje one koje imaju znanje, a ne one koje imaju prirodne resurse. Kreiranje društva zasnovanog na znanju je temelj za održivi razvoj. Ključni faktori koji utiču na stvaranje ekonomije zasnovane na znanju su ulaganja u obrazovanje, istraživanje i razvoj i primenu novih tehnologija. Ipak, kultura, stavovi i vrednosti koji utiču na opredeljenje za kontinualno učenje i usavršavanje, mogu imati važnu ulogu u stvaranju društva znanja za održivi razvoj. U ovom radu autori su pokušali da identifikuju osnovne vrednosti zaposlenih u nekoliko srpskih preduzeća, primenom faktorske analize, sa posebnim osvrtom na dimenzije nacionalnih kultura i njihov značaj.

Ključne reči: *dimenzije nacionalne kulture, znanje, društvo znanja, ekonomija zasnovana na znanju, održivi razvoj, učenje i usavršavanje*