

# TRANSFORMING KNOWLEDGE IN SKILLS REQUIRED BY LABOR MARKET

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*Actually, education is one of the most active areas in the social, economic and cultural life. It could be contradictory terms. In fact, these terms are interdependent, because without these features national educational improvements cannot exist. Extensive reforms in the higher education and in the undergraduate level too, reflect the profound changes that take place in contemporary society.*

*Regarding the higher education extensive reforms have been experienced in the last decade. Without claiming to cover complete all controversial moments of the higher education sector, I would try to analyse some of the main issues that are of the first importance, namely, the relationship between the university and the labour market; the role of the university in the competence formation required by the private and public sectors; the place of internship in consolidation of the abilities developed during the theoretical and practical courses; and the increasing complexity of the learning process. In parallel with the political, social and economic reforms the university's goals are changed too.*

*Among the traditional mission of academic process, the university must increase its research activities. University must get out of the lab in the economic environment, to learn the skills of creation and technology transfer. It is necessary to implement researches developed by universities. However, the university continues to be a temple of culture, science, intellectuality and human development in all its fullness, at the same time, in order to develop professionalism and specialists ready to develop competencies for the employment.*

**Key words:** *Competencies, labour market, higher education, restructurings, knowledge generator, collaboration, professional skills, innovation capacity, research infrastructure, institutional budget financing, co-innovation*

## **Introduction**

The University as a key player in the knowledge-based society aims to contribute to the welfare of the individual and socio-economic environment, generating knowledge and transferring them to students through education, research and innovation. In this context the role of the university in relation to business environment changes and can be defined as follows:

- The role of forming skilled human resources: through its educational processes, both the initial and the continuing one, university aims to train specialists with skills that provide a competitive advantage on the labour market, being perceived by employers as an added value and ultimately contribute to society's welfare.
- The role of generating new knowledge: through research, development and innovation, university produces transferable results to business environment in products and services with high added value.
- The role of institution that actively contribute to community development through cultural and educational involvement in the spirit of social paradigm of the future, institutional intervention – the university's involvement as an active institutional actor in the development activities of the society, individual intervention – the direct involvement of the academic community members in the society's life (advice, expertise, representation in decision-making and consultative bodies, etc.).

Based on the common objective of the European Higher Education Area to prepare the transition to a knowledge-based society and economy, the university plays a very important role in preparing the workforce by investing in people through better policies for a society

oriented to research and development, as well as through the intensification of structural reforms' processes for competitiveness and innovation. It is this new mission of the university that makes it to be one of the most active social sectors. Higher education of the Republic of Moldova has recently faced certain reforms, trying to become a component part of the European Higher Education Area. The University went through several restructurings, which, given to the old mission "to learn", outlined other goals that were set in parallel with political, economic and social reforms of the environment: the trend to globalization, labour mobility, openness to internationalization. Among the new tasks added to the traditional ones, there is an increasing involvement of universities in research activities through innovation and technology transfer processes. However, the university continues to be a temple of culture, education and science, taking into account the development of the specialist with the necessary occupational skills on the labour market.

A knowledge-based economy cannot exist unless the production of knowledge results in their exploitation within the economic process. But it is not the stock of knowledge that will automatically trigger the knowledge-based economy; it brings availability and efficient use of economic processes. Therefore, the economic system will become more competitive only if the knowledge generator, which is the academic system, is able to convert the new knowledge into economic processes inputs.

Strategic aims of universities are closely related to the labour market, as well as to the socio-political situation at national and international levels. For these reasons many problems of higher education go beyond university walls and overlap or interfere with major society problems. The relationship between the university and the labour market, the role of the university in training specialists to meet future demands of the labour market are on the agenda of the whole educational system.

The collaboration between the university and the business environment is a social dimension. The old formula of "generating" the theory and subsequent implementation in practice, is replaced by a new formula of interaction between theory and practice. Several basic factors that conditioned these changes can be listed.

First, innovation, technology transfer, quality of knowledge, managers and professionals with high level of competence have become key factors for the development of a competitive industrial sector and, finally, of a competitive economy. Studies and research are essential engines of innovation; therefore the university becomes the obvious partner for the business community.

Second, while the concept of formal knowledge based on learning the theoretical tools and methods previously accumulated was essential during many years, research and problem solving-based training, their importance for the development of knowledge is of recent origin. The knowledge gained through analysis and research by definition is incorporated into practice. This type of a new approach makes the business community to become an obvious partner for universities, forming a mutually beneficial relationship for both parties.

The Education Code, recently approved by the Parliament, states that the national education system promotes social dialogue, development and use of partnerships of educational institutions with the community, civil society and business environment. Cooperation is absolutely essential and favourable for both sides, each with its own set of interests, which, being mutually beneficial, ensure the successful development of university education, of the national economy and, consequently, of the society.

At first, the University benefits from cooperative relationships with the business environment, because these relations allow updating the requirements to the structure of the curriculum of studies, to modernize the content of the course, improve the process of young specialists' training. A very important point is the participation of professionals in the teaching activities, as well as at the performance of practical and laboratory work in company's environment. This moment is very important because the company is the one that permanently

modernizes its machinery and equipment. Financially, the University cannot keep its pace according to the development rhythm of technologies, so large investments are needed for this kind of upgrading the public institutions cannot cope with. Carrying out practical and laboratory work in real production conditions makes the professional training level permit a more quick involvement of the young specialist within the work activities.

Second, for students, but also for young teachers, internships performed directly in production environments are very important. Following this cooperation, together with gaining practical skills, teachers specify the topics of annual theses, bachelor and masters projects so that they meet business needs, assist in solving practical problems and difficulties that business environment faces.

Third, it is well-known that there's a need to develop research infrastructure in universities, implementation of the research developed by universities, correspondence of research topics to priority directions for the country's development, research funding, implementation of innovative results in practice.

The main advantages of business environment in achieving good cooperation with the university is to fill jobs with specialists with professional training appropriate to business requirements, upgrading technology and equipment as a result of the implementation of the last-hour research, increasing the efficiency of enterprise's operations and, consequently, of the real sector of the national economy.

The relations between university and business environment regarding the training of specialists start from determining the skills required on the labour market. The economic environment has the potential to influence educational programs. There are many examples showing that most universities in Moldova cooperate with economic agents at developing the curricula of studies, internships leadership, participation in meetings of undergraduate projects' presentation as chairpersons of the state Commissions, as well as at improving staff 'skills through continuous training courses.

But there are still many problems that need to be solved. Professional training of future specialists requires a considerable practical training component. The actual length of internship is insufficient. For professional framing it is necessary for the student to achieve several stages of study, technological exploitation, design, and documentation for the undergraduate and master thesis. Since most companies have conditioned the practice of paid internships, this component was reduced to a few weeks due to lack of funds. A "forgotten" practice of collaboration is the one of leading and reviewing undergraduate projects. Unfortunately, this component occurs less and less often.

Another problem is that the company, by accepting students for internships, leaves them in the lurch, without giving them the available information, hiding behind "company's secret". The lack of concrete information doesn't allows the better understanding of a company's situation, it doesn't assist at analysing the current situation and it cannot teach the students to analyse the actual situation and try to solve the existent problems.

The newspapers are full of ads on the search of specialists. But all of them require experience. Where can a young graduate take it from? The few weeks of internship are not taken into account. Besides, what skills could he possibly manage to form in such a short time, even having well-established academic skills? The company wants him to be ready to work from day one.

Being the basic recipient of the final product of universities, businesses must be jointly interested in close cooperation with universities, to participate in the applied training of students by offering places for internships, providing financial support at equipping laboratories and classrooms. But this situation in Moldova is more theoretical because, currently, the involvement of enterprises in staff training is unsatisfactory.

The university works for the society. The business environment has levers of influence through participation in the development of educational programs. It has the right to contribute at and analyse the contents of curricula and training courses. The university tries to

maintain the relationship with graduates working in those areas. During internships, there must be leaders from the business environment, so that they express their views on the nature and level of students' knowledge.

The fact that university autonomy gives the university more freedom and, therefore, the university becomes more open to business environment is undeniable. Such collaboration is proposed to the business environment through continuous studies, which provide initiating and improving training of the economic agents based on modern programs, updated to the requirements of the enterprise, providing expert guidance through concrete information, advice and expertise services, establishing cooperative relations with other centres and similar organizations in the country and abroad.

### **Competencies for the labour market**

Structural changes in higher education have started when joining the Bologna process, which structured the higher education by degree: Bachelor, Master, and PhD. This process aims to differentiate skill levels regarding the requirements and level of complexity of the developed skills. Moreover, redefining academic specializations requires identification of skills' levels, providing a direct link between the education level and the labour market.

Universities are often criticized that the educational offer does not meet the needs of the workforce. The changes taking place on the labour market due to new technologies, innovative management implementation and the need to increase competitiveness on national and international markets has led to several concerns regarding the level and competence profile of the graduate, which undoubtedly must be in accordance with the qualification released. Discussions held with business representatives on this issue reflect the need to develop certain skills, but more often the business environment blames higher education system for failing to do so. It is extremely necessary to define an aspect of the utmost importance for the formation of competence at higher education level: the distinction between academic and professional competencies.

One of the problematic aspects universities face is related to the following question: what product does the university provide? Is it traditional academic education or the professional one? Many professions that did not require university education in the past, now, given the challenges the knowledge-based society faces, require a top-level training. From this point of view, it can be said that, if the professional competencies cover the knowledge necessary to perform a professional task required by a particular job, academic skills should include, along with professional skills, competencies of developing new knowledge, as well.

General competences are those that apply to a variety of occupations of the same field. They are often called basic skills, fundamental skills, transferable skills and employability skills. So far, theoretical arguments support the idea that general academic skills, acquired throughout the academic path, are a solid foundation that facilitates the development of specific skills. Thus, general skills are of great importance because they multiply the effectiveness of professional development; assist in maintaining an adequate standard of specific professional skills' application.

Professional requirements of the business environment are dynamic and change very quickly. Each enterprise is forming its requirements, tailored to concrete processes of production, which means that the cooperation with the education environment must be permanent. Universities, reacting to this phenomenon, include courses of professional profile in the curriculum. An eloquent example is the Information and Communication Technologies sector. Today, to get a good job in this sector businesses require the candidate to hold, together with a bachelor or masters diploma (between which very often the employer, unfortunately, does not see the difference), such specific knowledge in a field as Microsoft, Cisco, Java Development, etc. Those specific requirements should be included in the academic curriculum. The training for gaining specific professional skills can be developed within internships and during the development of theses or projects at the individual request of businesses.

The National Qualifications Framework (NQF) recently developed by the Ministry of Education of the Republic of Moldova in cooperation with national universities includes requirements for the general field of studies and the professional training fields for all levels of higher education: L-M-PhD. Professional training competencies are identified for each area of specialization, taking into account the knowledge, abilities and professional skills that a graduate should possess in order to carry out the function's work for the required profession. NQF is coordinated with branch associations and economic agents.

Today, for a specialist of certain training, alongside professional qualities, a number of essential skills are important. They include: logical and analytical thinking skills, problem solving, effective communication, teamwork, identification and information management, creativity and intellectual rigor, as well as such intellectual values as: ethical practice, perseverance, integrity and tolerance. This combination of different qualities and skills is different from the technical knowledge traditionally associated with higher education.

### **Best international practices**

In 2009, the European Commission presented a set of measures to develop and strengthen cooperation between universities and businesses as part of efforts to modernize higher education. On this occasion, it was accepted that there are many good practices in collaboration, being stimulated by the existence of European programs. However, the conclusion was that the level of cooperation varies according to countries, universities and academic disciplines. Moreover, there are few universities that developed an institutional strategy for cooperation and those that have done so are concentrated in a small number of states. In many other countries, legal and financial frameworks failed to stimulate, they even sometimes inhibited the cooperation efforts.

Researches show that the synergetic potential of these two parts is threatened by communication failures between HEIs and business beneficiaries, by numerous barriers, namely:

- the two types of institutions often have divergent goals and priorities;
- universities are not always interested in the topics proposed by companies, they prefer the pragmatic approach over the academic one;
- there are difficulties in identifying partners;
- there are restrictions related to the publication of the research results.

Another study, performed by the German Academic Exchange Service (DAAD) has shown that there are a number of obstacles that must be overcome. First, there is a lack of mutual trust, expectations are different. Companies seek short-term solutions, which universities usually cannot achieve. The study found out that, in the purpose of good cooperation, there is a need to create structures to promote the dialogue and a better understanding between universities and businesses.

Studies in the UK also confirm the existence of collaboration barriers. The most important of them are related to long-term orientation of universities and the lack of government support programs. Over 55% of respondents believe that the biggest barriers are the rules and regulations concerning data privacy and intellectual property. Another shortcoming is that universities are oriented towards basic research, while companies are interested in applied research.

Given the current situation and needs, two general objectives have been established at European level in order to promote university – business environment cooperation:

1. increasing relevance of higher education to the labour market;
2. improving innovation capacity of studies.

Universities should provide incentives for structured partnerships with business and support in identifying the skills required by the labour market, develop appropriate governance structures, to cooperate with companies for the provision of adequate training programs, to encourage the exchange, dissemination and creation of knowledge through teacher mobility between universities, research centers and business environment. An

important condition for the development of a real partnership between stakeholders within an academic area is the existence of regulations and organizational structures that facilitate the communication between:

- students and the socio-economic environment (ex.: structures of support in developing a professional career, relations with the labour market, etc.);
- university and graduates (ex.: alumni organizations, the presence of graduates in consultative and decisional structures of universities, post-graduation career assistance, etc.);
- university and socio-economic environment, structures and institutionalized forms of consultation and decision from strategic level to the operational, process one, and forms to stimulate the participation of the academic community members in the life of the socio-economic environment organizations. (ex. the representatives of graduates and socio-economic environment in senates, professorial councils and coordination structures of study programs, management structures such as councils, partnership structures in the development and implementation of specific academic approaches such as courses and study programs, research, development and innovation projects, etc.
- state, universities and socio-economic environment, representative institutions of the democracy (ex.: Parliamentary educational commissions);
- national bodies with specific functions related to the academic approach: strategy, quality, funding, research, qualifications (e.g.: National Council of Education in France, Quality Assurance Agencies in European countries, funding, research or academic qualifications managing councils, etc. which are made up of representatives or are institutionally open to the voice of all stakeholders of the academic process).

### **Conclusions**

Rapid changes in technology and the increasingly sophisticated social environment lead to unprecedented structural changes where classical methods and approaches of training specialists cannot provide viable solutions. Thus, it requires consideration of innovative intervention mechanisms to support ways of fair and sustainable progress. Approaches should include information, experiences and people trained at the level of higher education structures.

Successful businesses are conditioned both by the quick and easy access to knowledge, the higher possibly qualified workforce, specialized technical and social assistance, as well as by the quick identification of innovative solutions. Universities must become more active players in the knowledge- based economy, able to respond effectively to market demands. In economically advanced countries prestigious universities have a key role in their economic growth. Consequently, university-business relationship is of a strategic importance and public interest, it must be continually developed and streamlined by appropriate government policies. The collaboration between universities and business environment is seen as a process of co-innovation within which knowledge transfer is the core mission of universities.

Moldovan laws do not prohibit or limit universities to establish cooperation relations with business environment and various educational and scientific institutions, centres and organizations in the country and abroad, but it neither facilitates this cooperation. Universities are autonomous in establishing such relationships, targeting various activities, such as business involvement in developing the curricula, organizing teaching and practical training, research, continuous staff training, organizing different common events, technical and material equipment, etc. Therefore, universities are encouraged to engage more actively in such cooperation, the benefit being enormous for both the university and business, and society at large, resulting in increasing the quality of education and, respectively, country's economic

development. But the government should support this collaboration through adequate funding of researchers' training by institutional budget financing for adjusting the research infrastructure, through projects that would assist the transfer of technology and efficient public programs that would facilitate SMEs access to technology and innovation developed by universities, other activities in science and technology areas.

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