

DOI: <https://doi.org/10.32782/2524-0072/2025-82-190>

UDC 331.5:338.124.4

SYSTEMIC INTEGRATION OF CRISIS-AFFECTED WORKFORCE AS A MECHANISM FOR PRESERVING LABOR POTENTIAL

СИСТЕМНА ІНТЕГРАЦІЯ РОБОЧОЇ СИЛИ ЯК МЕХАНІЗМ ЗБЕРЕЖЕННЯ ЛЮДСЬКОГО ПОТЕНЦІАЛУ В УМОВАХ КРИЗИ

Petrova IrynaDoctor of Economic Sciences, Professor,
«KROK» UniversityORCID: <https://orcid.org/0000-0003-4206-5403>**Taghikilanidamavandi Liyousa**PhD Student,
«KROK» UniversityORCID: <https://orcid.org/0000-0002-8796-830X>**Петрова Ірина Леонідівна, Тагікланідамаванді Ліуса**

Вищий навчальний заклад «Університет економіки та права «КРОК»

The war creates conditions that significantly affect the structure of the labor market, leading to the depletion of human capital, human potential losses and mismatch, and regional structural imbalances. The study proposes the systemic integration of affected labor forces during times of crisis as an economic and social tool for promoting business continuity and sustainability, especially when the already available structures for such integrations are deemed insufficient. Technological advancements, such as artificial intelligence and automation, are expected to transform job roles and skills needed in many industries, thus further raising the stakes for labor-market mismatch. Systemic labor force integration, therefore, ought to serve as a transition infrastructure. The authors evaluate the ways through which labor force integration structures can offset threats of economic disturbance and enhance labor force adaptability and skills rejuvenation during times of war and technological change.

Keywords: human potential, veterans, integration, human capital, strategies, cultural inclusion, and adaptation, reskilling and upskilling.

Умови, сформовані тривалою війною, істотно деформують структури ринку праці, що призводить до системного виснаження людського капіталу. Зрештою це знижує здатність економічних систем підтримувати життєво важливу діяльність. Війна є драматичною формою системної кризи, за якої втрата та невідповідність навичок трудового потенціалу стають критичними економічними викликами. На ринку праці загострилися суперечності, що проявилися у нарастанні кадрового дефіциту у різних сферах економічної діяльності, регіональних диспропорціях, кількісно-якісному дисбалансу робочої сили. Технологічні компанії стикнулися з проблемою нестачі робочої сили з принципово новими компетентностями, які відповідають сучасним технологічним викликам. Разом з тим на ринку праці сформувалися численні категорії соціально вразливої робочої сили, які мають проблеми з працевлаштуванням. Для їх інтеграції у виробничі процеси компанії повинні трансформувати корпоративну культуру у напрямку її відкритості, інклюзії та адаптивності. Оцінювання образних компаній за цими параметрами показало суттєві відмінності між ними. У статті обґрунтовано доцільність системної інтеграції постраждалої робочої сили в умовах кризи як економічного інструменту забезпечення безперервності та стійкості бізнесу шляхом стабілізації продуктивного потенціалу в умовах війни та тривалої кризової нестабільності. Очікується, що технологічний розвиток, зокрема штучний інтелект і автоматизація, зумовлюватиме трансформацію трудових завдань і вимог до навичок у багатьох секторах економіки, підвищуючи ризик невідповідності людського потенціалу потребам бізнесу. Тому системна інтеграція робочої сили має також виконувати функцію інфраструктури переходу. На основі теорій антикризового управління та людського капіталу автори розкривають зміст механізмів інтеграції, які можуть знижувати ризики економічної переривчастості та нестабільності, підтримувати оновлення навичок і підвищувати адаптивність робочої сили в умовах війни та технологічної перебудови. Саме поєднання інтеграції з цільовою перекваліфікацією робочої

сили сприяє підвищенню економічної стабільності та збереженню людського потенціалу в умовах тривалої кризи.

Ключові слова: людський потенціал, ветерани, інтеграція, людський капітал, стратегії, культурна інклюзія, адаптація, перекваліфікація.

Statement of the Problem. Ongoing war and prolonged crises significantly disturb the labor markets. This disrupts the stability of the labor force and makes it difficult for the business world and the labor force to maintain normal economic activity. This accelerates the deterioration of human capital and reduces the functional capacity of the economic systems. War can best be described as the most extreme case of systemic crisis. In a war situation, business entities lose resources as well as experience significant reductions in labor potential as a result of displacement and separation from jobs. In this regard, the issue of preserving and optimizing potential labor resources can be identified as a major economic challenge under wartime conditions. This is particularly important given the enormous loss of labor resources during a war situation, while the inclusion of affected groups, especially those affected by crises, such as veterans, displaced persons, and forced migrants, remains primarily assessed from a social, moral, or humanitarian perspective. However, such an approach does not provide an adequate economic mechanism for stabilizing and preserving labor potential under prolonged crisis conditions. On the other hand, workers in crisis situations also demonstrate resilience, discipline, and the ability to work under pressure. These qualities represent human capital that can still be under-leveraged. Furthermore, employee integration becomes more complex due to fast-paced technological change and the growing application of artificial intelligence. As a result, a simple return to employment will no longer satisfy the requirements of such conditions. The economies affected by the crisis have two issues at stake. The first relates to the integration of labor resources back into the economy. The second concerns the preparation of the labor force for changes that will be brought about by technological advancements and the use of AI. Under these conditions, labor integration must function as a transition mechanism facilitating the reuse of labor as well as adaptation to new skill requirements.

Analysis of Recent Research and Publications. In recent years, the study of economics has thoroughly examined the influence of war and long-term crisis on the labor

market and economy as a whole. According to Blattman C. and Miguel E. [2], along with Collier P. [6], war causes massive job dislocation, skill mismatch, and productivity loss, thus hindering the economy's recovery, even with foreign help. The authors treat the war as an economy-wide shock, thus disrupting the labor market's allocation mechanism and market stability. Empirical observations in the case of the Ukrainian economy confirm these findings, as Smutchak Z. V. [14] points out the existence of labor shortages, regional disequilibrium, and labor mobility in wartime, while the State Scientific Institution "Institute of Educational Analytics" [15] points out structural labor supply and demand mismatches in the business environment. Marshavin Y., Petrova I. L., Kytsak T., Marshavin O., and Atamaniuk R. [9] describe the labor market as an "ecosystem" with an "institutional coordination framework of labor potential stability in the crisis environment," emphasizing the danger of "piecemeal regulation policy." Studies on workforce integration in the aftermath of crises are largely grounded in management and organizational behavior studies. The studies by González J. A. and Simpson J. J. [7], Stone D. L. and Stone E. F. [16], and Kleykamp M. [8] focus on veteran workforce integration largely in terms of employability, organizational fit, and employer sentiment. The studies by Castro C. A., Kintzle S., and Hassan A. [5] focus on psychosocial adaptation and identity transition. The studies by Zimmermann K. F. [19] and the Organisation for Economic Cooperation and Development [10] focus on migrant and refugee workforce integration largely from an institutional policy point of view. Although these studies provide important insights into individual and organizational barriers to workforce integration, they largely view workforce integration as a psychosocial or human resource process rather than an economic one for conserving workforce potential during periods of instability. Research on crisis management and organizational flexibility also underlines the relevance of flexible systems in uncertain environments. Bundy J., Pfarrer M. D., Short C. E., and Coombs W. T. [3] view crises as a situation that calls for a speedy transformation of the available resources. Teece D. J.,

Pisano G., and Shuen A. [17] use the concept of dynamic capabilities – the ability of the organization to detect changes and transform available organizational resources. Cameron K. S. and Quinn R. E. [4] & Schein E. H. [13] have shown that a flexible organizational culture helps in dealing with crises. Petrova I. L. [11] has underlined the importance of strategic diagnostics of organizational personnel in stabilizing the human capital during a structural crisis. However, these concepts have rarely considered the inclusion of the workforce in a single economic system in relation to the conservation of labor potential. The Human Capital Theory and research on labor potential form the economic foundation for studying the sustainability of the workforce. The concept of Human Capital as a productive resource demanding constant investments is introduced by Becker G. S. [1]. The Ukrainian approach to the topic, as presented by Petrova I. L., Sandugey V. V., and Mamedova S. H. [12], emphasizes the fragility of labor potential in times of crisis. Global projections by the World Economic Forum [20] show that technology will greatly alter work tasks and skills, thus worsening the problem of mismatch. Although there is considerable literature available on this topic, including economics, management, and policy studies, an overarching model incorporating workforce integration, technology transition, and preservation of labor potential during times of war is relatively unexplored.

Highlighting Previously Unresolved Parts of the Overall Problem. Despite the great number of studies in human capital building, resilience in the workforce, and social inclusion, most of these studies are done in a manner that considers each of these factors independently, in stable economic settings. Present methods in human resource management do not conceptualize labor integration within an economic system that aims at labor stability in times of economic crises, let alone in wartime settings. Therefore, labor integration practices are usually a set of scattered interventions that are not related to labor mismatches. Where there are unstable and conflict-ridden economies, such as in Ukraine, the inadequacies in contemporary models of economic integration become more pronounced. The most affected groups in such settings include veterans, internally displaced individuals, and workers who are under the influence of economic crises. Organizations in such settings lack proper frameworks for changing the culture and integrating adaptability

in their operations. The culture in organizations is usually recognized as an important contextual element but less frequently as an integral part of economic transition infrastructure that can promote stability in the workforce and protect productivity. Moreover, technological change is currently happening at a rapid rate, and changes in job activities make it even harder for workforce potential and skill needs to be aligned. The current state of research does not fully incorporate technological changes into workforce integration frameworks in a manner that is applicable in a long-term economic manner. Thus, not having a system-level perspective that aligns workforce integration, transformation of company cultures, technological changes, and preservation of workforce potential is a significant issue that remains unsolved in current economic literature.

Formation of the Objectives of the Article.

The purpose of this article is to study workforce integration as an economic and social tool for preserving human potential during war. The article focuses on veterans and other workers affected by the crisis and examines how their integration can support workforce stability under long-term wartime conditions. We consider that workforce integration is effective only when it is supported by structured organizational mechanisms and adaptive corporate practices. The study analyzes workforce integration as part of an economic transition process. Integration is not treated as a social program or a human resource policy. Instead, it is examined as a mechanism that helps maintain labor capacity, continuity of work, and productivity during structural disruption. The article is based on the case of Ukraine, where the economy operates under wartime conditions. In this context, the study also considers how workers can adapt to gradual changes in job tasks and skill requirements linked to technological development, including artificial intelligence. This isn't just about quick automation; it's a gradual shift in the way the company operates day-to-day

Summary of the Main Research Material.

This study uses a conceptual and analytical research design. Its purpose is to explain workforce integration as an economic mechanism for preserving human potential during war and prolonged crisis, building on human capital theory introduced by Becker G. S. [1] and the concept of dynamic capabilities developed by Teece D. J., Pisano G., and Shuen A. [17]. The study does not test hypotheses. Instead, it develops and explains a structured economic

approach to human potential preservation under extreme conditions.

The research strategy follows approaches commonly used in economic studies of war and crisis, as reflected in the works of Blattman C. and Miguel E. [2] and Collier P. [6]. It focuses on identifying and explaining structural mechanisms rather than measuring short-term outcomes. The study treats workforce integration as part of economic transition infrastructure, not only as a human resource or social policy tool, consistent with crisis system perspectives discussed by Bundy J., Pfarrer M. D., Short C. E., and Coombs W. T. [3]. This distinction is important because existing integration practices are often fragmented and insufficient to address systemic labor disruption under wartime conditions. The methodological framework consists of three connected parts.

First, the study conducts a focused review of economic, crisis management, and labor market literature. The aim is to identify gaps in existing approaches to workforce integration during crisis situations. Its core area of concentration lies in human potential, its disruption in warfare, and its conservation in an unstable setting, as emphasized by Petrova I. L., Sandugey V. V., and Mamedova S. H. [12] and Smutchak Z. V. [14]. Furthermore, this study uses an analysis of relevant economic views in synthesizing its findings. Two areas of concentration in this topic relate to each other: economic fluctuations in an unstable setting and conserving human capital in an ever-advancing technology environment of adaptability, as reflected in global projections of the World Economic Forum [20]. This approach makes it possible to analyze the process of integrating the workforce. The focus is on maintaining labor potential, supporting adaptability, and sustaining productive activity under wartime conditions. Workforce integration is therefore analyzed as a system-level economic mechanism rather than as a set of isolated practices.

Third, the study uses a comparative illustrative analysis based on documented international cases. These cases are drawn from contexts where workforce integration was required under crisis or high-pressure conditions and where reliable secondary data is available, including OECD analytical materials [10] and international migration studies by Zimmermann K. F. [19]. The purpose of these cases is not direct comparison, but contextual illustration. They help clarify how integration mechanisms can function as economic

stabilizers and support the transferability of the proposed approach. The methodology does not rely on primary large-scale quantitative data. This choice is intentional. The aim of the work lies in formulating a concept of an economic mechanism, as opposed to statistics-related verification. Such an approach to methodology seems justified in the context of warfare, when collection of data is limited and variable. In particular, the study focuses on consistency between the solution and the problem stated.

More than 200 completed questionnaires were retrieved from the experts and professionals working within crisis-affected sectors during 2023–2024 years. Based on these, an analytical sample comprising 28 organizations was selected. These companies operate mainly in the energy, industrial, construction, vocational education, and related service sectors. All have been directly affected by war-related disruption. The data provides an empirical context for examining how workforce integration practices relate to labor potential preservation during wartime. Integration practices are considered in relation to workforce stability, retention, and adaptability, including readiness for gradual changes in job tasks linked to technological development, as outlined in future workforce projections by the World Economic Forum [20]. In this context, it becomes evident that traditional integration approaches alone are not sufficient and must be complemented by structured training and development programs focused on reskilling and upskilling.

To identify broader structural patterns, the results are aggregated at the sector level rather than interpreted only at the level of individual organizations. Table 1 provides the mean scores on important indicators such as the practices of inclusion, support, engagement, adaptability, feelings of safety, and consistency regarding the retraining and retention of employees. Adding all these indicators together will help the identification of the strengths and weaknesses at the sector level that impact the conservation of the potential in crisis conditions by employees.

The overall results suggest that industry sectors play a major role in how well they can protect and keep their workforce during the war. The variations cannot be explained by organizational culture or leadership in a straightforward manner; rather, they are conditioned by the specific combination of workforce integration practices in each sector, which aligns with organizational culture diagnostics proposed by Cameron K. S. and Quinn R. E. [4] and leadership–culture

Table 1

Sectoral patterns of labor potential preservation indicators under wartime conditions

Sector	Number of organizations	Avg. inclusion & veteran policy (%)	Avg. leadership engagement (%)	Avg. cultural adaptability (%)	Avg. psychological safety (%)	Retention stability (% reporting no difficulties)
Energy (oil, gas, drilling)	18	85	90	70	85	75
Industrial / engineering	3	80	55	80	100	100
Construction	1	100	67	67	100	100
Vocational education	4	85	75	30	95	100
Financial / support services	1	100	67	67	100	100
Total / average	28	Moderate-high	High	Moderate	High	71.4%

Source: Compiled by the author based on survey data from 28 Ukrainian organizations (2024). Values rounded

dynamics analyzed by Schein E. H. [13]. What these results suggest is the need to understand the integration of the workforce as an organized economic process. When the integration of the workforce is organized, the workforce potential tends to be preserved. If the integration of the workforce lacks organization, the potential of the workforce appears susceptible to deterioration despite positive factors such as employee motivation levels and staff retention. In addition, it becomes apparent from this analysis that simply looking at the potential of preserving the workforce is insufficient. High rates of preserving the existing workforce could be accompanied by hidden losses in productivity, skills, and stability. Such an aspect becomes highly pertinent, given the fact that mobility is limited in wartime Ukraine and replacing skilled human capital is highly costly. One of the key findings of this research is that the loss of possible contributions to the workforce primarily takes place during the point of entry as well as during the early stages of integration. This proposal finds that the key economic risk is not within jobs but with how effectively employees are integrated within production structures. Barriers faced during the process of integration hamper the deployment of available human resources in these organizations. Sectorial disparities apparent in this study validate these findings, suggesting that this trend continues across different sectors. Certain sectors demonstrate inclusive and

stable employment, yet low adaptability; while others demonstrate a capacity for adaptation with low involvement in leadership or institutional flexibility. Training and development play the key role in the realization of integration and adaptation strategies. All this serves to affirm that preservation of labor potential depends on integrated involvement rather than on isolated practices within organizations, consistent with applied diagnostics of human resource systems by Petrova I. L. [11] and labor market ecosystem analysis by Marshavin Y. et al. [9].

From an economic standpoint, it is clear that manpower integration is critical to maintaining economic continuity during conflict situations, consistent with human capital investment logic introduced by Becker G. S. [1] and crisis management system perspectives developed by Bundy J. et al. [3]. This process aligns investments in human capital with actual productive use. If there was no alignment between investments and actual use, human capital might not be fully utilized even if it was employed. The implications of the findings also extend to the realm of technology. During job task modifications brought by digitalization and artificial intelligence, workers affected by crises need to be assisted through an institutional framework to rebalance their skills, as emphasized in global labor transformation forecasts by the World Economic Forum [20]. In the context of wartime, the readjustment needs

to occur in a slow and practical manner. Thus, the integration of the workforce serves as a buffer in this situation to absorb the shocks brought by crises as well as the effects of technology. In summary, this research study shows the importance of maintaining human potential during times of warfare by arguing that it does not occur through isolated inclusion policies or short-term stabilization. Rather, human potential during such periods must be addressed by making workforce integration a functional part of the economic system. In this way, despite severe constraints, human potential can still be preserved.

Conclusions. His research contributes to the body of economics related to the study of labor markets in states of crisis and during wartime. The findings of the research show the following: the conservation of human potential in a state of war not only requires the existence of labor but also the proper organization of human potential at the organizational and sector levels; the concept of the human potential of society constitutes an economic resource. The empirical study analyzes data gathered through more than 200 survey questionnaires answered by experts and professionals in crisis-affected sectors in Ukraine. A careful sample of 28 organizations was selected based on the survey data. It can be seen that the results imply a degradation in human potential that specifically targets workforce entry and early integration rather than occurring after employees have been retained within organizations. This defies standard assumptions in labor economics and crisis management practices, which typically view employment stability as a secondary operational concern. At the sector level, there is variation in the quality of preserving human potential. In some sectors, such as energy or industry, there is a strong level of engagement and psychological safety, but weak integration process design. In other sectors, such as vocational education, there is a supportive context but a rigid framework, which demonstrates that a positive organizational culture alone is not sufficient for preserving the

effective use of crisis-affected labor potential. In all sectors, one can observe insufficient and uneven investment in human capital and integration system development. The major significance of this article is that it views workforce integration from the perspective of the economic system. Regarding this, workforce integration is not treated as a social endeavor or moral imperative but is instead a functional process that connects human capital resources to wartime economic activities. Based on this approach, workforce potential decline is explained despite significant workforce retention, as clarified by this article. From a policy and management perspective, these findings indicate that reducing entry and integration barriers should become a central principle of wartime and post-conflict economic recovery policies. High retention levels suggest that employees are likely to remain once they are effectively integrated. Therefore, the primary economic problem lies in the integration phase rather than in workforce retention. This confirms that existing integration practices are structurally insufficient and require transformation into coordinated economic mechanisms rather than isolated organizational actions. The research has certain limitations. It is important to note that our analysis relies on a relatively small sample of Ukrainian organizations. Additionally, we used survey-based insights rather than direct metrics like productivity or wage data. This approach is appropriate under wartime conditions and allows identification of structural patterns; however, future research should expand the sample size and include cross-country comparative analysis over longer periods of economic performance. Quantitative indicators linking integration processes with labor potential preservation may also be further developed. In general, the article presents a systematic economic view of workforce integration in wartime Ukraine. Integration is highlighted as a critical factor supporting the preservation of human potential and ensuring economic continuity during prolonged crisis scenarios.

REFERENCES:

1. Becker, G. S. (1964). *Human capital: A theoretical and empirical analysis, with special reference to education*. Columbia University Press.
2. Blattman, C., & Miguel, E. (2010). Civil war. *Journal of Economic Literature*, 48(1), 3–57. <https://doi.org/10.1257/jel.48.1.3>
3. Bundy, J., Pfarrer, M. D., Short, C. E., & Coombs, W. T. (2017). Crises and crisis management: Integration, interpretation, and research development. *Journal of Management*, 43(6), 1661–1692. <https://doi.org/10.1177/0149206316680030>

4. Cameron, K. S., & Quinn, R. E. (2011). *Diagnosing and changing organizational culture: Based on the competing values framework* (3rd ed.). Jossey-Bass.
5. Castro, C. A., Kintzle, S., & Hassan, A. (2014). *The state of the American veteran: The Los Angeles County Veterans Study*. USC Center for Innovation and Research on Veterans & Military Families.
6. Collier, P. (2007). *The bottom billion: Why the poorest countries are failing and what can be done about it*. Oxford University Press.
7. González, J. A., & Simpson, J. J. (2021). The workplace integration of veterans: Applying diversity and fit perspectives. *Human Resource Management Review*, 31(2), Article 100775. <https://doi.org/10.1016/j.hrmr.2020.100775>
8. Kleykamp, M. (2013). Unemployment, earnings, and enrollment among post-9/11 veterans. *Social Science Research*, 42(3), 836–851. <https://doi.org/10.1016/j.ssresearch.2012.12.017>
9. Marshavin, Y., Petrova, I. L., Kytsak, T., Marshavin, O., & Atamaniuk, R. (2025). Structural and functional concept of the labor market ecosystem. *The Eurasia Proceedings of Educational and Social Sciences (EPESS)*, 44, 10–21.
10. Organisation for Economic Co-operation and Development. (2016). *Working together: Skills and labour market integration of immigrants and their children*. OECD Publishing. <https://doi.org/10.1787/9789264257555-en>
11. Petrova, I. L. (2024). Personnel audit in the system of strategic analysis of human resources of the organization. *Economy and Society*, 70. <https://economyandsociety.in.ua/index.php/journal/article/view/5264>
12. Petrova, I. L., Sandugey, V. V., & Mamedova, S. H. (2022). Preservation and development of human potential of Ukraine in modern conditions. In G. M. Fyliuk (Ed.), *Theoretical and applied issues of economics* (Vol. 2, Issue 45, pp. 46–57). TsP “Komprint”.
13. Schein, E. H. (2017). *Organizational culture and leadership* (5th ed.). Wiley.
14. Smutchak, Z. V. (2023). Labour market of Ukraine in war time: Reality and prospects. *Visnyk Pislidyplomnoi Osvity*, 26(55), 161–177. [https://doi.org/10.58442/2522-9931-2023-26\(55\)-161-177](https://doi.org/10.58442/2522-9931-2023-26(55)-161-177)
15. State Scientific Institution “Institute of Educational Analytics”. (2025). *National report “Labour Market of Ukraine 2025: Challenges, Needs, Perspectives”*.
16. Stone, D. L., & Stone, E. F. (2015). Factors affecting hiring decisions about veterans. *Human Resource Management Review*, 25(1), 68–79. <https://doi.org/10.1016/j.hrmr.2014.06.003>
17. Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509–533. [https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7<509::AID-SM-J882>3.0.CO;2-Z](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SM-J882>3.0.CO;2-Z)
18. Veklych, O. (2024). Integration of veterans into the labour market: International experience and opportunities for Ukraine. *Economy and Society*, 62. <https://doi.org/10.32782/2524-0072/2024-62-42>
19. World Economic Forum. (2025). *The future of jobs report 2025*. World Economic Forum. <https://www.weforum.org/reports/the-future-of-jobs-report-2025>
20. Zimmermann, K. F. (2017). Refugee and migrant labor market integration: Europe in need of a new policy agenda. *International Migration*, 55(6), 1–16. <https://doi.org/10.1111/imig.12343>

Дата надходження статті: 04.12.2025

Дата прийняття статті: 17.12.2025

Дата публікації статті: 29.12.2025