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NURTURING AND RETAINING TALENTS IN SERBIA*

Negovanje i zadržavanje talenata u Srbiji

Abstract

The Fourth Industrial Revolution and the creation of a future based on innovation and knowledge are transforming demand and putting pressure on the supply-side adaptation of human capital, which under these circumstances is crucial for value creation in companies and society. Because talents play a crucial role in creating value, there is an ongoing "war for talents", but also a so-called "talent paradox" that explains that despite the excess supply in the labor market, companies are failing to find the talents they need. By conducting a questionnaire-based survey among companies and students in their final years of study, this paper is trying to address this particular topic. The analysis shows that companies face a paradox considering youth employment, and due to the war for talents, they are developing an internal environment and strategies that are dedicated to attracting and retaining the much-needed talents. Most companies find that the present higher education system does not meet the current needs for necessary skills, especially those necessary for performing creative and complex activities. This need exists among students, as well, given that 60% believe that educational programs should be improved in terms of development of critical thinking, creativity and research skills. The results also indicate that the war for talents is transcending local boundaries and becoming global, given that companies find it harder to recruit young people because of the better opportunities they have abroad. At the same time, most of the students want to develop their careers in Western Europe in order to improve their standard of living.

Keywords: *talent paradox, war for talents, innovations, creativity, skills, youth, competitiveness, Serbia.*

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Sažetak

Četvrta industrijska revolucija i kreiranje budućnosti koja je zasnovana na inovacijama i znanju transformišu tražnju i vrše pritisak na prilagođavanje ponude ljudskog kapitala koji je u ovim uslovima ključan za kreiranje vrednosti u kompanijama i društvu. Upravo zbog ključne uloge koju talenti imaju u stvaranju vrednosti, na tržištu dolazi do rata za talente, ali i do takozvanog „paradoksa talenata“ koji objašnjava da i pored viška ponude na tržištu rada, kompanije ne uspevaju da pronađu talente koji su im potrebni u procesu stvaranja vrednosti. U radu se upravo bavimo ovim temama na osnovu upitnika koji je sproveden među kompanijama i studentima završnih godina studija. Analiza pokazuje da se kompanije suočavaju sa pomenutim paradoksom kada je u pitanju zapošljavanje mladih, i da upravo zbog postojanja takozvanog rata za talente razvijaju interno okruženje i strategije koje su posvećene njihovom privlačenju i zadržavanju. Većina kompanija smatra da trenutni sistem visokog obrazovanja ne zadovoljava postojeće potrebe za neophodnim veštinama, naročito za onim veštinama neophodnim za obavljanje kreativnih i kompleksnih aktivnosti. Ova potreba postoji i među studentima, uzimajući u obzir to da 60% anketiranih studenata smatra da obrazovne programe treba unaprediti tako da više razvijaju kritičko mišljenje, kreativnost i istraživačke veštine. Rezultati ukazuju i na to da rat za talente prevazilazi lokalne granice i postaje globalan, imajući u vidu da kompanije smatraju da teže zapošljavaju mlade ljude zbog boljih mogućnosti koje oni imaju na stranim tržištima. Istovremeno, većina anketiranih studenata želi da svoju karijeru razvije u nekoj od zemalja Zapadne Evrope sa ciljem unapređenja životnog standarda.

Ključne reči: *paradoks talenata, rat za talente, inovacije, kreativnost, veštine, mladi, konkurentnost, Srbija.*

Introduction

In the modern, dynamic world of rapid technological changes and the emergence of new business models that ensure the survival and prosperity of the Fourth Industrial Revolution and the digital age, talents play a huge, perhaps even crucial, role.

From the availability of key factors of production (labor and capital), the modern world is characterized by a relatively higher availability of capital, but also the reduction in its use (growth in savings through underinvestment, especially for young emerging innovative firms and start-ups) and a relatively poorer availability of high-quality workforce (labor supply is increasing, but there is the problem of whether this factor of production meets the needs posed by the modern labor market of the Fourth Industrial Revolution).

Under such circumstances, global competition has become tremendous, especially when it comes to talent. Countries have undertaken extensive programs to nurture and retain talents. At the same time, they seek to attract talent from other countries. The war for talents is very intense on a global level, bearing in mind that talent is scarce but, at the same time, an essential resource.

Therefore, there is a close link between the labor market and education system, which should ensure the highest possible supply of human resources that are aligned with the needs of the labor market. Today's labor market, in which demand for human resources is being formed, puts human resources under pressure to possess advanced knowledge and skills required by the modern businesses of the Fourth Industrial Revolution. Of particular importance in these processes is the development of specific skills, such as creative thinking, problem-solving, creativity and teamwork as the most important ones in fostering innovation.

In this paper, we have addressed the challenges Serbia faces in the global fight for talent. We conducted a survey among both employers (57 respondents in the sample) and students (314 respondents).

The changing nature of work and labor market

The real great displacement

Baldwin [1, pp. 115-147] points out that two forces, globalization and robots, are a severe threat to many white-collar jobs. Historically, there had been three waves of technological change that would crucially affect the labor market: developments and job creation. The first wave was the Great Transformation that emerged with the Industrial Revolution by shifting workers from agriculture and rural areas to manufacturing and the urban regions. The second wave is related to the IT revolution, during which workers moved into the service sector. Finally, the globotics period is related to globalization and automation, during which workers are shifting to service and professional occupations that do not compete with telemigrants and robots.

Globalization in the form of telemigration (or remote intelligence) has enabled companies in rich countries to hire workers from low-wage countries to do specific tasks through online platforms, sometimes with the help of augmented or virtual reality. These workers can be IT professionals, copyeditors or workers in similar white-collar fields. Their key selling point for companies is that they will work for far lower salaries than their counterparts in rich countries, usually on a freelance basis.

Telemigration has, therefore, made it easier for businesses in rich countries to lay off full-time workers. The main drivers of this trend include improved machine translation (allowing many workers to perform functions for companies in a language other than their native language), better internet connectivity, and an increasing number of graduates from universities in low-wage countries. The consequence is that workers in rich countries no longer have a monopoly on the use of advanced technology produced by companies based in their place of residence.

According to Baldwin [1, pp. 265-277], the fact that robots are increasingly taking over jobs is yet another threat. Artificial intelligence (AI) is already employed in all routine jobs. Therefore, in the first case, the force of telemigration replaces rich-country workers with workers from lower-income countries (through outsourcing). In contrast, in the second case, AI will reduce the total number of jobs,

especially when it comes to routine jobs. Baldwin [1, pp. 265-277] is committed to a holistic approach to address these two forces, telemigration and AI, according to the Danish model, which comprises three parts: easy hiring and firing, unemployment insurance and active policies to help unemployed workers secure new jobs.

Rodrik [25] has indicated that automation has already diminished the growth potential of manufacturing export of developing countries, leading to a phenomenon called premature deindustrialization. One should recall that British manufacturing industry's share of employment peaked at around 45% before World War I and then dropped to just above 30% in early the 1970s, but today it amounts to less than 10% of the workforce. A similar situation is observed in other advanced countries. In the United States, the manufacturing industry employed less than 3% of the labor force in the early 19th century. After reaching 25-27% in the middle third of the 20th century, deindustrialization set in, with manufacturing absorbing less than 10% of the labor force in recent years. However, for the developing countries, it will be challenging to follow a similar trajectory. The deindustrialization starts earlier in these countries, even before manufacturing reaches the levels that existed in the advanced countries. For example, in Brazil, the growth of employee share in the industry from 1950 to 1980 ranged from 12% to 15%, with deindustrialization already set in motion. The key implication of such structural changes is that developing countries are turning into service economies at substantially lower levels of income (advanced countries began to deindustrialize with per capita incomes at \$9,000-11,000 (at 1990 price level). However, the deindustrialization in developing countries starts at \$5,000 in Brazil, at \$3,000 in China, and at \$2,000 in India.

The consequences of early deindustrialization impede growth and delay convergence with advanced economies. Rodrik [25] called the manufacturing industries "escalator industries": labor productivity in manufacturing has a tendency to converge to the frontier, even in economies where policies, institutions, and geography conspire to retard progress in other sectors of the economy. He concluded that rapid growth has historically always been associated with industrialization (except for the handful of small countries with abundant natural resource endowments).

Pointing to the fundamental changes brought about by the Fourth Industrial Revolution and digitization, the World Bank [31, pp. 5-6] points out that the potential offered by new technologies requires a new social contract aimed at maximizing investment in human capital with universal social protection. Human capital consists of knowledge, skills and health and is accumulated during the lives of people, enabling them to reach their potential as productive members of society.

The key effects created by modern technological advances are related to:

- (1) changes in skills required by the labor market under new circumstances, and
- (2) creating new business models.

Under these circumstances, each country must adapt to the innovations introduced by the Fourth Industrial Revolution in the labor market by implementing the following three public policies:

- (1) intensify investment in human capital,
- (2) strengthen social protection, and
- (3) mobilize revenue.

The World Bank [31, pp. 6-9] places particular emphasis on investing in human capital, emphasizing that companies and countries, in addition to the people themselves, must deal with it. In new conditions, all types of jobs require more advanced cognitive skills (ability to perform various mental activities most closely associated with learning and problem-solving, such as perception, attention, memories, motor skills, language, visual and spatial processing, executive functions...). However, in the present conditions, human capital should also possess socio-behavioral skills (good character, friendliness, maturity, common sense, asking questions, conceptual thinking, persuasion, customer service, diplomacy, improvisation, initiative, problem-solving...). Smart people do not always possess behavioral skills. These are skills that must be learned and practiced. The good news is that it is possible to develop these behavioral skills and personally use them for career enhancement. Both of these dimensions of human capital are of the utmost importance in the newly emerging labor market. Technological changes have dictated changes in the structure of labor market needs, both in routine and nonroutine jobs.

Describing the changes taking place in the nature of work in the modern world, the World Bank points out that the process in which robots replace humans is decades-long and spans over more than a century. During this process, new technologies have created more levels of jobs than they have closed. Besides, technological advances have had two effects [31, pp. 17-34]:

- (1) they have made unprecedented improvements in labor productivity and other factors of production by reducing the demand for workers on routine tasks, and
- (2) they have opened up space for the emergence and development of entirely new sectors that were mostly part of science fiction.

On the supply side, firms adapting to new technological advancements included not only new methods of production and expansion into new markets, but also new business models that introduced better use of capital, overcame information barriers, and that helped them outsource and innovate. It enabled the companies to operate more efficiently, expanding their business to new locations, and thus increasing their competitiveness. On the demand side, consumers are able to use a more extensive range of products at lower prices, dramatically improving utility and well-being.

It is quite sure that technology has caused deep disruptions in the labor market, setting entirely new standards in terms of required skills. Despite the significant expansion of skilled labor supply, educational returns are still high (about 9% annually). Returns to education (about 9% a year) remain high despite the significant expansion in skilled labor supply. When it comes to higher education yields, they are almost 15%, indicating that with technological advancements, the labor market has recognized the importance of higher education for standard of living and well-being of people. Returns to tertiary education are almost 15% annually, which means that individuals with more advanced skills are taking better advantage of new technologies to adapt to the changing nature of work.

Analyzing developments in the labor market from 1999 to 2016 in Europe, Terry, Salomons and Zierahn

[22, pp. 16-53] argue that robots are replacing workers on routine jobs. These labor market developments generated more than 23 million jobs across Europe or almost half of the total increase in employment over the same period.

Searching for the answer to the question of how technology shapes the demand for skills and how working conditions are changing, the World Bank [31, pp. 23-27] concludes that the premium is rising for skills that cannot be replaced by robots, and these are the following two sets of skills:

- (1) general cognitive skills, such as critical thinking, and
- (2) socio-behavioral skills, such as managing and recognizing emotions that enhance teamwork.

The main characteristic of workers with these skills is that they adapt much more easily to the profound changes in the labor market, as well as to the changes that disruptions have brought into the production processes. This also applies to the expanded boundaries of firms, expanding global value chains, and changing the geography of jobs.

Despite the technological improvements and innovations, the most demanding and valuable skills are facing pressure of changes in business models. For example, the sharing economy (also known as crowd-based capitalism, collaborative economy, gig economy, peer economy (P2P), on-demand economy...) has gained special prominence in this decade and is providing independent workers for short-term engagements. As one of the most significant disruptive technologies, the sharing economy has made tremendous changes in the labor market (and not just there), enabling the emergence of, e.g., Airbnb, the dominance of P2P exchanges, with the crowd replacing the role of corporations... These new business models have activated the use of hitherto non-performing assets (e.g., Uber in the world or CarGo in Serbia), linking in one business model those that form factor supply (non-performing assets) with those who need services based on those factors required to connect parties through a technology platform. This combination of business and technology is key to the contemporary labor market trends [27, pp. 112-130].

Explaining the changes happening within the sharing economy, Riffkin [24, pp. 50-57] points to the

emergence of an entirely new economic system dominated by collaborative commons, and a paradox arising from the invisible hand of Adam Smith market. The paradox is that no one has predicted that technological advances can lead to near-zero marginal costs in the value chain, making products virtually free. In modern economic theory, this is known as the zero marginal cost paradigm.

To assess the effects of the sharing (gig) economy on GDP and employment, it would be beneficial if national statistics introduced monitoring of these economic activities.

The disruptions introduced by the Fourth Industrial Revolution have profoundly changed the structure of demand for skills in the labor market as follows:

- (1) an increase in demand for nonroutine cognitive and socio-behavioral skills,
- (2) the demand for routine job-specific skills is declining, and
- (3) the earnings of those with combinations of different skill types appear to be increasing, not only in newly hired but also in existing jobs.

The World Bank [31, pp. 28-29] argues that the battle between automation and innovation will determine the future of work. Automation will cause a decline in employment in traditional sectors of the economy, and innovation will cause it in the new sectors. Therefore, the whole future of labor market developments will be conditioned by the outcome of the battle between automation and innovation. However, it will also depend on the intensity of work and skills of the emerging sectors.

Blanchflower [4, p. 25] has expressed doubts that under newly emerging circumstances, the unemployment rate reflects a slack in the labor market. The first problem stems from the fact that many potential workers, discouraged by low salaries and poor working conditions, have dropped out of active labor force and are no longer looking for a job. One group of (non-)workers may be observed as individuals unable to work as a result of age or disability. In contrast, the younger age group may prolong their education, while the third group, consisting of those whose unemployment benefits are exhausted, will resort to the informal sector, working for under-the-table wages. The second problem in the labor market is related to those who want to move from part-time to full-time work, or who otherwise want

to work longer hours or more days. The third problem is related to retirees, who may be tempted back into work. In any case, Blanchflower [4, p. 25] contends that many of these unemployed, underemployed or non-working people could go back to work if decent jobs were available. He asked why there had been no rise in wages in the face of decline in unemployment (as the logic of the Phillips curve established in the 1970s implies). The declining unemployment signals were assumed to be an exhaustion of slack in the labor market (predicting inflation). According to Blanchflower, the real level of slack in the labor market far exceeds what the unemployment rate suggests – so the Phillips curve has broken down.

In his latest book, Frey [8, p. 15] examines the social, political and economic context of employment transitions, indicating that much of the change that is happening is related to the invention and introduction of new technologies. New R&D-related technologies are at the heart of innovative processes. Innovation creates winners and losers in the labor market, determines which jobs will disappear (even if they required painstaking skills acquisition) or which ones will emerge.

The role of talents in the new digital world

Already in the late 1700s, the importance of human capital was recognized by the father of economics, Adam Smith [26, p. 191], when he wrote that acquiring talents during one's education, study or apprenticeship, always costs a real expense and that it is a significant capital possessed by a person. Hence, talent represents wealth for individuals, as well as for the country of their residence.

In his famous work, William Baumol [3, p. 898] explains that talents were often a wasted resource, suffering from massive misallocation: many entrepreneurial talents would end up working in inefficient structures so that their potential contributions to innovation and growth were neglected.

Psacharopoulos and Patrinos [21, p. 449] indicate that despite the increase in the supply of educated workers, there has been an increase in the return on investment in education since 2000. These returns are especially increasing when technological change is taking place, which is the

situation today, meaning that people with higher human capital adapt more quickly to change. Socio-behavioral skills such as teamwork, empathy, conflict resolution and relationship management became very important since they significantly enhance the quality of human capital.

Hsieh and Klenow [9, pp. 219-222] point out that in addition to the returns that individuals with their human capital earn, benefits for the economy should be included, and argue that the country is richer if it accumulates more human capital, especially if its quality is high. This is especially important because human capital complements physical capital and is crucial for innovation and long-term growth. They found that between 10 and 30% of GDP per capita differences among countries could be attributed to cross-country differences in human capital.

Debane, Defossez and McMillan [6, pp. 5-6] emphasize that in modern conditions of digitalization and changing business models, firms should make maximum use of available talent and work to attract as much talent as possible.

Leopold, Ratcheva and Zahid [15, p. 16] clarify that technological breakthroughs are rapidly shifting the frontier between work tasks performed by humans and those performed by machines and algorithms, and that global labor markets are undergoing significant transformations. In this process, key drivers of change are the following technological advances: (i) ubiquitous high-speed mobile Internet, (ii) artificial intelligence, (iii) widespread adoption of big data analytics, and (iv) cloud technology. They explain that the changing geography of production, distribution and value chains are very important; 74% of

respondents in their survey prioritized the availability of skilled local talent as the most important factor; additional relevant factors (the flexibility of local labor laws, industry agglomeration effects, or the proximity of raw materials...) were considered to be of lower importance.

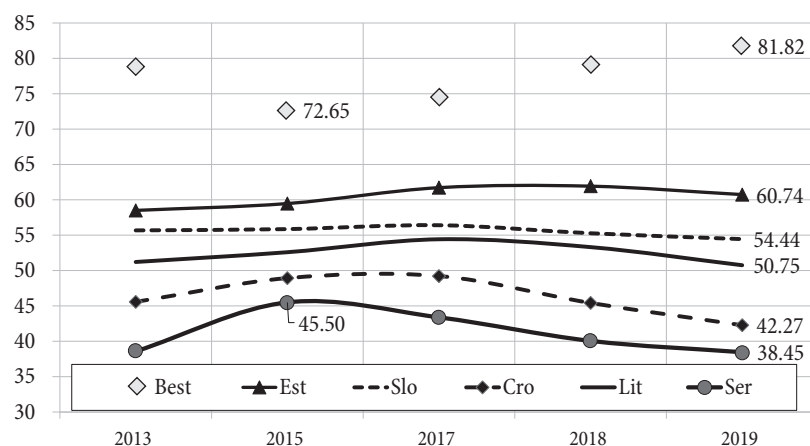
What is around the corner – Talent paradox

Lanvin and Monteiro at GTCI [13, pp. 1-4; 9] point out the paradox that talents are, on one hand, a scarce resource, but on the other, they are widely distributed around the world. There are two problems: the first, which reduces entrepreneurial talent to entrepreneurial traits, is focusing on the psyche and character of entrepreneurs, and the second is conflating entrepreneurial traits with traits of successful entrepreneurs. While the second confusion neglects the fact that many entrepreneurs will not necessarily achieve immediate success, the first confusion leads to overlooking the ways in which entrepreneurial talent can be grown, attracted and nurtured.

Because the role of talent is a critical component of competitiveness and innovation, the GTCI model refers to the set of policies and practices that enable a country to develop, attract and empower the human capital that contributes to productivity and prosperity. GTCI is an input-output model that combines an assessment of how countries produce and acquire talents (input) and the kind of skills that are available to them as a result (output).

Figure 1 shows the GTCI score for the selected countries. Switzerland has the best score in the world (81.82), whereas in Central and Eastern Europe Estonia

Figure 1: GTCI scores



is at the forefront (60.74). The score achieved by Serbia in 2019 (38.45) had been on a downward trajectory since 2015 (45.50). It is noticeable that in this group of countries, there is a decline or stagnation of the score, which is a very important warning signal to all these countries. In contrast, the best performers are continually improving their score.

Figure 2 shows that in recent years Serbia's GTCI score has dropped from 45.50 (2015) to 38.45 (2019). At the same time, there has been a change in the structure of GTCI Serbia. On the other hand, when it comes to rank, Serbia ranked 79th in 2013, 60th in 2017, and 68th in 2019. This comparative analysis indicates that other countries have also faced problems with talent, in large part because the decline in scores did not cause a more dramatic drop in ranks. This indicates that much more attention must be paid to advancing working with talents than it has been the case so far.

Within the GTCI, a particular problem for Serbia was the significant difference between the two components of this index, which is diminishing over time. When it comes to the input component (which reflects the conditions for growth and talent retention), Serbia improved its ranking from 84th place (2013) to 73rd (2019), and when it comes to the output component (which reflects the labor and vocational skills and knowledge), Serbia's ranking dropped from 49th place (2013) to 58th place (2019).

We can conclude that the level of competitiveness strongly depends on talents, especially the entrepreneurial one.

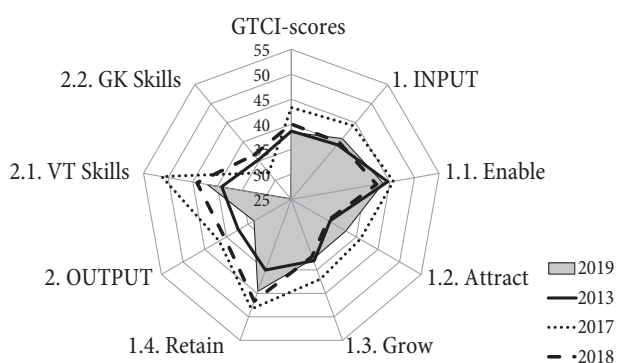
Erickson, Schwartz and Ensell [7, pp. 79-89] indicate that a talent paradox has emerged while there is a surplus of job seekers – meaning that companies cannot rely on the fact that there is an excess supply. Kwan et al. [12, pp.

3-5, 9] point to the importance of “turnover red zones”; turnover intentions appear to be concentrated among specific groups of employees at certain points in their careers - creating “turnover red zones” or employee segments at high risk of departure. For companies, it is very important to prepare appropriate retention strategies, especially when they belong to groups with a high risk of turnover. Now, effectively, there are four generations in the workplace. They explain that while turnover intentions among employees surveyed were fairly stable across generations, the millennials appear most likely to test the job market, with 26% planning to leave their current employers over the next year, compared to 21% of Generation X employees (aged 32-47) and 17% of baby boomers. This is a significant shift from 2011, when Generation X employees appeared to be the most aggressive in testing the job market.

Cottleer and Murphy [5] raise the question of why one chooses to work in one job or another, What is the reason for anyone to choose to stay and work in any company? Given the talent paradox, many companies need to answer this if they hope to attract and retain critical, scarce and highly skilled talent. Companies can no longer assume that they can easily acquire the critical talent and skills they need or which talent will work in their organizations simply because of the economic conditions. To build a strong employer brand, companies should identify their critical employees and determine what they really want, and combine their talent experience with their customer experience and the overall corporate mission. Finally, there is a good reach of science emerging in what was once mostly art. Analytics and predictive models can highlight which employees are the most at risk of leaving and suggest what actions might get them to stay. Analytical tools and capabilities are now an attractive investment for business leaders whose plans rest on having critical talent in the organization.

Analyzing what should be done, Parilla and Liu [20, p. 5] defined priorities for talent-based economic development as follows: (i) the government should invest in proven training solutions, such as customized job training grants and community college partnerships, (ii) target economic development incentives toward opportunity-rich business practices that help build local talent pipelines,

Figure 2: GTCI scores for Serbia (2019)



(iii) develop and disseminate new skill-based hiring tools that promote more efficient and equitable hiring practices, (iv) test new local talent financing solutions, such as revolving learning funds, that target training toward high-demand jobs, and (v) experimenting with new regional talent exchange intermediaries that connect middle schools, colleges, community colleges, higher education institutions and in-demand skill providers with businesses in key growth sectors.

Serbian talents and labor market – Preliminary research

For the purpose of this paper, we conducted two surveys. The first, among businesses, to identify employers’ needs in terms of young talents and what they expect to receive from the job market, and the second, among students,

to determine their opinions on the direction of their expectations and career perspectives.

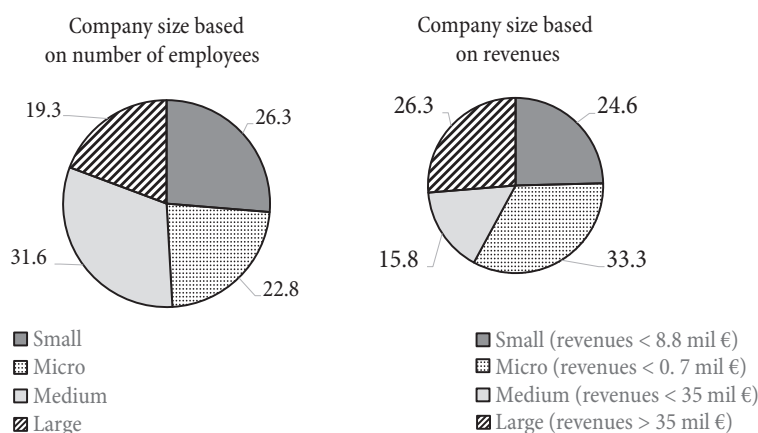
The survey was conducted among 57 companies. Micro firms dominated in terms of revenues, and medium-sized companies regarding the number of employees.

The average R&D investment as a share of revenues is about 5%. Small firms and within them, foreign companies (FC) exporting products and services to the European and world markets, allocated the most funds for that purpose.

The surveyed companies mostly came from the IT and technology sectors, professional and consulting services, construction, manufacturing and commerce, respectively. Every second company exports its products and services, and 63% of them create products and services independently.

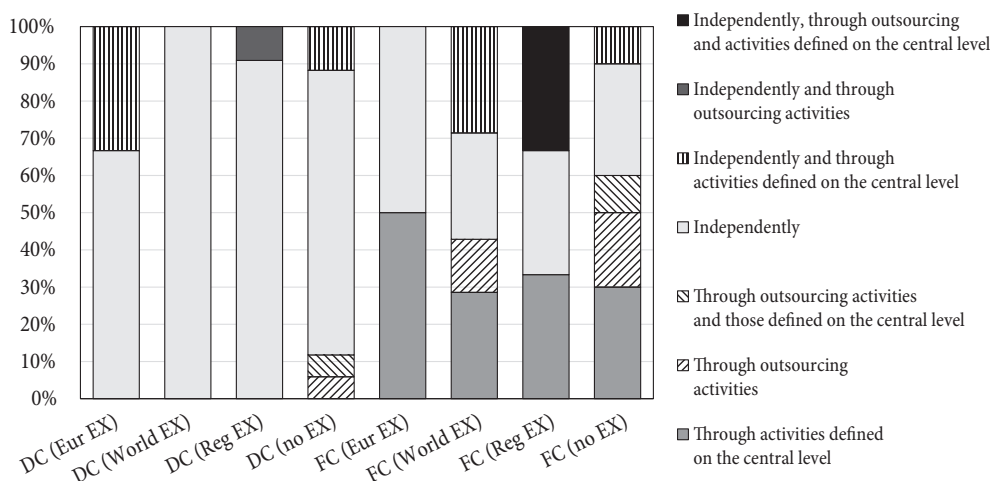
Surveyed companies have difficulties in employing high-quality staff and have the highest need for creative

Figure 3: Labor market survey structure



Source: Authors’ calculation.

Figure 4: The way the company creates its products and services



Source: Authors’ calculation.

rather than routine jobs, 61% and 39%, respectively. In addition to this, almost 60% of the companies face the greatest challenges in finding staff for high or very high complexity activities in the value chain.

Importance of research and development for long-term competitiveness

According to the global competitiveness index report, Serbia is in the stage of an investment-driven economy. In order to develop further and to achieve a higher stage of development, i.e., innovation-driven economy, there is a need for higher investment in R&D and higher share of advanced-skilled staff in order to create unique products and services. If we observe the presented data more closely, we will notice that, when it comes to R&D expenditures as a share of GDP, Serbia is ranked well above the neighboring countries except for Slovenia, but still far below the EU average.

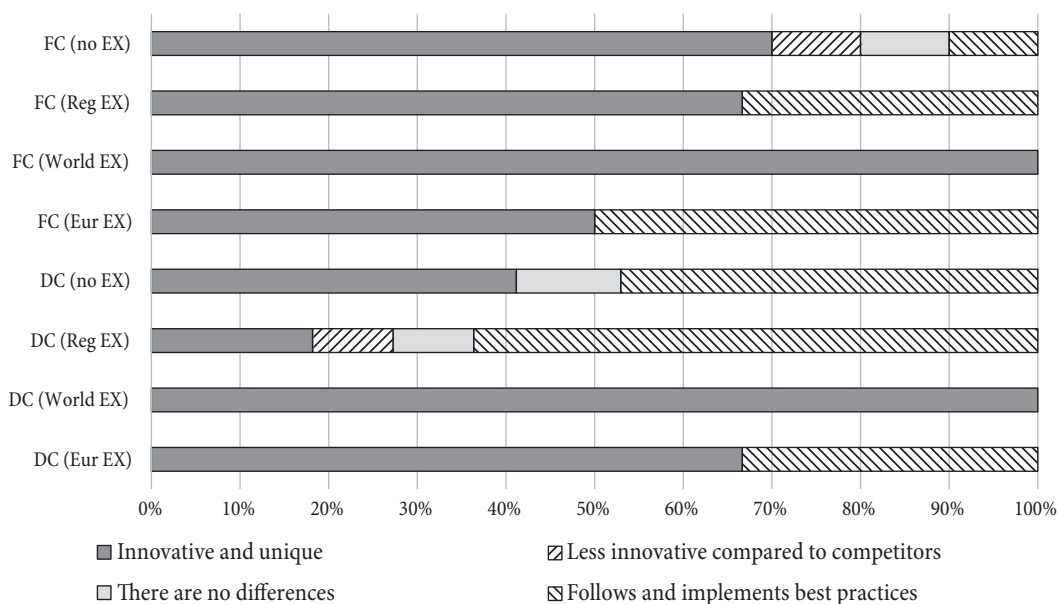
R&D is one of the most complex and most human and capital-intensive activities in the companies' value chain. In innovation theory, Freeman [18, p. 287] refers to: "investment in innovation as the main growth factor, considering that competitiveness is achieved through investment in R&D and other intangibles." According to our survey results, 56% of the companies consider their business as innovative and unique compared to their competitors.

However, this competition is conditioned by the market where the company mainly exports its products and services. In this regard, in order to develop a further baseline for competitiveness, or to stay long-term competitive in the existing niche or market, companies in Serbia need to have higher investments in R&D as a precondition for long-term competitiveness in developing unique products and services.

Apart from capital investment in R&D, in order to create innovative products and services, companies need staff with advanced skills and knowledge. According to the McKinsey report [11]: "reallocating talent to the highest-value initiatives and most critical strategies priorities is as important as reallocating capital." According to the surveyed companies, every second company rates its managers with a grade of 4 or 5 when it comes to their success to employ highly qualified staff and recognize those with high and low performances. In addition to this, almost all of the companies are dedicated to staff development through constantly innovating in the field of production of products and services. However, only every fifth company participates in research and development projects which encourage innovativeness.

Research and development are essential for being innovative and unique, and innovations for social welfare are one of the most appreciating factors when it comes to new talent acquisition. According to the Global

Figure 5: The level of innovation relative to the status of the company in the market



Source: Authors' calculation.

Millennial Survey [28]: “Societal impact and ethics are the most common reasons why millennials change their relationships with businesses.” For new generations, it is not just important to innovate in order to improve business results and expand the market opportunities, but to have a positive impact on society, as well.

Also, Deloitte’s report [28] emphasizes that: “Employees value meaningful work over other retention initiatives.” Our survey results support those statements, given that nearly half of the surveyed companies consider the exceptional job (one that is interesting, has a positive impact on society and offers development opportunities) as the most important thing that staff appreciate when it comes to their career development, rather than financial benefits, supportive leaders and company reputation.

The talent paradox and Serbia

The most valuable resources in knowledge and innovation-driven economy are talents; however, companies are facing a talent paradox. In Deloitte’s report [28], this situation is defined as follows: “While there is a surplus of job seekers, some companies are facing shortages in critical areas where they most need to attract and keep highly skilled talent.” Back in 1997, McKinsey defined war for talents as: “increasingly fierce competition to attract and retain employees” [11].

The talent paradox is also present among the surveyed companies, and despite the fact that the unemployment rate in Serbia is 12.7%, two-thirds of the surveyed companies state that they have long-term difficulties in employing high-

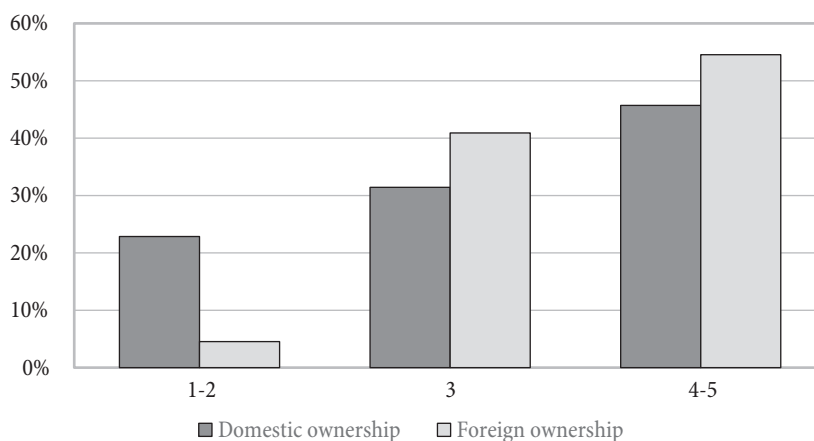
quality staff. Also, regardless of the high unemployment rate among the youth in Serbia which approximates to 30%, more than half of the surveyed companies have difficulties in employing young staff because of the better opportunities they have in foreign markets.

This talent paradox has only intensified the war for talents. In other words, although unemployment rates are high, companies need to focus on developing strategies and policies for attracting and retaining talents. Making an environment that will offer the employees the opportunity to work on meaningful projects has become one of the most important factors for talent retention. This is why the surveyed companies are aware of the importance of developing their internal environment and strategies in order to attract and retain staff. As many as 94% of the companies that have difficulties in employing young people rate their environment as highly dedicated to developing employee skills, and more than 60% of them are involved in projects that aim to have a positive impact on the wider community.

Another cause of the talent paradox and field where there is plenty of room for improvement is the supply side of available staff. Foreign companies are more successful in employing high-quality staff than the domestic ones; however, both state that the present education system does not meet the recruitment needs.

Technology quickly changes the way we learn, work and live, and as the companies need to be flexible in adapting their strategies and business models in order to stay competitive, the education system needs to do the same.

Figure 6: Success in employing high-quality staff per type of ownership (1-5)



Source: Authors’ calculation.

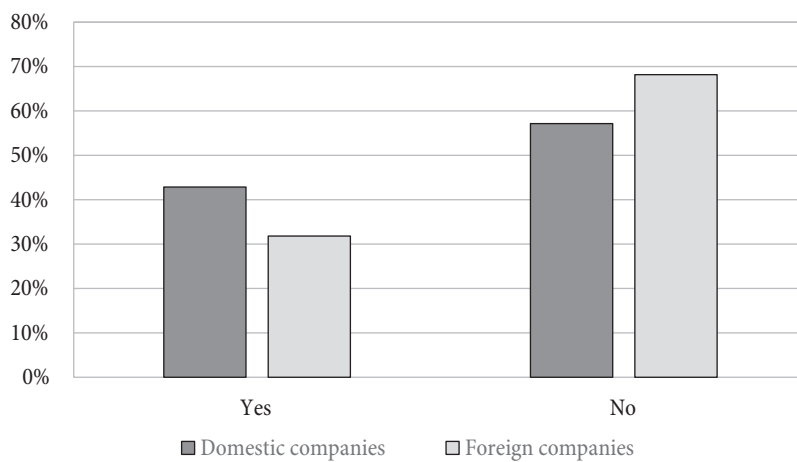
According to the survey results, almost every single company that considers that the present higher education system does not meet the recruitment needs also finds creativity and research skills as crucial ones to be improved while educating future generations. The high demand for creativity and research skills is related to the highest demand for creative and complex activities. The surveyed companies are mainly looking for staff to do creative jobs, and almost 60% of them face the greatest challenges in finding staff for high or very high-complexity activities in the value chain.

The tasks and projects in innovation-driven companies are complex, and in order to be competitive in such a labor market, the labor force needs to possess advanced knowledge and skills. Otherwise, both companies and employees will face difficulties stemming from the talent paradox.

Apart from the talent paradox among the younger population, companies have difficulties in employing high-quality staff in general. Almost half of the respondents believe that this is due to a lack of available staff and a lack of competencies for a particular job, especially sales and IT skills. Companies also state that this has the greatest impact on reducing creativity, competitiveness and market expansion. However, for companies that operate a web shop, the impact of hiring high-quality staff on market expansion is smaller than for companies that face the same difficulties but do not have a web shop. Although more than 90% of the surveyed companies have a website, less than one third have a web shop.

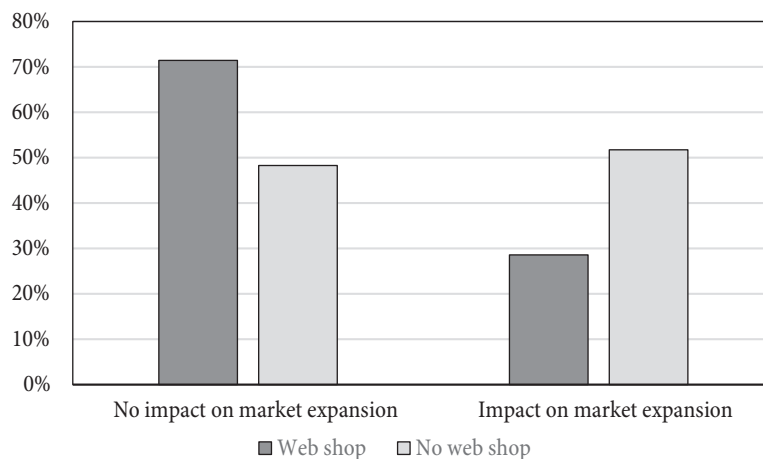
Using the new platforms and technologies as an integral part of the value chain while creating and placing products and services in the market is a necessary and essential condition to stay competitive in the 21st century.

Figure 7: Does the higher education system meet company needs?



Source: Authors' calculation.

Figure 8: Web shop impact on market expansion (for companies that face difficulties in hiring high-quality staff)



Source: Authors' calculation.

It is necessary, but not sufficient, and is inseparable from employees' advanced skills and knowledge that need to be developed further and enhanced through improvements in the education system.

Serbian talents and the education system

The survey was conducted by applying an online questionnaire during December 2019 to a sample of 314 students. The questionnaire was completed by students in their final years of private and public faculties in Serbia, namely 76.4% were students of the Faculty of Electrical Engineering, University of Belgrade, and 22.2% study at the Metropolitan University (FEFA, FIT, FDA). At the time of the survey, 59.1% of the respondents were in their third year of undergraduate studies, while 40.9% of them were in the fourth year of their undergraduate academic studies. Out of the total number of respondents, 44.1% are women, while 56.9% are men.

Education for Industry 4.0 requires the creation of new curricula

Encouraging classroom innovations that provide access to scientific knowledge and enhance students' digital competencies is crucial in adapting the education systems to the needs of Industry 4.0. However, curriculum enhancement does not only relate to academic knowledge and digital literacy, but also implies the development of creativity, innovation, entrepreneurship and social and emotional intelligence. The education system must prepare young people to be agile and open to all the challenges of accelerated technological development, in which change is the only constant.

By researching into companies, we concluded that both domestic and foreign companies face difficulties in hiring high-quality staff. This is especially true when it comes to jobs that require creative skills and performance of the most complex activities in the value chain, where one of the reasons is that the present higher education system does not sufficiently encourage the development of creativity and research skills. Globally, Generation Z (born between 1995 and 2015) think that educational

institutions are the ones that should prepare young people for the changes brought by the Fourth Industrial Revolution when it comes to the skills development [28]. However, in Europe, 74% of educational institutions believe that their graduates are well prepared for the job market whereas merely 38% of young people and 35% of companies feel the same [19]. When it comes to the perception of the education system in Serbia, only 9.9% of the respondents are completely satisfied with the selected study program. Also, 59.6% think that educational programs abroad are better than the programs that are offered in Serbia, and the main reason is that current students think that their peers abroad are gaining more hands-on knowledge (77%).

If we add the fact that there is a strong demand for creative jobs in the surveyed companies, it is quite clear why 60% of the students believe that educational programs need to be promoted in a way that encourages the development of critical thinking, creativity, research skills, information and digital literacy while aligning study programs with the labor market needs.

In this fast-changing world, talent is a key lever of success. It has the power to drive innovation and prosperity and to increase competitiveness for companies and individuals. However, talent is an increasingly scarce resource. At the same time, it is no longer sufficient to possess competencies for just one type of talent or to follow a lonely career path.

The education system in Serbia is burdened with internal challenges, such as hesitant or insufficient reforms, or lack of resources (personnel, money). Therefore, the education system has found itself in a somewhat paradoxical situation: although it has not modernized itself sufficiently, it should be an instrument of further modernization of society [16, pp. 91-94].

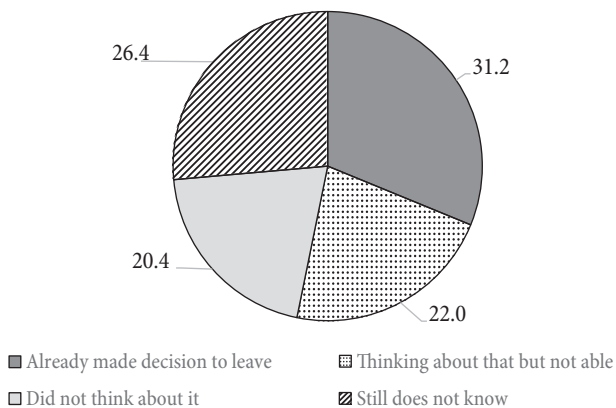
Migration of the youth population

Out of the 247 million migrants in 2016, 90% left their countries for economic reasons, and half of them migrated from developing countries to developed countries [19]. Developed countries also face labor migration. For instance, Switzerland is a tempting country for migrants from developed countries such as Germany. In Central Europe,

18 million people have fled their countries since the fall of Communism, graduates among them. This trend still exists and is increasing, while graduates are staying out of their homeland for a more extended period of time [29]. When it comes to Serbia, in a survey conducted by the Ministry of Education and Technological Development on a sample of 11,000 students, 25% said they wanted to leave the country, while in our survey, 31% of students decided to leave [23]. The most attractive destinations for living and working are Western European countries (54.8%).

According to the Global Millennial Survey [28], the economic optimism of millennials and the Generation Z is at an all-time low, and only 26% of the respondents said they expected the economic situation in their country to improve over the following year. The results of our survey rely on this research because the key motives for young people leaving Serbia are: (1) improving the standard of living – 85.7%, (2) higher wages – 77.1%, (3) better job opportunities – 71.3%, and (4) escape from socially and economically difficult situation – 58.9%. In addition, 62.4% of the respondents believe that a higher economic standard would mitigate the departure of young people from the country.

Figure 9: Thinking about going abroad



Source: Authors' calculation.

Conclusion

The conclusions of this paper are mostly based on the results from the survey conducted among 57 companies and 314 students. In this fast-changing world, talents are crucial for developing innovative products and services, considering that these are based on implementing both

cutting-edge technologies and advanced knowledge and skills in its development. However, the surveyed companies are facing a talent paradox. Despite the surplus of available job seekers in the labor market, companies are still facing difficulties in recruiting high-quality staff. Therefore, there is a so-called war for talents that increases competitiveness in attracting and retaining high-quality staff, and this competition is local, but becoming global as well. About one half of the surveyed companies face difficulties in employing staff because of the better opportunities they are offered in foreign markets. In this regard, the surveyed companies are developing strategies and policies committed to attracting and retaining talents, and are involved in projects that have a positive impact on the wider community. According to the survey results, more than half of domestic and foreign companies state that the present education system does not meet the companies' needs. Also, companies found creativity and research skills as crucial ones to be improved while educating future generations. In order to develop further, toward innovation-driven economy with innovative companies, the labor force needs to be transformed through education and new skills development. Otherwise, both companies and employees will face difficulties stemming from the talent paradox.

Moreover, students are facing difficulties regarding the education system and the labor market, as well. Apparently, there is a gap between the skills students obtained during their higher education and skills the companies find to be the most valuable. The skills that the surveyed students find to be the most important ones to be improved during studies, such as critical thinking, creativity and research skills, are almost the same as the skills that companies consider to be valued the most. When it comes to youth migration, both developing and developed countries are facing a brain drain, and this is a global trend existing for various reasons. However, in Serbia, it is still connected to the standard of living, and students state that an improvement of the economic conditions would slow down the pace of this trend. Having this in mind, we can confirm that developing and nurturing human capital is crucial both for companies and countries in achieving long-term productivity, that is, competitiveness, especially in the wake of the Fourth Industrial Revolution.

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