DIGITALIZATION OF THE EMPLOYMENT PROCESS IN COMPANIES

Dragana Radosavljević[1], Maja Anđelković[2], Nevena Krasulja[3]

[1]*PhD, full professor, Faculty of Business Studies and Law, Union – Nikola Tesla University, Belgrade, Serbia*
[2]*PhD, full professor, Faculty of Informatin Technology and Engineering, Union – Nikola Tesla University, Belgrade, Serbia*
[3]*PhD, professor, Faculty of Business Studies and Law, Union – Nikola Tesla University, Belgrade, Serbia*

Citation:
Radosavljević, D., Anđelković, M. ., & Krasulja, N. (2020). Digitalization of the employment process in companies. *Economics, Finance and Management Review*, (1), 80–85. https://doi.org/10.36690/2674-5208-2020-1-80-85

Received: January 23, 2020
Approved: March 24, 2020
Published: March 25, 2020

Abstract. *From the First industrial revolution, it became clear that the work of humans would replace machines. In today's digital world, where human and artificial intelligence coexist, finding and retaining good workers is an increasingly challenging task for human resource manager. Jobseekers and jobseekers have digitized the recruitment process, through recruitment tools (social networks) and selection (software), with the goal of accelerating and wanting to be ahead of the competition. Digitization has led to the development of new for both candidates and HR professionals. Aims is a to investigate the impact of digitization of the employment process in companies on their works. The author used the methods of static and logical comparison, systematization and generalization, which made it possible to achieve the goal of the study.*

Technological advances have shut down some jobs, but new, less labor-intensive jobs hve emrged that require creativity and critical thinking. In supoort of this is the fact total number of unemployed has not increased.

Keywords: *candidate recruitment, selection, digital platforms.*
JEL Classification: J01, J20, J32
Formulas: 0; fig.: 0; tabl.: 1; bibl.: 11

Introduction. The First industrial revolution was marked by the invention of the steam engine, thanks to it the mechanization of production. The Second industrial revolution massaged production thanks to the invention of electricity. Electronic and information technology automated production in the Third industrial revolution. The Fourth, which is a continuation of the Third, is in fact a synthesis of all previous technologies, the Internet, artificial intelligence and humans. It leads to changes in lifestyle, work and relationships between people, i.e., to the transformation of humanity [1]. Members of Generation Z (population born since 1997), as well as generations to be born, will read about many things in books, more specifically, on the screens of future IT devices.

The number of smart devices, such as computers and phones, connected to the Internet is increasing every day. This radically results in changes in the way information and communication are being implemented, which has a transformative impact on production, distribution and consumption, i.e., from the primary to the tertiary economic sector. Technologies have simplified and accelerated business. The application of artificial intelligence through various algorithms in software programs used by computers in business has replaced the work of humans. This is partly true of the human resources sector, because artificial intelligence, as a substitute for human intelligence, implemented through computer systems, has led companies to change, for the better, ways of attracting, vetting and selecting candidates, as well as hiring them, development, fees and additional benefits. Increasingly, technology is of importance in human resource management processes in companies.

Literature review. The digitalization of the employment process in companies in their works was research by: Agnvall E. (2007) in "Job Fairs Go Virtual", Dessler G. (2015) in "Human Resources Management", Kovacevic I. (2013) in "Users of efficeincy, effectiveness, cognitive style and emotional reactions to computer interface based on different data models", Moroko L. and Uncles MD (2008) in "Characteristics of successful employer brands", Ruiz G. (2007) in "Firms Tapping Web Videos to Lure Jobseekers", Schwab K. (2016) in "The Fourth Industrial Revolution" and other authors.

Aims. Aims is a to investigate the impact of digitization of the employment process in companies on their works.

Methods. The author used the methods of static and logical comparison, systematization and generalization, which made it possible to achieve the goal of the study.

Results. In a time of intense competition in the labor market (Genertion X, Y and Z), attracting, selecting and retaining the best talent is an increasingly complex task for human resource managers. The coexistence of human and artificial intelligence in the world of work complicates this further, but it is obvious that digitalization has transformed the employment process.

Candidate recruitment through social networks. Some day-to-day jobs in the human resources sector are automated and streamlined, so recruiters have more time to find the best candidates. The original opportunity, the digital revolution, job vacancies on their own company websites and databases were replaced by networking on social networks like Monster Networking (www.monster.com), LinkedIn (www.linkedin.com) and WeChat (www.wechat.com). These networks establish contacts, exchange experiences and recommendations. Companies make video contributions with their employees about their experiences with the company. These video attachments are integrated into job advertisements and thus show a work atmosphere with the aim of attracting candidates. Facebook and Instagram are also used to recruit candidates, as well as search CV databases where more candidates can be found than just by posting ads.

Advertising, by companies, and reviewing job vacancies by candidates is also done "form the armchair", ie Through virtual job fairs. It is an environment on the Internet portal, which is similar to an ordinary job fair in a physical space, only meetings and conversations are made using a computer, tablet or phone . In the region of the former SFRY it. in Serbia, Croatia and Bosnia and Herzegovina, since 2010, a virtual fair "Days of Careers and Knowledge"[2] has been organized. Since 2019, the Republic of Northern Macedonia has also joined. It shows companies and educational institutions. Internet visitors listen to presentations, visit booths, chat via chat, leave their CVs, collect contacts and the like. These recruitment fairs very quickly collect application with minimal cost. Estimates say that about nine times as many candidates are recruited, eliminating geographical barriers and connecting people around the world.

Table 1. "Career and Knowledge Days" – Postfestum 2017

Total number of visits 255737 Visit from Serbia 105800 Visits from other countries 104		Attendance by gender Men 38% Women 62%	
Access from platforms: Computers 63%	Phones 35%	Tablet 2%	
Published ads 566		Sign up for ads 25000	
Chat session 291		The total duration of all sessions 837h	
Published employee experiences 221		Picture in the gallery 1005	
Of published videos 94		Visit to the most visited booth 29639	

Source: www.dankarijera.com, date of access 04/30/2018

Digital technology benefits in candidate selection. As companies use digital platforms to recruit candidates, artificial intelligence-based software helps to select the best candidates faster and cheaper, starting with scanning and sorting a large number of applications. Jonhson and Jonhson annually receives about one million job applications[3] and uses the Shine digital platform to recruit, review and select job candidates' CVs, as well as provide feedback to candidates. Candidates can keep track of their CV in one place ie. What level of recruitment process they are at. In this way, more CVs are processed more adequately and more quickly and they show respect to the candidates through feedback, which makes the overall experience of finding a job, that is, candidates more interesting and attractive. With a few clicks through the software, candidates receive feedback, which significantly affects the reduced percentage of 45% of candidates who lack feedback.

Hire Vue [4] is startup that combines artificial intelligence and video interviews in the process of attracting and hiring candidates. Through this platform, videos of interviews with candidates are analysed, using artificial intelligence to assess their verbal abilities, intonation and non/verbal gestures. This is very significant for candidates who come from different speaking areas and cultures. Candidates who undergo video screening are invited to the office for a final interview. Telephone and group interviews were skipped this way. The percentage of those who dropped out of the final interview decreased. Reducing the number of steps in the selection process also reduced the time to recruitment. For example, at Cathai Pacific, which receives more than 300 applications per week, the 3 months to 2 to 3 weeks, and at Hilton, the 42 day recruitment time as been reduced to 5 days. Experience shows that final interviews with higher quality candidates are faster, as well as that candidate experience with companies is better and more positive.

In the modern world, the demographic mobility of the workforce is very pronounced and the selection of candidates according to similarity by origin, nationality, age, gender, education, etc. does not lead to the selection of the best. Classical CV screening puts women and ethnic minorities at a disadvantage (50% to 60%). The Pymetrics [5] digital platform offers game/based candidate assessment tools based on scientific research into people's cognitive and emotional traits. They test the candidates' behaviour in the initial stages of selectin, ignoring facts such as gender, age, education level, ethnicity, etc. In this way, more objective information about the candidate is collected, on the basis of which his profile is defined more precisely his eligbility to do same work and build a career. These tools are used by: Unilever, Mastercard, Mc Donald's, Hyatt, Swarovski.

HR managers in multinational companies, with a large number of employees worldwide, cannot know all their employess regardless of having all the statistics on them. For internal selectin processes i.e. improvements to internal employee mobility, companies such as Segment, MapBok, Credit Karma, … use Twine Labs [6] startup algorithms to track employuess' performance, progress, initiatives, salaries, career, ambitions, ets. Based on the budget of the digital platform Twine Labs, internal candidates for new business roles are selected, selected according to employs data and job requirements, taking into account hundreds of variables. About 50% of the candidates proposed are selected and selected for promotion. This tool is useful for successor planning ie. filling key jobs in the future (top managers).

Disadvantages of digitalization employment. The fear of the impact of technology on jobs is not new. Digitalization the recruitment process in the future will require constant innovation of recruitment and selection platforms to avoid any discrimination. The number of people doing recruitment jobs will decrease as technology solves and performs the daily tasks they once did.

Automation, robotics and artificial intelligence are changing job descriptions and specification, replacing some parts of one's business. Some types of jobs have already disappeared and the further disappearance of certain jobs in the future certain. Research shows that administrative jobs and manufacturing jobs will disappear the most as digital technology takes over all routine jobs. Today, in the car industry, 40% of jobs are done by robots.

Excessive application of modern technology in business processes can lead to changes in the nature of work, .i.e. loss of humanity in business as a social activity.

Discussion. The question today is increasingly being found to find a purpose for the workforce whose work has been replaced by technology? These same people have designed algorithms that better accomplish tasks, monitor and provide feedback on work done. Technology has increased labor productivity and economic growth, but also created the need for many new jobs and new skills. This means that there will be a deterioration in desproportion in the qualifications of employees. New ways of working require new skills, which

leads to a mismatch between the requirement in terms world and education providers. Digital skills are important for the people who live and work today and especially will become so for those in the future. That is why it is important for companies to invest in their employees, through appropriate training. This will prepare them to respond to the demands of new jobs at the right time by applying modern technological solutions.

According to OECD research published in 2017 in the book "Computers and the future of skills demand", a survey of employees' skills was analysed in order to compare the performance of computers, ie. artificial intelligence with the work of humans. Literacy, numeracy and computer-assisted problem solving were analysed. These are the three skills that 13% of employees in OECD countries use every day. Computer have been shown to be close to replicating these skills with a tendency to use more over the net few decades. The question arises as to whether the employees and at what speed can acquire the new skills they need to meet the demands of the modern labour market and in what direction education for the future will be developed [7].

The automation of daily routine tasks has created a space for constant learning, improvement and development of communication, adaptation, organization, collaboration, flexibility, creativity, etc. skills. All those who are constantly investing in themselves create a potential that sets them apart from others and therefore machines. Knowledge is that which cannot be subtracted and which can be transferred from industry to industry.

Conclusion. Digitalization the recruitment process in companies reduces problems in the effect of blindness on a candidate's positive or negative characteristics. Computers do not have emotions and in that sense they do not even have a subjective opinion. It must be remembered that sometimes intuition does a great job for which the algorithm would not give a passing grade. An experienced HR manager knows how to recognize significant talent.

Also, videos about companies where they show jobs, employess, their work experiences, messages from HR managers are opportunities through which companies build their employer brand in order to retain existing emlpoyees and attract new candidates. Those interested though social networks can follow the HR balance of a particular company. They can also create the algorithm themselves and see how many employees at that company are retained, at what jobs and the like. In the digital age, the center on the employee. An employer brand, like other brands, is in fact the perception of employees or potential employees about what a particular company is, not what employers think of their company themselves.

Selection of candidates according to predefined variables using digital platforms provide further passage only to those candidates who fully meet the requirements of the job. Access to candidates is easier, more candidates can be attracted, engagement time is shorter and therefore the cost of the whole process is lower.

Digitalization, brought about by the Fourth industrial revolution, is in fact a business tool that has transformed jobs and as such should be viewed. Digital technology is no substitute for people. Its implementation and proper use require knowledge of digital resources. That is why HR managers need to be aware of modern systems based on artificial intelligence, virtual reality, tools for data collection, processing and management. By applying technology, employees will get rid of routine jobs, thus creating time for creative work and new ideas.

References:

1. Agnvall, E., (2007), „Job Fairs Go Virtual“, HR Magazine, pp 85.
2. Bussness and Technologies Magazine „Internet ogledalo“, broj 186/2018, Internet ogledalo d.o.o., Beograd, pp 18-21.
3. Dessler, G., (2015), „Upravljanje ljudskim potencijalima“, 12. globalno izdanje, Mate d.o.o., Zagreb [in Serbian]
4. Digitalizacija u procesu zapošljavanja. Retrieved from: http://hrpartners.me/blog/digitalizacija-u-procesu-zaposljavanja [in Serbian]
5. China Daily Information Co (CDIC). Official site. Retrieved from: http://www.chinadaily.com.cn/business/tech
6. Computers and the Future of Skill Demand. Retrieved from: https://read.oecd-ilibrary.org/education/computers-and-the-future-of-skill-demand_9789264284395-en#page13
7. In the War for Talent, the Best HR Tech Will Win. This Company Is Banking on It. Retrieved from: https://www.inc.com/emily-canal/twine-human-resources-software-data-metrics-evernote-30-under-30-2019.html.
8. Kovačević, I., (2013), "Users efficeincy, effectiveness, cognitive style and emotional reactions to computer interface based on different data models“, Doctoral Dissertation, University of Belgrade, Facultu of Philosophy [in Serbian].
9. Moroko, L., Uncles, M. D., (2008) „Characteristics of successful employer brands“, Emerald Management Reviews, Vol 16, 3, pp 160–175.
10. Ruiz, G., (2007), „Firms Tapping Web Videos to Lure Jobseekers“, Workforce Management, pp12.
11. Schwab, K. (2016), "The Fourth Industrial Revolution", World Economic Forum, www.weforum.org.