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SOFT AND HARD SKILLS DEVELOPMENT: A CURRENT SITUATION IN SERBIAN COMPANIES

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Abstract:
Tendency of building a knowledge-based society and existing demands of employers generate a need for highly educated workers with diverse skills and competencies applicable in the workplace. The purpose of this paper is to investigate the extent to which employers perceive the difference of hard and soft skills and their importance for success in the twenty-first century workforce. The evidence will serve for the integration of soft skills into the lifelong learning curriculum. The total number of 17 skills has been observed, five of which are hard skills and twelve are soft skills. A significant difference was found between the perceived importance of soft skills in production and trade sector, on one hand, and service sector, on the other hand. The results of the study will be a good starting point for further research of soft skills needed for production, trade and service sector.

Keywords: soft skills, hard skills, human resource management, knowledge-based economy.

1. INTRODUCTION

The competitiveness level of Serbian economy is currently very low. The weak GDP rise and large deficit in foreign trade are consequences of weak competitiveness of domestic companies in the world market. The causes of such a condition of the economy are numerous, but several key factors, the ones regarding *human resources*, stand out: 1) the departure of a large number of highly educated people from the country in the search for employment; 2) comparatively low investment in science and technology on all levels (elementary, secondary and higher education); and 3) the rigidity of the education system in adapting itself to the labour market demands.

According to the Global Competitiveness Index, published annually by World Economic Forum, Serbia was ranked 96th out of 139 participating countries. Using the brain drain indicator, the same report ranks Serbia 136th, indicating to the possibility of long-term weak competitiveness level of domestic economy (Schwab, 2010). 3,5 % of GDP is allocated for all levels of education, out of which 1,68 % for elementary, 0,87 % for secondary, 0,88 % for higher education and 0,05 % for other forms of education and adult education (Statistical Office of the Republic of Serbia, 2011). Using the recommendation of the UNESCO, that the share of public revenues for education should amount to 6 % of GDP, as a benchmark, we are brought to the clear conclusion that the investment in education in Serbia is still insufficient. The consequence of such investment policy is the fact that only 6,5 % of total population is highly educated. The unemployment rate, which currently exceeds 20 %, indicates to a relatively good supply on the labour market. On the other hand, previous research on human resources demand on the local labour market points to the problems in search of adequate staff, experienced by more than 50 % employers (TNS Medium Gallup, 2009).

Tendency of building a knowledge-based society and existing demands of employers will generate a need for highly educated workers in possession of *diverse skills and competencies* applicable in the workplace. Research and projections conducted on the EU level indicate to the projected increase in share of highly educated workforce in total number of employees until 2020 (Cedefop, 2009). All previously mentioned data imply significant changes in competencies of the workforce which generates the need for additional adapting of the education system to the new needs of labour market or demands of employers. The speed at which the education system responds to the increased demands of the economy for talented highly educated people will determine the future development of national economies. Such occurrence will directly influence the economic structure in the sense that national economies with highly educated population will be able to ensure more favourable structure of production, resulting in better position in exchange relations with other countries.

The companies from transitional economies need to possess knowledge and specialized skills in order to be attractive for cooperation with foreign partners (Hitt, Dacin, Levitas, Arregle & Borza, 2000). One of the ways of implementing this objective is the *development of lifelong learning concept* and increase in investment on all levels of education, particularly in adult education, which is characterized by obsolete knowledge, skills and competencies. Identification of skills required by employers is the basic step in creating a balance between supply and demand on the labour market.

This paper presents part of the research results conducted on the needs of employers in terms of required competencies, knowledge and skills of the employees in Serbian companies[1]. The basic research objective is obtaining the most reliable information on knowledge, skills and competencies the employers require from their employees. The purpose of the research is the successful implementation of the activities aimed at establishment of lifelong learning centres and better development of courses and trainings for interested individuals and organizations.

2. LITERATURE REVIEW

Continuous enhancement of knowledge and skills of the employees is an imperative in the knowledge-based economy (Lawler, Boudreau & Mohrman, 2006). A very significant change has occurred in the previous period, the one regarding transition of focus from the production sector to the service sector. This transition has influenced the transformation of work context and has demanded the development of new skills and knowledge of the employees. Jobs in service sector are characterized by highly developed interpersonal relations between employees, as well as between employees and customers (Bowen & Schneider, 1988). Considering this fact, HR managers have focused on development of the skills contributing to improved cooperation between the employees and a better relationship of employees towards customers. It can be easily inferred from the above mentioned that the development of service sector had a considerable impact on the enhancement of soft skills.

Definitions of hard skills and soft skills and terms between them have been reported by many authors. *Hard skills* are associated with specific technical abilities or solid factual knowledge required to do a job. These skills can be termed as "what you know" (Hunt, 2007). Hard skills are the technical skills including programming languages, operating system skills, networks and communications (Snyder, Rupp & Thornton, 2006), foreign language skills, procedure skills, etc. Development of ICT has made a considerable impact on hard skills since the market release of a new hardware demands upgrading of hard skills. On the other hand, soft skills can be termed as "how you use it" (Hunt, 2007). *Soft skills* can be defined as interpersonal, human, people or behavioural skills necessary for applying technical skills and knowledge in the workplace (Rainsbury, Hodges, Burchell & Lay, 2002). James and James (2004) suggest that soft skills are a new way to describe a set of abilities or talents that an individual can bring to the workplace. Some authors describe soft skills as "micro social" skills and categorize them as: 1) intrapersonal and interpersonal skills; 2) personal and social skills; and 3) cognitive skills (Muzio, Fisher, Thomas & Peters, 2007).

The differences between hard and soft skills can be summarized as follows: 1) The majority of people differentiate hard (work with equipment or software) and soft skills (interpersonal or intrapersonal focus) with ease; 2) There is a considerable difference between transfer of hard and soft skills; 3) Most positions in an organization require not only possession of hard skills for successful execution of work tasks, but also proficiency in soft skills area (Laker & Powell, 2011). A number of authors use the term technical skills instead of hard skills, which is probably caused by the classification of Katz, which differentiates the three groups of skills an effective administrator should possess: 1) Technical skills; 2) Human skills; and 3) Conceptual skills.

[1] This paper represents the research result on the fundamental research project titled "Contemporary Management and Marketing Methods Application in Improving the Competitiveness of Serbian Companies' in the Process of EU Integration", funded by Ministry of Education and Science of the Republic of Serbia (179062).

Skill training provides double benefit: 1) Enhancement of employees' skills greatly increases chances of retaining the existing employment or career advancement, and 2) Enhancement of organizational skills enables keeping the organizational knowledge competitive, which provides a competitive advantage and creation of a new value. Hiring individuals who possess soft skills is instrumental for high-performing organizations to retain a competitive advantage (Glenn, 2008). Creation of a knowledge-based system and trainings often entails application of technology, business skills and telecommunications integration (McFarlane, 2008). Education is expected to emerge as one of the most significant sectors in the global economy of the 21st century. A trend of increase in general education level and educational needs is already perceptible. It is expected for such trend not only to maintain, but also to intensify in the following years.

3. METHODOLOGY

The project task consisted of two parts: 1) the questionnaire design, conducted by the project coordinator; and 2) data collection and processing, conducted by the project coordinator and partner universities.

3.1. Data Collection

According to literature review and the previous research results, the project team has developed soft and hard skills list. The total number of 17 skills has been observed, five of which are hard skills, these being: 1) precision in task executing; 2) computer literacy (basic level); 3) computer literacy (advanced level); 4) language skills; 5) idea and information documenting. The remaining 12 skills are soft skills: 1) enthusiasm; 2) teamwork, 3) flexibility; 4) communication skills; 5) time management; 6) coordination and organization; 7) acquiring of new knowledge; 8) creativity; 9) analytical skills; 10) job analysis; 11) leadership; 12) negotiation skills. All skills are ranked according to the five-point Likert scale, from 1 = No Importance, to 5 = Essential. Cronbach's alpha reliability coefficient is 0,930. This value can be described as excellent (George & Mallery, 2003).

The research was conducted in the broader territorial areas of the universities cities (Kragujevac, Beograd, Novi Sad, Novi Pazar and Nis). Data collection was conducted by means of an oral "face-to-face" interview and telephone "face-to-face" interview. Average interview duration was 15 minutes. The total number of participating companies was 148, selected according to the random sampling method. Only valid questionnaires were used for data processing, the total number being 139. The observed sample includes: 1) 41 % service firms; 2) 21 % trade firms; and 3) 38 % production firms. In terms of the firm size, the sample consists of: 1) 26 % micro firms (2-9 employees); 2) 32 % small firms (10-49 employees); 3) 23 % medium firms (50-249 employees); and 4) 19 % large firms (more than 250 employees). Software package SPSS v.13.0 was used in data processing.

3.2. Results

The table 1 shows that the mean for individual variables amounts from 4.51 to 3.00, the scope for soft skills being from 4.51 to 3.09, while the scope for hard skills is from 4.37 to 3.00. Standard deviation amounts from 0.779 to 1.273, the scope for soft skills mounting from 0.779 to 1.173, the scope for hard skills being from 0.839 to 1.273. Top ranked soft skill is enthusiasm (mean 4.51), while the bottom ranked is leadership (mean 3.09). Top ranked hard skill is precision in task executing (mean 4.37), while the bottom ranked is computer literacy

(advanced level) (mean 3.00). Skewness is ranged from -1,648 do 0.094. Kurtosis is ranged from -0.986 to 2.652.

Table 1: Rang of hard and soft skills

Skills	Type	Mean	Std. Deviation
Enthusiasm	Soft skill	4,51	0,779
Teamwork	Soft skill	4,35	0,835
Flexibility	Soft skill	3,97	0,974
Communication skills	Soft skill	3,95	0,963
Coordination and organization	Soft skill	3,63	1,115
Acquiring of new knowledge	Soft skill	3,63	1,101
Job analysis	Soft skill	3,58	1,053
Time management	Soft skill	3,46	1,102
Creativity	Soft skill	3,44	1,028
Negotiation skills	Soft skill	3,39	1,173
Analytical skills	Soft skill	3,36	1,081
Leadership	Soft skill	3,09	1,123
Precision in task executing	Hard skill	4,37	0,839
Computer literacy (basic level)	Hard skill	3,60	1,143
Idea and information documenting	Hard skill	3,39	0,981
Language skills	Hard skill	3,05	1,273
Computer literacy (advanced level)	Hard skill	3,00	1,226

The Table 2 demonstrates the ranking results depending on the industry the companies are in.

Table 2: Rang of hard and soft skills across sectors

Sector	Production firms	Trade firms	Service firms
Skills	Mean	Mean	Mean
Enthusiasm	4,41	4,54	4,60
Teamwork	4,32	4,38	4,37
Flexibility	4,00	4,00	3,94
Communication skills	3,80	4,08	4,03
Time management	3,25	3,29	3,73
Coordination and organization	3,43	3,38	3,90
Acquiring of new knowledge	3,32	3,50	3,97
Creativity	3,32	3,04	3,71
Analytical skills	3,27	3,04	3,56
Job analysis	3,36	3,29	3,90
Leadership	3,14	2,46	3,29
Negotiation skills	3,32	3,21	3,53
Precision in task executing	4,32	4,50	4,37
Computer literacy (basic level)	3,54	3,33	3,76
Computer literacy (advanced level)	3,11	2,46	3,11
Language skills	2,95	2,50	3,35
Idea and information documenting	3,23	3,08	3,65

4. FINDINGS

According to the ANOVA analysis, it has been determined that there are no statistically significant differences in the average attitude of company managers across different sectors towards the following soft skills: enthusiasm, teamwork, flexibility, communication skills and negotiation skills. According to the ANOVA analysis, it has been determined that statistically significant differences ($p<0,05$) between means of soft skills variables for certain sectors exist only regarding the following variables: time management, coordination and organization, acquiring of new knowledge, creativity, analytical skills, job analysis and leadership.

Table 3: Manager attitude towards soft skills across sectors (P-values for one sided test are in parenthesis)

Skills	PS[a] vs. TS[b]	PS vs. SS[c]	TS vs. SS
Enthusiasm	-0,131 (0,492)	-0,186 (0,197)	-0,055 (0,769)
Teamwork	-0,054 (0,794)	-0,050 (0,750)	0,004 (0,984)
Flexibility	0,000 (1,000)	0,065 (0,722)	0,065 (0,785)
Communication skills	-0,280 (0,235)	-0,229 (0,199)	0,051 (0,826)
Time management	-0,042 (0,875)	-0,476 (0,019)*	-0,434 (0,098)
Coordination and organization	0,054 (0,841)	-0,475 (0,020)*	-0,528 (0,047)*
Acquiring of new knowledge	-0,179 (0,494)	-0,646 (0,001)*	-0,468 (0,070)
Creativity	0,280 (0,255)	-0,388 (0,038)*	-0,668 (0,006)*
Analytical skills	0,226 (0,388)	-0,297 (0,135)	-0,523 (0,044)*
Job analysis	0,065 (0,793)	-0,546 (0,004)*	-0,612 (0,014)*
Leadership	0,685 (0,011)*	-0,147 (0,465)	-0,832 (0,002)*
Negotiation skills	0,113 (0,694)	-0,211 (0,332)	-0,324 (0,253)

[a] Production sector [b] Trade sector [c] Service sector

According to the ANOVA analysis, it has been determined that there are no statistically significant differences in the average attitude of managers across different sectors towards the following hard skills: precision in task executing and computer literacy (basic level). According to the ANOVA analysis it has been determined that statistically significant differences ($p<0,05$) between means of hard skills variables exist only for the following variables: computer literacy (advanced level), language skills and idea and information documenting.

Table 4: Manager attitude towards hard skills across sectors (P-values for one sided test are in parenthesis)

Skills	PS[a] vs. TS[b]	PS vs. SS[c]	TS vs. SS
Precision in task executing	-0,179 (0,387)	-0,050 (0,750)	0,129 (0,525)
Computer literacy (basic level)	0,202 (0,468)	-0,222 (0,292)	-0,425 (0,123)
Computer literacy (advanced level)	0,649 (0,030)*	-0,006 (0,979)	-0,655 (0,026)*
Language skills	0,446 (0,144)	-0,408 (0,007)*	-0,855 (0,005)*
Idea and information documenting	0,149 (0,526)	-0,413 (0,021)*	-0,562 (0,016)*

[a] Production sector [b] Trade sector [c] Service sector

5. CONCLUSION

According to the Table 1, which demonstrates the mean of individual variables for *soft skills* for the whole sample, it can be inferred that the skills Serbian managers appreciate most are the following: enthusiasm, teamwork and flexibility, and least: negotiation skills, analytical

skills and leadership, while the most appreciated *hard skills* are precision in task executing and computer literacy (basic level), and the least appreciated ones are language skills and computer literacy (advanced level). According to the data from the Table 2, it can be concluded that the most appreciated soft skills with managers from the production sector are the following: enthusiasm, teamwork and flexibility. The most valuable soft skills among managers from trade and service sectors are: enthusiasm, teamwork and communication skills. The least valuable soft skill among managers from all sectors is leadership. The most valuable hard skill is precision in task executing. The least appreciated hard skill with the managers from the production sector is language skills, while the least appreciated one with managers from the trade and service sectors is computer literacy (advanced level).

According to the conclusions on the mean difference between variables for soft and hard skills ($\alpha = 0,05$ $z_{\alpha/2} = \pm 1,96$ $z = 1,62$), it can be stated that there is no statistically significant difference, which indicates that Serbian managers equally appreciate both hard and soft skills.

Considering the obtained results, it can be concluded that in terms of soft skills there are statistically significant differences in attitudes of managers from, on one hand, production and trade sectors, and, on the other hand, service sector, towards the importance of the skills for company operation. The only exception is the leadership variable, which does not demonstrate a statistically significant difference in the average attitude of managers from production and service sectors towards the importance of the skill for the company operation. According to the ANOVA analysis, it can be concluded that the attitudes of managers from production and trade sectors are, as a rule, similar, while their attitudes are different from the attitudes of managers from the service sector in terms of the importance of soft skills for the company operation.

Regarding hard skills, it can be inferred that there are statistically significant differences in the attitudes of managers from, on one hand, production and trade sectors, and, on the other hand, service sector, towards the importance of skills for company operation. The only exception is the computer literacy (advanced level) variable, which does not demonstrate a statistically significant difference in the average attitude of managers from production and service sectors towards the importance of the skill for the company operation. Finally, it can be concluded that, as in the soft skills analysis, the attitudes of managers from production and trade sectors are, as a rule, similar, while their attitudes are different from the attitudes of managers from the service sector in terms of the importance of soft skills for company operation.

According to the research results, it is possible to define certain guidelines to be applied in practice within training courses development in lifelong learning centres. Considering the fact that enthusiasm, teamwork, flexibility and communication skills are highly ranked by managers from all sectors, as well as the non-existence of a statistically significant difference in their attitudes, it is considered a justified choice to favour these skills at the beginning of the centres' operation.

Future research needs to be extended and directed to the following problem areas: a) requirements for specific knowledge and skills within each individual sector; b) the employees' attitudes towards knowledge and skills they lack; c) attitudes of the education and research institutions representatives towards knowledge and skills requiring the development of new technologies and business models.

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