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## ВЕСТНИК

НАЦИОНАЛЬНОЙ АКАДЕМИИ НАУК  
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G. A. Abdullina<sup>1</sup>, G. Zh. Zholdasbekova<sup>1</sup>, V. R. Meshkov<sup>2</sup>

<sup>1</sup>Narxoz University, Almaty, Kazakhstan,

<sup>2</sup>Plekhanov Russian University of Economics, Russia.

E-mail: [gulnar.abdullina@narxoz.kz](mailto:gulnar.abdullina@narxoz.kz), [gulbahyt.zholdasbekova@narxoz.kz](mailto:gulbahyt.zholdasbekova@narxoz.kz), [meshkov\\_vr@mail.ru](mailto:meshkov_vr@mail.ru)

## GRADUATES OF HIGHER EDUCATIONAL INSTITUTIONS AND BUSINESS: MUTUAL EXPECTATIONS

**Abstract.** The problems on the labor market have been and remain actual. The need to analyze the situation with university graduates in the labor market is conditioned by two very important circumstances: the difficulty of finding a job by young specialists as well as the need to develop the human resources capacity on the country's labor market. A serious problem in the labor market is the disagreement between supply and demand, which is reflected in the gap between employers' preferences and the expectations of university graduates. The problems mentioned are of a real economic nature because competitiveness, pace of economic, technological, innovative development of the country as a whole directly depend on their solution. The purpose of the publication is to analyze the current situation with the employment of graduates of higher educational institutions on the labor market, to identify the problems that arise and to find the ways to solve them. The main content of the research is a survey conducted among graduates of 14 universities in Almaty, Astana, and Taldykorgan. The subject of the study is the mutual expectations of universities' graduates and employers. As research task, the author attempted to assess the situation in the labor market, namely: the demand for IT specialists, the skills necessary for the employment of young professionals, the demographic analysis of the market, the situation in the labor market by the following criterion: work experience; analysis of the expectations of universities' graduates and employers.

**Key words:** university, graduates, higher education, business.

The market economy of Kazakhstan is more than 25 years old. Business moved from spontaneous forms of organization to planned ones. In this regard, the attitude towards the personnel of the company from the employer has changed. An employer who wants to respond to new challenges seeks to provide greater flexibility for wage labor through job rotation, a variety of work operations, a variety of work skills, continuous training, and introduction of flexible work time schedules. Earlier the employee was required to learn a certain set of techniques for the rest of his life, now the employee should be ready to constantly master new skills as new information technologies are introduced. The fourth industrial revolution (robotics, nanotechnology, 3D printing, biotechnology, etc.), which has been discussed in the last decade, has also affected the labor market. Today, more and more questions arise as: which professions will become obsolete, who will be replaced by robots, what tasks will be automated, what experts and skills will be required in the future? A variety of skills implies the constant mode of retraining. Moreover, today the employer clearly prefers professionalism rather than kinship ties. However, professional knowledge and experience is not the only requirement, compliance of which provides specialist's entry to the company. The latter situation is especially relevant for young graduates, who have not been confirmed by the experience of solving production or management tasks, the availability of knowledge acquired in universities. The lack of such experience sharply reduces the advantages of young people in hiring and determining the value of their labor.

Nowadays, higher education is perceived by employers as a necessary, but insufficient condition for obtaining a job in the labor market. The poll conducted in 2016 by the National Chamber of Entrepreneurs "Atameken" revealed the fact that among 7,000 employers of Kazakhstan only 15% of them when hiring

an employee who paid attention to availability of the diploma of higher education, and the remaining 85% noted that the diploma of the university does not matter, the main thing for them is that the applicant must have practical skills. Often higher education, even where it was not previously required, should be supported by an additional education aimed at deepening or specializing of knowledge and skills. Complexity and dynamism inherent to the labor sphere often generate young specialists with inaccurate representations about it and cause inadequate expectations. On the other hand, in many cases, the employer does not receive the employee he needs, and is forced to invest funds for training and upgrading of the staff. 15-20% of working time [1]. Employers in Kazakhstan spend for employees on average 2 million tenge per year. In 2016, 5.6 billion tenge was spent for training the employees, that is more than in 2015[2]. Many large players of the financial market of our country have their own corporate universities and centers of professional development for their employees (BI-GROUP, all second-tier banks, Samruk-Kazyna FND, etc.) [3-5], where young specialists before starting their working duties take 3-6 months courses where mentors teach them the subtleties of profession. II International Forum "Entrepreneurship education in fast-growing societies: transformation of values" held on May 29-30, 2018 at the AlmaU university opened the veil of problems arising in training of young professionals at universities. According to speeches of representatives of business community and higher education institutions, one can conclude that today the labor market requires young professionals not only with professional competence, but also a talented, creative employee with developed emotional intelligence. Proceeding from this, many domestic and foreign scientists came to the conclusion that it is necessary to develop an interdisciplinary approach of training at universities. Such requirement to experts from employers is caused by a number of circumstances, in particular, by high rate development of scientific and technical progress, complication owing to production productions, strengthening of competition in connection with globalization and integration of the economy. According to requirements of the labor market not only graduates but society, the economy in general and employers, in particular, are interested in compliance of professional training of graduates.

**Literature review.** Since 1950s, when the scientific and technological revolution unfolds into full force, and later the informatization of the economy takes place, the role of higher education as a channel of mobility has been continuously growing. Education has become a social elevator for the masses of people and, first of all, opened the doors to the middle class, for people from the lower strata of society. The importance of higher education as an important social welfare is confirmed by a multitude of facts, the brightest of which is the difference in the level of incomes between university graduates and those who do not have higher education [6]. The income gap between these groups became more distinct in the 1960s-1980s and was approximately the same in all industrial economies: in the USA (data for 1989) - 65% [7] in Russia in the early 1990s - 60-70%[8]. In Kazakhstan, the average salary of workers classified as managers was 2.0 times higher than the salaries of specialists at the highest level of qualification, 2.6 times higher than those of mid-level qualification specialists and 4.4 times higher than those of unskilled workers [9].

In modern conditions, new trends arise in the content and structure of jobs. Theoretical basis for understanding these trends can serve the concepts of the post-industrial society (2004, D. Bell) [10], a society of network structures (2011, M. Castells) [11], information society. According to G. Perkin [12], in the third professional revolution, the beginning of which he dates back to the 1970s, there is a global competition that highlights the highly educated people of liberal professions.

Such people G. Perkin calls transprofessionals, who must be prepared at the expense of their thinking and ways of organizing activities to work in various professional environments. Transprofessionals are characterized by the free use of various methods for solving creative tasks, abandoning formal standards, creative thinking style, situational approach to structural components of the organization. In the era of the fourth industrial revolution, in which we are rapidly moving, the employer will place higher demands on the quality of "human capital". For example, scientists Carl Frey and Michael Osborne in 2013 determined that 47% of professions in the US are at high risk of automation for 10-20 years[13]. Continuing this research with Citibank, in 2016 the authors disseminated the findings to more than 50 countries: on average for OECD countries, in 57% of professions, algorithms will replace people [14]. Employers will

need specialists whose work cannot be replaced by automated labor. According to the study of the World Economic Forum (WEF) "The future of jobs", 14 key future skills are defined: presentation, critical thinking, negotiation skills, persuasion skills, resource management, creative skills, programming, complex problem solving, time management and others [15].

Highly qualified specialists are the most important component for the development of country's economy, increase of productivity and competitiveness of the company. Realizing the fact that without interaction with higher educational institutions employers won't be able to receive necessary experts in the course of training, business in Kazakhstan began showing interest in the work of higher education institutions. So, in 2018 the National Chamber of Entrepreneurs "Atameken" conducted an analysis of educational programs of 66 universities of the country. Research result revealed the factors that showed the following problems of higher education:

- educational programs are outdated, there are facts of applying obsolete programming languages in teaching, which companies have not used for a long time.

- in the recommended literature there was a literature of 1999-2000, where the used materials are not relevant nowadays

- there were unnecessary topics for study, etc. [16].

Thereby business community reacts to changes in the external environment and gives a signal to higher education institutions and the state that they need highly qualified personnel, they are interested in meeting and conducting a dialogue in this direction. And now, due to lack of such professionals in the local labor market, they are forced to attract them from abroad. Nowadays (2010-2017), 308.6 thousand foreign workers were engaged in the country who perform labor activity in various spheres of production, including in the management apparatus of companies. The main share is the share of highly qualified specialists as they make deficiency in the local labor market [17].

One of the main problems with employment and related social dissatisfaction of university graduates in the country is disproportion between the number of graduates and market capacity. Now the share of students-economists in the general contingent of higher education institutions makes 25-27% of their total number, whereas by results of the conducted market researches the need of the market for them makes only 13% [18]. "Overproduction" of economists and financiers, from the one hand, and an acute shortage of qualified specialists in the same areas on the other hand - are the two poles of the same problem. By the results of the audit company "E & Y" about one third of employees in Kazakhstan do not work according to their specialty [19]. Most of the activities aimed at solving employment problems in the country including training, retraining and professional development of the staff are carried out without proper study of the market demand for personnel. The absence of these data causes a weak link between the labor market and the education sector, as well as the "constraint of universities by state standards and existing classifier of specialties" [20] as a result, state orders for training of specialists are distributed blindly, which leads to increased disparities between supply and demand on individual segments of the labor market, i.e, there is an increase in the number of one specialists and the lack of others [21]. The specified circumstances actualize the study of mutual expectations of employers and young specialists, that is, university graduates in order to approach the solution of a number of problems. First of all, they include overcoming of discrepancy between the labor market and the market of educational services, as well as reducing the scale of the spread of informal relations and building a new organizational culture.

**Research results.** This article describes the research results of the employment problem of university graduates of IT specialty. Considered questions are: why graduates of higher educational institutions experience difficulties in finding a job in their specialty; what competencies they lack; what help students expect from the university.

The research of graduates' opinions was conducted by using the questionnaire. The answers were subjected to qualitative analysis. The study involved graduates of 14 higher educational institutions of the country preparing specialists in IT specialties. Most of them studied at universities in Almaty, several respondents - representatives of the cities Astana and Taldykorgan. The number of respondents is 81 people.



First of all, we were interested in the question whether graduates work in their specialty. If not, why?

By results of a research, it has become clear that the majority of graduates (approximately 76,9%) work in their specialty. During the first year, they had difficulties in the process of work such as:

- inability to apply knowledge into practice (51.6%),
- lack of knowledge (19.4%),
- other respondents noted a low salary (3.2%),
- unfair selection on a vacant position (3.2%).

23.1% of graduates noted that they do not work in their specialty. 40% out of these respondents do not work according to their specialty because of interests' change, other respondents indicated the reason: they did not have experience in specialty (20%), there is lack of vacancy (10%), they are continuing their study at the university (30%).

That is, out of all graduates 71.6% noted that the most important problem was not the knowledge of the labor market, new technologies, not the ability to apply knowledge in practice, but the knowledge that they had gained at the university have become outdated.

It should be noted that training of IT professionals is dispersed today in a large number of universities from different regions, which cannot but affect the quality of their training. Today, more than 89 universities of Kazakhstan are preparing IT specialists (70% of their total number). The main problems of most of these higher education institutions are the insignificant contingent of full-time education, problems with providing qualified teachers, insufficient material, and technical resources, lack of financial opportunities and interest in developing external and internal academic mobility. The implementation of these tasks today can only be achieved by large, financially sustainable, specialized educational institutions. They will be able to ensure their solution and create decent conditions for training our students. The scale effect and specialization prove its efficiency in the system of higher education. In this regard, the course towards integration and specialization of the operating educational institutions from the Ministry of education of RK is an objective need and command of the time. Graduates noted that for IT specialties the importance of practice-oriented knowledge is very high. The sphere of IT professional activity changes so quickly that teachers often do not have time to work out the relevant competencies and to comprehend them. In this regard, the involvement of practitioners for reading author courses within elective disciplines is an indispensable element in the learning process. Of course, some universities use this practice of binary lectures, but this practice is not regular and permanent. Since it is very difficult to attract practitioners to such lectures because of lack of time and motivation of practitioners. Specialists with extensive experience in production do not want to be distracted by additional unpaid work. Therefore, universities need to use personal connections and attract their acquaintances. We see the solution to this problem in the following:

- higher education institutions need to resolve an issue of constant professional improvement of teachers, their inclusions in real professional activity, including through participation in professional associations and internship in companies.

- high-quality forecasting on the basis of requirements of labor market, continuous monitoring and involvement of employers will allow to provide competitive services in the field of education and train personnel for them.

- it is possible to use the capacity of association of university graduates where the working graduates can share the knowledge with students of the Alma Mater. But unfortunately, when conducting the survey and drawing up the list of university graduates, we were faced with the problem of obtaining contact details of graduates. It was necessary to resort to opportunities of social networks: Facebook, WhatsApp groups. There is an opinion that some higher educational institutions do not use the opportunities and advantages of involving university graduates by drawing up educational/training programs, replenishment endowment funds, conducting lectures, etc. The following question reveals the problem of why university graduates had difficulties in the first year of their work in the specialty.

Question	Theoretical	Practical	Both
In your opinion, what direction of teaching prevails at universities?	69,2%	23,1%	7,7%

69.2% of respondents noted that the theoretical part prevails at universities and less attention is paid to the practical one. Thus, it is influenced by the material and technical resources of higher education institutions. Many private higher educational institutions have no laboratories and computers with a sufficient memory with big data which are necessary for IT experts' work. Another problem is a low salary of teachers, which does not allow teachers to reproduce the workforce normally and improve their living conditions (paying for an apartment, food, clothes, etc.), bring up and educate children. It is known that if the salary at the main place of employment does not provide an employee and members of his family, then there is an objective need for sources of additional income. Overtime work or work in several fields leads to depletion of labor potential, decrease in professionalism, deterioration of labor and production discipline, etc. [16] Specialists with knowledge of new technology (Big Data) are not attracted by the salary in higher educational institutions. In this case, it would be possible to use the methods of company's social responsibility, as it is done in other countries. In European higher educational institutions, top managers and specialists of companies try to hold free lectures in sponsored schools and universities on a regular basis. These events are associated as social responsibility. Thus, the manager fulfills his obligations to the society.

Graduates of national research and specialized universities - 23.1% respondents noted the practical orientation of training. At the same time, some respondents noted that the quality of education at these universities was at a high level, partnership with business was established: permanent and stable, competitions were regularly held with representatives of the business community, but they themselves could not understand the necessity of the event in forming practical skills and did not show activity and due diligence during study.

Table 1

Question	Helped very much	Helped	Did not help
How much did the theoretical knowledge help you that you acquired during training?	23.1%	61.5%	15.4%

23.1% of the respondents answered helped very much, 61.5% helped, only 15.4% of the respondents answered their theoretical knowledge did not help them in the first year of work in the companies.

Table 2

Question	Yes	No	A little
In your opinion, would production practice help students with employment at the university?	69.2%	20.5%	10.3%
Were you satisfied with the training / production practices?	46.2%	12.8%	35.9%

The majority of respondents (69.2%) consider that the production practice in companies helps with job search, while this practice helps the students of senior courses to determine the further trajectory of their professional career. To the question: Were you satisfied with the training / production practices? 46.2% noted that they not only managed to apply their theoretical knowledge gained in practice, but also got experience of interaction in the team. 12,8% of respondents did practical training formally, 35.9% of respondents noted that expectations from the production practice were not justified, as they were involved in work where professional skills were not required. Basically, their work was used to perform routine work of the archivist, courier, etc.

Summarizing the conducted research, it is possible to tell that innovations promote an increase in productivity of the enterprises that reduces their demand for a manpower. The consequences of introducing the new technologies will be different for all, depending on the characteristics of enterprises, sectors, and countries, so they are difficult to predict. Experts from the WEF (World Economic Forum) analyzed 15 developed and developing economies of the world with a coverage of 65% of workforce and

concluded that about 27% of jobs in the world will disappear as a result of a new wave of automation, and by the end of 2020 the number of jobs will decrease by 5,1 million units, two thirds of which are office and administrative ones [12]. In Kazakhstan, the level of robotization of the economy is significantly behind the indicators of the developed countries and there are 70 robots per 10 thousand workers [18]. In South Korea, Japan, and Singapore, the same number of workers account for more than 500 robots. In Russia, robotization is not extended yet - 1 industrial robot per 10 thousand workers [19]. To prepare highly professional, competitive specialists not only within the country, but at the international level as well, it is necessary to take into account the changes taking place in the economy of developed countries. Are universities ready to meet such challenges? Young university graduates are vulnerable in this regard. Young people have much less chance of finding a job than adults, while the youth unemployment rate in the world is 13% or three times higher than that of the adult population (4.3%). In Kazakhstan, this indicator in the 1st quarter of 2018 was 4.1% at the general unemployment rate of 4.9% [20].

As the research has shown the role of the higher education as the institution of mobility decreases: contrary to expectations of young people, it stops being the major career resource, gives fewer advantages in the labor market. Today an employer needs experts with practical skills, but not the diploma. Therefore, for employment of graduates of higher educational institutions in their specialty, the theoretical and practical orientation of training is a prerequisite, but practical skills are the priority. According to young graduates, employers at recruitment proceed from the fact that they want to use young energy, activity, openness to new and opportunity to use young potential for less salary. Most of young IT professionals after working in companies for 2-3 years and gaining valuable practical experience, open their own company. They, as employers, expressed the opinion that young people also have the advantage that they are easier to integrate into the organizational culture of the company, it is easier to work with them, they are easier to "mold" their own than to alter an employee with extensive experience and the established "blinkered" outlook on life. In their company they want to see dynamic young professionals open to all new.

Undoubtedly, education plays a key role in the process of adaptation to the changing requirements of the economy. The higher is the level of education quality, the higher is labor productivity and the greater are the chances for young professionals to find a quality workplace. Therefore, the starting point in improving the policy is to understand interrelations between tendencies in labor market and education.

First and foremost, an effective system for staff forecasting needs has to be introduced, the results of which should become the basis for adaptation of educational programs and career guidance of the population. This work should take place with the participation of all social partners.

The second priority of the policy is development of highly effective working methods from the part of enterprises. Such methods are associated with both organization of work and management practice including teamwork, mentoring.

Thirdly, it is necessary to intensify introduction of modern teaching methods, teaching styles that allow the graduate to adapt, so that he could take the worthy place in professional space.

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Г. А. Абдулина<sup>1</sup>, Г. Ж. Жолдасбекова<sup>1</sup>, В. Р. Мешков<sup>2</sup>

<sup>1</sup>«Нархоз» университеті, Алматы, Қазақстан,

<sup>2</sup>Г. В. Плеханов атындағы Ресей экономикалық университеті, Мәскеу, Ресей

### ЖОҒАРЫ ОҚУ ОРЫНДАРЫНЫҢ ТҮЛЕКТЕРІ МЕН БИЗНЕС: ӨЗАРА ҮМІТТЕНУ

**Аннотация.** Еліміздің еңбек нарығындағы шешілмеген мәселелері қазіргі таңда өзекті болып отыр. Жас мамандардың еңбек нарығында мамандық бойынша жұмыс іздеудегі қиыншылықтары мен елдің еңбек нарығының кадр әлеуетін дамыту қажеттілігі осы айтылған екі өте маңызды жағдай еңбек нарығында жоғарғы оқу орындарының (ЖОО) түлектерінің жағдайын талдау қажеттілігін туындатады. Еңбек нарығындағы маңызды мәселе - сұраныс пен ұсыныс арасындағы келіспеушілік, бұл жұмыс берушілердің жалдамалы жұмысшыларға деген қойылатын талаптары мен жоғарғы оқу орындарының түлектерінің ең алғашқы жұмыс орынына деген үміттері арасындағы алшақтықта көрініс табады. Аталған мәселелер нақты экономикалық сипатқа ие, өйткені еңбек нарығындағы жұмысшылардың бәсекеге қабілеттілігі, елдің экономикалық, технологиялық және инновациялық даму қарқынына тікелей әсерін беретіні айқын. Осы мақаланың мақсаты - жоғарғы оқу орындары түлектерінің еңбек нарығында жұмысқа орналасу барысында туындайтын мәселелерді анықтау және оларды шешу жолдарын табу. Зерттеудің негізгі мазмұны - Алматы, Астана және Талдықорған қалаларындағы 14 жоғарғы оқу орындарының түлектері арасында жүргізілген сауалнамаға негізделген. Зерттеу пәні жұмыс берушілер мен ЖОО бітірушілер арасындағы өзара бір бірінен үміттену жағдайларын зерделеу болып табылады. Зерттеу міндеті ретінде мақаланың авторы еңбек нарығындағы жағдайды бағалауға тырысты, атап айтқанда: ІТ мамандарына сұраныс, жас мамандарды жұмысқа орналастыру үшін қажетті дағдылар, нарықтағы демографиялық ахуалды талдау. Еңбек нарығындағы жағдай келесі критерийлерге сәйкес: жұмыс тәжірибесі; университеттер мен жұмыс берушілердің түлектерінің үміттерін талдау.

**Тірек сөздер:** университет, жоғарғы оқу орындарының түлектері, жоғарғы оқу орыны, бизнес

Г. А. Абдулина<sup>1</sup>, Г. Ж. Жолдасбекова<sup>1</sup>, В. Р. Мешков<sup>2</sup>

<sup>1</sup>Университет «Нархоз», Алматы, Казахстан,

<sup>2</sup>Российский экономический университет им. Г. В. Плеханова, Москва, Россия

### ВЫПУСКНИКИ ВУЗОВ И БИЗНЕС: ВЗАИМНЫЕ ОЖИДАНИЯ

**Аннотация.** Проблема рынка труда была и остается актуальной. Необходимость анализа положения выпускников вузов на рынке труда обуславливается двумя важнейшими обстоятельствами: сложность трудоустройства молодых специалистов и необходимостью развития кадрового потенциала рынка труда страны. Серьезная проблема на рынке труда – это рассогласованность предложения и спроса, которая выражается в разрыве между предпочтениями работодателей и ожиданиями выпускников вузов. Обозначенные проблемы носят реальный экономический характер, так как от их решения напрямую зависят конкурентоспособность, темпы экономического, технологического, инновационного развития страны в целом. Цель публикации – анализ сложившейся ситуации с трудоустройством выпускников вузов на рынке труда, выявление возникающих при этом проблем и поиск способов их разрешения. Основное содержание исследования составляет анкетирование, проведенное среди выпускников 14 вузов г. Алматы, Астаны и Талдыкоргана. Предмет исследования – взаимные ожидания выпускников вузов и работодателей. В качестве исследовательской задачи автором была предпринята попытка оценить ситуацию на рынке труда, а именно: спрос на специалистов IT направлений, навыки необходимые для трудоустройства молодых специалистов, демографический анализ рынка, ситуация на рынке труда по следующим критериям: опыт работы; анализ ожидания выпускников вузов и работодателей.

**Ключевые слова:** университет, выпускники вузов, высшие учебные заведения, бизнес

#### Information about authors:

Abdullina G.A. – PhD, associate professor, Narxoz University, Almaty, Kazakhstan; gulnar.abdullina@narxoz.kz,

Zholdasbekova G. Zh. – Narxoz University, Almaty, Kazakhstan; gulbahyt.zholdasbekova@narxoz.kz; <https://orcid.org/0000-0002-2354-441X>

Meshkov V.R. – <sup>3</sup>Plekhanov Russian University of Economics, Russia; meshkov\_vr@mail.ru

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