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*Article*

# Anticipating Future Skills and Internal Potential of Entrepreneurs - The Perspective of Mining Transformation

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**Abstract:** the aim of the research results presented in the article is to strengthen a better understanding of the processes related to the transformation of hard coal mining in Poland, in particular the preparation of employees and their representatives, as well as employers from transformed areas for the upcoming changes. In this perspective, anticipating future skills against the internal potential of entrepreneurs becomes more and more important. It is a key element that enables entrepreneurs to adapt to changes, create innovative solutions and remain competitive on the market.

**Keywords:** skills; anticipation; enterprise; transformation

## 1. Introduction

Nowadays, when technology and economy change faster and faster, anticipating the future skills and internal potential of entrepreneurs becomes extremely important. This is particularly important in transformed areas, where changes are particularly intense. First of all, it is worth noting that predicting future skills does not mean predicting the future in the literal sense of the word. It is impossible to predict exactly what will happen in a few years. However, we can analyze the trends and changes currently taking place and forecast their impact on future requirements for entrepreneurs and employees. In this perspective, one of the key areas whose importance is growing is technological skills [1]. Nowadays, almost every industry faces the challenge of implementing modern technologies, and this requires appropriate knowledge and skills. Future entrepreneurs will need to be aware of these trends and prepare accordingly. This will mean both programming skills and the use of modern digital tools. No less important is the ability to learn quickly and adapt to changes. Nowadays, changes are inevitable, and people who can quickly and efficiently adapt to new requirements will have an advantage on the market. Therefore, it is worth developing your flexibility and lifelong learning skills. Another important area is soft skills, such as communication, people management, and teamwork. With the growing importance of technology and automation, these skills are gaining importance [2]. Future entrepreneurs must be able to communicate effectively with other people, manage teams of employees and be able to effectively use their potential. This will require both interpersonal skills and the ability to collaborate and work in a group. In the areas being transformed, the ability to take risks and think innovatively is also particularly important. Future entrepreneurs will need to be open to new ideas and solutions, as well as willing to experiment and take risks. After all, we must not forget that innovations and changes are the driving force of economic development. Anticipating the future skills and intrinsic potential of entrepreneurs in transition areas is extremely important. It allows for proper preparation for changes, as well as for developing those skills and features that will be of the greatest importance in the economy of the future. Therefore, it is worth following the trends and changes taking place in the economy as well as dedicating time to discovering one's inner potential and developing skills that will allow for success in the process of transformation of mining areas [3].

In the space of the challenges and changes outlined above, the results of the research presented herein have been shaped. Research results are the result of the project implemented in 2022-2023 entitled Regional observatory of the transformation process (ROPT) - leader of the Silesian Voivodeship project, partners Central Mining Institute, Mining Chamber of Industry and Commerce and the Miners' Trade Union in Poland [4].

## 2. Purpose and research method

The main objective of the qualitative field research was to better understand the processes related to the transformation, in particular the preparation of employees and their representatives, as well as employers for the upcoming changes.

In total, eight focus groups (FGI) and four expert in-depth interviews (IDI) were conducted on the planned transformation process. The main determinant of the selection of study participants are the specific objectives of the research, and the basis is the results of the first stage of work regarding the assessment of the impact of transformation on the national - regional - labor market and education system (desk research). In the selection of the research group, non-probability selection methods were used, involving groups of participants from various stakeholder circles involved in the transformation process. In turn, the choice of individual institutions and entities from which the participants were recruited, covered by the focus group interview and the in-depth expert interview, was deliberate and is directly related to the results of the qualitative analyzes - desk research - carried out in the first part of the project. 147 experts, including 49 women, participated in the FGI study. Four people, including three women, participated in the IDI study. Groups of respondents from various circles of stakeholders, directly or indirectly involved in the transformation process in various sectors of the national economy, were invited to carry out the research - as it was noted earlier. The type of work performed, professional experience, knowledge of the realities prevailing in enterprises and institutions, and the connection with the subject matter of the research allows for the recognition of the expert knowledge of the people invited to the research and guarantees the reliability of the information obtained. Focus groups and expert in-depth interviews were conducted in the area of eight subregions of the Silesian Voivodeship: Bielski, Bytomski, Częstochowa, Gliwice, Katowice, Rybnicki, Sosnowiec and Tyski. The basis for building detailed research objectives was the analysis of the existing data (desk research) focusing on the thematic area already mentioned in the introduction, the impact of the closure of mining plants on the local environment.

On the basis of the detailed research objectives and the definition of the group of experts covered by the study, sets of problem questions were developed as research tools. In this cognitive area, experts were presented with questions differentiated by the research method. The first scenario for focus research focused on the following cognitive areas: moving away from traditional labour-intensive professions in favor of intelligent and innovative professions, retraining employees in transformed sectors, equipping employees with skills enabling them to use new technologies and building innovative behavior and competence expectations on the labor market. On the other hand, the in-depth expert interview was included in the cognitive scope shaped by the following problem areas: forms of qualifications and future needs of the labor market, competences and future needs of the labor market, the importance of investing in the development of competences and skills of qualified staff and forecasting staffing needs.

The lists of problem questions used in the research were additionally included in two coherent thematic blocks, which allowed to properly direct the focus group interview and in-depth expert interview - and to adapt the issues raised to the knowledge of individual experts.

## 3. Discussion

In the light of all the questions and theses, the participants of the research expressed the following assessments and opinions in the area of the focus group and in-depth expert interviews in the thematic area "Anticipating future skills and the internal potential of entrepreneurs".

In the context of the education strategy in transformed areas, an important voice of the research participants was to emphasize its numerous weaknesses - even the lack of solutions, especially in the

area of small and medium-sized enterprises and crafts, taking into account such important aspects as creating and running one's own business, the ability to change industries in response to dynamic changes determined by through the transformation process. As a result of this phenomenon, in the opinion of experts, it is important to consider taking actions aimed at developing local strategies dedicated to the transformed areas, taking into account the offer of changing the place of employment and occupation for people at risk of losing their jobs. As a result of the described space, it seems reasonable to establish expert teams in the transformed areas to support the sector of small and medium-sized enterprises and crafts by advising on decisions regarding the directions of staff training, and providing educational forms and content dedicated to these areas.

As numerous studies show, the decisive factor for the success of the proposed project in the perspective of modern solutions (Industry 4.0, knowledge-based economy, etc.) is cooperation perceived as a defining feature of any innovation ecosystem. The concept of an innovation ecosystem defines the organizations operating within it - entities that cooperate in order to achieve a certain level of innovation in the economy, as well as the way this group of entities reacts or arranges cooperation with the external environment. Each ecosystem is dynamic by nature and constitutes a network of mutual interactions, which in the constructive version take the form of cooperation or even symbiosis. The efficiency of the innovation ecosystem as a whole depends on the effectiveness of cooperation, and the effectiveness of individual entities is corrected (strengthened or weakened) by other entities that are components of the system. In order to strengthen the innovation ecosystem, we therefore strive to ensure that entrepreneurs, companies, research institutions and academic centers, investors and public institutions cooperate effectively enough to maximize the economic impact and potential of scientific and business innovations in transformed areas in the perspective of future skills and potential of entrepreneurs [5].

The goal outlined above confirms another postulate indicated by experts, which is the need to include not only staff in the education system in the transformed areas, but also employers operating in these areas - and those who plan to become them. According to experts, these are activities aimed at quick response to demand changes taking place in the markets of the transformed areas. The postulates described above are basically a requirement in today's post-industrial society - and it focuses not only on the employee, but also applies to the world of business and company owners. This is related to the growing awareness of people not only as part of the ongoing process of changing the employment function in the transformed areas, but also at various levels of competence. A modern employer is constantly involved in new practices, thus shaping in his consciousness a different new image of the world, in which he must constantly analyses, compare and choose the best solutions [6]. In this perspective, the postulate of the need to develop in the areas of transformation, in the perspective of future skills and potential of entrepreneurs, a program to include staff and employers in the education system in the areas of transformation seems justified.

Research participants, focusing their attention on professions and specialties, noticed in their statements a regularity related to niche professions - i.e., professions that are still expected on the market, but education in them has disappeared [7]. According to experts, people losing their jobs in these occupations did not have any significant problems with finding a job. The key challenge for these people was finding employment with the same pay as in the lost job. Taking into account the indicated regularity, perhaps a method should be developed that would enable - in the areas transformed in the perspective of future skills and potential of entrepreneurs - to describe qualified personnel who may lose or lose their jobs in the transformation process in terms of professions and specialties - with particular emphasis on niche professions. Because niche professions are rare. By nature, educational institutions are "doomed" to educate in professions that are popular and popular with young people. In general, a niche profession may be a traditionally functioning profession, but as a result of economic changes and other processes, it is territorially limited and occurs practically in one region, with supra-regional interest in a given product or service.

As indicated by numerous good practices, knowledge about the professional and qualification profile of qualified personnel is invaluable information for companies creating jobs. The indicated knowledge may determine in these companies purposeful and dedicated building of business

processes, assessments and strategies regarding talents and staffing needs, with careful consideration of which staff are needed, which can be moved to other positions and where new talents may be needed. Many companies are finding that training and preparing employees for the new workplace is in their own interest – and also as part of their social responsibility. Individuals will also need to be prepared for rapidly changing labor demand. Acquiring new skills that are in demand and rejecting intuitive choices regarding the workplace will be crucial for their own security and fulfillment in the labor market in transition areas in the perspective of future skills and entrepreneurial potential [8].

Achieving the goals set by the above challenges - which was particularly emphasized by the participants of the research - will require the fulfillment of several important conditions, including in particular the development of a thematic offer of education, which will be in the areas undergoing transformation:

- related to the existing and created economic potential,
- responded to the current and prospective needs of labor markets,
- a response to social expectations,
- related to the possibilities of its implementation on the basis of the existing educational base.

In the opinion of experts, the fulfillment of the indicated conditions will be accompanied by the need to develop in the transformed areas - both among entrepreneurs and employees - the ability to react quickly to change. The indicated competence was recognized by the experts participating in the research as the most important. In this perspective, it seems justified to conduct a permanent information campaign presenting the positive effects of responding to the changes taking place in the areas undergoing transformation in the perspective of future skills and potential of change entrepreneurs - together with the educational offer dedicated to these areas.

In this perspective, as the authors of the work entitled Education of the future in today's world, the value is no longer knowledge itself, but skills related to communication, management, critical thinking and creativity. Changes taking place in reality, their pace and scope, make it necessary to respond to emerging new and often unexpected challenges. The ability to adapt to changes is becoming one of the most important competences of the modern world. It is something that is most valuable today, something that should be invested in. Perhaps in the near future, skills management will become one of the subjects taught in schools, if they still exist [9].

Related to the existing and created economic potential is the issue of the utilitarian effectiveness of preparing qualified personnel for the quantitative and qualitative potential of entrepreneurs in the transformed areas. In this cognitive space, the participants of the research decided that the most effective instrument determining the indicated effectiveness is co-financing the creation of a job position. Participants of the study stated that this instrument significantly reduces the dismissal of newly hired employees and becomes a guarantee of the durability of their work. In the expert opinion, the instrument also serves as a motivator in the process of creating and maintaining jobs - the key role in this process is played by the function of time, as co-financing the creation of a job allows it to last for a period of several months to several years. Assuming the correctness of the above-described regularity, it may be necessary to consider focusing activities on the development and implementation of a program for the promotion of the professional activation instrument - dedicated to areas transformed in the perspective of future skills and potential of entrepreneurs - which is the aforementioned co-financing of the creation of a job position.

Creating new jobs is a key space for creating new enterprises. It seems that in the perspective of the transformation process, this area will be decisive in achieving its goals. As the authors of the document titled The OECD Jobs Strategy, the basic mechanisms of creating enterprises - including in particular self-employment, programs and local entrepreneurship agencies - have been functioning in OECD member countries for many years. There is evidence that, across a range of policies to promote entrepreneurship, local programs have been successful in creating jobs – and revitalizing local economies hit hard by economic change, particularly in the process of transformation [10].



Another important accent in the expert discussion was the indication of the need to coordinate activities related to the competence needs of entrepreneurs in transformed areas. In this cognitive area, the experts indicated the following needs that could strengthen the indicated coordination:

- too much concentration of activities focusing only on employment offices,
- reacting too late to investments in the area and their impact on changes in employment,
- lack of correlation between investment processes and staffing needs,
- lack of competence training dedicated to specific investments,
- lack of an institution collecting and managing information in the area of competence needs of entrepreneurs.

Also in this area, it seems that an important need is to develop a program coordinating activities related to the competency needs of entrepreneurs in transformed areas in the perspective of future skills and their potential. It is worth recalling here that the coordination of activities related to the competency needs of entrepreneurs is a key element in the economic development of each country. Nowadays, where competition is growing and customer requirements are constantly growing, entrepreneurs must have specific skills and knowledge to stay on the market. Therefore, coordination of activities to ensure an appropriate level of competence of entrepreneurs is necessary to increase the country's competitiveness. However, in order to ensure the effectiveness of training, it is necessary to adapt it to the needs and requirements of entrepreneurs [11]. According to a report published by the Polish Agency for Enterprise Development, the most frequently required competencies are leadership skills, teamwork, creativity, knowledge of foreign languages and the ability to make decisions [12]. Therefore, training should focus on developing these skills to meet the needs of entrepreneurs. According to research conducted by the European Commission, countries that invest in the development of entrepreneurship have a higher level of economic growth and create more jobs [13].

According to experts, predicting future skills in the space of the internal potential of entrepreneurs in transformed areas requires recognizing the categories of employees who work in mines and mining enterprises and their surroundings. This is an activity that may enable the assessment of the chances of individual employee groups to move to new professional roles and jobs. Evaluating the qualified staff working in the mining environment - in the transformation space - the participants of the study pointed to their high quality. According to experts, this is a factor determining their good position on the labor market, chances for a smooth transition to new professional roles and well-paid jobs. The necessary condition is to prevent the loss of the qualification and professional potential possessed by the indicated resources. This can be ensured by a program dedicated to these resources in the transformed areas, aimed at maintaining their professional activity.

Equally important action in the space of future skills is the need to identify them in the perspective of a horizontal vision of the region's development. Thus, there is a need for a coherent development of a development vision in the areas of economy, education and the labor market with a perspective of 20 to 30 years. Summing up, on the basis of the indicated needs, a significant action in the transformed areas may be taking up the challenge in the form of developing a method for estimating the chances of individual employee groups to move to new professional roles and jobs - in the perspective of future skills and potential of entrepreneurs. Two groups of employees are clearly visible in the above space. The first group of employees whose chances of moving to new roles and jobs are relatively high are people with technical education. People with a technical education usually have not only specific skills, but also the ability to quickly absorb new information and skills. The Future of Jobs report of the World Economic Forum shows that in the years 2018-2022 the largest increase in the number of jobs will take place in fields related to information technologies and engineering [14]. Another group of employees whose chances of moving to new professional roles are relatively high are people with humanities education. With an increasing emphasis on soft and communication skills such as teamwork, project management, and data analytics, people with a humanities background are becoming more and more in demand in many industries. Also in this case, the Future of Jobs report shows that the demand for creative specialists, analysts and managers

is growing. The third group of employees whose chances of transitioning to new professional roles are relatively high are entrepreneurs and self-employed persons. Although being an entrepreneur is associated with high risk and hard work, entrepreneurship also gives you a lot of freedom in shaping your professional career. The Global Entrepreneurship Monitor report shows that entrepreneurship is growing all over the world and more and more people decide to set up their own business [15].

The second employee group consists of people with low chances of moving to new professional roles and jobs. This professional population is often underestimated and overlooked element of society. Low qualifications, lack of experience or limited educational opportunities are just some of the obstacles that make it difficult for these people to find a stable and well-paid job. According to Eurostat research, in 2020 the unemployment rate among people with lower education in the European Union was 11.7%, while among people with higher education only 3.1%. This proves that education plays a key role in accessing the labor market. People with lower education are often forced to work in low-paid jobs, which affects their difficult financial situation. Low qualifications are often associated with limitations in professional development. Low-skilled workers often do not have the opportunity to be promoted in their current jobs or to acquire new skills that would allow them to take on more demanding tasks. One of the challenges faced by low-skilled workers is also the need to adapt to the dynamically changing labor market. Nowadays, working in many professions requires not only basic skills, but also the ability to quickly assimilate new technologies and tools. Low-skilled workers often do not have access to training or courses that would allow them to acquire the necessary skills. All these factors contribute to the difficult situation in which employee groups with low chances of transition to new professional roles and jobs find themselves. This requires employers and public institutions to take action to support these people [16].

Participants of the research, taking into account the transformation plans in the perspective of 2045-2050, considered the personnel gap to be a particularly sensitive area, which, as a result of the disappearance of vocational training of personnel, may significantly increase in the regional labor market - especially in the area of deficit competences. Therefore, in the opinion of experts, it is important to recreate vocational education that responds to the contemporary challenges of the labor market, together with undertaking work to forecast the future demand for qualified personnel - focused on prospective investment processes. This condition determines the need to take action in the transformed areas - dedicated to the transformed areas - to recreate vocational education, which is keenly associated with investment processes.

The indicated needs result from several premises. Vocational education is a key element in preparing employees for the profession. Nowadays, labor markets are undergoing dynamic changes, and new technologies and innovations create the need to constantly improve professional skills. Restoring vocational training that responds to these challenges is vitally important for the future of the labor market and increasing competitiveness. One of the main challenges faced by vocational education is matching the educational offer to the needs of the labor market. As the European Foundation for the Improvement of Living and Working Conditions (Eurofound) notes, too often vocational training is not matched to the needs of the labor market and does not take into account changing requirements. As a consequence, graduates of vocational schools often do not have sufficient skills to meet the requirements of the modern labor market. Accessibility for all social groups is also an important aspect of restoring vocational education. Too often, vocational training is expensive or inaccessible to people on lower incomes or from smaller towns and cities. According to a report by the European Commission, people from lower social strata are more likely to choose general rather than vocational education, which means that fewer people from these groups can benefit from the benefits of vocational education [17]. Introducing modern technologies into the teaching process is another key aspect of recreating vocational education. Many professions require the ability to work with modern tools and technologies, and the lack of such preparation may make it impossible to get a job or advance in the profession. As the OECD report indicates, investments in modern technologies in vocational schools are crucial for increasing employment opportunities and professional development of graduates [18].

In conclusion, the introduction of flexible and innovative forms of teaching is another important aspect of recreating vocational education. Too often, traditional vocational schools fail to meet the needs of the labor market and the needs of students who require flexible teaching and skills. Today, the labor market is changing very quickly, skills that were in demand a few years ago may be unnecessary or obsolete today. Therefore, vocational education responding to the contemporary challenges of the labor market is becoming more and more important. According to the report of the European Commission from 2020, in order to respond to the challenges related to globalization and technological progress, vocational education must be updated on an ongoing basis so that it meets the needs of the labor market [19].

The above assessments and observations are developed by drawing the experts' attention to the need to adapt education in the transformed areas to the individual preferences and predispositions of their potential participants and the type of work performed. In this perspective, an important postulate is to create educational programs at every level - and in every form - dedicated to individual recipients.

The indicated assessments confirm that adapting education to the individual preferences and predispositions of students is crucial for increasing the effectiveness of the educational process [20]. However, in the case of transition areas, there are often problems related to access to high-quality education. Therefore, it is important that education takes into account the specificity of these areas and the needs of their inhabitants. Many experts believe that education should be tailored to the individual preferences and predispositions of students. In particular, adults who already work or have a family need flexible learning solutions such as distance learning or weekend courses. In the case of transformed areas, where the mobility of inhabitants is often limited, such an approach may turn out to be particularly effective. It is also worth taking into account the type of work performed in the education process. For example, working people may need specialized skills. Therefore, it is important that educational programs take into account such needs and offer appropriate training [21]. There are also approaches that involve the whole community in the learning process. For example, educational programs run by local community groups or NGOs can help tailor education to the individual needs of residents in transition areas. This approach involves the local community in the learning process and allows for the development of programs that best meet the needs of students. Adapting education to the individual preferences and predispositions of students and the type of work performed is crucial for increasing the effectiveness of the educational process, especially in areas undergoing transformation. However, this requires innovative solutions and close cooperation between educational institutions, local communities and non-governmental organizations. One such solution is modular education, which allows students to choose only those subjects that correspond to their interests and needs. Such action allows for a more flexible and individual approach to education, and at the same time enables the acquisition of specialist skills in line with the needs of local employers [22]. It is also important to use modern technologies in the education process. In the era of digitization, online learning and learning tools can help tailor learning to students' individual needs. Such solutions enable remote learning, which is particularly important in the case of transformed areas, where the mobility of residents - which has already been noticed - is limited. Finally, it is important that education in transition areas is focused on the development of key competences, such as interpersonal skills, creativity and entrepreneurship. Such skills are essential for the economic and social development of the transformed areas and for increasing their attractiveness [23].

In this light, the development of curricula dedicated to the areas of transformation, tailored to the individual preferences and predispositions of students and the type of work performed, seems to be of particular importance for achieving transformation goals in the area of skills and potential of entrepreneurs.

According to experts, entrepreneurs themselves can play an important role in the process of building competence needs in transformed areas corresponding to the potential of enterprises. Their activity and creativity in creating information about staffing needs, competencies, investments and



development plans - cooperation in this area with social partners - can significantly affect the efficiency of business development in transformed areas and increase employment.

The described course of action determines the labor market, which is changing at an alarming pace, resulting in the emergence of new professions, as well as changes in the requirements and skills needed to perform work. In such an environment, entrepreneurs must remain active and creative in creating information about staffing and competency needs in their companies. The following activities contribute to this effect [24]:

- conducting regular SWOT analyzes (Strengths, Weaknesses, Opportunities, Threats) - this analysis allows entrepreneurs to identify the strengths and weaknesses of their company, as well as opportunities and threats arising from the environment. Thanks to this, entrepreneurs can better understand what competencies and skills are required from employees in order to achieve business goals,
- obtaining information on staffing and competency needs by involving employees in the company's development process. Employees are in the best position to determine what skills and competencies are needed to achieve business goals. Therefore, it is worth initiating conversations with employees, getting to know their opinion and asking for suggestions regarding training and other forms of development,
- labor market research. Browsing job advertisements and analyzing the requirements set by employers allows for a better understanding of labor market trends and requirements related to specific professions,
- being creative. This is a key feature that entrepreneurs should have in the process of identifying staffing and competence needs. Creativity allows entrepreneurs to think outside the box, generate new ideas and approach problems in an innovative way. Thanks to this, entrepreneurs are able to identify staffing and competence needs that may not be visible to others.

To sum up, the activity and creativity of entrepreneurs are essential in creating information about the staffing and competence needs in the company. The indicated actions may be supported, for example, by a program of cooperation between social partners and entrepreneurs in the field of creating a knowledge base on staffing needs, competence needs, investments and development plans in transformed areas - in the area of entrepreneurs' skills and potential.

The above challenges correspond to another important need in the opinion of the experts participating in the research - in the process of predicting future skills in the perspective of the internal potential of entrepreneurs in transformed areas - the need to develop a program to include entrepreneurs in building development service databases dedicated to these areas [25].

Building a database of development services is extremely important for any organization that wants to develop its competences and gain a competitive advantage on the market. These databases allow you to learn about the needs of customers, develop their skills and offer valuable solutions. Success in building the aforementioned bases - which is particularly important in the perspective of a just transition - can be guaranteed by the following actions [26]:

- assessment of employee competencies. The first step in building a database of development services in the area of employee competencies is the assessment of employee competencies. Organizations should know what competencies their employees have and what competencies they need to achieve the organization's goals. Employee competency assessment can help organizations identify areas where they should invest in training and development,
- individual development of employees. Each employee has individual development needs and preferences. Building a database of development services should take into account these individual needs and preferences. Organizations should offer employees a variety of training and development programs that are tailored to their individual needs. Thanks to this, employees will be more involved in developing their skills and will make better use of their talents,
- internal training. Organizations should invest in internal training to help employees develop their competencies. In-house training is an effective way to develop employee skills as organizations can focus on the specific needs and goals of the organization. Internal training can be conducted by experienced employees or external specialists,

- external training. External training is another way to develop employees' competences. Organizations can take advantage of various training and courses offered by external providers. External training can be more varied and offer a greater variety of topics,
- mentoring and coaching. Mentoring and coaching are important tools in building a base of development services in the area of employee competences. Mentors and coaches can help employees identify their individual development needs and develop development plans. Mentoring and coaching help employees develop their skills as well as build trust and motivation,
- online support. Nowadays, technology offers many tools and applications that can help employees develop their competencies. Online support can include e-learning, virtual training, webinars and other digital tools that are available to employees around the clock. Thanks to such support, employees can learn at a time and pace that is convenient for them,
- labor market analysis. Organizations should monitor changes in the labor market and regularly analyze the needs of the market in terms of employee competencies. Thanks to this, organizations will be able to adapt their training and development strategy to the changing needs of the market. Labor market analysis can also help organizations identify future trends in competencies and skills,
- succession planning. Succession planning is crucial for organizations that want to build development service bases in the area of employee competencies. Succession planning consists in preparing employees to take up key positions in the organization. As part of succession planning, organizations can invest in the training and development of their employees to prepare them for future challenges and positions.

Building a base of development services in the area of employee competences is crucial for organizations that want to be successful on the market. Organizations should focus on employee competency assessment, individual employee development, internal and external training, mentoring and coaching, online support, labor market analysis and succession planning. Thanks to such a strategy, organizations will be able to form a highly qualified team that will be able to achieve organizational goals and meet customer requirements [27].

The discussion with the participation of experts significantly highlighted the problem area related to several subsequent challenges and threats related to predicting future skills in the perspective of the potential of entrepreneurs in transformed areas. In the opinion of experts, a serious challenge is to prevent professional inactivity of people leaving employment as a result of liquidation of the workplace. Participants of the study clearly indicated the need to develop programs for a smooth transition to new jobs, which - in the opinion of experts - should be implemented during the period of employment of people potentially likely to lose their jobs [28].

Smooth transition programs to new jobs should focus on the following key areas of impact. The first is communication - which, according to experts, is crucial in the event of liquidation of the workplace. Employers should clearly and in detail explain the reasons for the decision to close the workplace and the consequences for employees. They should also discuss plans for the future and provide information on the support that will be provided to employees in the transition process. The second important area is training and professional development. Employers can help employees who leave their jobs by organizing training and professional development programmes. Equally important is psychological support, which should be extended to include financial support. Cooperation with recruitment companies is another effective action providing employees with easier access to job offers. A recruitment company can help employees find a job that matches their qualifications and experience. In addition, such companies can help employees prepare applications and interviews. As a follow-up, employers should create a positive working atmosphere that allows employees to remain motivated and engaged despite the difficulties of losing their job. A friendly atmosphere, support and the attentive presence of superiors can help employees cope with the emotions associated with losing their job. These activities should be accompanied by incentive programs, such as awards and distinctions, which can help employees maintain motivation and commitment at work, even in the event of liquidation of the workplace. Such incentive programs may be aimed at the achievements of employees or their progress in the process of finding a new job [29].

In summary, losing a job can be a difficult experience for employees, but employers have many ways to help employees through the process. Communication, training and professional development, psychological support, financial support, outplacement programs, cooperation with recruitment companies, positive atmosphere at work and incentive programs are ways that can help employees avoid professional inactivity. It is important that employers show support and empathy for their employees in this situation to help them find new career opportunities.

Along with the above activities - which was particularly emphasized by the participants of the research - individual trainings should be associated with the potential of entrepreneurs in the transformed areas. Participants of the research emphasized that individual training should be preceded by comprehensive career counseling in order to obtain knowledge about competences, skills, professional predispositions in order to match them to the potential of entrepreneurs existing in a given area. As indicated by the participants of the research, the process shaped in this way creates much more attractive labor resources and increases their chances of finding a new job. Thus, the diversification of the training offer dedicated to the individual recipient in the transformed areas should be a key competence of the institution, the organization offering it.

The indicated actions are significant for the transformation process, because currently the labor market is changing very quickly and entrepreneurs must constantly adapt their skills and knowledge to the changing conditions. Individual training is a great way to gain additional skills and knowledge that will help the entrepreneur succeed in difficult conditions [30]. One of the areas where individual training is of particular value is the areas of transformation. These areas are characterized by major structural changes, which means that entrepreneurs operating in such areas must adapt their activities to the new conditions. Thanks to individual training, entrepreneurs can gain knowledge and skills that will allow them to operate effectively in new conditions. Individual trainings are an effective tool for entrepreneurs in transition areas, as they allow the content of the training to be adapted to the individual needs and goals of the entrepreneur. Thanks to this, entrepreneurs can focus on those skills and knowledge that are most important to them, which allows for faster acquisition of knowledge and more effective use of it in practice. Individual training is also flexible in schedule, which means that entrepreneurs can adapt the training to their plan of action. Thanks to this, entrepreneurs do not have to give up running their business to participate in training, which allows for more effective use of time and resources. In addition, the use of knowledge and properties characteristic for a given area of transformation may cause additional benefits, e.g. by improving the role of the entrepreneur on the market [31].

Mentoring is another instrument that, in the opinion of experts, is important for successfully incorporating the current and future skills of qualified staff into the potential of entrepreneurs in transformed areas. Mentoring is an important tool for entrepreneurs - which is worth emphasizing again, especially in transition areas - where there are challenges related to the accelerated pace of change and growing competition. Mentoring offers an opportunity to share knowledge and experience between mentors and mentees, which can accelerate learning and change processes. In such an environment, mentors can help mentees identify challenges and set goals, as well as build lasting business relationships. Therefore, it is worth investing in mentoring programs in transformed areas to increase the chances of success and development for enterprises and employees [32]. Thus, following the example of the diversification of the training offer, it may also be important in the transformed areas to develop a program of promotion and dissemination of mentoring programs among employers.

Paying particular attention to skills in the context of dynamic changes in the surroundings of areas and in transformed areas, the participants of the research emphasized the importance of modern technologies, flexibility on the labor market, ability to work remotely and having social competences. On the basis of the indicated areas strengthening the employee's position on the labor market, it seems that also in this case, the promotion and dissemination of knowledge, starting from the youngest generation, in the areas under transformation may significantly strengthen the goals to be achieved in the area of skills and potential of entrepreneurs.

In the area of technological changes, it should be noted that transformed areas are changing their functioning as a result of progressing digitization and automation. With the growing amount of data and the ability to process it, we face new challenges, and at the same time new development opportunities appear. In this context, human skills take on special importance, as they determine the success or failure of the transformation process. Technological challenges are primarily the need to adapt to a rapidly changing environment. The transformation requires employees to constantly improve their skills to meet the demands of the labor market. The most important skill in this context is the ability to learn and adapt to new situations. In the digital age, the ability to absorb and use information quickly becomes crucial. In this light, the transformation has brought many changes to the labor market, including changes in the skills required. Companies are now looking for employees who are flexible and able to adapt to the changing requirements of the market. In this context, skills become increasingly important. However, flexibility at work is not only having skills, but also the ability to adapt to different situations. Flexible employees are able to change their approach to work depending on the needs of the market and the company. They can also work in different industries and in different positions, which gives them more flexibility in shaping their own professional career. In the event of job loss, flexible workers are able to quickly adapt to the new demands of the labor market and find new employment opportunities. In the context of flexibility on the labor market, the so-called soft skills such as empathy, creativity and teamwork. According to the Future of Jobs Report 2020 prepared by the World Economic Forum, in the next five years, skills such as critical thinking, creativity, negotiation and teamwork will be crucial for professional success [33]. Creativity is becoming an increasingly important skill in the face of automation and robotization leading to a reduction in the need for employees performing routine tasks. According to the Creativity study others the Digital Age conducted by Adobe, over 70% of respondents believe that creativity is a key skill in the digital age and 60% believe that creativity is more important than technical knowledge <sup>1</sup>. Flexibility in the labor market is also related to the ability to work in various employment models. More and more companies decide to hire employees for a fixed period, in the form of contracts, outsourcing or contract work. Flexible employees are able to adapt to various employment models and use them for their professional development. One of the challenges for flexible workers is maintaining a work-life balance. In the digital age, employees are always available and can work from anywhere in the world. However, flexible employees are able to maintain a work-life balance, which contributes to improving their quality of life and increasing their productivity at work. By adapting their behavior to the requirements of different situations, flexible workers are able to manage their time effectively and achieve better results at work. Flexible employees have technological skills, soft skills and the ability to adapt to various employment models, which allows them to adapt to the dynamically changing labor market. The challenge for flexible employees is to maintain a work-life balance, which requires them to be able to manage their time and adapt their behavior to the requirements of different situations. However, flexibility is a key skill in the labor market that allows employees to develop professionally, adapt to change and achieve success at work [34].

Other important regularities indicated by experts are the dominance of the demand part of the labor market by competences and skills, not professions and specialties, the shift in education from the process model to the project model, and from training to training and development services. In view of these regularities - recognizing this area as particularly important - when undertaking plans related to dynamic development in transformed areas, training support should be focused in particular on:

- competences and skills expected by entrepreneurs,
- implementing training in the project formula,
- conducting training on the basis of a training and development service.

Participants of the research clearly emphasized that, regardless of the area, employers are not looking for specific professions nowadays, but focus their needs on the already mentioned

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<sup>1</sup> see \_ Adobe. (2012). Creativity in the digital age.



competences and skills. There are several reasons why entrepreneurs are beginning to focus on skills and competencies rather than just traditional qualifications. First, technology is changing the way work is done, which in turn affects the demands placed on workers. More and more work is carried out using modern technologies, which in turn places new demands on employees in terms of digital skills. With the development of automation and artificial intelligence, many tasks become automated, which means that new skills are needed, such as data analytics, programming or interface design. The development of the labor market requires flexibility and adaptability on the part of employees. Today, companies operate in a volatile market, which means that employees must be flexible and able to quickly adapt to changing conditions. Therefore, more and more often, entrepreneurs look for employees who have developed the ability to learn and quickly adapt to new situations [35]. In this space, more and more companies focus on creating multicultural and diverse teams in terms of skills and competences. Such a team can benefit from a diversity of perspectives and ideas, which in turn can help the company develop innovative products or services. In this case, entrepreneurs look for employees with different skills and competencies to create a diverse and versatile team. Finally, the changing situation on the labor market and the growing demands placed on employees mean that having only specific qualifications or experience is no longer sufficient. Entrepreneurs are starting to look for employees who have a wider range of skills and competences that can be used in various fields [36].

However, in the perspective of the departure from the process model in favor of the project model in education, it should be noted that over the last few decades, we have observed significant changes in the way of education at schools and universities. The classic process model, based on the transfer of knowledge by the teacher, is gradually being replaced by a project model in which the student is an active participant in the educational process. One of the main reasons for moving away from the process model to the project model is the development of technology and social changes. Nowadays, there are new requirements imposed on us by developing technologies and dynamically changing labor markets. Currently, it is not enough to have theoretical knowledge, but also practical skills and the ability to solve problems. The project model pays more attention to these aspects because it focuses on the practical application of knowledge in projects and tasks that are more similar to the real challenges that students will face in their future work. Another reason is that the design model is more learner-centered. In the process model, the teacher has a key role, because it is he who transfers knowledge and controls the progress of students. The project model, on the other hand, assumes that the student is an active participant in the process and independently sets his goals and development paths. In this model, the teacher acts as a mentor who helps students achieve their goals and gives guidance on decision making. Thanks to this, students can learn in the way that is most effective for them, and at the same time they are more involved in the learning process. The benefits of the project model are not only associated with greater effectiveness of teaching, but also with easier establishing contacts with the labor market. Students who learn through projects have more opportunities to work in groups, which develops their social skills and increases their impact on others.

When analyzing the process of moving from training to training and development services in the perspective of predicting future skills, it should be remembered that the traditional training service consisted mainly of transferring knowledge by specialists in a given field. The trainings were usually held in the form of lectures or workshops, and their main purpose was to familiarize the participants with new information and skills. However, such a model has its drawbacks, because it often focuses only on transferring theoretical knowledge, and there is no practical application of the acquired information in everyday work. In addition, traditional training is often one-off and does not take into account the individual needs and goals of the participants. In response to these challenges, a training and development model was created that focuses not only on the transfer of knowledge, but also on the development of skills and competences. Such a model takes into account the individual needs of participants and focuses on the practical application of the acquired knowledge in everyday work. In the training and development model, it is also important to continue the learning and development process, which has a significant impact on increasing the motivation and



involvement of participants in the training process. However, the introduction of a training and development model requires changes in the approach to the training process. It is important that the trainings are properly designed and implemented by specialists who know the needs of the participants and are able to adapt the program to their individual needs. It is also necessary to ensure continuous support and access to educational resources, so that participants can continue the process of learning and development also after the end of the training [37].

In the area of focus discussions and expert interviews, the need (ability) to balance competency expectations of employees and employers in the areas of transformation, which are often diametrically different, was clearly signaled. Participants of the research decided that solving the indicated problem area is important for increasing employment and reducing unemployment in the transformed areas. In view of the experts' position outlined in this way, it seems justified to undertake an organizational effort aimed at developing a concept for building a knowledge base on competence and skills-related needs in the transformed areas, both in the area of the employer and the employee.

The problem (challenge) indicated by experts is confirmed by numerous studies and expert opinions, both national and international [38]. The expectations of employees and employers differ significantly, which in turn leads to challenges related to the balance between them. In this context, balancing the competency expectations of employees and employers in the areas of transformation becomes extremely important. Currently, employees increasingly expect flexibility at work from their employers, including the possibility of remote work, flexible working hours, as well as balancing the balance between private and professional life. On the other hand, employers expect their employees to demonstrate a high level of competence, willingness to learn and flexibility at work, as well as the ability to work in various conditions. The last few years have also seen an increase in employee interest in the organization's values and goals. According to research, more and more employees expect their work to have a positive impact on society and the environment, as well as on their personal goals and values. On the other hand, employers are increasingly using their reputation and organizational values as a tool to attract and retain employees. In this perspective, there are many factors influencing the expectations of employees and employers, including market, cultural and social trends [39]. For example, the growing number of millennials and Gen Z employees is affecting employees' expectations of flexibility and organizational values. At the same time, accelerating technological development and the digitization of work are also affecting the expectations of employees and employers. Employees expect their employers to provide them with access to the latest technologies and allow them to work remotely. Employers, on the other hand, are looking for employees who have digital skills and are ready to work in changing conditions.

Organizational culture also influences the expectations of employees and employers. Employees expect their employers to care about their well-being and promote equality and diversity. On the other hand, employers are looking for employees who fit their organizational culture and are ready to work in teams. There are various strategies and methods to achieve alignment between the expectations of employees and employers. One way is to create flexible work systems that allow for remote work and flexible working hours. This allows employees to better balance their private and professional lives, as well as to better adjust their work to their individual needs. Another way to balance the expectations of employees and employers is to invest in employee training and development. This allows employees to acquire new skills and improve their competences, and also allows employers to acquire more competent employees. In conclusion, balancing the competency expectations of employees and employers in the areas of transformation is extremely important in today's world of work. This requires awareness and understanding of the differences between employee and employer expectations, and the ability to align policies and practices with these expectations. Employers who are able to balance expectations can attract and retain the best employees, which in turn leads to organizational success.

#### **4. Conclusions and recommendations**

The key determinant shaping the assessments, opinions and statements of experts participating in focus studies and in-depth interviews was the experience of the past (restructuring of the mining

industry in the last decade of the 20th century and the first decade of the 21st century) and observation - with an attempt to anticipate - the current reality. The questions, issues and cognitive areas included in the interview scenarios are the content that is intended to inspire participants to actively participate in the research. The authors of the research tools and at the same time those who carry out the research hope that they have come creatively closer to achieving the goal adopted in the research - being aware of the need to develop and deepen further research inspired by the Regional Observatory of the Transformation Process project on predicting future skills in the perspective of the internal potential of entrepreneurs in transformed areas. It is worth noting that the extremely extensive cognitive material obtained from the research revealed numerous - as it seems - problems and challenges that have not yet been addressed at the beginning of the transformation process, in the perspective of predicting future skills in the area of the internal potential of entrepreneurs.

In the light of the above considerations, it should be recognized that the study of predicting future skills in the perspective of the entrepreneurs' internal potential is important for several reasons. Firstly, it enables the identification of areas where the entrepreneur needs to acquire new skills or improve his existing competences. In this way, entrepreneurs can better prepare for the challenges posed by the market and increase their competitiveness in the transformation process. Secondly, the study of predicting future skills can help entrepreneurs better manage their inner potential. Entrepreneurs who have a clear idea of the future requirements of the market in the transformation process are better able to identify what skills their employees will need and direct their development in a way that is more effective and in line with the needs of the company. Thirdly, the study of anticipation of future skills in the perspective of entrepreneurs' intrinsic potential can help identify the skills gap in the company. In this way, entrepreneurs can take appropriate steps to fill these gaps, for example by training or recruiting new employees. Thanks to this, entrepreneurs will be sure that their employees have the necessary skills to perform work at a high level and that the company is able to meet the requirements of the market.

Ultimately, the study of anticipating future skills in terms of entrepreneurs' intrinsic potential is important for the long-term success of a company. Entrepreneurs who are able to anticipate future market requirements and prepare for them well in advance will have better chances of survival and development in the environment dynamically shaped by transformation. Thanks to this, the study of predicting future skills is essential for entrepreneurs who want to effectively manage their company and achieve success in the long term.

Below we present conclusions and recommendations describing the results of the conducted research.

- In the context of the education strategy - in the areas under transformation - especially in the area of small and medium-sized enterprises and crafts, there are no solutions that take into account such important aspects as creating and running one's own business and the ability to change industries in response to dynamic changes determined by the transformation process. In this perspective, a method should be developed in the areas undergoing transformation to enable the diagnosis of the condition of qualified personnel according to the demand for them, transfer to other positions and new talents. At the same time, thematic offers of education should be developed, which will be related to the existing and created economic potential, respond to the current and prospective needs of the labor markets, respond to social expectations and related to the possibilities of its implementation on the basis of the existing educational base. It seems justified to conduct a permanent information campaign presenting the positive effects of responding to the future skills and potential of change entrepreneurs - along with an educational offer dedicated to these areas. There is a need to develop local strategies dedicated to these areas, taking into account the offer of changing the place of employment and occupation for people at risk of losing their jobs, creating expert teams to support the SME sector and crafts by providing advice on decisions regarding the directions of staff training and providing educational forms and content dedicated to these areas. They end this thread, in transformed areas there is a need for promotion and dissemination through local strategies for educating modern solutions, such as Industry 4.0, knowledge-based economy, etc.

- In the areas under transformation, there is little awareness of the need to change the employment function and competencies in the perspective of including not only staff in the education system in the areas under transformation, but also employers operating in these areas - and those who plan to become them. In this light, we recommend the need to develop - in the perspective of future skills and potential of entrepreneurs - a program to include in the education system not only human resources, but also employers operating in these areas - and those who plan to become them. Secondly, there is an urgent need to develop a program of shaping the ability to quickly respond to demand changes taking place in the transformed markets.
- In the transformed areas, there is a regularity related to niche professions, i.e. professions that are still expected on the market, but education in them has disappeared. In connection with this regularity, a method should be developed that would allow - in the perspective of future skills and potential of entrepreneurs - to describe qualified staff who may lose or lose their jobs in the transformation process in terms of professions and specialties, with particular emphasis on niche professions.
- In the areas undergoing transformation, an instrument that significantly reduces the dismissal of newly hired employees, guarantees the stability of jobs and is a motivator in the process of creating and maintaining jobs is co-financing the creation of a job. In view of this regularity - in the perspective of future skills and potential of entrepreneurs - one should consider focusing activities on the development and implementation of a program for the promotion of the professional activation instrument, which is co-financing the creation of a job.
- In the areas under transformation, there is a need to strengthen the coordination of activities related to the competency needs of entrepreneurs. In the transformed areas - in the perspective of future skills and potential of entrepreneurs - a program should be developed to coordinate activities related to the competence needs of entrepreneurs. In this perspective, work should be undertaken to strengthen coordination activities related to the competence needs of entrepreneurs, in particular leading to: reducing too much concentration of activities focusing solely on employment offices, eliminating too late reactions to investments in the area and their impact on changes in employment, strengthening correlating investment processes with staffing needs, implementing competency training dedicated to specific investments, and establishing an institution that collects and manages information in the space of entrepreneurs' competency needs.
- In the areas under transformation, there are no measures to assess the chances of individual employee groups to move to new professional roles and jobs. In view of this weakness, a program should be developed to assess the chances of individual groups of employees to move to new professional roles and jobs, in terms of categories of employees who work in mines and mining enterprises and their surroundings.
- In the areas transformed in the area of future skills, there is a lack of their identification in the perspective of the horizontal vision of the voivodship's development. In order to fill the indicated gap, there is an urgent need to develop a coherent vision of their development in the areas of economy, education and the labor market with a perspective of 20 to 30 years.
- In areas undergoing transformation, it is possible that there will be a staff gap, which, as a result of the disappearance of vocational education, may significantly increase in the regional labor market - especially in the area of deficit competencies. In the perspective of the future skills and potential of entrepreneurs - there is a need to recreate vocational education responding to the contemporary challenges of the labor market, together with undertaking work forecasting the future demand for qualified personnel - focused on prospective investment processes. An equally important challenge is the need to introduce flexible and innovative forms of teaching as elements of supporting the process of recreating vocational education.
- Education adapted to the individual preferences and predispositions of their potential participants and the type of work performed is poorly developed in the transformed areas. In the indicated space, there is a need to create educational programs at every level - and in any form - dedicated to individual recipients, their individual preferences and predispositions, taking into account the specificity of these areas and the needs of their inhabitants.

- In the transformed areas, entrepreneurs are not very active in creating information about staffing needs, competence needs, investments and development plans.
- In the transformed areas - in the perspective of future skills and potential of entrepreneurs - there is a need to strengthen cooperation in the field of creating information on staffing needs, competences, investments and development plans with social partners. In the perspective of the future skills and potential of entrepreneurs, it is necessary to consider developing a program of cooperation between social partners and entrepreneurs in the field of creating a knowledge base on staffing and competence needs, investments and development plans.
- In the transformed areas, there is a lack of dedicated development service databases. In the perspective of future skills and potential of entrepreneurs, there is a need to build a base of development services in the area of employee competences; with particular emphasis on employee competency assessment, individual employee development, internal and external training, mentoring and coaching, online support, labor market analysis and succession planning.
- In the areas under transformation, there is a need to develop programs for a smooth transition to new jobs, which should be implemented during the period of employment of people potentially likely to lose their jobs. In the context of smooth transition schemes, communication can play a special role - employers should clearly and in detail explain the reasons for the decision to liquidate the workplace and the effects it has on employees; discuss plans for the future and provide information on the support that will be provided to employees in the transition to a new workplace. Employers can help employees leaving their jobs by organizing training and professional development programs, providing psychological support, which should be extended to financial support, cooperation with recruitment companies, which can help employees find a job corresponding to their qualifications and experience, creating a positive atmosphere at work, which will allow employees to remain motivated and engaged, despite the difficulties associated with losing their jobs.
- In the areas under transformation, employers are not currently looking for specific occupations, but focus their needs on competences and skills. In view of these regularities, when making plans related to the dynamic development of training support, one should focus in particular on the competences and skills expected by entrepreneurs, the implementation of training in the project formula and the implementation of training on the basis of a training and development service.
- In transformed areas, there is a need to balance the competency expectations of employees and employers, which are often diametrically opposed. In view of the indicated regularity, it seems justified to undertake an organizational effort aimed at developing a concept of building a knowledge base on competence and skills-related needs in the transformed areas, both in the area of the employer and the employee.

## 5. Summary

Anticipation of future skills and the intrinsic potential of entrepreneurs is becoming increasingly important in transition areas. In today's dynamic economic environment, the ability to anticipate and adapt to change is crucial to a successful entrepreneur. Entrepreneurs must be flexible and open to new technologies, market trends and changing consumer preferences. The internal potential of entrepreneurs plays a key role in this process. Entrepreneurs with strong internal potential are often more flexible, creative and determined in achieving their goals. They have the ability to use their skills and resources to anticipate change, adapt to it, and create new opportunities. However, anticipating future skills against entrepreneurs' intrinsic potential also involves a degree of uncertainty. Entrepreneurs must make decisions based on incomplete information and forecasts, which can involve risks. It is therefore important to have the ability to manage risk and quickly adapt to unforeseen changes. In conclusion, anticipation of future skills in relation to the internal potential of entrepreneurs is indispensable in the areas of transformation. It is a key element that enables entrepreneurs to adapt to changes, create innovative solutions and remain competitive on the market.

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