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## The transformation of vocational qualification structure of workers in the new economy

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**Abstract:** New economy development causes consensence of old professions and specialties and appearing of new ones. It requires the necessity of the employment of adapted to modern conditions personnel and thus considerably changes professional quality demands. It is important to develop professional and qualification system which would correspond to modern requirements and foresee the prospective of the change, suggest complex approach to the determination of the need in qualified specialists and workers of production and nonproduction spheres taking into consideration national economy structure.

**Keywords:** human resources, qualification, profession, superprofessional skills, nonstandard forms of occupation.

## 1. Introduction. Problem setting

Developing of new economy in Ukraine based on knowledge as a key factor of production, causes the change in vocational qualification structure of personnel. Global trends in the development of human capacity show that the high level of modern technology cause aging of some professions and the emergence of new, necessitates hiring adapted to modern requirements of personnel, significantly changes the requirements for the employee. However, the specific conditions of transitioning our economy cause deformed conservation of professional and qualification structure. It is therefore relevant theoretical and methodological study on the transformation of employment, professional development and personal development, systematization of various professional characteristics, their constant updating in accordance with the requirements of the labor market.



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Analysis of recent research and articles. Persistent search of methodological approaches to determine the content of and types of professional work and orientation of the individual in terms of evolution of Western society was begun by scholars such as P. Drucker, H. Toffler, F. Mahlup, Bell, T. Schultz, B. Himpelson, B. Twiss. An important contribution to the study of the problems of new forms of employment has been made by native scholars O. Amosha, Y. Bazhal, S. Bandur, I. Bondar, V. Vasylychenko, V. Geyets, I. Hnybidenko, O. Grishnova, E. Libanova, L. Lisogor, A. Pryhozhyn, A. Tsymbal and others.

## 2. Highlight of unsolved aspects of the problem

Having analyzed their work, we can conclude that in Ukraine vocational qualification system which would correspond to modern requirements and prospective change is not developed, there is no comprehensive approach to identifying the needs of industrial and non-skilled sectors specialists and workers considering the structure of the national economy, which in turn leads to the fact that trained professionals remain unclaimed.

## 3. Formulation of purposes of the article

The aim of the study is to elucidate the factors that influenced the emergence of new professions, characteristics of new forms of employment, defining professional requirements for a new type of worker, and study the role of the state in regulation of such forms of employment in Ukraine.

## 4. The main material research

At different stages of social development scientists were interested in methods and approaches to people management, the system of human interaction and profession (table 1).

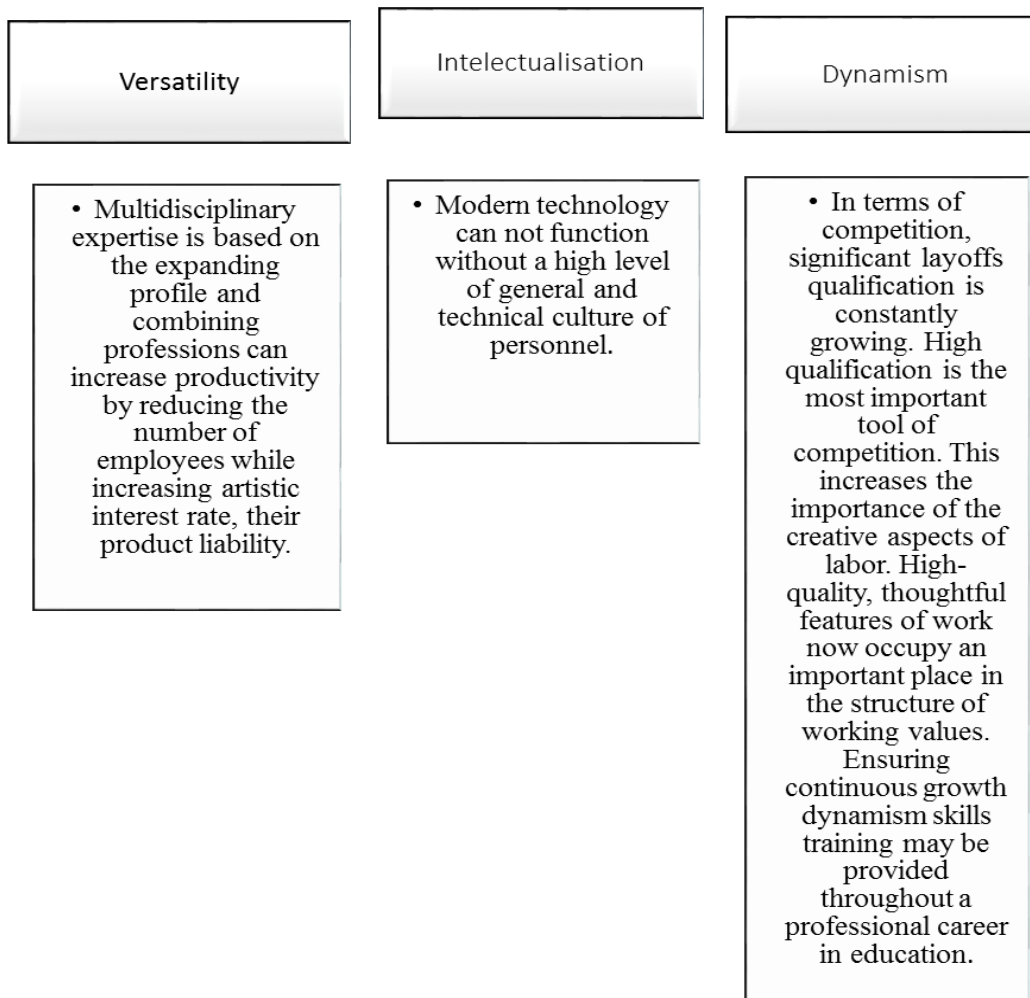
**Table 1. Connection of stages of economic development with the forms of employment and professional orientation**

Forms of modern economy	Forms of employment and vocational guidance
Industrial economy	The system of vocational guidance, established in the industrial period performed the main task – ensuring the current capital-intensive mass production of a large number of relatively unqualified workers. The production process needed an employee who would serve as an appendage of the machine, the use of scientific knowledge in the production process was completely separated from the knowledge and skills of individual employees. Moreover, the appearance of machines in production processes not only helped to raise the qualification of a large part of employees, but also to the mass replacement of manual labor workers, low skilled workers to carry out only a small number of standard operation.
Informational economy	Characteristic features of the information economy is that the decisive productive resource here is the information in one form or another, and in the structure of employment is dominated by knowledge workers as information resources are direct product of intellectual activity. New high-tech industries gradually offer the use of creative intellectual work, in which workers carry out a function control of the machines and manage them.
New economy	The new economy is a situation in which the growing importance of such factors as human capital, serves as a model of economic growth and intangible factor and the value of material factors is not reduced. However, technological advances caused material active participation of human capital, including the creative potential of scientists and engineers. Technical achievements of mankind, increasingly complex and demands on the person engaged in manufacturing, form this instrumental value of education. Actual is "constant education" or "lifelong education", which allows you to quickly respond and adapt to changing conditions in employment.

*Note. Compiled by author on the basis of sources [1-5].*

As a result, today the human is regarded as the main production resource. And the inevitable consequence of technological progress is disappearing or a fundamental change of dozens of professions. So today it is essential to understand which industries and occupations will actively develop new technologies, management systems. Products they will emerge will require workers and employers in the near future. The rate of change is growing, along with its growing complexity and professional problems. Thus, the formation of a new economy causes transformation of the employee model. It is characteristic that the fastest changes cover staffing components of this model (knowledge, skills, experience and skills in a particular field of human activity). That quality is determined primarily professional potential skills, characterized by new universal skills, which must have workers in various industries. They make it possible to increase the professional skills and easily move among sectors, while remaining popular. Thus, the main features of the training are versatility, high level of general and technical culture, dynamism (Fig. 1).

### QUALIFICATION



**Figure 1. Characteristic features of qualification in new economy conditions**

*Note. Compiled by author*

The scientists of Moscow School of Management in Skolkovo systematized universal super professional skills and abilities, which a modern specialist should have in order to increase the effectiveness of professional work in their field and be in demand in the new economy:

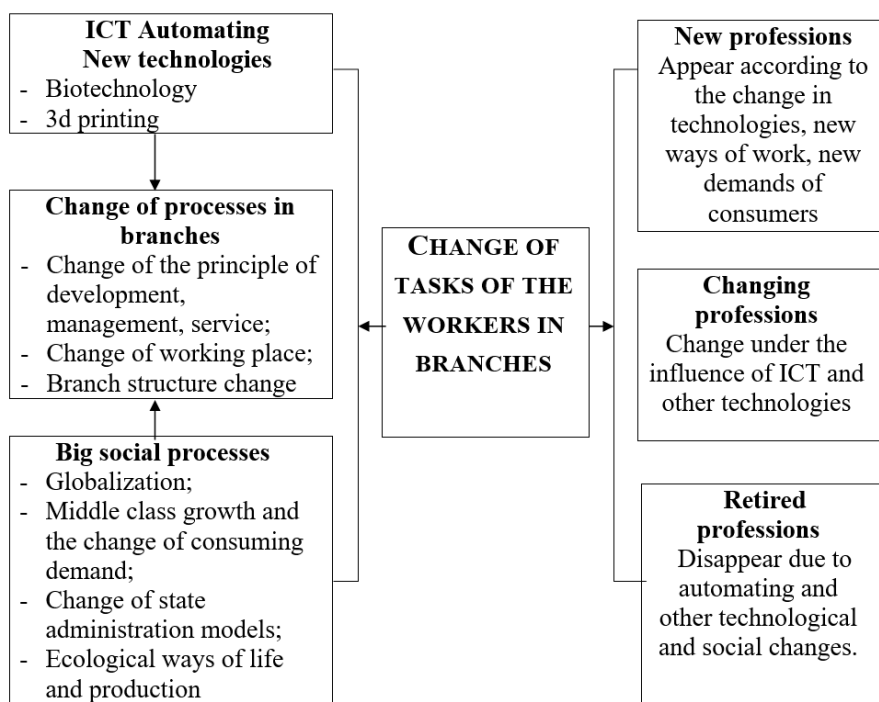
- System thinking;
- Intersectoral communication skills;
- The ability to manage projects and processes;
- Programming IT solutions;
- Ability to work with the needs of the consumer;
- Multilingual and multicultural;
- Ability to work with teams, groups and individuals;
- Work in the low uncertainty and rapid change in terms of objectives;

- The ability to art, the presence of a developed aesthetic taste;
- Resource production [6].

We support researchers' belief that the above competencies will be needed in the future to anyone, regardless of occupation. After all, today there are many professions whose names are only present but operation principle has changed, there are new jobs in high technology industries, and some are aging and fading. According to recent studies, every year almost 10% of all jobs disappear and are replaced by others (often in new forms) that require new qualification. Factors that define this process are shown in Figure 2.

In terms of competition, significant layoffs qualification is constantly growing. High qualification is the most important tool of competition. This increases the importance of the creative aspects of labor. High-quality, thoughtful features work now occupies an important place in the structure of working values. Ensuring continuous growth dynamism skills training may be provided throughout vocational career in the system of education system.

According to recent studies of Western scholars [8], each young worker with average education level for their working life will change at least 11 job places.



**Figure 2. Factors that determine appearing new professions [6]**

In the above material indisputable is the fact that in the new economy dominant is intellectual work, most popular are professions of scientists, technology, the main sector of the economy shifted from producing goods and industries in the service sector – transport, communications, trade, the fastest growing high-tech manufacturing. However, traditional industries are losing their place and role. And what happens to low-skilled occupations? A study of the American economist David Autor argues that the new economy is the average displacement of professions and qualifications, for the opportunity to replace their automated processes, while employment growth of high- and low-skilled workers. Calculating the same data for the national economy shows the same trend in 2006-2012. Since 2014 increasing employment among highly skilled workers (3.4% compared with the previous period) and reduced employment by 5.2% among low-skilled workers. The same trends are seen in 2015. Also during this period, employment increases on average by 1.5% (Figure 3). That is, in the last two years there are processes of employment, that are not characteristic for the new economy.

forecast of the Ministry of Economic Development and Trade of Ukraine in need of manpower in terms of economic activity and occupational groups for the years 2015-2018, most will need in elementary occupations in agriculture trade and services. The objective is the growth in demand for vendors and demonstrators. Also there will be a demand for trades, in particular, workers in the construction, transport industry, mining. There will remain the need for drivers and workers with mobile technology and service workers who provide personal and protective services [9].

According to the forecast, the further development of the economy will require highly skilled engineering staff, professionals in the field of physical, mathematical and engineering sciences. Also actively developing field of information and telecommunications will increase the need for expertise in IT-sector. In addition, domestic enterprises adaptation to EU standards will need more workers in metallurgical and engineering professions.



**Figure 3. Curve for Ukrainian economy by Autor**

*Note. Compiled on the basis of state statistics committee of Ukraine data [7]*

However, despite the fact that the proportion of employed lowskilled labor falls under the medium-term

It should be mentioned that in the new economy, the importance of non-standard forms of employment in which an important place is occupied by borrowed labor, the use of which, is done within the scheme of outsourcing, outstaffing and leasing of personnel. In most East European countries 2% to 5% of the employed population work in the sector of borrowed labor nowadays [10].

According to global rating the attractiveness of outsourcing (Global Services Location Index, GSLI), includes 55 countries and is developed by the American consulting company A.T. Kearney. Ukraine in 2016, compared with 2014, rose from 41th to 24th place. A.T. Kearney has constituted a global outsourcing rating attractiveness of GSLI countries every two years since 2004. Outsourcing potential of each country is measured by three indicators – financial attractiveness and accessibility of the necessary qualifications of workers in the labor market and the availability of a favorable business environment for conducting outsourcing operations. Ukraine is the third largest country in growth in the ranking after Colombia, which immediately rose by 23 positions and took the 20th place and Turkey, which ranked 21 line in the rating [11]. Thus, despite the political risks, problems of organizational and legal nature, growth potential outsourcing market in Ukraine remains. If political risk is partially offset by the new government rate reform, the legal gaps remain and require urgent attention. Our labor laws require the introduction of rules governing the use of borrowed work. Some steps in this direction have already been taken, including the government approved a draft law "On amendments to some laws of Ukraine concerning the authorization to hire workers for further performance of work in Ukraine with another employer" under the terms of labor contracts and the procedure for issuing permits to hire workers for further performance of work in Ukraine with another employer. The adoption of these bills by Verkhovna Rada of Ukraine will allow the State Employment Service of Ukraine to monitor the process of attracting workers under outsourcing, because it has to issue appropriate permits and inspection of labor should ensure that social and labor rights of workers are not violated. Distribution of electronic business led to the emergence of a number of new professions and occupations, such as computer design, computer animation and visualization, employees of the Internet infrastructure. Recently they acquired such a widespread area of work as freelance. Today freelancers are organization workers who perform work from order to order. It can be programmers, designers, translators, journalists, copywriters, photographers and so on. But in our state there is a paradoxical situation: on the one hand, freelance in Ukraine has not received official recognition, and therefore no special tax procedures and conditions for its operation must be applied; and on the other – the state authorities know about it firsthand and gradually begin to adapt it to the budgetary targets, driving them into the shadow of the tax burden. In spite of this market continues developing steadily. According to the former minister of Economic Development and Trade A. Abramovichus the amount from freelance work in Ukraine is 350 mln. dollars, and it will increase. Freelance – is another way to attract investments in Ukraine, because the state must create a mechanism that would allow easy and affordable way for freelancers to earn money and pay taxes to the state budget.

## 5. Conclusions and prospects for further research

Thus, the transition to a new type of economy leads to qualitative changes in the structure of employment in the professional division, qualification requirements for employees. Simultaneously there is the aging of some professions and the emergence of new ones. It requires a response from the government as to improve

vocational qualification system, which primarily lies in the detail of national qualifications framework, development of existing professional and academic qualifications by sector of economic activity according to specific standards. It is also important to forecast trends in industries, regions and the country as a whole, thus identifying those jobs that reflect the important changes that await the country and put all efforts to achieve the desired future.

#### Author details (in Ukrainian)

#### Трансформація професійно-кваліфікаційної структури працівників в новій економіці

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**Анотація.** Становлення нової економіки призводить до старіння одних професій і спеціальностей та виникнення нових, викликає необхідність найму адаптованого до сучасних вимог персоналу, суттєво змінює вимоги до працівника. Тому вкрай важливо розробити професійно-кваліфікаційну систему, яка б відповідала сучасним вимогам і враховувала перспективні зміни, запропонувати комплексний підхід до визначення потреб виробничої та невиробничої сфер у кваліфікованих спеціалістах і робітниках з урахуванням структури національної економіки.

**Ключові слова:** кадри, кваліфікація, професія, надпрофесійні навички, нестандартні форми зайнятості.

#### Author details (in Russian)

#### Трансформация профессионально-квалификационной структуры работников в новой экономике

Арзамасова Оксана Викторовна

**Аннотация.** Становление новой экономики приводит к старению одних профессий и специальностей и возникновению новых, вызывает необходимость найма адаптированного к современным требованиям персонала, существенно меняет требования к работнику. Поэтому крайне важно разработать профессионально-квалификационную систему, которая бы отвечала современным требованиям и учитывала перспективные изменения, предложит комплексный подход к определению потребностей производственной и непроизводственной сфер в квалифицированных специалистах и рабочих с учетом структуры национальной экономики.

**Ключевые слова:** кадры, квалификация, профессия, сверхпрофессиональные навыки, нестандартные формы занятости.

## Appendix A. Supplementary material

Supplementary data associated with this article can be found, in the online version, at <http://dx.doi.org/10.14254/2223-3822.2016.14-1.15>

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