

THE IMPACT OF HUMAN CAPITAL, DIGITAL SKILLS AND ARTIFICIAL INTELLIGENCE INTEGRATION ON LABOUR MARKET STABILITY

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Abstract: *The article examines how the interaction of three factors – human capital, digital skills and the integration of artificial intelligence (AI) – shapes the stability of the labour market. Drawing on the 2025 studies of the World Economic Forum, the International Labour Organization and recent peer-reviewed research, the author argues that AI is predominantly transforming rather than eliminating jobs, and that the stabilising or destabilising effect of this transformation depends on the depth of human capital and the breadth of digital skills. The study analyses the “human capital – digital skills – AI integration” triad as a mechanism of labour market resilience and offers recommendations for the case of Uzbekistan.*

Keywords: *human capital, digital skills, artificial intelligence, labour market stability, workforce resilience, reskilling, upskilling, skills gap, augmentation, digital economy.*

The global labour market is undergoing one of the most profound structural transformations in its modern history. According to the World Economic Forum, technological progress, the green transition and demographic shifts are expected to create 170 million new jobs and displace 92 million between 2025 and 2030, producing a net employment increase of 78 million, or roughly seven per cent of current employment.⁷ At the same time, this churn – equivalent to 22 per cent of all jobs – generates considerable uncertainty for workers, employers and policymakers. Whether such turbulence translates into instability or into a managed, resilient adjustment depends, this article argues, on the readiness of the workforce.

The relevance of the study lies in the recognition that artificial intelligence (AI) is not an isolated technological shock but a force that interacts with two pre-existing foundations of any labour market: the human capital embodied in workers and the digital skills that allow them to operate alongside new technologies. The central proposition is that labour market stability in the AI era is determined less by

⁷World Economic Forum. The Future of Jobs Report 2025. – Geneva: WEF, 2025. – P. 6, 22.

the technology itself than by the quality of human capital and the breadth of digital competence with which it is combined.

The aim of the article is to analyse the interaction of human capital, digital skills and AI integration as a determinant of labour market stability, and to substantiate directions for adapting the national labour market of Uzbekistan to this new environment. The research is based on the 2025 data of the World Economic Forum (WEF) and the International Labour Organization (ILO), recent peer-reviewed studies, and national strategic documents.

Human capital as the foundation of labour market stability. In economic theory, human capital denotes the stock of knowledge, skills, health and experience that workers bring to production. A labour market is considered stable not when it is static, but when it can absorb shocks – technological, economic or demographic – and reallocate labour to productive use without prolonged unemployment or widening inequality. Human capital is the principal asset that enables this adaptive capacity: workers with deeper and more transferable competencies can move between occupations as the structure of demand changes.

The AI transition makes this adaptive function decisive. The WEF projects that 39 per cent of workers' core skills will change by 2030 – a significant figure, though down from 44 per cent in 2023, reflecting the stabilising effect of expanded training. Expressed in human terms, if the global workforce were one hundred workers, by 2030 about 41 would need no significant retraining, 29 would be upskilled and remain in their roles, 19 would be reskilled and redeployed, while 11 would need training but are unlikely to receive it.⁸ This last group – roughly 120 million people worldwide – represents the precise point at which insufficient human-capital investment converts technological change into labour market instability.

Digital skills are the operational layer through which human capital engages with AI. They range from foundational digital literacy to advanced competencies such as data analysis, AI interaction and prompt design, critical evaluation of AI outputs, and AI governance and ethics. The faster these skills diffuse across the workforce, the more smoothly labour can adjust to AI-driven restructuring – and the more stable the market remains.

Yet a substantial gap persists between the capabilities AI offers and the workforce's ability to use them. While 88 per cent of organisations now use AI in at least one business function, only about one per cent have reached genuine "AI maturity", where AI is systematically embedded across workflows.⁹ This maturity

⁸World Economic Forum. The Future of Jobs Report 2025. – Geneva: WEF, 2025. – P. 33, 41.

⁹McKinsey & Company. The State of AI in 2025: Agents, innovation, and transformation. – New York: McKinsey, 2025.

gap is mirrored on the labour side: 63 per cent of employers identify skills shortages as the primary barrier to business transformation, and broadening digital access is the single macro-trend that the largest share of employers – around 60 per cent – expect to reshape their business by 2030. The skills gap is therefore not a marginal frictional cost but the central determinant of whether AI integration stabilises or destabilises employment.

Encouragingly, the response is accelerating. By 2025, half of the global workforce had completed training under learning-and-development programmes, up from 41 per cent in 2023, and 85 per cent of employers plan to prioritise reskilling and upskilling.¹⁰ The WEF's Reskilling Revolution initiative aims to provide one billion people with better education, skills and economic opportunity by 2030. Such large-scale, anticipatory investment in digital skills is the most direct policy lever for converting disruption into resilience.

The effect of AI integration on stability depends on whether it substitutes for or augments human labour. The ILO's 2025 global index finds that one in four workers worldwide is employed in an occupation with some exposure to generative AI, but only 3.3 per cent fall into the highest-exposure category, where automation risk is greatest.¹¹ For the large majority of occupations, AI reshapes the task composition of jobs rather than eliminating them – an augmentation effect that, when supported by adequate skills, is broadly stabilising.

Recent peer-reviewed evidence reinforces this view. A 2020–2025 literature synthesis concludes that AI adoption is associated with rising demand for technical and interdisciplinary skills and with the restructuring of work roles, while many jobs are transformed rather than eliminated, since AI frequently operates in an augmentation rather than a pure substitution mode.¹² The same literature warns, however, of a destabilising side effect: a widening wage gap between AI-skilled and non-AI-skilled workers. Where digital skills are concentrated in a narrow segment of the workforce, AI integration polarises the labour market and undermines stability; where they are broadly diffused, it raises productivity across the board.

The augmentation potential is well documented. A field study of customer-support agents found that access to a generative-AI assistant raised productivity by an average of 14 per cent, with the largest gains accruing to less-experienced and

¹⁰World Economic Forum. The Future of Jobs Report 2025. – Geneva: WEF, 2025. – P. 33; Reskilling Revolution initiative.

¹¹Gmyrek P., Berg J., Kamiński K. et al. Generative AI and Jobs: A Refined Global Index of Occupational Exposure. ILO Working Paper No. 140. – Geneva: ILO, 2025. – P. 4.

¹²Theben A. et al. The impact of AI on the labour market // Management & Marketing. – Springer, 2026 (literature review 2020–2025).

lower-skilled workers.¹³ This levelling effect suggests that, under the right conditions, AI integration can compress rather than widen skill differentials – provided that human capital and digital skills allow workers to use the technology effectively.

The three factors examined above do not act in isolation; their interaction determines the outcome. AI integration supplies the productivity potential, digital skills provide the channel through which workers access that potential, and human capital supplies the adaptive depth that allows reallocation when tasks change. When all three are aligned, the labour market exhibits resilience: disruption is absorbed through redeployment and rising productivity. When any one is missing – high-quality human capital without digital skills, or rapid AI integration without reskilling – the same disruption produces unemployment, polarisation and instability.

Table 1

Interaction of the three factors and its effect on labour market stability

Configuration	Mechanism	Effect on stability
All three aligned	AI augments tasks; skilled workers redeploy; productivity rises	Resilient – managed adjustment
AI integration without digital skills	Technology adopted faster than workforce can use it	Skills gap; displacement risk
Digital skills concentrated, not diffused	Gains captured by a narrow segment	Wage polarisation
Human capital without continuous reskilling	Existing skills become obsolete (39% by 2030)	Structural unemployment

Source: compiled by the author based on WEF (2025), ILO Working Paper No. 140 (2025) and recent literature.

The table shows that stability is not the automatic result of technological progress but the product of a deliberate alignment. Policy that advances AI integration while neglecting reskilling, or that builds digital skills only among an elite, reproduces instability in a new form. Conversely, broad-based investment in human capital and digital literacy turns AI from a source of disruption into a driver of resilient, productivity-led growth.

¹³Brynjolfsson E., Li D., Raymond L.R. Generative AI at Work // The Quarterly Journal of Economics. – 2025. – Vol. 140, No. 2. – P. 889–942.

Uzbekistan has positioned digital transformation and AI as national priorities. The “Digital Uzbekistan – 2030” Strategy and the 2024 AI Development Strategy set out measures to expand digital infrastructure, strengthen human-capital and reskilling systems, and introduce information systems across the real economy; the “One Million Programmers” project illustrates the practical scaling of digital-skills formation.¹⁴ For a country with a young and growing labour force, these policies create a demographic dividend that can be converted into labour market stability if the three factors are aligned.

Several risks specific to emerging economies nevertheless require attention. The concentration of advanced digital skills in a narrow segment could produce the wage polarisation identified above; the automation of routinised, outsourced tasks could erode traditional development pathways; and the eleven-in-one-hundred workers who need training but may not receive it represent a real domestic challenge. Mitigating these risks calls for: embedding digital and AI competencies throughout general and vocational education; institutionalising continuous reskilling and upskilling; adapting social protection to platform-based employment; and establishing systematic monitoring of AI’s labour market effects. These measures translate the global “stability triad” into national practice.

The analysis supports the following conclusions:

1. Labour market stability in the AI era is determined less by technology than by the quality of human capital and the breadth of digital skills with which AI is combined. AI integration supplies productivity potential; human capital and digital skills determine whether that potential stabilises or destabilises employment.
2. AI predominantly transforms rather than eliminates jobs: only about 3.3 per cent of global employment is at the highest exposure level, while the majority of occupations experience augmentation. Empirical evidence shows AI can raise productivity most for lower-skilled workers, compressing skill differentials when access is broad.
3. The principal threat to stability is the skills gap: 63 per cent of employers regard it as the main barrier to transformation, and roughly 120 million workers globally are at medium-term risk because they need training they may not receive. Anticipatory, large-scale reskilling is the most direct stabilising lever.
4. The three factors function as a triad: stability emerges only when AI integration, digital skills and human capital are aligned; the absence of any one reproduces instability as a skills gap, wage polarisation or structural unemployment.

¹⁴Decree of the President of the Republic of Uzbekistan No. PF-6079 (05.10.2020), “Digital Uzbekistan – 2030” Strategy; Resolution on the AI Development Strategy (14.10.2024). – lex.uz.

5. For Uzbekistan, the demographic dividend and the existing digital-economy strategy create a strong foundation; realising labour market stability requires diffusing digital skills broadly, institutionalising continuous reskilling, and monitoring AI's distributional effects.

In sum, artificial intelligence is best understood not as a threat to the labour market but as a transformation whose outcome is governed by human readiness. Investment in human capital and the broad diffusion of digital skills are the decisive instruments that convert AI integration into stability rather than disruption.

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