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Creative Analysis of Innovation as a Catalizer of Socialization of Structural Change

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Abstract
The multiple analysis of rate of dependency between innovative processes and structural labour market changes in the form of evolution in sector of employment was exposed in the article. It has been proved that the impact of innovations on the labour market can be considered, on the one hand, as a part of multi-factor socio-economic macro-, meso-, micro-level systems, which makes a direct or indirect impact on state of other elements of system and which is under its influence at this time; on the other hand, as an open, dynamic, flexible system, functioning of which leads to socio-economic resources development. The definition of labour market has been suggested as a system of socio-economic relations between workers, employers and society (organizations and institutes) for realization of ability to work, supporting social guarantees, approximation of parties' interests of labour relations, state`s interests, legal control of terms of employment etc. The analysis of structural changes, which take place in the labour market of different levels administrative territorial state`s structure by means of innovations, covers the period 2012-2017. The impact of innovations on employment is associated with `creative destruction` where innovations, on the one hand, ruin current workplaces and, on the other hand, create new ones. Analysis has demonstrated that employment increasing and related structural improvements are determined by kind of incorporated innovations. Organizational innovations have more impact on size and structure of employment, than technological ones. *The practical importance* of the research involves developing of methodological and practical aspects of choosing multiple approach in relation to innovation analysis as a determinant of structural labour market changes. *The originality of the research* is reflected in the comprehensive creative analysis of innovations from the point of view of activation of the youth labour market in Ukraine. The key factors of the low level of involvement of young citizens in the country's economy and society are identified. The authors have suggested the prospects for the development of the youth labour market, the elimination of youth unemployment, which are conditioned by the peculiarities of the social condition and employment behaviour of young people. The need to study the experience of European countries is emphasized, where training in the working professions is well organized and the youth unemployment rate is the lowest in Europe. *Distinctiveness.* Conducted researches let to confirm attained results in relation to choosing implements for coping with current troubles and disproportions in society. Implementation of multiply approach of analysis and diagnostics of correlation of innovations and employment will make a direct impact on supporting living standards and progressive socio-economic state`s development. The monitoring of solidarity of actions of public communities, government agencies, enterprise structures will ensure attainment of active increasing of innovation technologies, high living standards level, that will offer some new opportunities for business environment in relation to labour productiveness maintaining method and equivalent income level from enterprise activity, will solve the unemployment and labour migration issues, create some new flexible forms of employment, increase the level of state`s competitiveness in global economy facilities.

Key Words: creative analysing, diagnostics, employment of population, innovations, multiple approach.

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1. Introduction

The relations between innovations and labor market are too complicated and involve enormous controversy among academic economists for a long time. Around the time researches were focused on a traditional question: do new technologies destroy workplaces or create?, a research interest is emphasized on analysis of influence of certain types of innovations on condition and structure of employment now (Pianta, 2007). Analysis of this issue is extra complicated, because the relation between innovations and employment is not common direct and immediate, and its influence becomes apparent at various times and in a great many economic sectors.
The current relation between innovations and structural changes in economic reality attests to the fact that innovations are discomfiting force of modern development tendencies. These new developments lead to change-over of economic activity from traditional industries to modern ones, which are determined as intellectually intense. Innovations change the way of work performing and cause the fact that professional public activities are going to direct toward production, processing and the spread of knowledge and information by using modern tools. In a highly developed economies the role of innovations constantly rises, and this again executes certain adjustments on the labor market.

2. Literature review

The issues of formulation of methodological basis are investigated in works of such foreign scientists as K. Drury, K.R. McConnell, P. Samuelson, N. Gregory Menck, R. Solow, and such domestic scientists as S. Bandur, D. Bogin, I. Bondar, S. Gerasimenko, O. Gladun, A. Golovach, V. Danilko, M. Dolishniy, Y. Krasnov, I. Kuzmenko, E. Libanova, V. Lishilenko, V. Onikienko, O. Osaulenko, N. Parfentseva, I. Pilipenko, L. Tkachenko, V. Shvets etc. The issues of keeping the balanced state of labor market compose the area of scientific interests of V. Antonyuk, S. Grinkiewicz, Y. Marshavina etc. The innovation abilities for solving the most important employment issues became a fundamental idea of such foreign scientist's works as H. Yong, W. Hutton, Z. Bauman, W. Beck, M. Castels, O. Toffler, F. Fukuyama, M. Sommer, M. Cryshtal etc. But if foreign countries, in particular Europe, give an extensive attention to increasing employment level issue by innovative approach, then in Ukraine this issue is still underinvestigated, it determines the thematic justification.

3. Research methodology

Highlighting outstanding issues as a part of generic problem of the paper. The progress makes a danger in which people being performing rote job will be replaced by mechanisms and machines, but the most innovative enterprisers have a plan to enlarge the amount of workplaces. The exposure the modern context and role of innovative activity in a process of formation, regulation and effective realization of labor policy actualized the selection of research direction.

The aim of the article is to carry out a creative analysis of innovations as powerful aspects of accelerating the processes of socialization of structural changes occurring in the labor market in Ukraine and its youth. In addition, the authors aim to characterize the socialization of structural change in the youth labor market as a result of innovation; the status, dynamics and structure of employment of the youth population over the statistical time range 2012-2016.

4. Research results and discussion

Various definitions of structural changes can be found in publications. Most commonly, structural changes mean the change of production structure and structure of production factors using in economy for a certain period of time. M. Klamut defines economic structure as a complex of economic elements and a complex of relations between. A substantive specialization of labor, which describes territorial-sectoral system of economy, commonly becomes as a keystone of its identification and regulation. T. Kowalik defines economic system as a complex of organizations, households and human unities, which act according to specific rules, motives, instructions and interdictions in a field of production, division, exchange and consuming goods and services. On the other hand, V. Yakobik contemplates that economic structure is a relation between particular elements of economy. Structure of economy is a definite image of its dividing on basic elements which show economic condition and tendency of labor specialization.

From this perspective, economy is a complicated socio-economic system, that can be considered in numerous areas. Analysis of economy is also very significant in terms of production structure, in particular, parts of current areas and production industry in this structure.

Structural changes in economy require qualitative transformation of economic system characteristics which are reflected in quantitative indicators (Kozlowska, 2010), consequences of which is increasing on economic structures. Demonstration of quantitative changes, which commonly are identified with structural ones, is changes in importance of particular elements of economic system, that necessarily accompanies formation of the new structure elements and disappearing of the old ones. Qualitative changes take place at lower lever of aggregation, in internal structure of these elements, its components, objectives, strategies or performed actions. The consequence, at least in the theoretical assumption, is a widely understood process of achieving positive effect not simply in economic area, but in social and environmental areas. T. Budnikowski considers that economic structure changes in dynamic, as well as in cross-conditionalities, and there is no better way of extending it than to compare the fluidity of particular areas of economy in general (Budnikowski, 1993). Changes, which take place between particular areas, shall be measured by its proportion or production in general, or by number of employees.

In literature on this subject this analysis method of changes in industry structure of employment is considered to be a major criterion of socio-economic development of countries.

According to performed analysis of literature sources, it was concluded, that «labor market» is a complicated system category (freedom of choice, freedom of exchange, equal awareness of participants of sale and purchase, setting prices according to supply and demand etc. are permitted), and therefore it was suggested that labor market can be considered as a system of socio-economic relations between employees, employers and society (organizations and institutions) in order to realize labor skills, fulfilment of social commitments, harmonization of the interests of the parties to the labor relationship, state`s interests, legal regulation of employment etc. (Druzhynina, 2014). The heterogeneity of definition of conception of `labor market` provides the systematics from generalized and specified points of view. From the generalized concept labor market refers a relation between supply and demand of labor force. The demand aspect on labor market is presented by labor force, where demographic factors and individual psychosocial advantages play a significant role. At the same time supply is determined by number of workplaces (employed and vacant), which are generated by economy. Innovations have an impact on quantity and quality of created workplaces, the so-called `creative destruction`. Innovations are leading to adaptation of all the elements of economic structure, including labor market. Innovations should be considered as a key factor, that determines changes on labor market through direct impact on size and structure of supply on labor force. In its turn, changes in supply structure on labor force require correcting by labor demand.

The intensive development of the youth labor market in the context of Ukraine's functioning in the global economic environment and the strengthening of the role of innovative information technologies require a constant study of the employment processes of young citizens.

Youth is an important resource both for the labor market and for the country as a whole, since in the future it will become the basis of the national labor market and, through its own capacities for work, will shape the economic system and promote its further growth. In these circumstances, it is important to carry out a comprehensive analysis of the youth labor market in order to determine the current situation and evaluate the prospects for attracting economically active population of young age groups in the economy of the country, as well as optimize the employment efficiency of this age category of citizens.

It should be noted that there are a wide range of socio-economic problems that characterize the employment of the population in the age group: 15–29.

According to a survey conducted by the Active Omnibus City Omnibus project, it was found that only 35.3% of respondents worked in the specialty in 2016, and 19.7% in the related field (Figure 1).

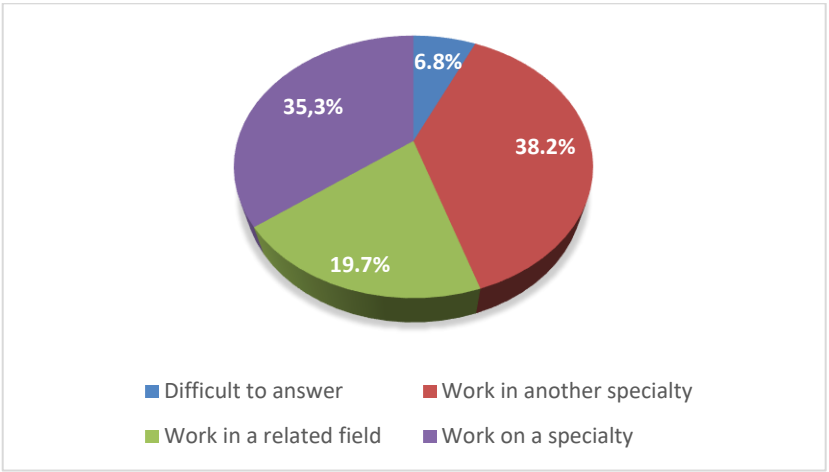


Figure 1: Correspondence of the diploma by profession and occupation, which works in the population in Ukraine, 2016
Source: created by the authors based on Active Group, 2019

It should be noted that even among the population with a scientific degree in the profession is not more than 50%. Another important factor that is inextricably linked to the mismatch between the demand and supply of economically active youth in the Ukrainian labor market is the unemployment process (Table 1).
For the population aged 25–29, the ILO unemployment rate, although not very significant, is higher than for the population aged 30–59. The significant share of youth among the unemployed is explained by the poor professional status of this category of citizens, the low competitiveness of graduates' institutions compared to other categories of employees due to lack of professional knowledge and sufficient experience.

Table 1. Unemployment (by International Labour Organization methodology) by age groups in 2017 (source: Official web-side of State Statistics Service of Ukraine, 2018)

Indicator	January-March		January-June		January-September		January-December	
	thousand people	economically active population of the appropriate	thousand people	in % of economically active population of the appropriate	thousand people	in % of economically active population of the appropriate	thousand people	economically active population of the appropriate
All population aged 15-70 years	1786,9	10,1	1709,7	9,6	1676,9	9,4	1698,0	9,5
including age groups								
15-24 years	244,7	17,7	248,0	17,8	265,0	18,9	262,0	18,9

25-29 years	298,0	13,2	260,5	11,4	262,7	11,4	259,8	11,3
30-34 years	264,6	9,8	284,8	10,5	274,5	10,1	267,2	9,8
35-39 years	257,1	10,4	234,9	9,6	203,0	8,3	206,5	8,4
40-49 years	410,3	9,0	396,4	8,6	373,2	8,1	398,0	8,7
50-59 years	311,7	8,5	284,8	7,7	298,3	7,9	303,8	8,1
60-70 years	0,5	0,1	0,3	0,0	0,2	0,0	0,7	0,1
of working age	1786,4	10,5	1709, 4	10,0	1676,7	9,7	1697, 3	9,9
older than working age	0,5	0,1	0,3	0,0	0,2	0,0	0,7	0,1

These problems require the introduction of a comprehensive effective state program to promote youth employment, since citizens aged 15–29 often do not have the socio-economic conditions to live in Ukraine, which leads to intensification of migration processes, increasing crime rates and the spread of various negative social phenomena. (alcoholism and drug addiction) in this age group and more. At the same time, Ukraine faces a problem such as insufficient supply of labor resources of the country, which negatively affects the innovative development of the economy.

The impact of innovations on labor market can be seen though prism of two types of effects, such as `effect of reducing` and `effect of compensation` of employment (Szukalski, 2001). The first case concerned a replacement of living labor by investments, which causes job losses. The second case concerns `effect of compensation` of employment. It is envisaged that innovations will cause a tendency of neutralization of employment reduction. Such a phenomenon will happen, when technological progress causes an appearance of new products or services, new departments and, accordingly, new workplaces. The process of rationalization, epochal innovations (electronic production and services) usually lead to increasing of supply on investment goods, that gives a chance to increase employment. Moreover, technological progress increases international competitiveness of economy, specific types of economic activities, that, in general, has a positive effect on employment. P. Kabaj points out that modernization, technical and organizational changes can be as a factor of creation, as well as liquidation of workplaces (Kabaj, 2005). If sales of products and services increase as a result of implementation and using of innovation processes, new workplaces will be established. Liquidation of workplaces in existing facilities mostly is a result of enterprise restructuring (organizational and technological changes), reduction of supply of goods and services, made by companies, the consequences of which the proceeds of sales decrease and financial firm`s condition deteriorate.

In the literature the relation between innovations and employment related to `creative destruction`, that means innovations, on the one hand, destroy workplaces and, on the other hand, develop it. Analysis of impact on size and structure of employment from innovations requires considering some important factors, among them the most important are: type of incorporated innovations, use of existing technologies in new areas, intersectoral linkages, creation and dissemination of knowledge.

Entrepreneurial activity is not always about creativity, but is always the result of contributing to changes in the current state. However, some scholars consider creativity to be a fundamental concept of innovation, its primary principle (Cameron, 2000). Others, on the contrary, emphasize that innovation is a basic concept, and creativity is one of the subset of concepts of an innovation system that shapes its effectiveness (Cumings, 1997).

In particular, the main technological model of innovation, which consists of three main components: science - technology - production, substantiates the feasibility of creativity at the first stage in this process, namely "the formation and choice of ideas".

Based on the author's research and the generalization of scientific sources, the general differences between the concepts of "innovation" and "creativity" by their essential characteristics were substantiated (Figure 2).

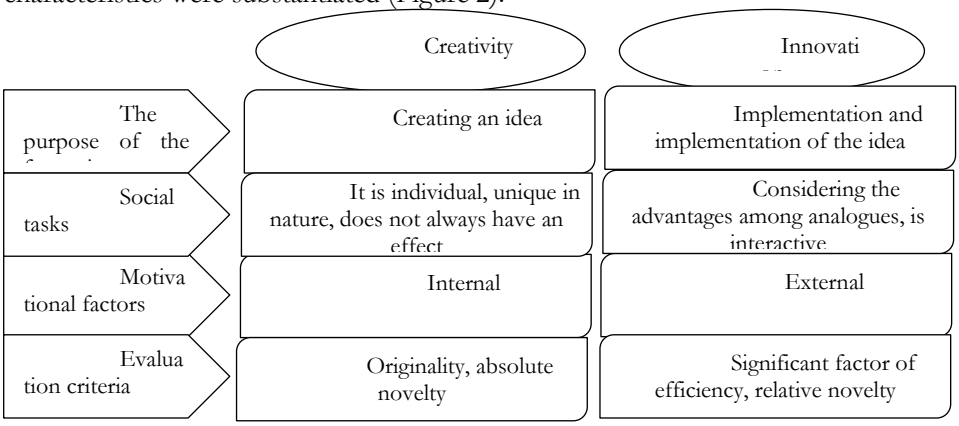


Figure 2: Substantiation of common features of the terms "innovation" and "creativity"
Source: created by the authors

The most effective ways of spreading creativity in entrepreneurial structures are fostering the exchange of knowledge, experience, among colleagues, encouraging the use of international business planning and organizational development practices, diversifying the principles of responsibility.

Type of innovations determines the adaption processes in industry. Innovations of products generally simply can be imitated by competitiveness, that simplifies and develops the products, incorporates imitation of the new products on the market. In this case, there are processes of `creative destruction` towards the products from modern market. But improvements in case of low rates of technological progress can lead to permanent domination of leader-innovator. Exploitation of existing technologies in new exploitation area is an additional factor that stimulates `creative destruction`. Using new technologies by other industries can, on the one hand, eliminate previously used technological solutions and, on the other hand, lead to developing of market niches which occur as a result of intensification of leaving the sector.

Intersectoral linkages, that are formed and have been developing by impact of demographic, economic, scientific-innovational factors, play an important role in the economic development process, which is caused by improvements. Intersectoral linkages

include participants of all the markets and make it possible to review in a comprehensively manner its behavior through labor market functions: distribution, regulation, information, mediation, stimulation, wellness, chief among which is distribution function, which reflects all the socio-economic events (Druzhynina, 2014; Klamut, 1996). The requirement of smoothness and homogeneity of development processes in economy is coordination between an evolution of old sectors and an emergence of new ones. It is necessary to provide an optimal stage and pace of reallocation of resources between selected sectors. The source of growth and hesitation of economic assemblies is technological changes and pace of its dissemination through diffuse processes of new technologies. Creation and reallocation of knowledge through resources diversion from production sector lead to changes in economic sizes, and therefore in structure of supply on labor force. Quantitatively this indicator can be measured through number of free (vacant) workplaces or through number of unemployed job-seekers recruitment indicator. The main priority of development of this indicator is creation and modernization of new workplaces predominantly in industries, information and telecommunications, education, health protection and providing social assistance, transport, warehousing, postal and courier activities.

One of the elements which obviously make an impact on assessment of the innovation level of enterprise in industry, as well as in service sector, is level of financial expenditures which were made for development of this kind of activity. This includes usually purchasing external knowledge in the form of patents, program proposals related to innovations implementing, purchasing and installation of machine and technical equipment, also expenditures on building, widening and modernization of buildings for realization of innovations in production processes (Figure 3). In addition, this also includes staff training, connected with innovation activity, marketing of new or significantly improved products and advertising. Finally, a large part of expenditures is made because of researches and scientific developments related to elaboration of new or significantly improved products and activities, such as feasibility studies, testing and evaluation the product.

The result of analysis Figure 3 demonstrates that enterprises spent less by 4,7 bln UAH on innovations in 2017 than in 2015, including purchase of machinery, equipment and computer software less by 15,9% and purchase of external knowledge less by 0,4%, but expenditures on internal and external research developments and other types of work, related to creation and implementation of innovations, increased by 9,0% and 7,3% respectively. These changes can be explained by expansion of field of activity, identified as a quality of services and revolutionary rapid technological progress especially in areas of high-technology and knowledge-intensive services.

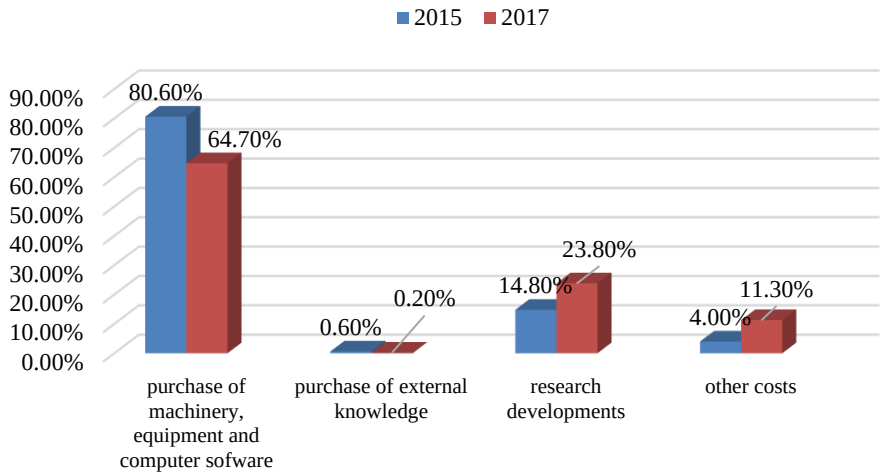


Figure 3: Distribution of expenditures on directions of innovative activity, %
Source: created by the authors

Available statistical information to a very limited degree allows to conduct a detailed analysis of impact on employment number from innovations. The main data source about innovative enterprise activity is comprehensive statistical data and survey of innovative activity of economy of Ukraine, which are given by Ukrainian State Statistics Service on a basis of international methodologies. Studies are being conducted in trier cycles. At the time, statistical analysis includes four types of innovations: the product – market introduction of product or service, which is new one or significant improvement in terms of its functions and applications; the process – introduction of new or significant improvement methods of production, distribution and support for activities in goods and services area; the organizational type – realization of new organizational method in the operating principles adopting; the marketing type – realization of new marketing concept or strategy, that is substantially different from marketing methods, that were used in the company before.

Throughout 2012-2014 some enterprises of Ukraine, that have been engaging in innovative activity, by suggested economic activities, amounted to 18,4% (2492/13529), including technologically innovative activities – 13,5%, non-technological innovations – 4,5%, part of innovative enterprise in the total number of enterprises in service providing – 11,0% (Table 2). In the next period, i.e. 2014-2016, the level of innovativeness increased in industry, as well as in service sector by 1,9% (20,3% and 18,4%) and 5,7% (16,7% and 11,0%) respectively.

In 2012-2014 51,32% of enterprises introduced organizational and/or marketing innovations in service sector, while this indicator was lower and stood at 24,24% in industry sector. In 2014-2016 organizational and/or marketing innovations were introduced among nearly half of enterprises (industry and service sectors), that means significant increasing compared to previous research time.

Studies were made in several European countries demonstrate that organizational innovations are more important for formation of changes in employment and professional structure of workers, than for technological innovations. For example, in Poland, there is higher percentage of companies engaging in organizational innovations in service sector, than in industry sector.

Table 2: Number of enterprises of Ukraine that have been engaging in innovative activity throughout 2012-2018 (source: Official web-side of State Statistics Service of Ukraine, 2017)

Indicators		Years			
		2012–2014	2014–2016	2012–2014	2014–2016
		Industry		**Service Sector**	
General number, of enterprises in the study, including		13529	12815	14463	14911
have been engaging in innovative activity, among them:		2492	2598	1592	2497
Enterprises with technological innovations	enterprises with product type innovations	360	235	86	112
	enterprises with process type innovations	656	787	357	814
	enterprises with product and process type innovations	741	791	277	469
	enterprises with continued or interrupted innovative activity	131	46	55	24
Enterprises only with marketing and/or organizational innovations (non-technological innovation)		604	739	817	1078

Organizational innovations are closely linked to technological development. It is often an important addition to engaging in new technologies, especially information and communication technologies.

Results of analysis of enterprise`s innovative activity by type of innovative functioning demonstrates that throughout the analyzed period the highest proportion of innovative enterprises was of enterprises of information and telecommunication, processing industry, financial and insurance activity.

Meanwhile, higher than the national average proportion of enterprises with technological innovations was among enterprises of processing industry and supply of electricity, gas, vapor and conditioning air; with non-technological innovations – among enterprises of financial and insurance activity and information and telecommunication.

It contributes to creation of new better workplaces. This is illustrated by dynamic increasing of employment (Table 3).

If one considers the activity of domestic enterprises, there is a direct correlation between enterprise`s size and its level of innovativeness, because implementation of innovations requires a certain amount of staff, that is employed for research and development activity, that leads to implementation of innovations. Respectively the highest proportion of technologically proactive, as well as non-technologically proactive enterprises was among big enterprises (31,4% and 28,1% respectively).

Proportion of people, who work on water supply, sanitation, waste management (from 27,3% during 2012-2014 to 19,3% in the next period) and information and telecommunication decreased by 20%. By contrast, increasing of proportion of general

employment occurred in mining and refining industries, supplies of electricity, vapor and conditioning air, and almost in all types of services besides information and telecommunication.

Table 3. Distribution of number of employees by types of economic activities on innovative enterprises of Ukraine (% to general number of employees) (source: Official web-side of State Statistics Service of Ukraine, 2017)

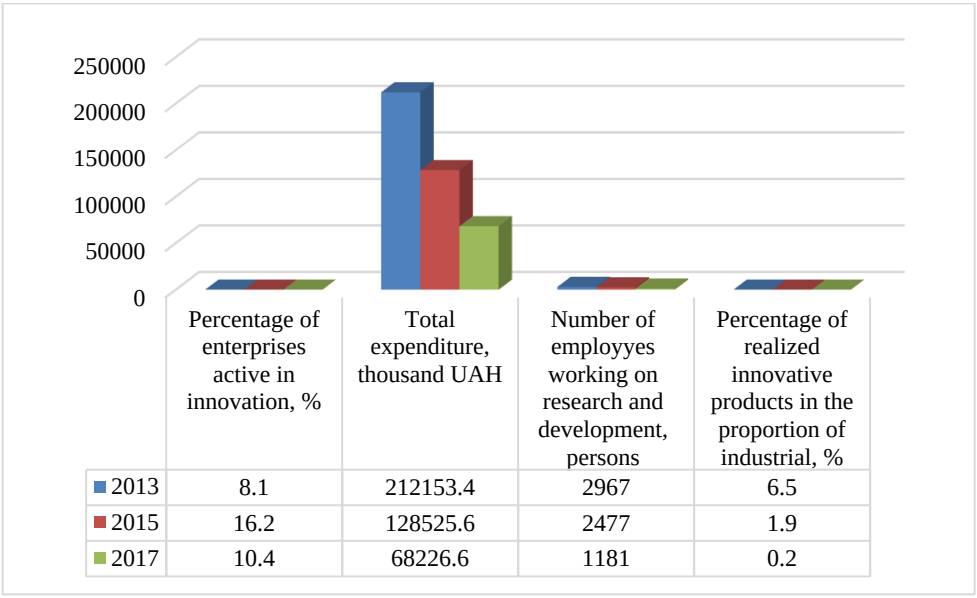
Types of economic activities	Years		Deviation
	2012–2014 (t_1)	2014–2016 (t_2)	$t_2 - t_1$
Total	38,2	41,2	↑3,0
Industry			
Mining industry and quarrying	42,9	44,8	↑1,9
Processing industry	48,8	49,5	↑0,7
Supplies of electricity, gas, vapor and conditioning air	36,0	46,4	↑10,4
Supplies of water; sanitation, waste management	27,3	19,3	↓8,0
Services			
Wholesale business, besides vehicles and motorcycles	17,7	26,4	↑8,7
Transportation, warehousing, postal and courier activity	27,4	28,1	↑0,7
Information and telecommunication	50,3	30,9	↓19,4
Providing financial services, besides insurance and provision of pensions	–	29,3	↑29,3
Activities in areas of architecture and engineering	24,8	26,8	↑2
Research and development	–	66,2	↑66,2
Advertising and survey analysis	–	21,2	↑21,2

Importance of workers in `Services` area in general confirms the thesis about business-services, that include professional services and services, which maintain technical and operational process on enterprises and government agencies. Business services are classified at services, which are related to tax consultancy, law, engineering, related to computer technologies, software and information processing, agency of temporary employment, cleaning and maintenance services, services of advertising agencies and public relations, marketing researches, management and technological consulting.

Increasing importance of these types of services is, first of all, an effect of maintenance of economy, which is penetration of services in all sectors of economy. Services, that are based on advanced knowledge, are one of the most dynamically developing industries of modern economy. They represent significant potential for employment increasing, utilization of new technologies, creation and implementation of innovations.

Over the past ten years Poltava region had been held consistent position among other regions of Ukraine, having mainly average values of conventional indicators of labor market with a high level of labor productivity at the expense of fact that the region adopts the best rating positions among regions of Ukraine in production and realization activities, in particular sixth place in the rating of volume of industry products sold, second place in production of agriculture gross output, third place in import absorption factor by export, ninth place in monthly average remuneration and human development

index. But in such positive dynamic of indicators of Poltava region mesoeconomic state, condition of innovative activity of industry enterprises during 2013-2017 has been deteriorating (Figure 4).



	Percentage of enterprises active in innovation, %	Total expenditure, thousand UAH	Number of employyes working on research and development, persons	Percentage of realized innovative products in the proportion of industrial, %
2013	8.1	212153.4	2967	6.5
2015	16.2	128525.6	2477	1.9
2017	10.4	68226.6	1181	0.2

Figure 4: Indicators of innovative activity of industry enterprises in Poltava region during, 2013-2017
Source: created by the authors based on https: // http://pl.ukrstat.gov.ua/

Results of analysis of indicators Figure 4 demonstrate significant reduction of key indicators of industry enterprise`s innovative activity in Poltava region during 2013-2017. Thus, general expenditures for innovations in 2017 declined by 3,1times (212153,4/68226,6) towards 2013, and by 1,9 times (128525,6/68226,6) regarding 2015. Number of employees working for research and development, in 2017 regarding 2013 declined by 151,2% ((2967/1181) *100 - 100), and regarding 2015 – by 109,7% ((2477/1181) *100 - 100).

Percentage of realized innovative products in proportion of industrial reduced in 2017 by 6,3% and 1,7% relatively 2013 and 2015 respectively. Percentage of enterprises active in innovations in 2017 increased by 2,3% relatively 2013, meanwhile decreased by 5,8% relatively 2015. So, during 2013-2017 there is a permanent tendency to decreasing of indicators of industry enterprise`s innovative activity in Poltava region (Figure 4). The reason for this is lack of their own means which are an essential resource of funding innovations in industry, and loan (import) of foreign technology also.

Structural shifts in production activity of Poltava region were occurred at the expense of main industrial centers of Poltava, Kremenchuk and Horishni Plavni, that maintain almost 70% of industrial production of region, and in which large number of human resources is concentrated, therefore studies will be conducted from the example of Kremenchuk, choice of which was not accidental. Next to such important characteristics of `exterior look` of the city as beneficial geographic location, architecture,

remembrances, natural features it should be pointed out status of the city, that determines the place of this population center in the structure and hierarchy among other cities by various factors: degree of development, impact on economic, political, cultural activities of the country. Status is determined by city's potential and resources (informational, personnel, financial etc.) (Abysheva, 2005). Historically, Kremenchuk is included to Kremenchuk agglomeration (Horishni Plavni (Komsomolsk) – Kremenchuk – Svitlovodsk), the one agglomeration in Ukraine that is located in two regions together. Economic specialization of Kremenchuk agglomeration – chemical, oil refining industry, transport machine-building sector, energy, mining mineral industry. Machine-building industry is one of priority directions of innovative development of the city. The reasons of low level of domestic machine-building enterprise`s innovative activity are limited financial capabilities, insufficient government financial support; high cost of innovations; high level of risk and long payback time of innovations. In addition, discrepancy of enterprise`s internal environment to the market conditions and insufficient staff qualifications level have implications for innovative development.

Economic indicators of machine-building enterprise`s activity in Kremenchuk during 2013-2017 are presented in Table 4, that confirms general inherent tendency for Ukrainian economy as a whole and for machine-building industry in particular and dependence on external factors, that are determined by city`s specificities of urban functions (Druzhynina et al., 2018).

Table 4: Economic indicators of machine-building enterprise`s activity in Kremenchuk during 2013-2017 (source: Official site of JSC "Kryukiv Carriage Works; Official site of JSC "AvtoKrAZ"; Official site of JSC "Kremenchug Plant of Road Machines"; Official site of JSC "Kremenchug Wheel Plant", 2017)

Indicators	Years			Percentage of performance, %	
	2013 (t_1)	2015 (t_2)	2017 (t_3)	(t_2 / t_1)*100	(t_3 / t_2)*100
PJSC `Kryukovsky Railway Car Building Works`					
1. Output, thousand UAH	3175092	1186979	3010322	37,4	253,6
2. Capital investments, including project works, R&D, modernization, equipment renovation, thousand UAH	20822,9	7354,5	15605,0	35,3	212,2
3. Average number of staff members, persons	8409	5659	4979	67,3	88,0
4. Average salary, UAH	4190	3052	8007	72,8	262,4
PrJSC `Kremenchuk Plant of Road Machines`					
1. Output, thousand UAH	427903,6	419331,7	885115,7	98,0	211,1
2. Capital investments, including project works, R&D, modernization, equipment renovation, thousand UAH	7700	5141,6	20700	66,8	402,6
3. Average number of staff members, persons	2441	2109	2044	86,4	96,9
4. Average salary, UAH	4150,1	4308,5	7801	103,8	181,1

PrJSC `AutoKrAZ`					
1. Output, thousand UAH	730000	1914300	955720	262,2	49,9
2. Capital investments, including project works, R&D, modernization, equipment renovation, thousand UAH	6000	8400	7100	140,0	84,5
3. Average number of staff members, persons	3838	3571	3012	93,0	84,3
4. Average salary, UAH	2096	3038	4960	144,9	163,3
PrJSC `Kremenchuk Wheel Plant`					
1. Output, thousand UAH	452193	544478	726638	120,4	133,5
2. Capital investments, including project works, R&D, modernization, equipment renovation, thousand UAH	23036	26509	21100	115,1	79,6
3. Average number of staff members, persons	1496	1266	1155	84,6	91,2
4. Average salary, UAH	3537,7	5498,6	7211,3	155,4	131,1

There has been a reduction of output in 2015 relatively to 2013 PJSC `Kryukovsky Railway Car Building Works` and PrJSC `Kremenchuk Plant of Road Machines` that caused reduction of average number of staff members and capital investments; including project works, R&D, modernization, equipment renovation in machine-building enterprises in Kremenchuk, in 2017 increasing of output relatively to 2015 caused increasing of capital investments. Lacking in own working capital leads to inability to purchase modern equipment, finance product and technological innovations and own researches.

Output increasing of PrJSC `AutoKrAZ` and PrJSC `Kremenchuk Wheel Plant` and capital investments, respectively, in 2015 was due to state orders of military equipment and accessories in connection with growing problem of military conflict in the Donbass region.

Increasing of salary at the city`s machine-building enterprises was due to active government program; reduced number of staff resulted from increasing level of labor migration, opening of no-visa regime, a lack of skilled workers, redistribution in employment among various sectors, that was due to military operations in Ukraine and economic collapse.

Conclusions

The modern market environment and its participants especially appreciate the characteristics of the uniqueness and differentiation of products, services and ideas, which is why the leaders of the organization involve young staff and their creative abilities as a special kind of intellectual potential. More and more executives are recognizing that justified encouragement of young people to a collective with its creative potential is able to raise the level of efficiency of the creative abilities of the whole team, but also to increase its own productivity of production.

The current labor market in Ukraine has a complex of socio-economic problems that negatively affect youth employment. The problems outlined have peculiarities for different regions and types of economic activity. The implementation of this program should begin with the reform of the education system by adapting it to the needs of the market and enhancing the cooperation of educational institutions and private business. In implementing these measures, it is advisable to pay considerable attention to promoting employment at the regional level, especially in rural areas.

Therefore, to sum up, the following must be noted:

firstly, based on results of theoretical analysis it was noted that unambiguous approach to determining of intension `labor market` does not exist. Every scientist determines `labor market` according to direction of his research. Some scientists consider labor market as a system, some – as an area, space, socio-economic relations, mechanism. Such fact actualizes the research, in the course of which it was requested author`s version of interpretation of labor market as a system of socio-economic relations between subjects with the aim of ensuring correlation between supply and demand of labor force;

secondly, it was noted, that one of main directions of statistical research of complicated socio-economic systems (means labor market) is structural-dynamic changes. This is due to mobility of the system and ability to change under the influence of internal and external, especially innovative, factors. So, the analysis in the study was conducted with the aim of discovering new tendencies of labor market functioning, and assessment of structural changes characteristics in dynamic also;

thirdly, as a result of globalization, closely related to innovations, structural changes are occurring in the labor market. The impact from innovations on size and structure of employment depend on various of factors. The analysis demonstrates, that increasing of employment and respective changes in employment structure are determined by type of innovations. In 2014-2016 percentage of enterprises active in non-technological innovations, that is organizational and marketing, increased. Effect from this kind of innovations influenced increasing of employment. Non-technological innovations commonly are related to technological development. It complements implemented new technologies, especially informational and communicational technologies.

Organizational innovations most commonly related to new approaches to tasks distribution and improvement decision-making process (for example, system of employee`s responsibility, teamwork, training system), new methods in working principles (for example, supply management, quality management system) or new methods in terms of relations with environment (communities, companies, outsourcing).

The changes in employment structure in Ukraine during the analyzed period correspond to `all-purpose` tendency, that characterize highly developed economies. Importance of production and employment in service sector is going up in the sector. This learning was considered the principal factor of economic growth and development.

Active implementation of innovative technologies will give new opportunities, that will open approaches for business-environment to save labor productivity and suitable level of profitability from entrepreneurship. Innovative economy changes traditional approaches to labor organization, as well as social and labor relations, that promotes development of perquisites to overcoming the decreasing of economic indicators, continuous production process at the enterprises, solves the issues of unemployment and

labor migration, creates new flexible forms of employment, increases level of state`s competitiveness in conditions of economic globalization. The next studies will be focused on those problems.

Author contributions

conceptualization, V.D. and L.S.; validation, V.D. and L.S. and Y.V.; studies of domestic and foreign scientists, held in conjunction with highlighting the issues, Y. V.; performing of multi-level comprehensive analysis of the impact from innovations on employment level of state's population and discovering structural shifts in labor market in conditions of new imperatives of economic socio-economic development, V. D.; analysis of economic indicators of machine-building enterprise`s innovative activity in Kremenchuk, L. S.; written original training project V.D. and L.S.; writting-reviewing and editing, V.D. and L.S. and Y. V.; managing the project, V. D.; a comprehensive creative analysis of innovations was conducted in terms of activating the youth labor market in Ukraine, G.L.; Prospects of development of youth labor market, elimination of youth unemployment, which are conditioned by peculiarities of social status and labor behavior of young people, G.L.

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