

LABOUR MARKET IN A TIME OF CRISIS. WHAT DO HR EXPERTS SAY ABOUT THE IMPORTANCE OF DIGITALIZATION IN THE POSTPANDEMIC CONTEXT

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Abstract: For several years we are facing the Fourth Industrial Revolution, or Industry 4.0 as it is also called, which puts its mark across every aspect of our societies. The job market is probably the sector which mostly has to defy the challenges imposed by new technologies and digitalization. Moreover, the COVID-19 pandemic majorely impacted the world and, implicitly, the work and the labour market. In order to keep their jobs safe, in a post-pandemic digitalized world people need to focus more and more on developing 21st century skills. The present paper presents an image of a digitalized labor market before and after COVID-19 pandemic, and focuses on how new technologies, which are more and more integrated into the labor market, affect jobs and force people to shift their attention over again to the development of new skills and competences. Qualitative research data was collected from HR experts in private companies from Oradea. We aim to outline the changes ocured on the labour market before and after COVID-19 pandemic with focus on the digitalization of work. We investigate how much emphasis companies put on digitalizing the work, which are the new skills that managers are interested in for their employees, and also what is the strategy managers follow in order to train a highly qualified human resource for a digitalized world. Our results show that there are significant changes on the labor market due to digitization which has accelerated after COVID-19 pandemic, however the changes depend on the field of activity. Companies needed to adapt to the new post-COVID-19 context on the labor market and they restructured their way of organizing their work: technical unemployment, short work schedule, flexible work schedule, remote work. Employers are increasingly looking for candidates who have a good level of training in terms of their digital skills and the candidates themselves are more open to different forms of activities in the digital sphere. The technological evolution which defines the features of Industry 4.0 cannot and should not be stopped while the future of our society encompasses digital and technological development in a higher extent.

Keywords: Industry 4.0; digitalization of work; COVID-19 pandemic; digital skills; human resources

JEL Classification: *M51, M52, M54, A23*

1. Theoretical insights

1.1. The 4th industrial revolution

Currently we are crossing a revolutionary period, namely the 4th industrial revolution: artificial intelligence, automation, mobile supercomputing, intelligent robots, self-driving cars, robotics, the internet of things, 3-d printing, nanotechnology, biotechnology, neuro-technological brain enhancements, genetic editing.

The term of Industrial revolution 4.0 was first used by Klaus Schwab (2015), founder and executive chairman of the World Economic Forum, when referring to the extremely complex transformations that humanity will witness, changes that will have a major impact on every production, management and governance system. Schwab (2015) said that this revolution will change “the way we live, work, and relate to one another”.

In this context, older professions are lost and new jobs emerge. The 2016 Future of Jobs Report argued that “perhaps 60% of children entering primary school today might ultimately work in job types that currently don’t exist.” (World Economic Forum, 2016). Therefore, questions like *Are employers and employees prepared for this new digital world?* are raised. Is there a shift in what skills people will need in order to increase their chances of integration on the labor market? Moreover, we need to address more closely these type of questions especially as we are now in the post-pandemic context.

According to the latest Future Job report in 2020 (World Economic Forum, 2020), 84% of employers are set to digitalize their working processes (including remote work), 43% of them will reduce their workforce due to technology integration, therefore by 2025, humans and machines will spend equal work time. This will lead to a new division of labour between humans and technologies. Well-being challenges will emerge as social inequality is estimated to increase both by the post-pandemic effects and impact of new technologies.

The European Union is aware of the challenges posed by the digital transformations that societies are going through. The targets set out in the 2030 Digital Compass (European Commission, 2023) include 4 main points: a digitally literate population and highly skilled digital professionals, secure and sustainable digital infrastructures, the digital transformation of enterprises and digitization of public services. Till 2030, European Union must reach 80% of adults with at least basic digital skills, 20 million ICT specialists employed, 75% companies using cloud computing, AI and Big Data, over 90% of SMEs with at least basic level of digital intensity, the provision of essential public services 100% accessible online, 100 % of citizens with access to their electronic health records and 100 of citizens with access to secure electronic identification (European Parliament and Council, 2022). One of the mechanisms used to measure the progress towards each of the 2030 targets is the Digital Economy and Society Index (DESI).

The latest DESI report (Digital Economy and Society Index, 2022) ranks Romania on the 27th position of the 27 EU Member States. This position is explained by a very low level of basic digital skills compared to the EU average and poor integration of digital technologies and digital public services for businesses and citizens. The shortcomings encountered by Romania in the digitization process explains an

economic situation in which the opportunities offered by new digital technologies are not taken advantage of. However, Romania scores best at connectivity, surpassing the EU average. Only 28% of individuals in Romania (compared to 54% at EU level) have at least basic digital skills (eg.: ability to explain information needs; locate, retrieve, store and manage digital data, content and information, or to assess the relevance of the source and the validity of its content).

1.2. The process of digitalization and rethinking the digital skills

For many years now, the public sphere of debate brings together experts, stakeholders, policy makers who raise the issue of the changes that the labor market will face under the conditions of the transition to the digital age. One of the main concerns refers to the job displacements in the context of automation and skills gap. Workers are also concerned about what the future might bring and the possibility to lose their jobs. 40% of EU workers consider that they may lose their job and half of them think that the digital technologies are causing it (Cedefop, 2022). The digital decade is translated into a skills transition. To increase their employability, people need to develop or upgrade their digital skills. Digital skill gaps are encountered mostly in the case of workers that use only basic digital technology and those with low levels of education, and these gaps place them in a risk situation regarding unemployment, low productivity and low career opportunities. In order to overcome all challenges imposed by a digital world, a strategic approach is needed where governments, business and people work together.

In this new light, the labour market needs to rethink the digital competences by reskilling and upskilling. Employers estimate that around 40% of workers will need reskilling for about six months and 94% of them expect that their employees will learn a new skill. By 2025, employers estimate that they will offer for about 70% of their workers reskilling and upskilling programs. However, only 42% of employees take advantage of such training opportunities. Technological automation and augmentation will not necessarily assume layoffs, rather internal redeployment (World Economic Forum, 2020).

The COVID-19 pandemic had a major impact on the labor market. In 2020-2021, almost half of workers witnessed the introduction of a new digital technology at their job and 35% of them had to learn how to use it (Cedefop, 2022). However, the digitalization process mostly implies reskilling and upskilling, than job displacement. This will lead to an increase of job quality. Yet, even if 45% of workers consider they need more training in order to work with new digital technology, only one in four actually participated in such training in 2020-2021. People must take advantage of the advantages of digital technology, not fear that they will be replaced by it. It is more a collaboration than a threat.

According to the Digital Competence Framework (Council Recommendation on Key Competences for Lifelong Learning, 22 May 2018, ST 9009 2018 INIT, apud. Vuorikari, Kluzer and Punie, 2022), "digital competence involves the confident, critical and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society. It includes information and data literacy, communication and collaboration, media literacy, digital content creation (including programming), safety (including digital well-being and competences related to cybersecurity), intellectual property related questions, problem solving and

critical thinking". The DigiComp 2.0 framework includes 21 competences structured in 5 areas.

By 2025, the top skills required on the labour market will include critical thinking and analysis, problem-solving, skills in self-management (active learning, resilience, stress tolerance and flexibility). Personal development courses are also emphasized by employers and those who are unemployed tend to focus on learning new digital skills (data analysis, computer science and information technology (World Economic Forum, 2020)).

1.3. Pandemic impact on HRM and digitalization

The Industry 4.0 has brought to front many challenges across different fields of activity, and also strongly impacted the way human resources is organized. A systematic review of literature highlighted four dimensions of these changes: HR Digitalization, HR Management, HR Strategy and HR Competencies (da Silva et al., 2022). Digitalization, as the first category in new trends in HRM, focuses on the use of new technologies in recruiting and training, new ways of working, people analytics, automation, use of AI and machine learning, big data and virtual reality, as well as the human-robot collaboration.

The COVID-19 pandemic has brought significant challenges to human resource management (HRM) and has impacted how people are employed, managed and developed in organizations (Hamouche, 2021). The pandemic has generated significant challenges for managers and HRM practitioners.

Though controversies arised regarding the restrictions imposed, most businesses were seriously influenced by these (Borma, 2023). During the pandemic many enterprises (temporarily) closed their activity, used remote work, reorganized the work space to ensure distancing, organized online meeting instead of face-to-face. Some of the changes implemented were kept even after the restrictions were raised. Remote work and work from home have become more common (Hamouche, 2021). The main challenge faced by human resources managers was to lead from a distance, maintaining a motivated team under a stressful and uncertain context (Caliguri et al., 2020). Advantages of working from distance include transparency of decision by creating electronic trails, attenuate cultural differences and language misunderstandings also due to documentation used in online meetings, and also reduce the time needed for traveling to meetings when geographically people are from different areas (O'Leary, Wilson, & Metiu, 2014), flexibility and autonomy of work (Gunter, Hauff and Gubinator, 2022). These elements are mostly relevant for international teams, especially involved in collaborative work and decision making (Maznevski and Chudoba, 2020). Teams that manage to meet regularly, even online, and have shared a professional identity can overcome geographical and even cultural distance. However, teams that were not accustomed to work online, who did not create strong working relationships and did not develop a clear organizational culture, faced greater challenges imposed by the pandemic (Caliguri et al., 2020).

The challenge to organize the distanced work and keep the work satisfaction, motivation and general wellbeing was addressed differently across sectors. As Gunter, Hauff and Gubinator showed in research on German context, a high impact on teleworker wellbeing was from interest of HRM managers on health care-oriented leadership and practices. Ensuring continuous information regarding the most

probable changes in the work place proved beneficial for morale of employees, and such practices should be kept also in the case of remote work environments.

The use of digital technologies in HRM started before the pandemic context, as the use of AI in recruiting, the online selection and training, use of IT technology in training (Lumi, 2020). The changes in the workplace imposed by the Covid 19 restrictions accelerated the adoption of such practices even more.

The aim of our study is to investigate this phenomenon on the local labor market.

2. Research study regarding the digitalization process in the postpandemic context. Perspectives from HR experts

2.1. Methodology

The present study aims to reveal the main impact of the process of digitalization on the labour market before and after COVID-19 pandemic. We present an image of a digitalized labor market, with focus on changes that occurred in the pandemic context.

The main research objectives addressed are the following:

1. Identifying how much emphasis companies put on digitalizing their work;
2. Identifying which are the new skills that managers are interested in a job candidate;
3. Identifying the strategies managers follow in order to train a highly qualified human resource for a digitalized world,
4. Identify the impact of changes generated by the pandemic regarding the digitization of work.

Our study has a descriptive-explorative approach, following a qualitative research methodology. In order to have a comparative perspective regarding the period before and after the pandemic, we used a methodological mix, collecting data in two stages. In a first research phase we organized a focus group in which 6 HR experts were involved. The focus-group was held in 2018. This part can be seen as a pilot study, as in the context in which afterwards the labor market was affected by the pandemic, we wanted to resume our research in order to capture the main changes regarding the digitalization process in this period. In the second part of the research, we conducted 10 deep-interviews with HR experts. The data was collected between April and May 2023.

In the first phase of our research, we choose to use a focus-group because by giving all participants the opportunity to interact, it enables a group debate on topics of common interest. The focus group guide was structured on 3 dimensions: D1. Current situation on the labor market; D2. Use of new technologies in a digitalized labor market and new skills and competences for a digitalized labor market and D3. Future HR management strategies. For the interviews conducted in 2023, we kept the initial dimensions to which we added a new dimension related to the impact that pandemic had on the digitization process. We chose this type of individual interviews to allow the subjects to elaborate on each topic in the discussion and to be able to capture all relevant details (Babbie, 2010). The data were processed using thematic analysis, emphasizing the comparative perspective of the results.

2.2. Participants

At the focus-group held in 2018, 6 HR specialists from companies in Oradea participated: 1 recruitment agency, 1 sales company, 1 transport company, 2 service companies, 1 hotel company. Most participants were female, with 5 to over 15 years of experience in the field. The interviews conducted in 2023 included 10 HR experts from the private sector, most of them women, with the seniority in the organization between 2 and over 20 years.

3. Results and discussions

The answers given by focus group participants in 2018 were interpreted based on the thematic analysis, and the research results are presented in what follows taking into consideration each dimension of the focus group guide. For each dimension, the section contains the presentation from a comparative perspective of the data obtained during the interviews conducted in 2023. Also, we presented the data obtained for the fourth dimension regarding the impact of COVID-19 pandemic, in 2023.

D1. Current situation on the labor market

For some years the labor market is subjected to various changes especially in what regards its dynamic. These changes represent real challenges both for employers and employees.

If in the previous years the employers' difficulties were mainly related to the selection of the most suitable employee for a specific job from the multitude of candidates, nowadays, HR specialists face many problems mainly due to lack of staff or poor staff training in all areas. In 2018 HR specialists confirmed that they are facing lack of labor force and outlined the fact that this is an ascendant trend on the labor market. Also, they pointed out to lack of qualifications mainly due to the absence of craft schools in Romania.

Quote from HR expert in 2018: *"First, the lack of labor force and this can be confirmed by HR colleagues from companies with many employees. It is actually a problem that I have personally observed, it is my opinion - the lack of qualifications..., there are no craft schools anymore..."*

Employers tended to lower their employment standards (skills & competencies), especially for unqualified jobs:

Quotes from HR experts in 2018: *"Because we face a labor force deficit, candidates' competencies no longer matter. Employment standards are lower than they were about 10 years ago, when candidates were queuing for a job. Nowadays, the candidate needs to have two legs and arms, and to know how to speak"; "The level of required skills and competences is lowering. If they find candidates, employers are happy ... the rest (their training and competence development) is managed directly by the company (mentorship, teambuilding, trainings ... including foreign language courses)."*

Moreover, participants outlined a labor force deficit due to a massive emigration.

Quote from HR expert in 2018: *"In 2008-2009 we had many CVs waiting in the line...But, the best candidates emigrated and now there are only elderly and children left."*

An important aspect highlighted in the interview was related to the beginning of the career in case of young people. Focus group participants state that young people start their career at the age of 28-30 years. They believe that young people are not responsible until that age and are not motivated to work, this behavior being encouraged also by their parents who provide them financial and material support. The discussion developed towards parents' responsibility in educating their children, and the models they promote are focusing on the fact that school and work are not valorized by the present society.

Quote from HR expert in 2018: *"...Another problem, the young people; statistically speaking, in Romania, the career of a young individual begins between 28 and 30 years old. Only then he/she is able, I do not say everyone, but most of them, to detach from the family, to be independent, responsible and to do something... Only after that age young people think what they want to do with their life. Until then they do nothing, and the parents are the greatest accomplices because they keep them at home and accept them to use the technology, we have at our disposal to lose time in fact, and not using it effectively..."*

Another problem identified by HR specialists in 2018 was the unrealistic expectations of the candidates. For them, their training or knowledge and skills are not important, because they are mostly interested in high incomes.

Quote from HR expert in 2018: *"Candidates have great expectations ... they only want well-paid jobs."*

Compared to the aspects identified by HR experts in 2018, interviews in 2023 still highlight the deficit on the current labor market, and an acute imbalance between demand and supply. This situation is created not only by the difficulty faced by employers to find the right workforce, but also by the strive to keep the human resource in the company, a fact outlined by the competition between companies to have employees. A possible solution identified by the subjects to reduce this deficit is to recruit labor force from non-EU countries, especially from Asia.

Quotes from HR experts in 2023: *"The main imbalance is the acute lack of labor force. This lack leads to labor migration from one company to another."*; *"The retention of existing staff in the organizational chart became an important objective."*; *"Candidates are the ones who dictate the labor market now, companies are fighting for fewer and more expensive specialists."*; *"There is no balance between demand and supply neither for unqualified workers, where the work force from Asia is called upon more and more, nor for those of specialists because the Romanian schools are adapted to the needs of the labor market."*

The deficit between demand and supply is due to the way in which the connection between the educational system and the labor market needs is ensured. Currently in Romania there is a the lack of qualified personnel in technical fields, a lack of digital or communication skills, a lack of qualification of young people in a certain field and a lack of interest of youngsters to be present on the labor market. More, the socio-economic context results in a massive migration to Western countries. The labor force deficit is also explained by the regional disparities in the country regarding wages as well as job opportunities.

Quotes from HR experts in 2023: *"There are imbalances between the training, the level of the candidates and the employers' expectations."*; *"...the lack of interest manifested by the young generation for a stable and long-term job..."*

In 2023 subjects noted that, because of the pandemics, certain sectors of activity suffered more compared to others. The main changes refer to the working time, especially a more flexible work schedule, and online collaboration. The staff recruitment process is more efficient due to online meetings and interviews.

Quotes from HR experts in 2023: *“While the COVID-19 pandemic has been devastating for some industries, such as hospitality and entertainment, it has been extremely beneficial for others, including the IT industry.”*; *“Today, many employers are realizing that virtual recruitment is not only more efficient, it's the future. Online job interviews or interviews that include a virtual element save time and money for employers and candidates and provide a fast and efficient hiring process.”*

D2. Use of new technologies in a digitalized labor market and new skills and competences for a digitalized labor market

HR expert participating at the focus group in 2018 stated that there is a high emphasis on new technologies, but their implementation in the working field depends on the specificity of each job. The extent to which companies implemented new technologies is rather low and does not raise the risk of unemployment.

Quotes from HR experts in 2018: *“We try to keep all our employees, because we face a crisis of labor force”*; *“New technologies should be more and more implemented within the labor market, because they can increase the profit, but they are related to the job profile”*.

Respondents stated that new technologies make work more efficient, increase profit, and the risk of unemployment or dismissing employees once these technologies are implemented on the labor market is non-existent, due to labor force deficit, on one hand, and on the other hand because *“However, behind these technologies we find people, because the human resource is indispensable. People are still needed, but fewer.”*

In what regards the skills of future employees, they are closely related to the targeted job. Poor employment requirements apply especially to positions involving unskilled work or various types of occupations. For middle and top management positions employers require soft skills such as: communication ability, employee motivation, problem solving, creativity, and macro-management knowledge. Even for entry level positions the orientation towards results (to solve some situations) and sociability are required.

Quote from HR expert in 2018: *“For qualified jobs, they need to have leadership, macro management and communication skills. For entry levels, the candidate must be oriented towards results and sociability”*.

Digital skills are also very important. In general, digital competences are assessed during the employment process, but further, companies tend to provide digital training to their employees because many of them have poor digital skills.

Quote from HR expert in 2018: *“Digital competencies are important. But, in the present context, we are happy if the candidate knows how to read and write properly”*.

There are companies that focus on employees` training, have annual development plans, have long-term investments in order to identify competent employees, "talents" and develop their skills. Also, these companies offer training for developing all soft, technical and linguistic skills, and *“employees are paid during this period,*

only than they produce". Obviously, there are some risks. HR experts mentioned the risk of leaving the job immediately after the training, which leads to considerable losses for employers.

A problem identified by HR specialists in 2018 starts from the formal education and implies poor use of technologies and low level of digital skills. They believe that schools and universities do not have resources (infrastructure) to properly ensure the transfer of digital competences. Moreover, focus group participants consider that poor digital skills emerge also because the educational system has low quality.

Quote from HR expert in 2018: *"Nowadays, a higher education diploma doesn't mean the candidate has also good competencies and skills"*.

Compared with the main aspects highlighted by HR experts in 2018, specialists who participated at the interviews in 2023 put more emphasis on the increasingly acute need for soft skills, arguing that the technical training specific to a certain field can be covered by qualification at the workplace. As in 2018, also in 2023 HR specialists state that technical competencies can be achieved and developed directly at the working place. Soft skills that are looked for by employers remained almost the same. The suitable employee is the one who understands his or her role in the organization and adapts to its culture and values.

Quotes from HR experts in 2023: *"4-5 years ago professional skills were very important and personal skills (hard skills vs soft skills) were less "rated". Technical skills are tangible, measurable, specific to each field, can be learned and developed with experience, and are absolutely necessary for work. Soft skills ensure a positive work environment, a pleasant atmosphere and a framework of psychological safety. Communication, the ability to adapt, motivation, the ability to analyze (criticize) and make decisions, teamwork, proactivity, the willingness to learn new technologies, creativity, persuasion and emotional intelligence are a set of skills that recruiters have in mind when evaluating candidates for their companies."*; *"...adaptability is the most important competence we look for in a candidate."*

New technologies and work tools will be introduced at the workplace and reshape the work space, while employees will have to learn to use them. Digital skills among employees are increasingly in demand. Working in a digitized work environment is not seen as a threat, but people must learn to adapt to new technologies and use the advantages offered by them. This adaptation to new technologies involves upskilling and re-skilling.

Quotes from HR experts in 2023: *"The evolution of technology will also be accelerated by the growing need for new systems and tools in order to have workspaces better adapted to the future."*; *"...it depends very much on each individual to embrace these new opportunities at the expense of the "blockage" caused by the apparent inability to adapt to new technologies."*

The advantages of using new technologies on the labor market are evidenced especially by the fact that ICT are implemented more on the technical side, on repetitive work requirements, while employees can put more emphasis on developing their soft skills. HR experts in 2023 also mention certain disadvantages of using new technologies in terms of their dependence on electricity or Internet, respectively problems related to online data protection, vulnerability to cyber attacks. Quotes from HR experts in 2023: *"As machines take over some repetitive and routine tasks, employers are increasingly looking for employees who can perform complex*

tasks that require critical and analytical thinking, such as decision-making and problem-solving... ”; “Employers are looking for employees who are willing to learn and adapt to new technologies and changes in the industry.. ”

The same as in 2018, HR experts in 2023 highlight the importance and necessity of the human factor on the labour market, independently of the use of new technologies.

Quote from HR expert in 2023: *“On the one hand, there is the fear that digitalization will lead to the disappearance of classic jobs, but on the other hand, other jobs will certainly emerge. However, no matter how intelligent new technologies are, there are areas where the human factor is more than necessary, where the new technologies do not have the ability to interpret situations and make decisions.”*

D3. Future HR management strategies

In 2018 HR specialists highlighted the following strategies for finding and keeping human resources within the company: part-time jobs especially for mothers; more flexibility to employees, such as arriving later at the job, leaving earlier on Fridays, various trainings for their new employees; investment in vocational schools to properly train the labor force.

Quote from HR expert in 2018: *“We train the new employee... digital competencies, language courses, mentorships, team buildings”*.

A massive digitalization and automatization of work is considered only as a long-term strategy for companies.

Quote from HR expert in 2018: *“Yes, we can say that our company takes into account a more digitalized work, but somewhere in the future... I don't know in how many years...”*

However, for now, the strategy is to import labor force from non-EU countries for unskilled jobs, but not only (eg: drivers). In 2018 companies import labor force from countries such as Serbia, Macedonia, Georgia, Moldova, Turkey, Armenia.

Quote from HR expert in 2018: *“We are recruiting candidates also from non-EU countries like Turkey, Georgia, Ukraine, especially for low qualified jobs”*.

As a response to labor force deficit, a long-term strategy is to reduce the number of jobs by digitalizing the work and introducing new technologies.

Quote from HR expert in 2018: *“If you don't have people, than you'd rather invest in technology”*.

Important investments in technology are estimated by specialists because this can increase profit; however, technology investments need to be adapted to company profile.

In 2023, the main strategy remains unchanged in terms of identifying and retaining employees, namely investing in several types of training programs, structured according to the educational and professional features of different categories of employees. Usually, professional training takes place internally, within the company, but substantial funds are also allocated for external trainings, for example online programs.

Quotes from HR experts in 2023: *“The company encourages continuous learning by covering the expenses for the certifications that employees obtain.”; “The focus on training has increased, we have organized courses for computer use, low and*

medium training for employees, English language courses, Excel and soft skills courses (leadership, project management, multiculturalism)."

Data in 2023 indicate three main directions on which the training of employees is structured: development of technical skills relevant on the field of activity, training of digital skills, English language courses, and development of soft skills such as communication, team work, project management, time and stress management, leadership.

Quote from HR expert in 2023: *"...the employees work, as well as on the development of soft skills, such as: stress management, time management, communication and relationships, teamwork and others."*

The respondents in 2023 emphasize a continuous dynamic on the labor market, which has intensified in recent years also because of the Covid-19 pandemic, a process that cannot be ignored and which will continue to bring major changes in the way labor market is structuralized and organized. The emergence of new jobs will lead to changes in professional requirements and the need for specific skills. Also, remote work is considered to be a definitory characteristic of the future labor market. Quotes from HR experts in 2023: *"In general, the labor market is increasingly dynamic and volatile, and employers must be prepared to adapt to rapid changes, and invest in the development of employees' skills to remain competitive."*; *"The events of recent years have shown us that the world around us and our lives can change very quickly. Technology is developing strongly, and in 5 years everything may be very different from what it is now. But we will definitely need more employees, who will probably learn new things."*

Digitization, automation, artificial intelligence are the main factors identified by HR experts in 2023 that will play an important role in structuring future jobs. Many new jobs will appear in the IT, technological and digital sectors. As examples of future jobs, the subjects mention: specialists in protection of user data, digital marketing, digital human resources expert, software development specialist, artificial intelligence specialist, smart home designer, automation in production etc.

Quote from HR expert in 2023: *"The trend is clear, digitization, automation and more recently Artificial Intelligence will have an important role in the configuration of future jobs and job description."*

The massive presence of digitization in professional activity compels the labor market, employers and employees alike, to adapt to changes and challenges, to be flexible and open to new trends. HR experts in 2023, unlike the ones in 2018, notice that a more emphasis will be placed on the sustainable nature of professional activities and the implementation of green technologies, which will also lead to the emergence of new jobs in this field, and to the adaptation and accessibility of working environments.

Quotes from HR experts in 2023: *"...there is an raising interest in sustainability and green technologies, which could lead to an increase in jobs in these fields."*; *"The evolution of technology will also be accelerated by the growing need for new systems and tools in order to have work spaces which are better adapted to the future."*

D4. The impact of COVID-19 pandemic on digitalization and the development of digital skills

Subjects interviewed in 2023 highlighted the massive emphasis that has been placed and will continue to be placed on the use of new technologies in professional activities; their use is gradually becoming a common practice.

Quote from HR expert in 2023: *"...the COVID-19 pandemic has accelerated the process of digitization of work and the implementation and use of new technologies in many fields. As the pandemic has led to severe restrictions on social interactions and mobility, many companies and organizations have had to adapt quickly and find alternative solutions to maintain their activities and communicate with their employees and customers."*

In the case of many companies, the pandemic has determined the acceleration of the digitization process and the change of work strategies by implementing the flexibility of work schedule, remote work, online communication and professional collaboration, the purchase of specialized software in order to optimize the activity. The way in which the activity was adapted due to technologies was a model of good practice, and is maintained by many companies even after the pandemic.

Quotes from HR experts in 2023: *"Our activity was mostly digitized even before the pandemic. The pandemic taught us to adapt to situations and if before the pandemic the level of online meetings was quite low, during the pandemic it increased a lot. And this way of having meetings and business discussions online was maintained after the pandemic."*; *"After the COVID-19 pandemic many companies have adopted remote work and become more flexible in terms of working hours. This trend will continue in the future..."*

HR specialists mentioned that the level of digital skills differs from employee to employee, the young ones being better prepared in this regard because they are more familiar with new technologies. The need for digital skills increased during the pandemic, and therefore, the emphasis was placed on staff training.

One of the challenges posed by pandemic was the need to use digital technology by all categories of employees, regardless of their level of training or age. However, HR specialists in 2023 note that employees managed to develop the necessary skills.

Quote from HR expert in 2023: *"...the need to develop digital skills has increased compared to the pre-pandemic period. And I think this is the way to follow. Everything is digitized more and more, and we will have to adapt and keep up with the times."*

Conclusions

All HR experts, both in focus group in 2018 and individual interviews in 2023, point out a labor force deficit faced by Oradea. Therefore, the focus is on finding and retaining employees, the implementation of a strategy to respond to a competitive environment in which every employer tries to attract the right human resource. In such a situation, the focus is less on the skills that the employees possess, respectively their level of training, and more on just having human resources.

HR experts refer to the main factors that explain the labor force deficit: the way in which education is not correlated with the needs of the labor market, the way in which young people relate to work and their (unrealistic) expectations regarding the workplace, and migration. In such a context where employers "struggle" to find the right employees, specific skills in the field are not that important as are the

transversal skills, the soft skills, those contributing to the adaptation of the employee to the work environment.

The impact of the pandemic in general, and on the digitization process, in particular, depends on the field of activity: some organizations felt a stronger impact and had to adapt and restructure their work, other companies did not had to change that much their work.

People are important and employers are looking for people. Both participants in 2018 and 2023, even after the pandemic context, emphasise that the human factor is the most important one on the labor market. In 2018 new technologies were seen only as a long-term strategy. After the pandemic, when the digitization process was accelerated, employers admit that the future implies the use of new technologies; nevertheless, they still consider that any strategy must keep its focus on training human resources. All the experts, in 2018 and 2023, point out that the new digital age means the disappearance of some jobs and the appearance of others, however this is not seen as a bad thing as it is a normal evolution of the society. The entire transition to the digital age presents both advantages and opportunities, as well as certain risks or vulnerabilities. The same as the literature points out, our results confirm that the next period will imply a transition of skills, including upskilling and re-skilling.

Regarding digitization, the main impact that the pandemic had was materialized in online collaboration (not necessarily online work, but online communication and collaboration), respectively the flexibility of working time (also in the context of remote work). Even if digitization was somewhat forced in the context of the pandemic, the transition was easy, and companies quickly adapted to the new ways of working.

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