The Role of Human Capital in the Entrepreneurial Ecosystem of the Republic of Moldova: Opinion of Entrepreneurs

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Abstract: The purpose of this article is to identify the barriers of entrepreneurs regarding the human capital component as part of entrepreneurial ecosystem in the Republic of Moldova based on a survey of entrepreneurs. The research methodology is based on the statistical data analysis; the results of a pilot survey of 106 entrepreneurs from the sector of small and medium-sized enterprises, carried out and implemented with the participation of the author. The survey was conducted between April and May 2021. The findings of the empirical study reveal that the importance of the human capital issue for most entrepreneurs is primarily associated with labor migration and population emigration, marking a worsening trend in recent years. On the other hand, the existence of digital skills for staff, according to respondents, would be an advantage for business development.

Key words: entrepreneurial ecosystem, entrepreneurship, human capital, small and medium-sized enterprises (SMEs), business environment, Republic of Moldova

JEL codes: L26, L53, K29

1. INTRODUCTION

Entrepreneurial ecosystems have been a topic of great interest to practitioners, government decision-makers, and scientists in recent years. Many studies have investigated the nature, components, institutions, and dynamics of entrepreneurial ecosystems in order to improve the support measures of the entrepreneurship development (Mack, E. & Mayer, H., 2016; Roundy, P. et.al., 2018).

Human capital is an essential component of the entrepreneurial ecosystem. The existence and dynamic progress of an enterprise are primarily affected by the availability and quality of human resources. It has already become an axiom that the most profitable capital of the company is its employees. Human capital components have long been considered a critical resource for business prosperity (Unger, JM. et al., 2011).

The Organization for Economic Co-operation and Development (OECD) defines human capital as "the knowledge, skills, competences and other attributes embodied in individuals that are relevant to economic activity" (OECD, 1998).

Some scholars state that entrepreneurship and entrepreneurial education have an impact on human capital development as a component of the entrepreneurial ecosystem. For example, according to Martin, Mcnally, & Kay (2013) research, there is a relation between entrepreneurial education and entrepreneurial results, considering that „entrepreneurship specific human capital training can be influenced by entrepreneurship-specific education". A similar opinion is stated by D. Isenberg (2011), in his entrepreneurial ecosystem approach, who mentioned that "human capital is upgraded through training and experience". Both, specialists and entrepreneurs, as components of human capital are indispensable for entrepreneurship development.

Today, there are a wide variety of methods for assessing the development of entrepreneurial ecosystem and there is no single approach of the key domains and indicators that are evaluated. Thus, various organizations and researchers offer their own approach on the main constituents/indicators, level of details, sectoral or domain focus when assessing an entrepreneurial ecosystem. Analyzing different approaches for assessing the entrepreneurial ecosystem, developed by various organizations, consultants and universities, we have focused on the role of human capital component as part of an entrepreneurial ecosystem. Thus, Babson College identifies that an entrepreneurship ecosystem is composed of dozen elements that interact in complex ways. In this approach the role of human capital is to examine both the quality of higher education system and the skill level of the work force (Isenberg D., 2011).

Human capital is one of the 14 pillars identified to assess the health of an entrepreneurial ecosystem by the Global Entrepreneurship and Development Index, developed by George Mason University. To assess this component, the question that is seek to be answered is "Are entrepreneurs highly educated, well trained in business and able to move freely in the labor market?" (Acs, Z.J. et. Al., 2019).

The framework of the entrepreneurship ecosystem developed by World Economic Forum (WEF) consist in a combination of four types of "enablers": personal enablers (mentors and education), financial enablers (banks investors and microfinance), businesses enablers (incubators and networking associations) and environmental enablers (regulatory framework, infrastructure and culture). According to the WEF entrepreneurial ecosystem components, human capital consists of management talent, technical talent, entrepreneurial company experience, access to immigrant workforce. Also, the educationand training component is based on the available workforce with pre-university education, available workforce with university education, entrepreneur-specific training (World Economic Forum, 2013).

The Entrepreneurship Measurement Framework, developed by the Organization for Economic Co-operation and Development (OECD) contains 3 categories of indicators, separate but interconnected, which "measure" the entrepreneurship not only in terms of the manifestation of entrepreneurship, but also in terms of the main influencing factors of entrepreneurship (determinants) and the impact of entrepreneurship on job creation, growth and poverty reduction. These determinant factors have been grouped into six categories that contain a number of components that influence the development of entrepreneurship: 1) Regulatory framework; 2) Market conditions; 3) Access to finance; 4) R&D technology; 5) Entrepreneurial capabilities; 6) Culture. The entrepreneurial capabilities include the human and social capital of the entrepreneurs. In other words, it includes training and experience of entrepreneurs, business education and entrepreneurship education (skills), entrepreneurship infrastructure (regional networks of skilled and specialized advisors with relevant skills and knowledge that assist entrepreneurs), immigration (as a source of increasing the number of capable entrepreneurs) (Ahmad, N. & Hoffman, A., 2007).

The analysis of existing approaches of the main constituents of human capital as part of an entrepreneurship ecosystem allows us to conclude that the most often identified are such types of features as the prevalence of skilled human capital, the entrepreneur's and employees level of education, the staff training as a source of increasing the employees' quality.

2. BACKGROUND: BRIEF DATA ON HUMAN CAPITAL OF REPUBLIC OF MOLDOVA IN THE GLOBAL COMPETITIVENESS INDEX

A relatively objective picture of the state of various aspects of a country's economy, including the country's business environment, can be reflected in the analysis of indicators presented by international rankings, such as the Global Competitiveness Index. According to the Global Competitiveness Report, in the Republic of Moldova, the labor force in the business environment is insufficient and poorly prepared for the enterprise growth. Moreover, lately, the problem of staff, according to entrepreneurs, is getting worse. According to the Global Economic Forum, in 2019 our country accumulates a score of only 3.2 out of 7 for the indicator on the ease of finding qualified employees, ranking among the last places in the ranking (136th place). The indicators that characterize workforce skills have accumulated a rather low score (3.2-3.5), showing us that it is necessary to continue a sustained effort to improve the way the education and training system works. A rather favorable situation is attested by the indicator of digital skills in the active population (55th place and a score of 4.5 in 2019) (World Economic Forum, 2019). This image of human capital is also confirmed by the results of the survey of entrepreneurs.

Table 1. Indicators that characterize human capital for the Republic of Moldova in the "Global Competitiveness Index" ranking

Indicators		**2017**	**2018**	**2019**
Extent of staff training (1-7)	Rank	126	117	112
	Value	3.2	3.4	3.6
Quality of vocational training	Rank	…	117	114
	Value	…	3.4	3.5
Skillset of graduates	Rank	…	115	106
	Value	…	3.5	3.6
Digitals skills among active population	Rank	…	57	55
	Value	…	4.4	4.5
Ease of finding skilled employees	Rank	…	135	136
	Value	…	3.2	3.2

Source: The Global Competitiveness Reports (2017-2018; 2018; 2019)

As shown in the analysis of international rankings, in terms of skilled labor, the Republic of Moldova is in a precarious situation. However, the analysis of the policy documents shows that some actions have been taken in Moldova in recent years for the development of certain aspects of human capital. Entrepreneurship education, in particular, is an important precondition for encouraging job creation and increasing the number of start-ups. At the legislative level, in the Republic of Moldova, the entrepreneurship education is carried out within two state policies: 1) Entrepreneurship development policy, including SME support, 2) Education policy, part of which is entrepreneurship education and training of entrepreneurial skills, especially among young people. The responsibility for entrepreneurship training and education policies is shared between several institutions: the Ministry of Education and Research is responsible for entrepreneurial development in the education system; the Ministry of Economy, a leader in promoting entrepreneurial learning in non-formal education, has developed and implemented, through the Organization for the Development of Small and Medium Enterprises, programs for young entrepreneurs and employees; the National Employment Agency organizes trainings, which include some forms of entrepreneurship education.

Given the complexity of entrepreneurial ecosystems, the specifics of the components of entrepreneurial ecosystems and their dynamics in countries with emerging economies, including the Republic of Moldova, are insufficiently studied. The article aims to solve two objectives: (i) to assess the impact of human capital indicators on the development of entrepreneurship in the Republic of Moldova according to the opinion of entrepreneurs; (ii) to determine the changing trends of these indicators / component over 2 years (in 2021 compared to 2019).

3. DATA SOURCES AND METHODS

The data for research in this article were obtained in the framework of the research project "Multidimensional assessment and development of the entrepreneurial ecosystem at national and regional level in order to boost the SME sector in the Republic of Moldova" (20.80009.0807.38), developed within the National Institute of Economic Research of Moldova with the active participation of the author.

The primary data for the assessment of human capital as a component of the entrepreneurial ecosystem in the Republic of Moldova were obtained using the survey method. A total of 106 entrepreneurs from small and medium-sized enterprises were interviewed in a pilot survey. The survey took place between April and May 2021. The structure of the sample matches the structure of the overall SMEs sector in terms of the main characteristics of the selection. The results obtained were generalized and processed using the SPSS Statistical Analysis Program.

Based on the general results obtained for each indicator of the entrepreneurial ecosystem component, the *perception index of the change of the entrepreneurial ecosystem component* was calculated. The perception index reflects the share of surveyed entrepreneurs, who indicated on the positive changes of the entrepreneurial ecosystem indicators of the human capital (in relation to the total number of respondents, who indicated any change).

The following formula were used to calculate the perception index of the change of the indicators of the entrepreneurial ecosystem component:

$$I_{ee} = \frac{I_{ee\ improved}}{I_{ee\ improved} + I_{ee\ worsened}} \times 100\% \quad (1)$$

where,

I_{ee} – the perception index of the change of the entrepreneurial ecosystem component,

$I_{ee\ improved}$ - the share of entrepreneurs, who indicated on the improvement of the situation,

$I_{ee\ worsened}$ - the share of entrepreneurs, who indicated on the worsening of the situation.

The answers, in which it was indicated on the lack of changes, were excluded from the calculations. Theoretical diffusion indices can change from 0% (minimum) to 100% (maximum). The critical values of the index are as follows:

=100%, if absolutely all respondents point to positive change in the indicators of the entrepreneurial ecosystem component.

From 50 - 100%, positive assessments predominate. At the value of the index higher than 85% - the result is considered to be sufficiently positive.

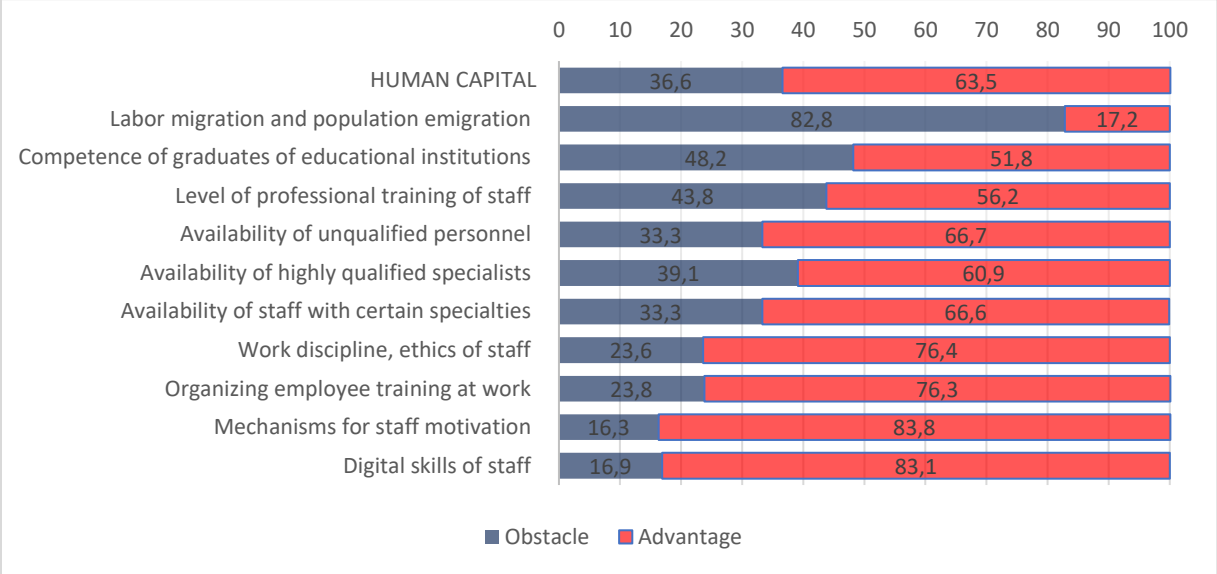
50% – the number of positive evaluations is equal to the number of negative ones.

From 0 to 50%, negative assessments predominate. At the value of the index up to 15% - the result is considered to be extremely negative.
=0%, if absolutely all respondents indicated the negative change in the indicators of the entrepreneurial ecosystem component.

4. RESULTS AND DISCUSSIONS

Assessing the extent to which human capital has an impact on the development of entrepreneurship, 36.3% of respondents mentioned that they encounter difficulties in terms of labor issues. The importance of the human capital issue for most entrepreneurs is associated with labor migration and population emigration (an obstacle for 82.8% of respondents who assessed this indicator). The phenomenon of migration significantly influences employment, including both the urban environment, but it is particularly intense for the rural area. There are significant discrepancies by area of residence. The proportion of entrepreneurs in rural areas, for whom labor migration is an obstacle was 90.9% with 10.6 pp. higher than in urban area (80.3%).

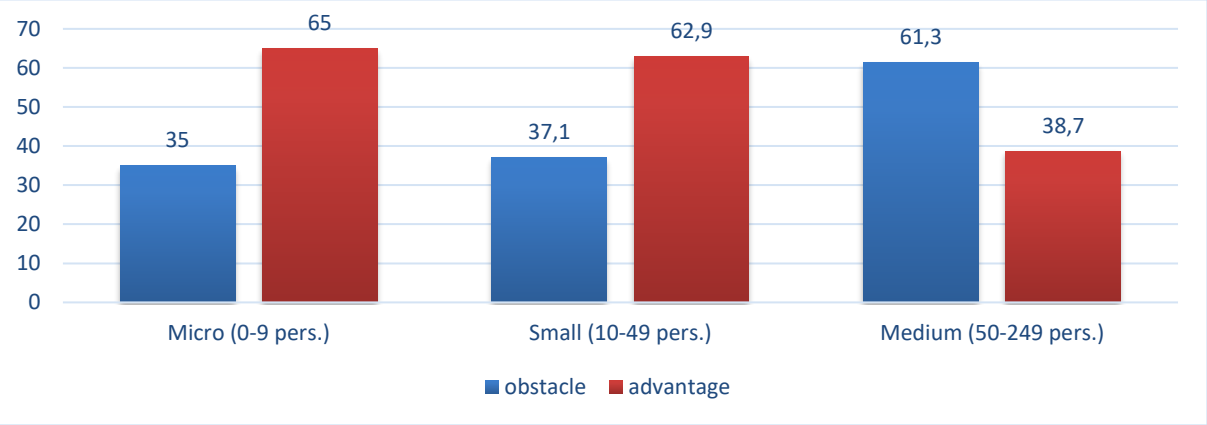
Figure 1. Assessment of the impact of the indicators of the „Human Capital" component on the development of entrepreneurship



Source: developed by the author based on the results of the entrepreneurs' survey

The competence of the graduates of the educational institutions and the level of professional training of the staff is also a rather significant obstacle for the enterprises (were indicated as an obstacle for 48.2% and 43.8% of the respondents, respectively), which reflects a rather low level of human capital training. Quite often, entrepreneurs indicated that they face *the lack of highly qualified specialists* (an obstacle for 39.1% of respondents who evaluated this indicator). About a third of respondents indicated as an obstacle the *availability of unskilled staff and staff with certain specialties.* Considerably less frequent entrepreneurs reported the problem of staff digital skills (only 16.9% of interviewed entrepreneurs indicated on this issue) and staff motivation (16.3%). On the other hand, most entrepreneurs consider that namely the existence of *digital skills* (83.1%) among employees and the existence of mechanisms to motivate the company staff (83.7%) would represent an important advantage for business development. The importance of a *high entrepreneurial culture of the staff* and the *organization of employee training* would be a potential advantage for about 76% of respondents who assessed the respective indicators.

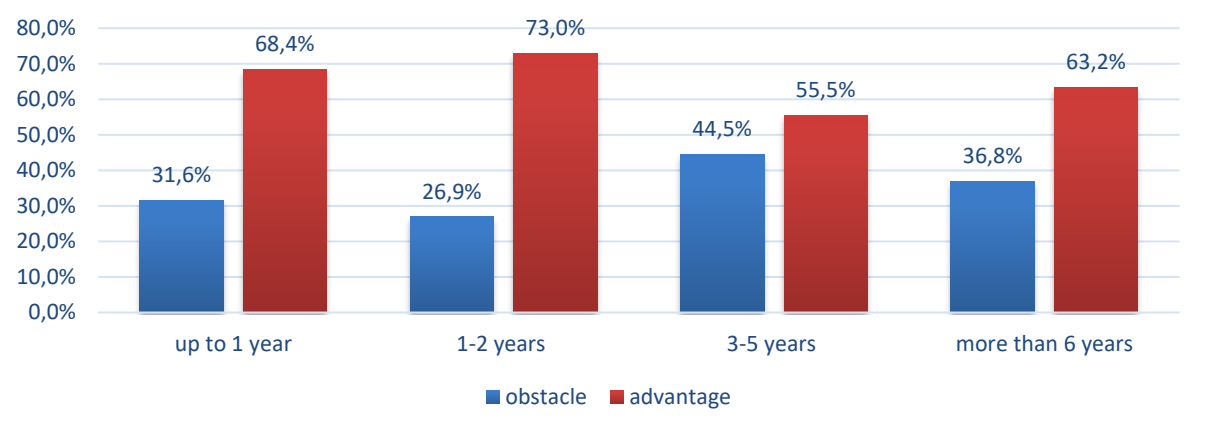
Figure 2. Assessment of the "Human Capital" component by size of enterprise, % of respondents who assessed the component



Source: developed by the author based on the results of the entrepreneurs' survey

Depending on the enterprise size, the larger the enterprise is, the more human capital issues represent a problem for business development and the ecosystem as a whole. Medium-sized enterprises are relatively more likely to face problems related to human capital (an obstacle for 61.3% of respondents).

Figure 3. Assessment of the “Human capital” component by age of the enterprise, % of respondents who assessed the component



Source: developed by the author based on the results of the entrepreneurs' survey

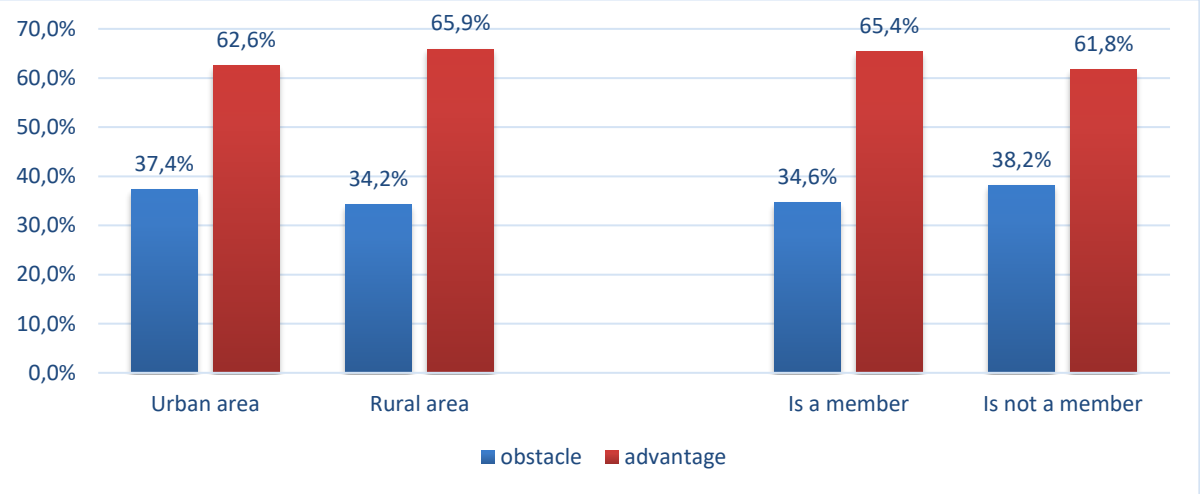
The approach of the difficulties characteristic to the “Human Capital” component according to the age of the SMEs reveals mainly the following:

- To a relatively greater extent, the longer the term of activity of the enterprise, the more frequently the enterprise faced the problems related to the personnel (obstacle for 36.8% of enterprises older than 6 years; 44.5 % -for enterprises with a term of activity between 3-5 years).
- Businesses with a term of activity of 1-2 years indicated, to a greater extent, that human resources would represent rather a potential advantage for the development of the entrepreneurial ecosystem (73.1% of respondents who assessed the component).

Businesses in urban areas, on average, faced challenges related to human capital relatively more frequently (obstacle for 37.4% of respondents) than those in rural areas (34.2%).

It is noteworthy that for entrepreneurs who are not members of associations, the problem of human capital was indicated relatively more frequently (38.2%) compared to companies belonging to certain associations (34.6%).

Figure 4. Assessment of the "Human capital" component according to the area and membership in organizations / associations, % respondents, who evaluated the component



Source: developed by the author based on the results of the entrepreneurs' survey

Trends in changing of the main indicators that characterize human capital. The overall assessment of the change in the indicators that characterize human capital in the country as a whole, carried out by entrepreneurs, reveals the following: a relatively large share of entrepreneurs consider that the situation has not changed (42.15%), more than a third of entrepreneurs (37.2%) assume that the situation has worsened, and only 20.6% of respondents believe that the situation has improved (Table 2). Such a representation of the responses reflected the overall value of the perception index of entrepreneurship ecosystem component (35.6%), which shows the predominance of negative assessments over positive assessments, regarding the change in the human capital component in the last two years.

The worsening trend to a relatively large extent refers to the indicators of labor migration and population emigration (Iee=6.9%), availability of highly qualified specialists (Iee=20.9%), competence of graduates of educational institutions (Iee=22.9%), the availability of unqualified staff (Iee=23.6%), the availability of staff with certain specialties and the level of professional training of the staff (Iee=25.5%).

On the growing importance of the issues regarding the access to human capital with the necessary specialties and the access to staff with the necessary qualifications, the entrepreneurs indicated in the process of several questionnaires, including those conducted at the National Institute for Economic Research in 2011-2013. Significantly, a few years ago there were not enough specialists with certain qualifications, and in recent years - already there is a lack of personnel with certain specialties and a level of professional training of staff that does not meet the expectations and needs of employers.

A relatively higher share of respondents indicated the trend of improving the digital skills of staff (Iee=80.3%) and the organization of employee training at work (Iee=57.7%) (Table 2).

Table 2. The change in the situation of the "Human Capital" component in 2021 compared to 2019, % of respondents

Component/Indicators	**The change in 2021 compared to 2019, % of respondents***			**Perception Index %***
	Improvement	No changes	Worsening	
Human Capital	***20,6***	***42,2***	***37,3***	***35,6***
Digital skills of staff (level of use of personal computers, knowledge of programs, etc.)	54,3	32,4	13,3	80,3
Organizing employee training at work	29,7	48,5	21,8	57,7
Mechanisms for staff motivation (conditions, evaluation and remuneration of work, psychological climate, etc.)	27,9	44,2	27,9	50,0
Entrepreneurial culture of staff (work discipline, ethics, etc.)	25	38,5	36,5	40,6

Availability of staff with certain specialties	13,7	46,1	40,2	25,5
Level of professional training of staff	13,6	46,6	39,8	25,5
Availability of unqualified personnel	12,6	46,6	40,8	23,6
Competence of graduates of educational institutions	10,8	52,9	36,3	22,9
Availability of highly qualified specialists	13,5	35,6	51,0	20,9
Labor migration and population emigration	4,9	30,1	65,0	6,9

*% entrepreneurs, who evaluated the change of the human capital indicators

Source: developed by the author based on the results of the entrepreneurs' survey

Analyzing all the indicators, those were selected, the value of which, according to the perception index, is close to the maximum (at which Iee ≥ 85%) or the minimum (at which Iee ≤ 15%). The indicators that characterize human capital did not register values of the perception index close to the maximum threshold at which Iee ≥ 85%, which reflects a rather precarious situation regarding the availability and quality of human resources. The most negative trends, which have a low critical level according to the entrepreneurial ecosystem perception index (not exceeding 15%), in the opinion of entrepreneurs, refer, first of all, to labor migration and population emigration (Iee = 6.9%).

5. CONCLUSIONS

Generalizing the results of the entrepreneurs' responses regarding the impact that human capital has on the development of the entrepreneurial ecosystem, the following conclusions can be drawn:

- The results of the survey showed that in the last 2 years (2019-2021), in the opinion of the relative majority of entrepreneurs, the situation regarding human capital has worsened. The perception index of the entrepreneurial ecosystem (of the human capital component) constituted 35%, which shows the predominance of negative evaluations over the positive ones, referring to the change of the situation in the last two years.
- The most negative trends in the last 2 years, in the opinion of entrepreneurs, refer, first of all, to labor migration and population emigration (65% of respondents rated this indicator negatively, Iee = 6.9%).
- At the same time, significant worsening trends in the last 2 years (2019-2021) marked the indicators regarding the availability of highly qualified specialists, the competence of graduates of educational institutions, the availability of unqualified staff, the availability of staff with certain specialties and the level of professional training of staff.
- The importance of the human capital issue for most entrepreneurs is associated with labor migration and population emigration. The phenomenon of migration significantly influences employment, including both the urban environment, but it is particularly intense for the rural environment. The determinants of labor migration are essentially of economic nature: low wages, low economic opportunities for employment in rural areas (excluding agriculture), as well as living conditions, and quality of housing in rural areas.
- The competence of graduates of educational institutions and the level of professional training of staff is also a rather significant obstacle for companies, which reflects a rather low level of training and quality of human capital.

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