

ALIGNING WORKFORCE SKILLS AND EDUCATIONAL OFFERINGS WITH THE CHANGING WORK MODEL TRENDS IN THE REPUBLIC OF MOLDOVA

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Abstract: *In the context of profound transformations in the labor market, driven by digitalization, the green transition, and demographic changes, the Republic of Moldova faces major challenges in aligning workforce skills with the emerging demands of the economy. This study investigates the structural gaps between the current educational offer and labor market needs, highlighting their impact on employability, social cohesion, and sustainable development. Through a critical analysis of educational policies and occupational dynamics, strategic directions for intervention are identified: curriculum modernization, expansion of dual education, promotion of lifelong learning, and strengthening of the education–business partnership. The paper argues for the necessity of an anticipatory and adaptable educational system as an essential element for enhancing national competitiveness and supporting Moldova’s European integration.*

Keywords: *education, skills, digitalization, employability, adaptability.*

JEL Classification: *I28, J24, O15.*

1. Literature review

The dynamic nature of the modern workplace, influenced by technological advancements and evolving economic landscapes, necessitates a continuous alignment between workforce skills and educational offerings. Technological innovations, particularly the advent of Industry 4.0, have significantly altered job roles and skill requirements. The integration of artificial intelligence and automation has led to the emergence of new competencies while rendering certain skills obsolete. A study focusing on reskilling for Industry 4.0 emphasizes the necessity for workers to acquire advanced technological skills to remain relevant in the workforce (Li, 2024). The discrepancy between the skills possessed by the workforce and those demanded by employers, known as the skill gap, poses challenges to economic productivity. Research indicates that understanding these gaps is crucial for developing targeted educational programs. Strategies such as employer-led training initiatives and collaborations between educational institutions and industries are effective methods to bridge these gaps (Braun et al., 2024). Higher education institutions play a pivotal role in equipping students with both technical and soft skills (Javadian et al., 2024). The proliferation of AI technologies has transformed skill demands across various sectors. Research analyzing job vacancies from 2018 to 2023 demonstrates a significant increase in demand for AI-complementary skills, such as digital literacy and teamwork. Conversely, skills susceptible to automation have seen a decline in demand, highlighting the need for adaptive educational programs (Makela and Stephany, 2024). To effectively align educational offerings with workforce needs, several strategies have been proposed: integrating emerging technologies and practical experiences into curricula to reflect current industry practices; encouraging continuous professional development to help workers adapt to changing job requirements;

collaborations between governments, educational institutions, and industries to develop training programs that address specific skill shortages (Organisation for Economic Co-operation and Development, 2017). The alignment of workforce skills with educational offerings is imperative in responding to the rapid changes in work patterns driven by technological advancements. Continuous collaboration among educational institutions, industries, and policymakers is essential to develop responsive curricula and training programs that equip individuals with the necessary skills to thrive in the evolving labor market.

2. Introduction

Structural transformations of the global and regional economy – driven by the digital revolution, the green transition, and demographic changes – are generating new forms of work organization and profoundly altering the profile of skills demanded on the labor market. The Republic of Moldova, currently undergoing European integration and socioeconomic modernization, must respond to these challenges through coherent policies that align education with labor market requirements. The aim of this study is to analyze how the educational offer in the Republic of Moldova can be adjusted to better respond to emerging trends in the work model, thereby contributing to the reduction of unemployment, labor migration, and social exclusion.

In the Republic of Moldova, university and vocational education are continuously adapting to labor market demands. Each year, the national curriculum is revised, and educational plans are adjusted in accordance with economic and technological developments. Additionally, surveys with economic agents and interactions with graduates help ensure that students receive appropriate training. These measures reflect the ongoing efforts of universities and educational institutions to provide the necessary skills to meet labor market requirements.

With regard to work model trends, digitalization has profoundly transformed labor relations. An increasing number of activities are conducted online or in hybrid formats, raising the importance of digital skills as well as transversal competencies such as autonomy, critical thinking, and virtual collaboration.

In parallel, the green transition brings new occupational requirements in fields such as energy efficiency, green transport, and organic agriculture. Additionally, dual education has been successfully implemented in various educational institutions, with students benefiting from internships as early as their first, second, and third years of study. This practical approach allows students to gain direct experience in their field, while at the same time, companies benefit from subsidies for training costs, which encourages their involvement in practical education. European organizations estimate that by 2030, over 40% of jobs will require "green" skills. It is also estimated that failure to address climate change could jeopardize up to 40% of jobs, particularly in industries dependent on a healthy climate and ecosystem (Unicef, 2022).

3. Aligning Workforce Skills and Educational Offerings

The traditional work model – based on physical labor, in-person presence at the workplace, and long-term job stability – is undergoing a transition. Under the influence of digitalization, process automation, and changing social values, more and more economic activities are shifting toward flexible, hybrid, or remote forms.

In the Republic of Moldova, these transformations are being felt in several directions. Among them is *the accelerated digitalization of the economy*, which, during the COVID-19 pandemic, catalyzed the transition to digital solutions in administration, education, and the private sector. At the same time, automation is reducing the demand for repetitive manual labor while increasing the demand for digital and analytical skills.

Another trend is *the rise of self-employment and freelancing*. Digital platforms and the growth of the collaborative economy have expanded independent work, especially in fields such as IT, design, translation, or consulting. As a result, new forms of employment are emerging that require not only technical skills but also entrepreneurial abilities.

Migration and labor mobility represent one of the most pressing challenges for the labor market in the Republic of Moldova. In recent decades, the massive departure of workers – particularly young and skilled individuals – to European labor markets has caused significant imbalances in employment structures. This phenomenon is primarily driven by low wages, a lack of well-paid job opportunities, and the growing aspirations of young people for a more secure and predictable life. The construction, agriculture, healthcare, and education sectors are among the most affected, experiencing alarming staff shortages that limit both local economic development and the quality of public services. At the same time, the exodus of the workforce places increasing pressure on the educational system, which is called upon to prepare competitive specialists for a transforming national context and an expanding global market. The lack of an adapted educational offer and an efficient system of continuous training exacerbates this gap – especially in vocational and technical education, where there is a chronic shortage of qualified staff despite growing demand from employers. In this context, it is imperative to develop policies that combine labor retention measures, rapid professional retraining, and the creation of attractive conditions for the return of specialists from the diaspora – alongside a profound reform of the vocational training system to make it flexible, inclusive, and aligned with the real demands of the labor market (Nota Analitică privind diagnosticul în domeniul muncii și ocupării forței de muncă în Republica Moldova, 2021).

The green transition and sustainability also play a distinct role in the transformation of the work model in the Republic of Moldova. Climate change and the commitments undertaken as part of the European agenda require transformations in industries such as transport, energy, and agriculture. These transformations also involve the retraining of the existing workforce.

In this context, the Republic of Moldova's ability to anticipate trends and adapt educational and vocational training policies becomes essential for the country's competitiveness and social cohesion.

One of the most pressing obstacles to the economic development of the Republic of Moldova is the lack of coherence between the skills provided by the educational system and those demanded by employers. This gap is evident at all levels of education – general, vocational-technical, and higher education.

In this regard, there is a *noticeable lack of digital skills*, even though basic digital competencies are becoming essential for most occupations. Data shows that a significant portion of the active population in the Republic of Moldova faces difficulties in using digital technologies – including young people from disadvantaged or rural backgrounds. Despite the fact that certain sectors (e.g., IT, construction, food industry) report a shortage of qualified specialists, many educational institutions continue to produce graduates in oversaturated

fields such as law or public administration. This results in training that is *poorly aligned with labor market demand*.

Deficiencies in the development of transversal skills are frequently highlighted by employers, who point to the lack of competencies such as critical thinking, teamwork, time management, effective communication, and adaptability. These skills are rarely explicitly included in school or university curricula.

The inflexibility of the vocational training system poses a major challenge for both employers and future employees. Initial and continuing training programs remain rigid, poorly connected to the economic environment, and insufficiently adapted to the dynamics of newly emerging occupations in the labor market. Partnerships between educational institutions and the business sector are often formal and lack functional mechanisms for feedback and co-creation of educational content.

The lack of a lifelong learning culture can have major long-term repercussions. Adult participation in continuing education programs is low, especially in rural areas and among workers with low levels of education. As a result, many employees are unable to keep up with evolving technological and organizational demands.

These discrepancies highlight the need for a sustained and coordinated effort among key stakeholders – government, educational institutions, employers, and civil society – to reconfigure the skills development system in a more flexible and future-oriented manner.

Faced with the pressures generated by labor market transformations, the educational system in the Republic of Moldova has begun a process of adaptation, although many of the reforms are still in early or fragmented stages. Efforts are focused on modernizing the curriculum, digitalizing the educational process, and strengthening ties with the economic environment.

In recent years, the national curriculum has been modernized to integrate key competencies such as autonomous learning, critical thinking, and digital and civic skills. However, the implementation of these components varies significantly, often depending on the individual initiative of teachers and the resources available at the local level. Another important initiative has been the expansion of dual education and the strengthening of partnerships between the educational system and the industrial sector. The dual model, which combines theoretical instruction with practical training in the workplace, has been implemented in certain colleges and centers of excellence, in collaboration with economic agents. Nevertheless, the initiative faces challenges such as a lack of well-trained staff, reluctance from some employers, and the absence of clear regulatory and evaluation mechanisms.

The digitalization of education received a significant boost during the global health crisis, which accelerated the use of information technologies in the teaching and learning process. Despite this progress, major inequalities persist in terms of access to equipment, internet connectivity, and the development of teachers' digital skills – especially in disadvantaged environments. In parallel, the Ministry of Education, together with other institutions, launched continuous training programs for teachers focused on developing digital abilities and modern pedagogical methods. However, participation is often limited due to lack of time, insufficient resources, or low motivation, and the actual impact of these trainings on the quality of the educational process remains difficult to assess.

Another area requiring increased attention is career guidance. Although some educational institutions have established career counseling centers, career orientation remains

a marginal component of the educational system. A major challenge in the current educational context is the disconnect between basic education (primary and secondary) and higher education. In schools and high schools in the Republic of Moldova, there should be a stronger focus on economic education, green economy, and digital literacy. These areas need to be integrated earlier into the educational curriculum to better prepare students for future economic and environmental changes. Furthermore, skills related to the proper use of digital technologies (such as computers and smartphones) should be taught from early education in order to ensure a smooth transition to higher education and vocational training. Students have limited access to up-to-date information on labor market trends and real career opportunities.

Although the steps taken are important, it is clear that the educational system needs a more coherent, intersectoral, and data-driven approach to effectively respond to labor market changes. A long-term strategic vision is needed – one that emphasizes flexibility, innovation, and lifelong learning.

Despite the reforms that have been initiated, vocational and higher education continue to produce a large number of specialists in fields with low demand, such as law, public administration, and general economics. At the same time, areas such as information technology, electrical engineering, food processing, and mechatronics struggle to attract enough pupils and students.

Educational policies and recent initiatives should first and foremost align with the labor market demands of the Republic of Moldova. The “Education 2030” development strategy envisions the modernization of training programs, the expansion of dual education, and the introduction of basic digital skills starting from primary school. Partnerships with the private sector are beginning to develop, particularly through chambers of commerce and sectoral councils. However, these partnerships remain sporadic and insufficiently systematized.

EU-supported projects (e.g., EU4Skills) provide assistance for the rehabilitation of VET (Vocational Education and Training) infrastructure and the training of teaching staff, but the results have not yet been scaled at the national level [2].

Centers of excellence have been launched in some regions; however, the lack of a system for monitoring professional integration limits the real impact of the reforms.

To ensure effective alignment between workforce skills and the demands of a dynamic and constantly evolving labor market, the Republic of Moldova needs systemic interventions firmly rooted in multisectoral cooperation. One of the priorities is the creation of a functional mechanism for anticipating labor market needs. This involves the development and regular updating of forecasts regarding skills demand, through a joint effort by public institutions, the private sector, and development partners. The information thus obtained should be integrated into the strategic planning of the educational offer, guiding both enrollment figures and the periodic revision of curricula.

At the same time, strengthening partnerships between education and the economy is essential to effectively bridge the gap between schools and labor market demands. The active involvement of employers in designing study programs, offering relevant internships, and participating in the evaluation of graduates’ competencies could transform sectoral councils into effective platforms for dialogue and co-creation of occupational and educational standards. In this context, greater attention must be given to the reform of vocational and dual education, which should be made more flexible and continuously adapted to labor market

requirements. This involves attracting industry specialists as trainers, as well as providing clear incentives to companies that actively engage in vocational training.

Another essential pillar is the promotion of lifelong learning. The state should facilitate adult access to professional retraining and upskilling through concrete instruments such as training vouchers, the development of community learning centers, and information campaigns focused on the benefits of continuous education. In parallel, it is crucial to systematically integrate transversal and digital skills into all forms of education. Critical thinking, effective communication, problem-solving, digital literacy, and entrepreneurial spirit must be cultivated from primary school and continuously developed throughout vocational and higher education.

The modernization of career guidance and educational counseling services is also a key factor in supporting young people's professional pathways. These services must be professionalized, counselors should be properly trained, and guidance activities should be integrated into the educational trajectory, with an emphasis on early familiarization with real labor market opportunities. Finally, investments in educational infrastructure and modern resources remain fundamental. The digitalization of schools, equipping them with high-performance laboratories, interactive materials, and modern technologies are essential conditions for an educational process that is relevant, engaging, and aligned with the demands of the future.

By implementing these measures, the Republic of Moldova could build an educational system capable of responding to the economic and social challenges of the 21st century, reducing the risk of social exclusion and increasing the country's competitiveness at the regional and European levels.

A survey conducted among employees from various fields aimed to identify the competencies perceived as fundamental for the future of work, the degree to which the workforce is prepared to meet labor market demands, and the willingness of organizations to adopt alternative work models. The results indicate, first and foremost, a strong focus on digital skills, communication skills, critical thinking, problem-solving, and leadership abilities. Nearly three-quarters of respondents believe it is essential to develop skills related to the virtual environment and effective communication; more than half emphasize analytical thinking and leadership, while a very small percentage explicitly mentioned the importance of professionalism and credibility as distinct elements.

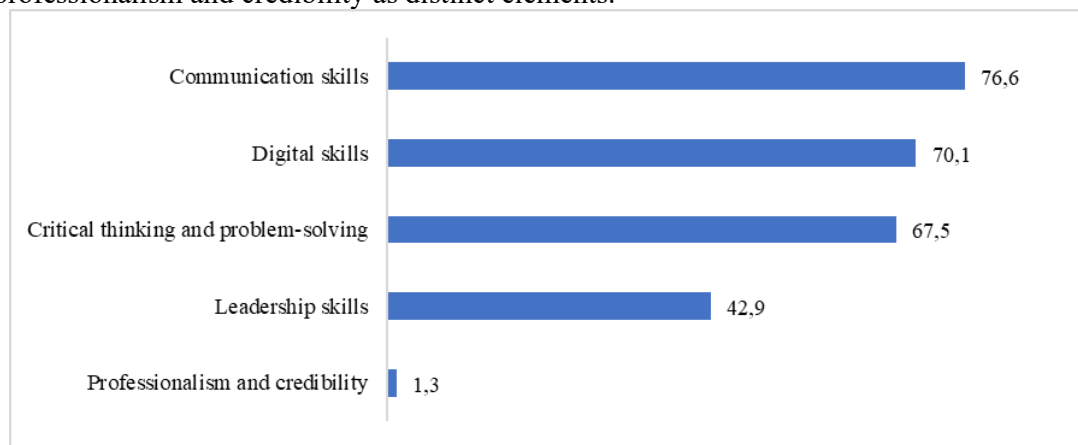


Figure 1. Key competencies considered essential for the future of work, %

Source: compiled based on survey responses

At the same time, in order to understand the extent to which these competencies are already acquired by the workforce, respondents were invited to assess their level of preparedness in relation to the current labor market demands, thus highlighting their awareness of personal competencies and the need for continuous improvement. The majority of participants rated their current skill level as "moderately prepared," while just over one-fifth considered themselves very well adapted to labor market requirements, and a significant segment acknowledged the need for additional training. This self-assessment reveals that, although there is a core group of employees who feel prepared, a considerable portion requires reinforcement or updating of their knowledge.

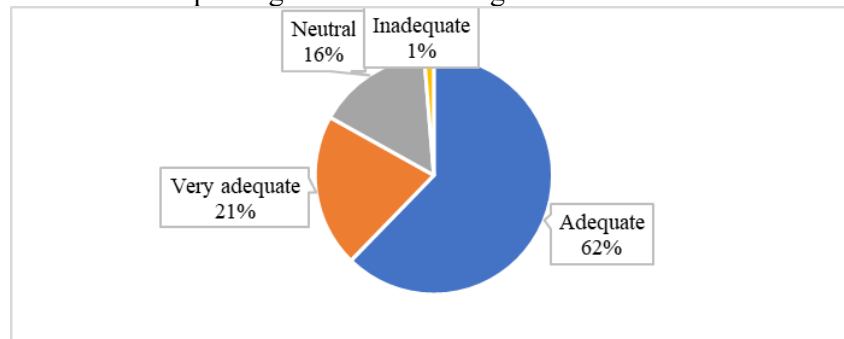


Figure 2. Self-assessment of skill levels in relation to labor market requirements
Source: compiled based on survey responses

Nearly 60% of respondents regularly benefit from continuing training programs offered at the organizational level, while a quarter have access to such initiatives only occasionally. A small portion stated that no such opportunities exist within their organization, highlighting differences in human resource strategies depending on the sector or internal organizational culture.

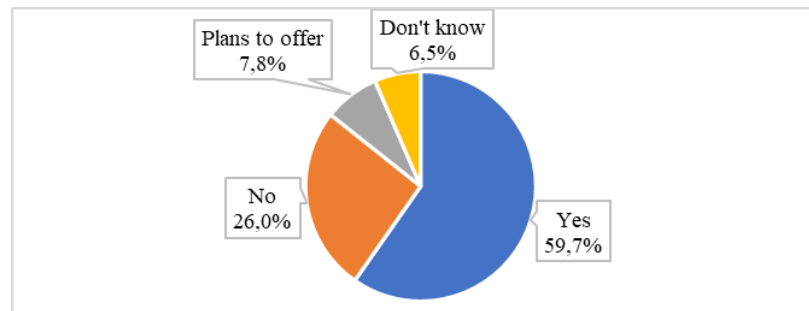


Figure 3. Planning and availability of continuing training and professional development programs at the organizational level
Source: compiled based on survey responses

The state of the educational system remains marked by pronounced skepticism: more than half of respondents believe that the training provided by educational institutions is not aligned with the needs of the modern economy and does not offer the essential skills required for the future of work.

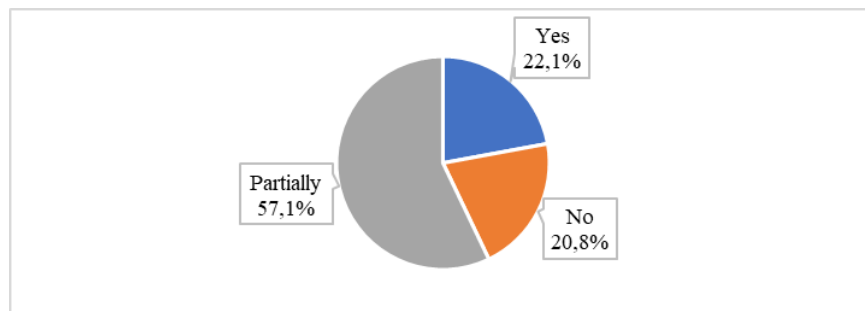


Figure 4. Relevance of the training provided by the educational system to current and future labor market demands

Source: compiled based on survey responses

Regarding organizations' openness to new work models, the results indicate that only a small percentage are truly "very open" to change, with the largest share represented by organizations willing to experiment – but with a certain degree of caution.

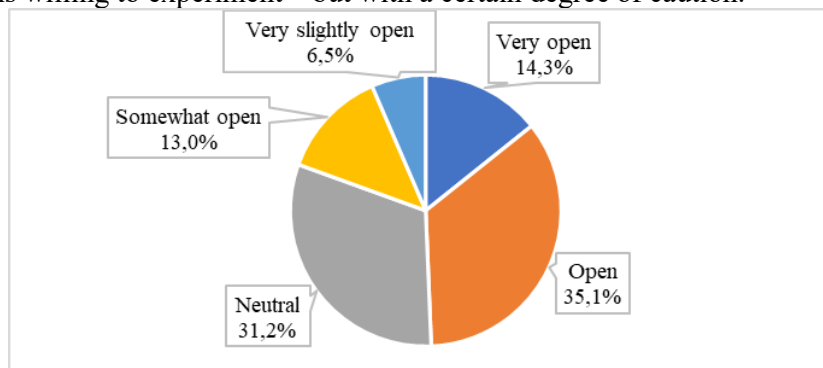


Figure 5. Degree of organizational openness to adopting new work models

Source: compiled based on survey responses

At the same time, there is also a significant proportion of respondents who describe their work environment as reserved or even resistant to innovations in work organization. This attitude – combined with issues such as insufficient digital infrastructure, managerial reluctance, or lack of trust in remote productivity – is seen as the main obstacle to implementing more flexible work arrangements such as teleworking, flexible schedules, freelancing, or job-sharing.

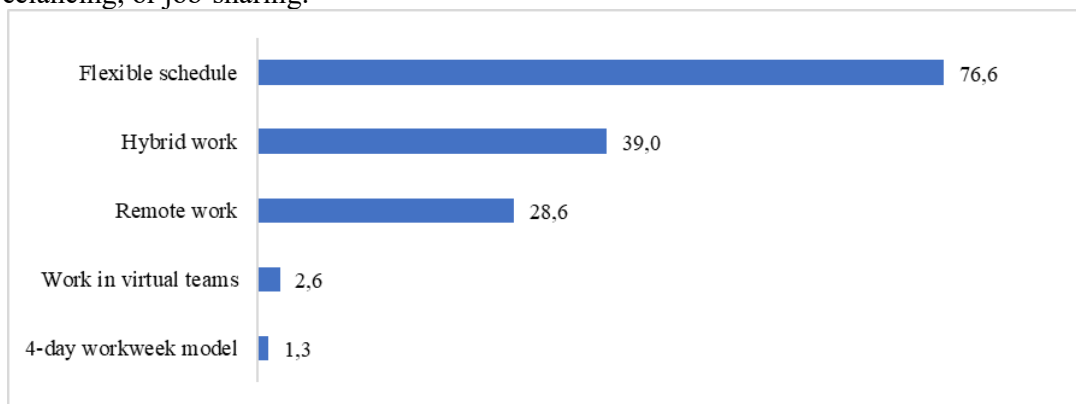


Figure 6. Alternative work models considered beneficial for the organization, %

Source: compiled based on questionnaires

This set of findings reveals, on the one hand, a growing need to develop digital and transversal skills, coupled with a strong focus on continuous learning and the adaptation of the educational offer. On the other hand, it highlights the necessity of an organizational environment that values these skills through policies centered on flexibility and openness to change. In the absence of such policies, even well-developed skills may remain underutilized, and the potential for innovation in the field of work risks being limited by cultural, technological, or managerial barriers.

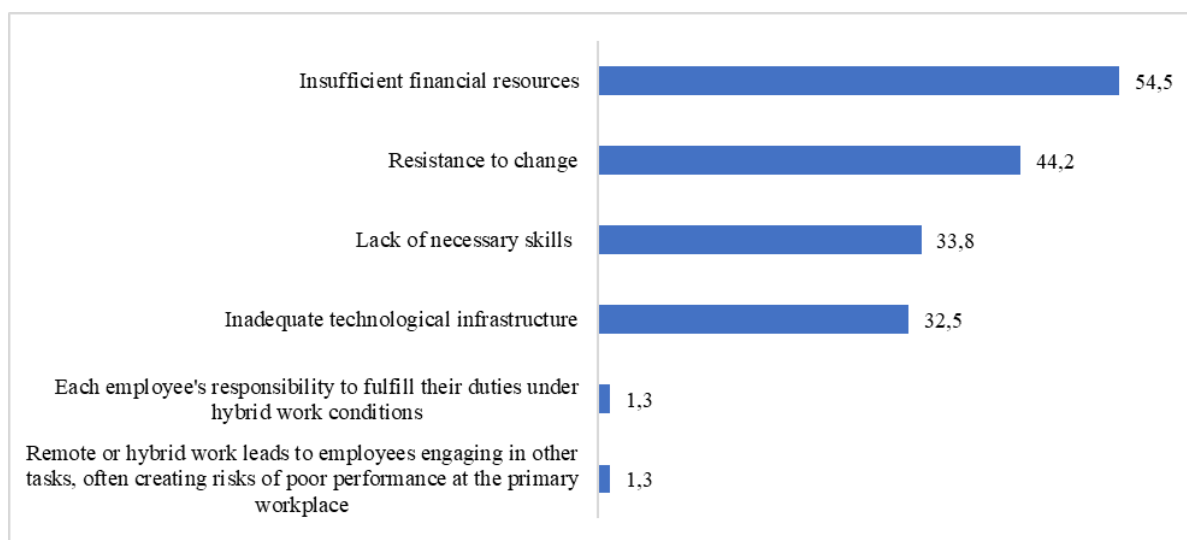


Figure 7. Main perceived obstacles to implementing alternative work models, %

Source: based on questionnaire data

The opinions and recommendations of the participants provided direct insight into the needs and expectations regarding the evolution of work models and skills development in the Republic of Moldova, while also being relevant for understanding priorities and possible intervention pathways. Among the frequent suggestions were the need to increase salaries and establish transparent mechanisms for rewards and bonuses – factors that highlight the importance of economic stability and the recognition of employees' efforts in boosting motivation and productivity. Additionally, many respondents supported the flexibilization of work schedules, whether through a reduction to a four-day workweek, the adoption of hybrid models, or fully remote arrangements. These options were seen as contributing to a better work-life balance and improved employee efficiency. However, some reservations were expressed regarding telework, particularly in contexts where physical presence and direct interaction are perceived as essential for the proper conduct of activities.

A significant number of responses emphasized the importance of continuous training and digital skills, with frequent references to collaboration between universities and the business sector in order to adapt curricula to the actual needs of the labor market. Suggestions also included mentorship programs and internships to support the transition of young people

from education to employment. On the other hand, several participants highlighted the need to update the Labor Code and fiscal policies to create favorable conditions for the implementation of modern work models and for ongoing investment in employees' skills. In the same vein, the necessity of reducing labor migration was noted, through measures aimed at ensuring competitive salaries and fair employment conditions.

Perspectives on improving the quality of education and infrastructure are also at the forefront, with calls for the introduction of digital education programs starting from school, along with increased access to the internet, modern technologies, and professional training adapted to the global context. The importance of emerging skills, such as those related to artificial intelligence, is also highlighted, as is the role of international partnerships in supporting innovation and research. Particular attention is given to inter-institutional cooperation, as respondents believe that a joint effort by trade unions, local authorities, and the private sector could generate sustainable solutions for fostering entrepreneurship, protecting workers' rights, and improving transport infrastructure. Thus, beyond the statistical findings, these comments and suggestions illustrate the depth and diversity of expectations regarding the transformation of work models and the development of skills in an economy undergoing adaptation to global market demands.

4. Conclusions

The profound transformations of the labor model in the Republic of Moldova – driven by digitalization, migration, the green transition, and new economic demands – necessitate a fundamental rethinking of how the workforce is prepared. The analysis presented in this article has highlighted both the structural challenges faced by the education system in adapting to new socio-economic realities and the opportunities that can be harnessed through coherent policies, multisectoral interventions, and active partnerships between the state, the private sector, and civil society.

The persistent gaps between the skills developed within the educational system and those demanded by the labor market directly impact youth employability, adult professional mobility, and the national economy's capacity for sustainable and competitive growth. In this context, aligning education with labor market dynamics can no longer be viewed as a mere policy option—it must be recognized as a strategic necessity for modernizing the country and strengthening social cohesion.

The results of the survey conducted among employees from various sectors support these conclusions, highlighting both the importance of digital and transversal skills and the relatively low level of preparedness perceived at the individual level. Equally, the limited awareness of new work models and skepticism toward the education system confirm the need for a strategic, integrated approach – one that shifts from isolated reforms to a robust framework for continuous learning and occupational innovation.

Moreover, more than half of the respondents believe that educational institutions are not adequately prepared to provide the skills required by the labor market, and approximately 60% rate themselves as “moderately prepared,” thereby underscoring the pressing need for reforms and integrated strategies.

Based on the empirical data presented, it is clear that the need for digital and transversal skills, along with the importance of continuous training programs, are essential pillars in the modernization of the labor market. At the same time, the reluctance of some organizational environments toward telework and other flexible forms of employment

confirms the crucial role of public policies and education–economy partnerships in enabling a smooth transition to the work models of the future.

It is imperative for the Republic of Moldova to invest in the development of a flexible and forward-looking educational system, capable of responding swiftly to technological, climate, and demographic transformations. Curriculum reform, the digitalization of educational processes, early career guidance, the expansion of dual education, and the promotion of lifelong learning must become central elements of a sustainable national strategy for human capital development. At the same time, mechanisms for feedback and collaboration between schools and employers must be strengthened so that vocational training can reflect the labor market's requirements and trends in real time.

At the same time, a deliberate effort is needed to reduce inequalities in access to quality education, particularly in rural areas and among vulnerable groups, so that inclusion becomes not merely a declarative principle, but a functional reality. Without an equitable approach centered on the real needs of individuals and the economy, the risk of deepening social exclusion and continued emigration of skilled professionals will persist.

The coherent implementation of these policies and initiatives – grounded both in theoretical analysis and empirical evidence from the survey – will decisively shape the Republic of Moldova's ability to strengthen its economic competitiveness and ensure an adaptive, inclusive, and resilient workforce.

Only through an integrated vision – focused on continuous learning, inter-institutional collaboration, and future-oriented strategies – can the Republic of Moldova strengthen its resilience in the face of global transformations and build a society prepared for the challenges and opportunities of tomorrow's world of work.

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