DOI: https://doi.org/10.31359/2411-5584-2024-56-1-42
UDC [331.522.4:004:005.332.4](477)»20»

O. S. HRYNKEVYCH
Doctor of Science (Economics), Professor at the Department of Statistics, Ivan Franko National University of Lviv,
Ukraine, Lviv
e-mail: olha.hrynkevych@lnu.edu.ua
ORCID ID: https://orcid.org/0000-0002-8646-8119
Scopus Author ID: https://www.scopus.com/authid/detail.uri?authorId=56677770300

R. S. MALYNYCH
PhD student at the Department of Statistics, Ivan Franko National University of Lviv,
Ukraine, Lviv
e-mail: malynych@gmail.com
ORCID ID: https://orcid.org/0009-0008-3253-3254

ON THE PARTICULARITIES OF HUMAN RESOURCES IN UKRAINE'S IT INDUSTRY AND THEIR COMPETITIVENESS AMID WAR CONDITIONS[1]

This article analyzes the human resources peculiarities in Ukraine's IT industry related to age, gender, educational characteristics, legal forms of employment, and income. The study results of the influence of martial law conditions on the competitiveness of Ukraine's IT industry's human capital are given.

The authors conclude that the competitiveness of human resources in Ukraine's IT industry is linked to the retention of its talents, client trust, geographical expansion of IT services markets, diversification of activities, increased orders to ensure Ukraine's defense capability and its victory in the war with russia.

Key words: competitiveness, education, human capital, human resources, IT industry, labor market, wartime conditions, Ukraine.

JEL Classification: J21; J23; J40.

Problem Setting. Over the years, the human resources of the IT industry have proven to be very competitive as the dynamic industry demands it, and in return, the revenues have grown steadily. Per IT Ukraine Association (2022), the sector grew a noticeable part of Ukraine's exports (3.5 % in 2021). Besides bringing foreign currency into the country, the IT workforce created many jobs in the service and entertainment sectors, significantly improving the economy.

Human resources in the IT industry define its competitiveness and substantially influence the technological development level in various other sectors, acting as a driver for success in the creative economy. The potential decrease in demand for Ukrainian IT experts due to layoffs, increased levels of professional and other forms of social mobility, migration, and the loss of human resources can have a considerable snowball effect on Ukraine's economy. Therefore, it is crucial to strive to maintain the industry's stability, especially during turbulent wartime conditions.

In light of these considerations, understanding the specifics of human resources in the IT industry and identifying ways to preserve their competitiveness in the face of national and global challenges become pertinent for scientific research. The findings of such research provide insights for labor market participants to develop competitiveness management models that account for the conditions of this new reality. This is essential for balancing the IT industry's human capital development goals within the creative economy's framework.

Analysis of recent research and publications. The rapid development of the IT industry has led to increased interest from both domestic and international researchers in this creative economy sector. Karyy, Halkiv, and Tsapulych (2021) provide a comprehensive overview of approaches to understanding the essence of the IT sphere, emphasizing the synonymous use of terms such as "IT sphere", "IT industry", "IT sector". The authors analyze the impact of higher education institutions (HEIs) on business localization in this field, focusing on the problem of regional asymmetry in the training of IT professionals and its correlation with the activities of IT clusters with professional communities in Kyiv, Kharkiv, Lviv, Dnipro, and Odesa being the most active before the war per DOU (2023, September 4).

Protsykevych (2020) substantiates conceptual characteristics and features of the IT services market development, proposing directions for improving mechanisms of state regulation of investment processes in this market.

Among the themes of scientific publications by Ukrainian researchers in the IT industry, there is a notable absence of studies on the impact of government regulation on the financial results of this sector, competitiveness, and contribution to the country's economy. However, several foreign publications address this thematic gap. For example, Duarte (2016) investigates the impact of tax incentives on the performance of IT companies in Brazil.

Akilina and Ilich (2018), in their studies of human resources competitiveness in the IT industry through the lens of labor market transformations, draw attention to fundamental factors. These include creating a favorable regulatory environment and supporting an economy based on competition. While analyzing the competitive positions of the Ukrainian IT sector, the authors do not emphasize the intellectual level of Ukrainian IT professionals capable of competing globally in terms of the "educational-professional training – level of remuneration" ratio. At the same time, the authors highlight the importance of "extra-professional" competencies that can ensure successful transitions from one industry to another while maintaining competitiveness. As Ilich (2017) mentioned, these competencies include "system thinking, inter-industry communication, project management, programming IT solutions, client-oriented multilingualism and intercultural literacy, teamwork, artistic creativity skills, working in conditions of high uncertainty."

The russian military aggression has significantly impacted the state and dynamics of the IT industry and the competitiveness of its human resources, necessitating a reevaluation of the factors influencing its further development. Currently, publications on the human capital of the IT industry primarily focus on statistics and analytical data on the demand and supply of professionals on job portals, lacking scientific generalization and identification of development threats for the domestic economy.

Objective of the paper. The article aims to identify the characteristics of human resources in Ukraine's IT industry that shape its human capital. Additionally, the article aims to assess the impact of wartime conditions on the competitiveness of these human resources.

Main findings. Human resources in the IT industry in Ukraine exhibit various characteristics that notably distinguish them in the labor market concerning socio-demographic, educational, professional, and economic-legal employment characteristics. These features significantly impact the competitiveness of the human capital in this creative economy sector.

Socio-demographic characteristics are linked to the age and gender characteristics of those employed. According to the 2023 study on the portrait of IT specialists conducted by DOU (2023, August 29), over 80 % of IT professionals are individuals under the age of 35, residing in major cities with populations exceeding one million

(36 % in Kyiv, 18 % in Lviv), and almost three-quarters of them are male. Women constitute the majority of professionals in non-technical roles in this segment.

Educational and professional characteristics are pivotal factors in ensuring the competitiveness of human resources in any field of activity. Despite common doubts about the importance of higher education for working in IT, 88 % of professionals in this labor market segment hold a higher education degree and engage in self-development through online and DOU (2023, August 29), 55 % of respondents were proficient in English at the Upper-Intermediate or Advanced level.

In terms of professional distribution, the majority of workers in the IT sector are technical specialists. Nearly half are software developers, every fifth is a tester, and project managers rank third. Among non-technical professions, marketers, personnel, and sales managers are the most common in the IT industry.

Economic and legal peculiarities of employment in the IT sector manifest in socio-labor relations, specifically in the legal status of employment, the remuneration system, and employee incomes. Most IT specialists work as individual entrepreneurs, paying social contributions based on their place of registration. However, the proportion of individual entrepreneurs among IT professionals is somewhat decreasing, while the share of those employed under gig contracts gradually increases.

The global pandemic and russian military aggression have been the main drivers of the growth in remote work volumes in the IT sector. Approximately 80 % of IT professionals worked remotely, fully or partially, in 2023.

Starting from February 8, 2022, a special regime for the IT industry, known as “Diia City,” was launched in Ukraine, introducing a new form of collaboration between employers and IT specialists through gig contracts. These contracts were designed to combine the flexibility of the individual entrepreneur model with the social guarantees of an employment contract. The goal of this new legal regime, as defined by the Ministry of Digital Transformation, is to support the development of the IT industry in Ukraine. In 2023, the DOU portal surveyed 3,268 respondents to assess the IT community’s attitude towards these innovations. According to the survey results conducted by DOU (2023, September 26), 16 % of respondents supported gig contracts, 20 % did not support them, 18 % were undecided, and 46 % did not understand what it entailed.

Another characteristic of the IT labor market segment is the significant income gap between IT professionals and those in other sectors of economic activity as stated by Karyy, Halkiv, and Tsapulych (2021). The analysis revealed that in May-June 2023, the median salary for developers remained almost unchanged compared to the previous year at $3,435 (an increase of $45 compared to 2022, after-tax payment). In 2022, the median salary for comparable developer positions in Ukraine

ranged from $1,000 (Junior SE) to $6,500 (System Architect). At the end of 2023, these figures were $900 and $6,200, respectively. A similar trend was observed in the median salary of testers, ranging from $800 (Junior QA Engineer) to $4,000 (QA Tech Lead) in June 2023, as well as other specialists, with median earnings ranging from $1,000 (Support) to $3,500 (DevOps) per DOU (2023, July 10). For comparison, according to the State Statistics Service of Ukraine (2023), the average wage in the third quarter of 2023 was about $490 (17,937 UAH). The system of financial incentives in this job segment makes the IT industry one of the most prestigious, especially among the younger population. According to research in 2023, the age of half of the IT workforce in Ukraine did not exceed 29 years per DOU (2023, August 29).

Some specific features also characterize the processes of recruiting and selecting candidates in IT companies. When searching for candidates to fill open positions, HR managers in IT companies typically use the professional social network LinkedIn, post information on their corporate websites, or utilize online platforms for professional communication. The most popular platforms for recruiting candidates in the IT sector include dou.ua, work.ua, and djinni. co. In recruiting IT employees, companies usually do not resort to the services of local employment centers.

Each portal for recruiting candidates in the IT sector displays only a portion of the data on supply and demand in the job market. For instance, statistics from the dou.ua portal only include information from vacancies posted there. These statistics do not include vacancies from IT giants that post job openings on their websites or use alternative methods to find specialists. However, IT clusters (UCluster, 2023) and professional associations (such as the IT Ukraine Association) often conduct voluntary surveys, allowing for an assessment of the situation in different regions of Ukraine.

An example of labor market analysis in the IT segment is the monthly overview of job vacancies, reviews, and company activities in talent search, categorized by professions, cities, work experience, and other characteristics, provided by DOU (2023, March 20).

The demand and supply of labor in the job market in the IT segment closely correlates with the state and dynamics of economic indicators in the development of IT services. Before the onset of full-scale war, the IT industry was rapidly growing by attracting more workers through increased foreign orders, including the swift digitization during COVID-19. Optimistic growth forecasts for the industry were prevalent before the war.

IT became the only sector maintaining positive dynamics in the first year of full-scale war. According to the NBU and IT Ukraine Association, the Ukrainian

IT industry "closed" in 2022 with a record export figure ($7.34 billion) for the period from 1991 to 2022, as stated by DOU (2023, April 28). In 2022, almost half of Ukraine's total service exports belonged to this sector amid a general reduction in Ukraine's overall exports (Figure 1) (Yatsenko, 2023).

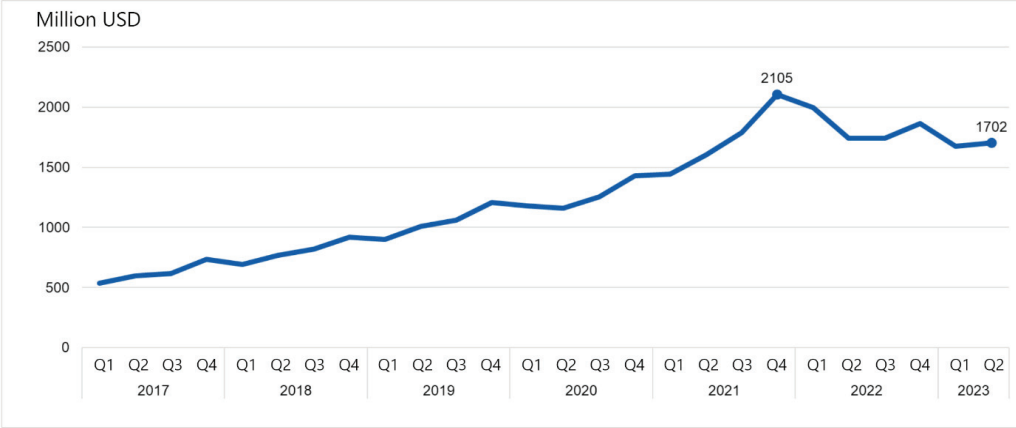

Figure 1. Dynamics of IT Services Export in Ukraine by Quarters 2017–2023
Source: DOU (2023, July 31)

With the onset of the russian military aggression, foreign clients began to choose the services of domestic IT companies less, considering the increased risks of service delivery unreliability and the ability to conduct international business from Ukraine. Additionally, a global factor contributing to the reduction of orders in the domestic IT industry is the market recession and the slowdown of digitization after the end of the global pandemic.

As a result, in the first half of 2023, the volume of Ukrainian IT exports decreased by 9.3 % compared to last year, amounting to $3.38 billion. The countries that generated the most revenue from IT services in the first half of 2023 were the United States, Malta, the United Kingdom, Cyprus, Israel, Switzerland, Germany, Estonia, Poland, and the Netherlands. However, compared to the first quarter of 2023, the export of services increased.

Executive Director of IT Ukraine Association Vasiuk notes, "The IT industry has retained expertise and personnel in Ukraine, but this is not enough to maintain competitive advantages on the global market" DOU (2023, July 31). An important feature of the Ukrainian IT industry during wartime is active investments in new developments in defense tech and cybersecurity. Vozniak, the head of the Lviv IT Cluster research team, points out that "arranging short-term business trips abroad for key company personnel could enhance the global presence of Ukrainian

IT companies." This would expand opportunities for attracting new clients, concluding new contracts, organizing road shows, and more. Similar considerations on ways to address the issue of global competitiveness of the Ukrainian IT industry and preserving its intellectual capital were expressed by the director of the Kharkiv IT Cluster, Shapoval.

Since the start of the full-scale war, the IT labor market in the Lviv region has experienced a significant increase in the number of specialists who moved to the region from other regions of Ukraine. According to the results of a survey of 7,000 respondents on the dou.ua platform in the spring of 2022, 60 % of IT specialists were forced to move to safer places. Half of them moved within the country. Lviv region was most often chosen – 11% of all surveyed IT specialists, or 23 % of those who moved within Ukraine, relocated there with the onset of the war. The second most popular were Ivano-Frankivsk region (6 % of Ukrainian IT specialists migrated there) and Zakarpattia (9 %). Most IT specialists moved to the region from Kyiv and Kharkiv region per DOU (2023, April 22). Among other countries where IT specialists migrated after the start of the war, Poland was the leader (35 % of those who moved abroad arrived there). The next most popular was Germany (10 %).

The job market in the IT segment is very dynamic. In 2023, many IT specialists began to return to the regions of their permanent residence from other areas. In August, for the first time since the beginning of 2023, the number of vacancies in the IT market started to grow, especially with conditions for remote work. Despite the gradual return of IT specialists to the regions of permanent residence, some cities lost their leadership positions. During the pre-war period, Kyiv and Kharkiv were the largest IT clusters, and then Lviv took the second position regarding the number of vacancies per DOU (2023, July 10). The most popular locations at the end of the summer of 2023 were the cities of Kyiv and Lviv (Figure 2).

With the increase in the number of job offers, the number of reviews per vacancy is also growing, indicating an elevation in the level of competition in the IT job market segment (Figure 3).

The workload per job vacancy in this segment significantly depends on the candidate's experience, the type of vacancies (technical or non-technical), and the programming language used by technical candidates. For example, the competition among QA reached 104.3 reviews per vacancy, front-end developers – 373.2, HR – 63.1, and C++ – 13.9.

It's important to note that various IT clusters are formed within the industry to assist companies in overcoming challenges, such as acquiring more clients, enhancing available human resources, and creating programs for newcomers to enter the industry. These clusters actively conduct annual surveys to assess the industry's current status. Additionally, platforms like djinni.co and dou.ua serve as job-searching sites and provide valuable insights into the labor market.

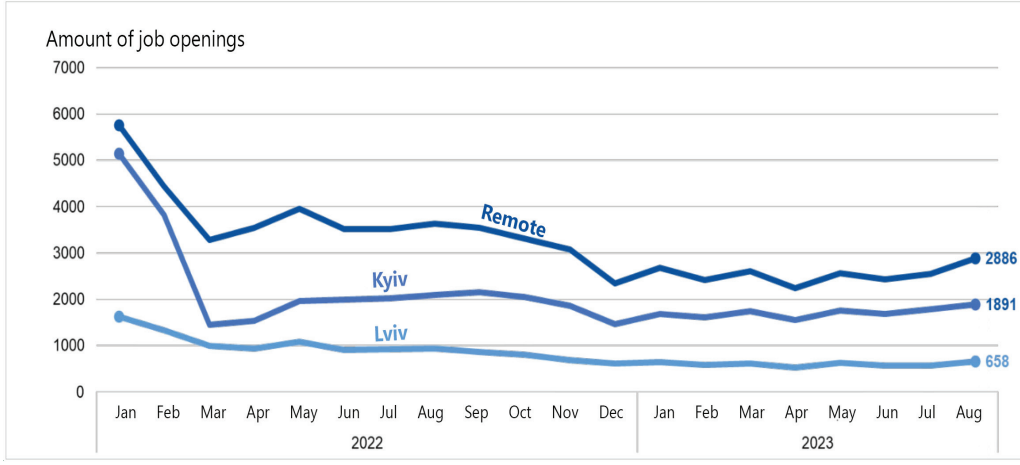

Figure 2. Dynamics of vacancies in the IT segment of the market with locations in Kyiv, Lviv, and under remote work conditions on jobs.dou.ua
Source: DOU (2023, September 4)

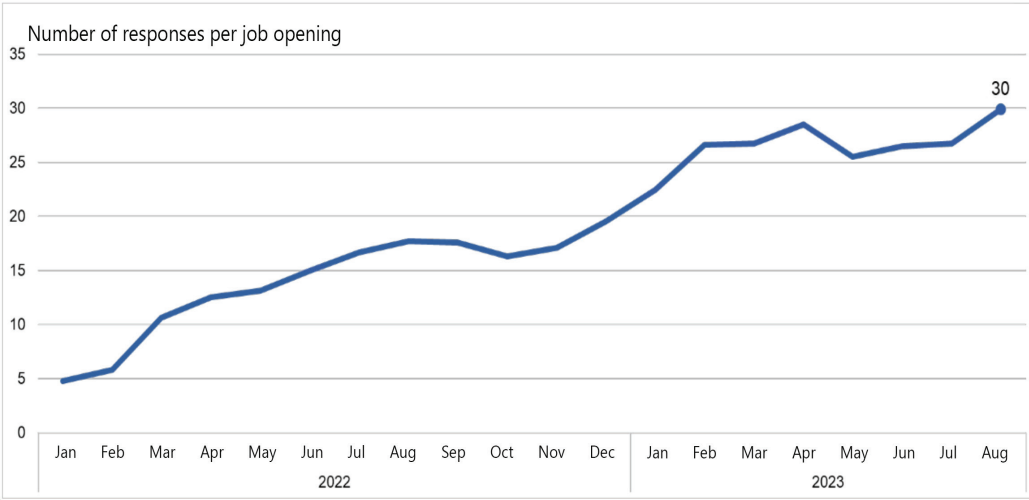

Figure 3. The average number of reviews per job vacancy in the IT job market segment on jobs.dou.ua from January 2022 to August 2023
Source: DOU (2023, September 4)

Kornyliuk (2023) writes that the migration of IT professionals also significantly influences available data. Many workers have relocated to escape the war and now pay taxes in other countries while continuing to work for the same company that

initially hired them in Ukraine and for the same clients. Ukrainian companies often open and register offices in neighboring countries to mitigate risks and reassure clients about potential risks.

Conclusions and future research perspectives. Human resources in the IT industry noticeably differ from the workforce in other sectors of the Ukrainian economy regarding age, gender, educational characteristics, legal forms of employment, and income. These peculiarities impact the formation of human resource policies at the level of IT companies. They should be considered in developing regulatory tools for developing this sector at the macro level. The introduction of gig contracts in the social-labor relations of IT workers and employers has not significantly changed the volume of dominant self-employed status (individual entrepreneurship) and has not fully justified expectations at the macro level.

In the context of russian military aggression, the competitive environment of the IT job market is characterized by a noticeable decrease in vacancies due to a reduction in foreign orders, active processes of interregional and professional mobility, and structural changes in workplaces due to increased investments in the defense sector. Preserving the competitiveness of human resources in the IT industry is linked to retaining talent, client trust, geographic expansion of IT services markets, diversification of activities, and increased orders to ensure Ukraine's defense capability and victory in the war against russia.

The prospects for further research are connected to the study of international experience in regulating social-labor relations in the IT industry concerning employment and wage payment.

REFERENCES

1. Akilina, O. V., & Ilich, L. M. (2018). Konkurentospromozhnist robochoi syly it-sfery cherez pryzmu transformatsii rynku pratsi [Competitiveness of labor-force IT-industry through prism of labor market transformations]. *Naukovyi visnyk Uzhhorodskoho natsionalnoho universytetu. Seriia: Mizhnarodni ekonomichni vidnosyny ta svitove hospodarstvo – Uzhorod National University Herald. Series: International Economic Relations and World Economy*, *18*, part 1, 10–16. http://visnyk-econom.uzhnu.uz.ua/archive/18_1_2018ua/4.pdf [in Ukrainian].
2. DOU. (2023, March 20). *Rynok pratsi pid chas viiny: 13 % aitivtsiv bez roboty, shche polovyna boitsia yii vtratyty* [Labor market during the war: 13 % of IT specialists are without a job, another half are afraid of losing it]. https://dou.ua/lenta/articles/job-market-during-war-part-1/ [in Ukrainian].
3. DOU. (2023, April 22). *Kudy pereikhaly IT-spetsialisty cherez viinu. Karta mihratsii* [Where IT specialists moved due to the war. Migration map]. https://dou.ua/lenta/articles/war-migration-map [in Ukrainian].

4. DOU. (2023, April 28). *Eksport IT-posluh znyzyvsia na 16 %. V IT Ukraine Association kazhut, shcho haluz vyishla na plato* [IT services exports decreased by 16 %. IT Ukraine Association says the industry has reached a plateau]. https://dou.ua/lenta/news/exports-of-it-in-2023 [in Ukrainian].
5. DOU. (2023, July 10). *Zarplaty ukrainskykh rozrobnykiv – lito 2023* [Salaries of Ukrainian developers – summer 2023]. https://dou.ua/lenta/articles/salary-report-devs-summer-2023/ [in Ukrainian].
6. DOU. (2023, July 31). *Ydemo na spad. DOU proanalizuvav dani Natsbanku shchodo IT-eksportu y zapytav v ekspertiv, koly ochikuvaty zrostannia (UPD)* [Going downhill. DOU analyzed the NBU data on IT exports and asked experts when to expect growth (UPD)]. https://dou.ua/lenta/news/it-export-second-quarter-2023 [in Ukrainian].
7. DOU. (2023, August 29). *Portret IT-spetsialista – 2023. Analityka* [Portrait of an IT specialist 2023. Analytics]. https://dou.ua/lenta/articles/portrait-2023 [in Ukrainian].
8. DOU. (2023, September 4). *Naibilsha kilkist vakansii z pochatku roku, 438 pozytsii dlia marketolohiv i znyzhennia popytu na Java. Ohliad IT-rynku pratsi, serpen 2023* [The largest number of vacancies since the beginning of the year, 438 positions for marketers and a decrease in demand for Java. IT job market overview, August 2023]. https://dou.ua/lenta/articles/it-job-market-august-2023 [in Ukrainian].
9. DOU. (2023, September 26). *Nedovira do vlady vs zhodnoi moroky z podatkamy. Shcho rozpovidaiut aitivtsi pro hih-kontrakty* [Distrust of the government vs. no hassle with taxes. What IT specialists say about gig contracts]. https://dou.ua/lenta/articles/what-it-specialists-say-about-gig-contracts [in Ukrainian].
10. Duarte, C. H. C. (2016). The influence of tax incentive and market regulation requirements on IT companies: Empirical evidence from the Brazilian industry. In *2016 IEEE 24th International Requirements Engineering Conference Workshops (REW), Beijing, China, 2016* (pp. 239–248). https://doi.org/10.1109/REW.2016.047
11. Ilich, L. (2017). *Strukturni transformatsii tranzytyvnoho rynku pratsi Ukrainy* [Structural transformations of the transitive labor market of Ukraine]. Alerta.
12. IT Ukraine Association. (2022). *Do it like Ukraine.* https://itukraine.org.ua/files/reports/2022/DoITLikeUkraine2022.pdf [in Ukrainian].
13. Karyy, O., Halkiv, L., & Tsapulych, A. (2021). Rozvytok IT-sfery Ukrainy: Chynnyky ta napriamy aktyvizatsii [Development of the IT-sphere of Ukraine: Factors and directions of activation]. *Visnyk Natsionalnoho universytetu "Lvivska politekhnika". Seriia "Problemy ekonomiky ta upravlinnia" – Journal of Lviv Polytechnic National University. Series of Economics and Management Issues*, *5*(1), 42–55. https://doi.org/10.23939/semi2021.01.042 [in Ukrainian].
14. Kornyliuk, R. (2023, September 28). *IT development in Ukraine: Current situation and prospects.* YC.Market. https://blog.youcontrol.market/it-development-in-ukraine-current-situation-and-prospects
15. Protsykevych, A. I. (2020). *Derzhavne rehuliuvannia investytsiinoho protsesu na rynlu IT-posluh* [State regulation of the investment process in the market of IT services] [Abstract of dissertation for the degree of candidate of economic sciences, Lviv Trade and Economic University] [in Ukrainian].
16. State Statistics Service of Ukraine. (2023). *Average monthly wages by type of economic activity over the quarter in 2023.* https://www.ukrstat.gov.ua/operativ/operativ2022/gdn/snzp/snzp_ek/smzp_ek_23_ue.xlsx

17. UCluster. (2023). *Top Ukrainian IT clusters.* https://ucluster.org/en/school-of-startups/top-ukrainian-it-clusters.
18. Yatsenko, L. (2023). *Rynok pratsi IT-sektoru v umovakh viiny: realii ta perspektyvy* [Labor market of the IT sector in wartime: realities and prospects]. National Institute for Strategic Studies. https://niss.gov.ua/news/komentari-ekspertiv/rynok-pratsi-it-sektoru-v-umovakh-viyny-realiyi-ta-perpektyvy [in Ukrainian].

Article details:
Received: 21 February 2024
Revised: 03 March 2024
Accepted: 28 March 2024

О. С. ГРИНЬКЕВИЧ
докторка економічних наук, професорка, професорка кафедри статистики Львівського національного університету імені Івана Франка, Україна, м. Львів
Р. С. МАЛИНИЧ
аспірант кафедри статистики Львівського національного університету імені Івана Франка, Україна, м. Львів

ПРО ОСОБЛИВОСТІ ЛЮДСЬКИХ РЕСУРСІВ ІТ-ІНДУСТРІЇ УКРАЇНИ ТА ЇХНЮ КОНКУРЕНТОСПРОМОЖНІСТЬ В УМОВАХ ВІЙНИ

Постановка проблеми. Унаслідок повномасштабної російської військової агресії на ринку ІТ-послуг України зросли комерційні ризики, що зумовило зниження конкурентних позицій вітчизняної ІТ-індустрії. Через ризики руйнування інфраструктури, втрати зв'язку з українськими ІТ-фахівцями, іноземні замовники відмовляються від співпраці. Одним із проявів такої ситуації є зменшення попиту на ІТ-фахівців, рівня їхньої зайнятості, зростання обсягів міграції. Зазначені тенденції посилюють конкуренцію на ринку праці у сфері ІТ-індустрії та потребують нових підходів до формування політики збереження і розвитку людського капіталу в цій сфері.

Метою статті є визначити особливості людських ресурсів ІТ-індустрії України та оцінити вплив умов воєнного стану на їхню конкурентоспроможність.

Аналіз останніх досліджень і публікацій. Прискорений розвиток ІТ-індустрії сприяв збільшенню інтересу вітчизняних і закордонних дослідників до цієї галузі креативної економіки. Проблемам розвитку людського капіталу ІТ-індустрії України в довоєнний період присвячено праці таких вітчизняних дослідників, як О. Акіліна, Л. Ільїч, Л. Гальків, О. Карий, А. Цапулич, А. Процикевич. Серед закордонних авторів – К. Дуарте (C. H. C. Duarte), який досліджує доходи і вплив податкових стимулів на показники діяльності ІТ-компаній у Бразилії.

Російська військова агресія суттєво вплинула на стан і динаміку розвитку ІТ-індустрії, конкурентоспроможність її людських ресурсів, зумовивши необхідність

переосмислення чинників її подальшого розвитку. У теперішній час публікації з питань людського капіталу ІТ-індустрії обмежуються здебільшого статистикою та аналітикою попиту і пропозиції фахівців на професійних порталах, без наукового узагальнення та аналізу, визначення загроз розвитку для вітчизняної економіки.

Виклад основного матеріалу. Людські ресурси ІТ-індустрії в Україні мають низку особливостей, які помітно відрізняють їх на ринку праці за соціально-демографічними, освітніми та професійними характеристиками, економіко-правовими особливостями зайнятості. За даними вивчення портрету ІТ-спеціаліста 2023 р., понад 80 % айтівців – це особи віком до 35 років, які живуть у великих містах-мільйонниках, майже три чверті з них – чоловіки. Попри поширені сумніви щодо важливості вищої освіти для роботи в ІТ, більшість фахівців цього сегмента ринку праці мають вищу освіту, займаються саморозвитком, використовуючи курси і тренінги, володіють англійською мовою на рівні Upper-Intermediate чи Advanced.

Економіко-правові особливості зайнятості в ІТ-індустрії виявляються у сфері соціально-трудових відносин, а саме: юридичному статусі зайнятості, системі оплати праці, доходах працівників. Переважна більшість ІТ-спеціалістів працюють як фізичні особи – підприємці. Особливістю ІТ-сегмента ринку праці є істотний розрив між доходами фахівців в ІТ-сфері та доходами в інших сферах економічної діяльності. Глобальна пандемія та російська військова агресія стали головними чинниками зростання обсягів дистанційної зайнятості в ІТ-секторі, де близько 80 % айтівців у 2023 р. повністю або частково працювали дистанційно.

З лютого 2022 р. в Україні стартував спеціальний режим для ІТ-галузі – «Дія City», що привело до нової форми співпраці між роботодавцями та фахівцями у сфері ІТ – гіг-контрактів. Ці контракти мали б об’єднати гнучкість ФОП-моделі та соціальні гарантії трудового договору. Проте за результатами опитування 2023 р., оприлюдненими на порталі DOU, лише 16 % респондентів підтримували гіг-контракти, а 46 % не розуміли сутності нової форми трудових відносин.

Попит і пропозиція робочої сили на ринку праці в ІТ-сегменті тісно корелюють зі станом і динамікою економічних показників розвитку ІТ-послуг. До початку повномасштабної війни ІТ галузь стрімко розвивалась шляхом залучення більшої кількості працівників через зростання обсягів замовлень, у тому числі внаслідок стрімкої діджиталізації в період COVID-19. За перший рік повномасштабної війни ІТ виявилась єдиною сферою, що зберегла позитивну динаміку розвитку. За даними НБУ та IT Ukraine Association, українська ІТ-індустрія у 2022 р. забезпечила майже половину всього експорту послуг на фоні загального зменшення експорту України.

В умовах продовження російської військової агресії конкурентне середовище ринку праці ІТ-індустрії характеризується помітним зменшенням вакансій унаслідок зниження обсягів іноземних замовлень, активними процесами міжрегіональної та професійної мобільності, структурними змінами в робочих місцях у зв’язку зі зростанням інвестицій в оборонний сектор. Чинником зменшення замовлень у віт-

чизняній ІТ-індустрії глобального характеру є рецесія ринку та сповільнення темпів цифровізації після завершення глобальної пандемії.

Висновки. Людські ресурси ІТ-індустрії в Україні мають низку соціально-демографічних, освітніх та інших особливостей, які суттєво впливають на конкурентоспроможність людського капіталу цієї галузі креативної економіки.

Забезпечення конкурентоспроможності людських ресурсів ІТ-індустрії в умовах війни і повоєнного відновлення пов'язано зі збереженням її талантів, довіри закордонних клієнтів, географічним розширенням ринків збуту ІТ-послуг, диверсифікацією видів діяльності, збільшенням замовлень для забезпечення обороноздатності України та її перемогою у війні з росією.

Коротка анотація статті

Анотація. Визначено особливості людських ресурсів ІТ-індустрії України, які пов'язані віковими, гендерними, освітніми характеристиками, юридичними формами зайнятості й доходами. Наведено результати аналізу впливу умов воєнного стану на конкурентоспроможність людського капіталу ІТ-індустрії України. Сформульовано висновок, що конкурентоспроможність людських ресурсів ІТ-індустрії України в умовах війни пов'язано зі збереженням її талантів, довіри клієнтів, географічним розширенням ринків збуту ІТ-послуг, диверсифікацією видів діяльності, збільшенням замовлень для забезпечення обороноздатності України та її перемоги у війні з росією.

Ключові слова: воєнний стан, ІТ-індустрія, конкурентоспроможність, людський капітал, людські ресурси, освіта, ринок праці, Україна.

Стаття надійшла до редакції 21.02.2024
Стаття пройшла рецензування 03.03.2024
Стаття рекомендована до опублікування 28.03.2024

Рекомендоване цитування: Hrynkevych O. S., Malynych R. S. On the particularities of human resources in Ukraine's IT industry and their competitiveness amid war conditions. *Економічна теорія та право.* 2024. № 1 (56). С. 42–54. DOI: https://doi.org/10.31359/2411-5584-2024-56-1-42.

Suggested citation: Hrynkevych, O. S., & Malynych, R. S. (2024). On the particularities of human resources in Ukraine's IT industry and their competitiveness amid war conditions. *Ekonomichna teoriia ta pravo – Economic Theory and Law*, *1*(56), 42–54. https://doi.org/10.31359/2411-5584-2024-56-1-42