

## Theoretical approaches to communications management in IT industry of Ukraine

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**Abstract.** In this article the theoretical approaches to communications management on the labour market of Ukrainian economy are presented. Moreover, the process of communications management on IT industry labour market is analyzed at macro- and micro- levels. Furthermore, the influences of methods of the state regulation on communications processes management of IT industry are discussed in the article.

**Key words:** communications, communications management on labour market, methods of communications management.

The quality of communications processes is one of the factors of effective market functioning. Hence, the communications management on a certain market is a complicated problem which requires a constant research. Even more complicated and peculiar problem is communications processes management on a market of specific means of production. The aim of this research is to examine the communications processes on IT industry labour market of Ukraine.

The problem of communications was examined by many authors, such as [1–9]. Mentioned authors made a classification of communications, developed methods to communications management on micro level, methodical recommendations to increase effectiveness of communications processes at micro level etc.

Moreover, many authors studied the problems of labour market functioning in Ukraine and abroad. The following authors conducted the research [10–14].

Nevertheless, the question of communications management on IT industry labour market at macro level is not fully researched.

Therefore, the aim of this research is the formation of theoretical approaches to communications management on IT industry labour market at macro level.

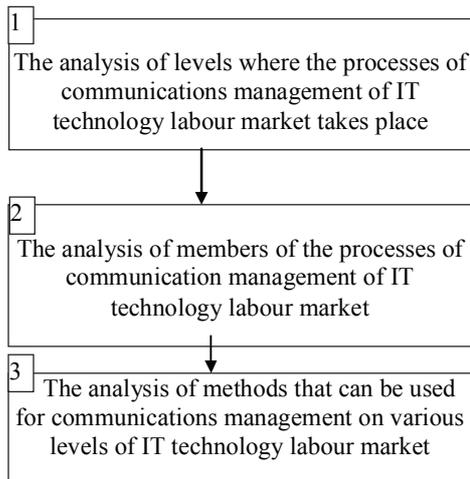
It should be taken into account, that the communications processes management on IT industry labour market can be performed at both – macro and micro levels. It is important to note that this research is conducted at macro level. However, using of some methods of state regulation leads to changing of the system of communications processes management of IT industry labour market at micro level, i.e. actions of the state often support the changing of approaches which are used by entities of communication processes. For the purpose of this research it is important to conduct it at both – macro and micro levels. The latter includes the study of influence of solutions (the using of methods of state regulation) which are adopted at macro level to systems of communications management carried out at micro level.

Therefore, it is reasonable to conduct the analysis of communications management system according to the following sequence that is shown on Fig. 1.

The sequence depicted on Fig. 1 contains the preceding analysis of levels of communication management on the IT industry labour market. Depending at the level of communications management, the list of entities involved in it and methods which can be used for communications management changes.

During the research of the characteristics of communications management on IT industry labour market, it is sensible to define levels at which the

management process is implemented. As stated above, the communications processes management can be performed at micro and macro levels. Depending on the level of communications processes management on IT technology labour market, the entities who provide the management processes and objects on which the management methods and methods which allow to spread influence of former on the latter will be undergoing changes. The management of communication processes on IT industry labour market at macro level of Ukrainian economy is shown on Fig. 1.



**Fig. 1.** The sequence of research of the system of communications management on the IT industry labour market  
*Note: developed by the author*

It has to be stressed that nowadays the actual communications management at macro level is practically not performed. The communications management at macro level is basically restricted to state regulation using economic, administrative and judicial methods which can affect the intensity of communication processes on labour market of Ukrainian economy.

The study of communication system of IT industry labour market and also the research conducted in the first chapter of this article help to classify entities of communications management at macro level (Table. 1).

The analysis of entities who perform management (regulation) of the communication system of IT industry labour market on the macro level is given below:

- The president of Ukraine by passing ordinances which are directed at improvement of IT industry in general or its labour market in particular;
- Verkhovna Rada of Ukraine by passing the laws which are directed at improvement of IT industry in general or its labour market in particular. For instance, in 2012 the following law of Ukraine was passed “About the state support of the development of software industry” [17], in which the main directions of IT industry development in Ukraine are described;

- The Cabinet of Ministers of Ukraine regulates the functioning of IT industry by enacting regulations and orders which are directed at the improvement of IT industry in general or its labour market and communicative system in particular. For example, in the regulation enacted by the Cabinets of Ministers of Ukraine on September 21, 2011 N 1036-p “About the approval of actions for providing the development of education in Information Technologies industry until 2013” [18] the main regulations for the ministries and departments about the development of education standards in IT industry are stated;

- The Ministry of Social Policy of Ukraine controls the IT industry by issuing ordinances, which are directed at the Ukrainian labour market in general but some specific industry (in this case - IT), in particular;

- State Employment Office of Ukraine affects the IT industry labor market by creating the conditions for the exchange of information between employers and potential employees. It should be added that the websites of the State Employment Office of Ukraine [19] and Lviv Regional Employment Center [20] contain the information about open vacancies on the labour market including IT industry, as well as the information that helps potential employees in their job hunting process.

At the macro level, the indirect way of communications management (regulation) on the labour market of Ukrainian economy can be used by the Ministry of Education and Science of Ukraine, which accepts regulations that recognize the relationship between the higher educational establishments (universities) and enterprises and thus affect the information transmission between those entities. Moreover, the Ministry of Education and Science of Ukraine forms the industry standards for teaching courses in IT field in Ukrainian universities.

The analysis of literature [15, 16] revealed that the management of communication system of IT industry labour market by carrying out of the state regulations can be performed either by direct influence on the entities of communication system or by indirect (economic) stimulation of labour market entities who carry out the state politics on this market.

The basic communication management at micro level is reduced to classical influence of controlling system on controlled one [3, 6, 9]. It should be emphasized that at micro level (the carrying out of the management process at some organization) the management (the influence of controlling system on controlled) is carried out using standard procedure, i.e.: on the first stage the planning, organization, motivation and controlling functions of management are implemented; the result of implemented management functions is the formation of methods of management

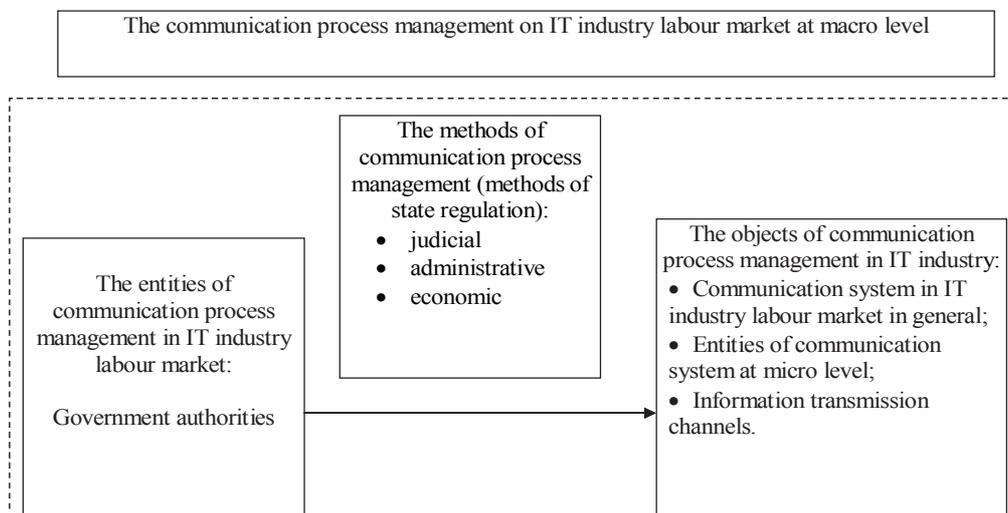
(economic, social-psychological and administrative) on the basis of which the management decisions are made on the last stage. The process of management at micro level is described in [3; 6; 9]. On the Fig. 3 the process of communication management of IT industry labour market at micro level is shown.

In this research, the process of communications management at micro level is crucial from the perspective of studying the influence of state regulation politics of the labour market on the communications management systems of the separate business entities.

**Table 1.** The list of entities who perform the communications management on the IT industry labour market at macro and micro levels

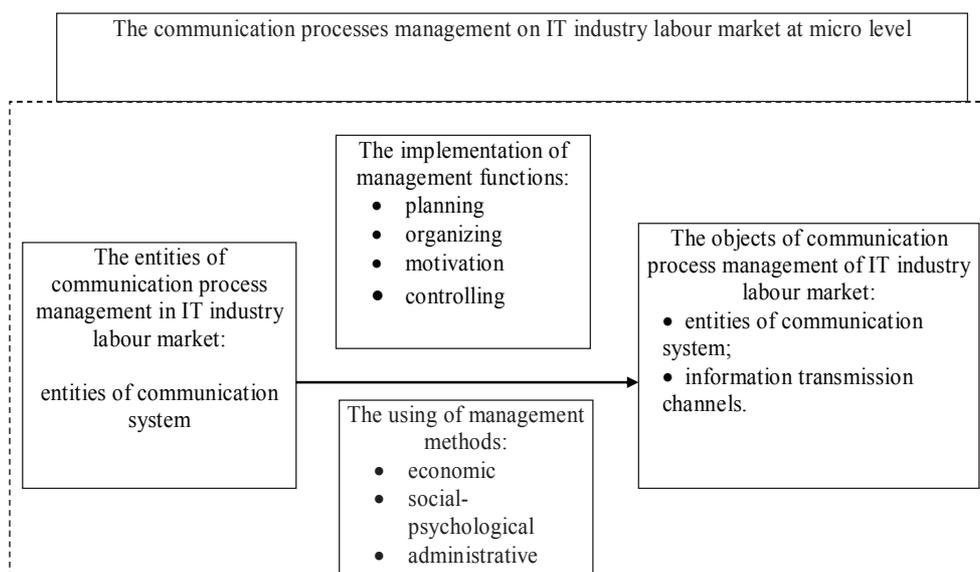
Entities who perform communications management on the IT industry labour market at macro level	Entities who perform communications management on the IT industry labour market at micro level
<ul style="list-style-type: none"> <li>• The president of Ukraine</li> <li>• Verkhovna Rada of Ukraine;</li> <li>• The Cabinet of Ministers of Ukraine;</li> <li>• The Ministry of Social Policy of Ukraine;</li> <li>• State Employment Office.</li> </ul>	<ul style="list-style-type: none"> <li>• Enterprises;</li> <li>• The association of Information Technology enterprises and their employees;</li> <li>• Higher Educational Establishments;</li> <li>• Recruiting agencies;</li> <li>• Staff recruitment agencies.</li> </ul>

Note: developed by the author based on the analysis of literature [6; 9].



**Fig. 2.** The communication process management on IT industry labour market at macro level

Note: developed by author based on the study of literature [15; 16].



**Fig. 3.** The communication processes management on IT industry labour market at micro level

Note: developed by author based on the study of [3; 6; 9].

The study of the communication system of the Ukrainian IT industry labour market resulted in identification of communications management entities at micro level.

At micro level all entities of communication processes, who take part in the formation of communication system of the market, control the IT industry labour market communication processes.

A detailed list of communication management entities at micro level of IT industry is given below:

- the enterprises that employ employees. The biggest IT industry enterprises nowadays are: SoftServe, Ciklum, Luxoft, Eleks, GlobalLogic, EPAM, ISD, ABT Solutions, Acobby, Ainstainer Group, Lohika, Malkos UA, Marka Software, Master Of Code, MediaLine, Mindsfromua, MindWorks, Miratech Corporation, SoftUkraine, Acceptic, Softwarium, Sterch LTD, Synchron, TEAM International, TechInsight, TechnoPark Corp. Apart from that, the main enterprises in Lviv and Lviv district are: Arivo Solutions, Eleks, Itera Consulting, Lohika, N-iX, SoftServe, Symphony Solutions;

- the association of enterprises and employees of the IT industry. There three associations of enterprises and employees of the IT industry existing today in Ukraine. It has to be emphasized that the associations of enterprises protect the interests of employers on the labour market. In the meantime, the activity of employees associations is directed at the protecting the rights and interests on the IT industry labour market. There are the following associations of enterprises in IT industry: Ukrainian Hi-Tech Initiative [21], which is the leading Ukrainian association of software developers and also enterprises that have foreign customers. As for today, Ukrainian Hi-Tech Initiative has more than 70 enterprises where almost 8500 professional employees work. IT Ukraine [22] – this is an association that has approximately 25 enterprises-software providers. Also the IT industry employees association is DOU [23], which has almost 20000 members;

- Universities, which provide IT industry market with IT specialists. The analysis of universities revealed the following results: there are such leading universities that train IT specialists: Taras Shevchenko National University of Kyiv, National Technical University of Ukraine “Kyiv Polytechnic Institute”, National Technical University “Kharkiv Polytechnic Institute”, National University “Lviv Polytechnic”, Ivan Franko National University of Lviv etc. The collaboration of the universities with the IT industry labour market is carried out in two directions: forming of the educational programs that train IT specialists and the organization of career fairs to form the possibilities for their graduates to get a job in one of the leading Ukrainian IT companies. The analysis of work of Ukrainian universities gives the following result – it is reasonable to carry out the

formation of IT curriculums based on the competence approach. It means that universities form their curriculum taking into account the representatives of leading IT companies;

- the main recruiting agencies which take part in management of IT industry labour market are: recruiting agency Business Support Center “NewBiznet”, The "Alternativa" All-Ukrainian Recruitment Agency, “Shans” Recruitment Agency, “Venture” Recruitment Agency, “Bez Problem” Recruitment Agency, «Brainsource» Recruitment Agency, “Maksimus” Recruitment Agency. These companies search employees for the leading Ukrainian IT companies;

- the main staff recruitment agencies which take part in management of IT industry labour market are: staff recruitment agency “Artel”, staff recruitment and consulting agency «Profi-Service», staff recruitment agency “Garant”, staff recruitment agency “Sontur”, staff recruitment agency “Sana-Center”.

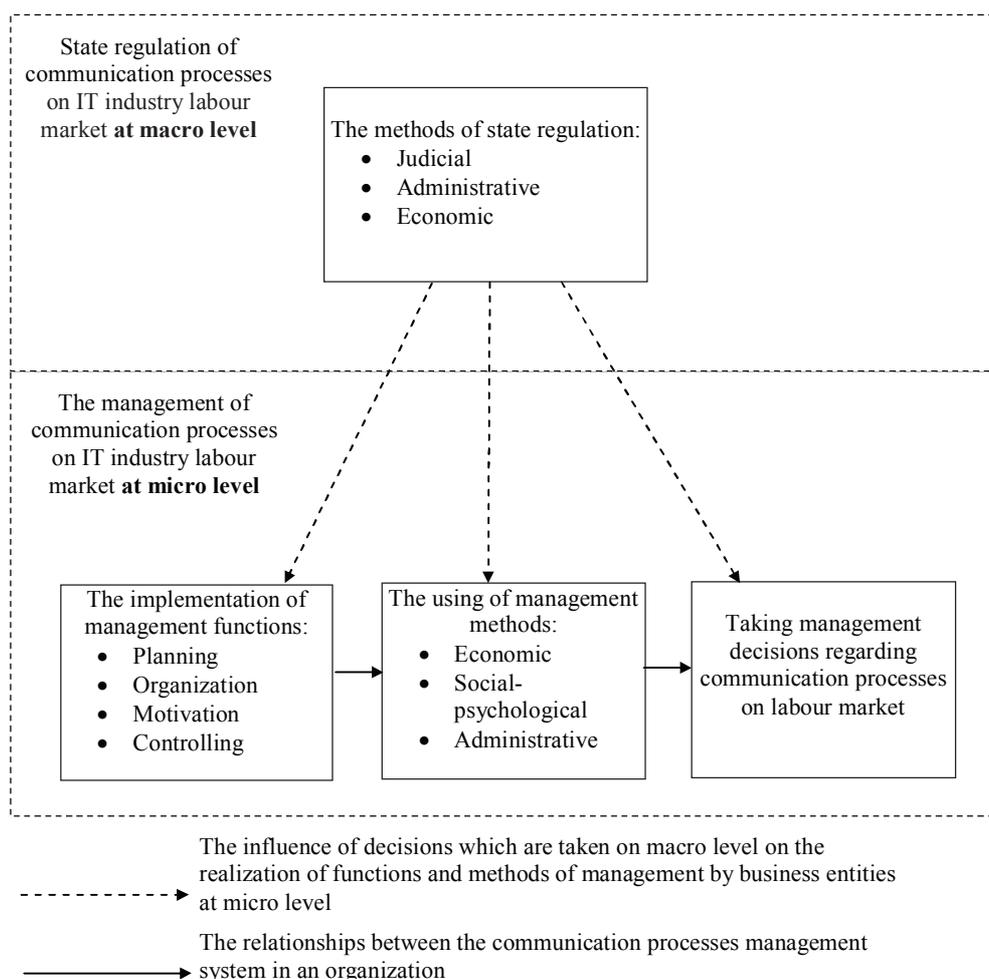
Based on these results, it is reasonable to implement the analysis of communication system management system by studying of the communications systems management at both – macro and micro levels.

It has to be emphasized that, the using of judicial, administrative and economic methods of state regulation of IT industry market can often have not the direct influence on the entities of communication system but indirect, that is forming of the necessity for the entities of labour market communication system to change the systems of communication management at micro level which will implement the state policy on the labour market of Ukrainian economy in the future. In the indirect approach the implementation of the state policy of communication processes management on the IT industry labour market is carried out using the scheme, which is presented in Fig. 4.

For instance, the introduction of the competence approach in the development of the universities curriculum which trains specialists of IT industry contributes to the necessity of universities to plan communications with enterprises-future employers of their graduates. The aim of those communications is mainly the gaining of information concerning competence which the graduates are supposed to have for the successful employment at software development companies.

Hence, the previously mentioned universities which train IT specialists must plan seminars, meetings, conferences, to share information about competences which are essential to the employers for the successful employment of future graduates.

The introduction of competence approach in forming of the university curriculums for training of the IT specialists is the administrative method of state regulation, which is the factor of alteration of the planning systems, organization and controlling of the communicative systems entities on the labour market (uni-



**Fig. 4.** The relationship between the state regulation of communicative processes on IT industry labour market at micro level and the system of communications management of a certain business entity at micro level

*Note: developed by the author*

versities). Simultaneously, the changing of those systems leads to the change of management methods which are used by universities in the realization of the management functions and changing of the management decisions that are taken due to the realization of management functions and making the management decision.

The presented theoretical approaches to the communications management on the IT industry labour market at the macro and micro levels will help to enhance the effectiveness of communication processes and also will contribute to the improvement of effectiveness of the IT industry functioning.

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