ARTIFICIAL INTELLIGENCE AND THE LABOUR MARKET: SKILLS TRANSFORMATION AND RESKILLING IN THE AGE OF AUTOMATION

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Annotation. *This thesis examines how artificial intelligence (AI) is reshaping the labour market, with a focused analysis on the transformation of skill requirements and the increasing need for reskilling and upskilling. Drawing on global research, the paper explores how AI adoption drives demand for hybrid skill sets, particularly in data-centric fields, and challenges traditional education and workforce systems. The thesis highlights opportunities for workforce renewal and emphasizes policy responses and lifelong learning strategies essential for inclusive digital transitions.*

Keywords: *Artificial Intelligence, labour market, reskilling, upskilling, future of work, digital skills, automation, workforce transformation, education policy.*

Thesis. This thesis aims to synthesize recent global insights on how artificial intelligence is reshaping the labour market, with a particular focus on the evolving demand for interdisciplinary skills and its implications for policy, education, and socio-economic equity. By examining the intersection between AI-driven automation, employment patterns, and workforce development, this work contributes to ongoing debates about inclusive and sustainable labour transitions in the digital age.

The rapid advancement of artificial intelligence (AI) is transforming the global labour market in profound ways. AI-driven technologies are automating tasks, optimizing workflows, and redefining the nature of work across sectors such as healthcare, finance, education, and logistics. While these technologies promise efficiency gains, they also disrupt traditional roles, prompting urgent questions about job transitions and the need for new skillsets (McKinsey Global Institute, 2017).

One of the most visible effects of AI is the automation of routine and repetitive tasks. Jobs that rely heavily on predictable patterns are increasingly susceptible to replacement or restructuring. Studies estimate that approximately 14% of current jobs are highly automatable, and another 32% are expected to undergo substantial changes (OECD, 2019). This shift does not necessarily result in mass unemployment but in evolving job content and emerging new roles that require digital fluency and adaptability.

In parallel, AI is generating demand for entirely new categories of employment, particularly in technology-related fields. Roles in data science, AI engineering, and digital product design have surged, requiring a combination of technical knowledge and soft skills like creativity and problem-solving. According to the World Economic Forum (2023), analytical thinking, technology literacy, and active learning are among the top skills projected for the next decade. As a result, both public and private sectors face mounting pressure to invest in upskilling and reskilling programs that can equip workers to thrive in AI-augmented environments.

Recent research highlights a remarkable transformation in the demand for AI-specialized statistical talent. For example, between 2010 and 2022, the number of AI-related statistical job postings in the U.S. increased 31-fold, diversifying into over 900 distinct AI roles (Liu, Chen, & Lyu, 2024). These findings suggest not only an explosive growth in AI integration across traditional disciplines like statistics but also emphasize the urgent need for interdisciplinary education and

skills training. The labour market is rapidly evolving in favour of candidates who combine technical AI skills—such as machine learning, Python, and data analytics—with domain-specific expertise. This shift underlines the importance of continuous adaptation by both individuals and institutions to keep pace with the demands of the AI-driven economy.

The challenge is particularly acute for mid-career professionals and lower-skilled workers, who may lack access to training or be unaware of shifting demands. Governments and institutions must therefore adopt inclusive strategies to ensure equitable access to digital skills development. Lifelong learning initiatives, vocational retraining, and cross-sector partnerships will be essential to reduce the risk of marginalization and to build a resilient, future-ready workforce (Li, Li, & Guo, 2024).

In conclusion, AI is not simply displacing workers but reshaping how and where human talent adds value. The emerging AI economy rewards those who can navigate hybrid domains, apply critical thinking, and continuously update their competencies. As such, reskilling is not just a labour market trend—it is a societal imperative. Policymakers, educators, and employers must coordinate efforts to turn the challenge of automation into an opportunity for inclusive growth.

References

Liu, J., Chen, K., & Lyu, W. (2024). Embracing artificial intelligence in the labour market: The case of statistics. Humanities and Social Sciences Communications, 11(1), Article 1112. https://doi.org/10.1057/s41599-024-03557-6

Li, R., Li, C., & Guo, S. (2024). The impact of artificial intelligence on the labour market: Evidence from China. Amfiteatru Economic, 26(67), 867–883. https://doi.org/10.24818/EA/2024/67/867

McKinsey Global Institute. (2017). Jobs lost, jobs gained: Workforce transitions in a time of automation. McKinsey & Company. https://www.mckinsey.com/featured-insights/future-of-work/jobs-lost-jobs-gained-what-the-future-of-work-will-mean-for-jobs-skills-and-wages

OECD. (2019). OECD employment outlook 2019: The future of work. OECD Publishing. https://doi.org/10.1787/9ee00155-en

World Economic Forum. (2023). The future of jobs report 2023. World Economic Forum. https://www.weforum.org/reports/the-future-of-jobs-report-2023/

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