Vol. 16 (2026): Proceedings of the 2026 International Conference on AI and Technological Innovation Applications (AITIA 2026)
E-ISSN: 3105-0522 P-ISSN: 3105-0514
DOI: https://doi.org/10.70267/aitia.2026390394

The Dual Impact of Artificial Intelligence on Banking Industry Employment: A Literature Review

Zhaofeng Chen*

High School

**Corresponding author: Zhaofeng Chen.*

Abstract

The widespread adoption of artificial intelligence has brought contradictory changes to banking labour markets, triggering extensive academic discussions over worker behaviour, job displacement and market equilibrium. This review sorts out mainstream literature built upon Reinforcement Sensitivity Theory, technological unemployment theory and General Equilibrium Theory, summarising existing arguments about employees' polarised responses to AI, two channels of labour substitution, and wage polarisation across financial sectors. Current literature relies heavily on industrial reports and public bank data to describe surface-level employment shifts, yet obvious research gaps remain. Most studies ignore grassroots employee subjective surveys, lack targeted discussion on low-skill worker reskilling mechanisms, and seldom integrate psychological heterogeneity into macro labour equilibrium models. Few works differentiate temporary employment shocks from lasting structural labour adjustments brought by AI transformation. This paper clarifies insufficient research areas in the current field and puts forward clear directions for follow-up academic exploration, providing a reference for subsequent theoretical and practical research on AI and banking employment.

Keywords

artificial intelligence, banking industry, job displacement, technological unemployment, labour market equilibrium

1. Introduction

For centuries, the biggest asset of any banking corporation has been human labour, but the rapid rise of artificial intelligence in the past decade is a fundamental disruption to the entirety of the financial workforce. Banking is one of the biggest and most important industries in the world. The OECD Employment Outlook 2024 reflects divergent labour market feedback within the financial industry after AI adoption [1]. A large share of financial practitioners acknowledged productivity improvements brought by AI tools, while a small proportion of employees reported witnessing layoffs triggered by intelligent transformation. This illustrates the dual nature of AI, acting as a tool for work optimisation, while also acting as a catalyst for the contraction of the workforce. To investigate this friction, this paper analyses three research objectives. The first is to estimate employment behaviour under AI. Secondly, it aims to evaluate unemployment and job displacement

under AI. Finally, this paper aims to identify the economic equilibrium and labour market impact caused by AI.

2. Literature Review

2.1 Reinforcement Sensitivity Theory

To understand how the use of artificial intelligence affects employment behaviour in banking, one must examine the underlying psychological mechanisms powering worker adaptation. Reinforcement Sensitivity Theory is a neuropsychological model that illustrates personality and behaviour, proposing that individual differences stem from innate, biologically based brain systems that control how people respond to rewards, punishments, and motivational stimuli [2]. The first system is the Behavioural Activation System, which regulates a person's urge for stimuli. Within the banking sector, the integration of AI directly acts as the trigger of their BAS for many employees. Consistent with the divergent feedback mentioned in the introduction, OECD materials indicate that most financial workers achieve higher work efficiency with the help of AI tools [1]. This occurs because AI tools, such as automated fraud-detection systems and machine learning models for credit risk tests, take over repetitive processing tasks. By taking over these tedious operations, AI reduces fatigue for workers and enables them to have higher efficiency. In reference to the Reinforcement Sensitivity Theory, this increase in efficiency acts as an environmental reward. Consequently, AI activates its pre-existing reward-seeking desire, allowing it to become a neurological incentive to enhance performance.

On the other hand, when stimuli within the human brain signal threats or conflicts, it triggers an entirely different biological system within the Reinforcement Sensitivity Theory. In context, when an employee perceives artificial intelligence as a threat to their job, the Fight-Flight-Freeze System is activated. The Fight-Flight-Freeze System is triggered in response to direct threats, such as an employee realising their job is under threat. This realisation drives defensive actions, manifesting in employee burnout, or resignation from corporations. From a psychological perspective, perceived job threats brought by AI may activate the Fight-Flight-Freeze System among frontline bank employees, generating negative occupational emotions such as anxiety and burnout [3]. Meanwhile, a small number of financial employees have witnessed layoffs caused by intelligent transformation, a phenomenon closely linked to the activation of the Fight-Flight-Freeze System [1]. The presence of AI continuously triggers the Fight-Flight-Freeze System as they perceive AI as a career threat rather than a tool.

2.2 Technological Unemployment

Beyond individual behaviours, the expansion of artificial intelligence alters the macroeconomics of the banking industry with what Keynes famously defined as technological unemployment [4]. That is, the phenomenon of unemployment that is driven by the discovery of means of economising the use of labour surpassing the pace at which the economy can find uses for that labour. This is seen through two main mechanisms in the banking industry. The first being the direct technological displacement of routine labour across all banking divisions. Singh et al. illustrated that automated digital systems have compressed recruitment demand for entry-level routine positions in Asian commercial banks [5]. This shifts the labour demand curve for entry-level staff to the left. Since the financial sector, which includes the banking industry, operates under nominal wage stickiness, worker salaries cannot instantly adjust to meet a lower market equilibrium. Therefore, wages remain fixed at the pre-artificial intelligence level. Thus, while a large pool of graduates is willing to provide labour for standard industry salaries, banking firms now heavily reduce their hiring with the help of artificial intelligence to protect profit margins. This creates a massive surplus of unused labour, leading to an increase in involuntary unemployment.

The second mechanism is skill mismatch caused by the elimination of traditional junior support roles while simultaneously opening highly technical senior roles. Citigroup's industry report outlines profound internal workforce restructuring driven by AI transformation [6]. The institution is lowering its dependence on outsourced technical staff and expanding its in-house technical talent team. Intelligent document processing and automated code examination have greatly streamlined traditional manual workflows and liberated substantial human labour resources within the bank. This operational shift perfectly demonstrates the structural skills mismatch at the core of contemporary technological unemployment. Algorithmic intelligent tools greatly

simplify cumbersome manual document processes and save a large amount of repetitive labour, gradually replacing the basic entry-level processing and outsourced posts that once supported daily banking operations. While institutions scale their specialised internal tech talent, the broader labour market experiences a severe structural bottleneck because the displaced clerical staff, contract workers, and junior processors do not possess the advanced software engineering, data architecture, or machine learning skills required for these newly opened technical roles. Since human capital is fundamentally non-homogeneous and cannot instantly adapt to shifting corporate needs, these displaced workers are left unemployed, as concluded by Afrin et al. [7].

2.3 General Equilibrium Theory

General Equilibrium Theory provides a macroeconomic framework that is needed to analyse how a productivity boom driven by AI creates a ripple effect that changes wages and job demand across the entire economy, as established by Mas-Colell [8]. According to General Equilibrium Theory, when banks use AI to cut operational costs and maximise efficiency, it alters the entire labour market by permanently reducing the demand for routine workers while driving up the value of senior professionals with specialized tech, data, and risk-management skills. The World Economic Forum predicts a sustained shrinking trend for traditional clerical positions over the next decade, alongside rising market demand for AI-related professional talents in banking [9]. This structural shift in talent demand can also be observed at large multinational financial institutions such as JPMorgan Chase, which has significantly expanded its internal artificial intelligence and data science teams and increased corresponding technology investment year by year. In a general equilibrium model, all markets are linked together like a web, meaning a massive change in one area forces adjustments in every other area. When banks use AI, they become highly profitable, which subsequently lowers the cost of financial services for the rest of the economy. However, because human labour cannot instantly move from one skill level to another, the market compensates through a process called wage polarisation. Since the supply of displaced routine workers is suddenly too high for the low demand, their relative wages and economic leverage decline across the workforce, while intense corporate competition drives up salaries for the highly limited supply of people who are experienced in artificial intelligence, as discussed by Acemoglu and Restrepo [10].

3. Consensus in Existing Literature

At the individual level, artificial intelligence creates a divide between banking professionals, explained by Reinforcement Sensitivity Theory [2]. For most banking employees, automated repetitive work brought by AI generates positive work incentives. This automation eliminates fatigue from routine tasks and enhances efficiency. On the contrary, some frontline employees view AI as a threat to career development, which easily triggers negative outcomes such as job burnout or resignation, consistent with the psychological response rules of FFFS proposed by Boustani [3]. The rise of artificial intelligence causes many entry-level jobs to be taken away, shrinking the entry-level banking market. Such contraction of entry-level recruitment can be observed widely in the modern financial industry [5]. Since the financial sector operates under sticky wages, banks cannot instantly adjust wages, leading to a surplus of unused labour, matching Keynes's definition of technological unemployment [4]. The general equilibrium effect of AI shifts the entire economy. Traditional clerical posts will continue to shrink in scale in the next ten years under the influence of AI transformation [9], and the market will shift entirely toward specialized talent. This is a structural realignment that greatly decreases the bargaining power of routine workers, while simultaneously driving up salaries for professionals, forming obvious wage polarization as discussed in general equilibrium studies [10]. All current papers reach a unified consensus on the dual-sided impact of AI, yet few scholars dig into the weak links and blank areas of existing research systems.

4. Discussion

4.1 Identified Research Gaps in the Current Field

First, existing research relies excessively on enterprise public reports and international institutional macro statistics, lacking first-hand survey data collected from frontline banking employees. Most existing datasets derive from corporate public reports and official macro statistics; such materials tend to downplay layoff risks

and employees' psychological pressure caused by AI substitution [7]. There is little literature combining questionnaires and long-term tracking interviews to reflect real individual career losses and psychological trauma after displacement. Second, there is insufficient integration of micro-psychological mechanisms and macro labour market models. Economic analyses built on General Equilibrium and technological unemployment theories assume free labour flow and ignore emotional stress, burnout and career fear summarised by Reinforcement Sensitivity Theory [2]. No mature comprehensive framework can connect individual psychological differentiation to industrial wage polarization and structural unemployment. Third, research on solutions to skill mismatch remains superficial. Existing papers only describe the emergence of skill gaps after AI transformation, but rarely quantify the effectiveness of reskilling training for displaced low-skill staff, nor compare targeted training plans suitable for different types of banking grassroots workers.

Fourth, few studies discuss the long-term dynamic evolution of labour friction. Most analysis captures static employment status at a single time point, without tracking how labour supply-demand balance changes as AI technology iterates and worker skill levels improve over decades.

4.2 Directions for Future Research

Corresponding to the above research gaps, this review puts forward four clear directions for follow-up studies. First, future research can combine standardised employee questionnaires and semi-structured interviews to collect grassroots-level microdata. Compared with one-sided corporate reports, multi-source individual survey data can objectively reflect the real unemployment risks and psychological conditions of banking practitioners affected by AI substitution. Second, scholars can construct integrated theoretical frameworks that combine Reinforcement Sensitivity Theory with macro labour equilibrium models. By embedding worker psychological heterogeneity into general equilibrium analysis, subsequent research can better explain why wage polarization and labour friction coexist after large-scale AI application. Third, targeted quantitative research on worker reskilling schemes can be carried out. Future papers may measure how training cycle, course content and enterprise subsidy policies improve the re-employment rate of displaced clerical and junior banking staff, forming operable policy suggestions for financial regulators and banking institutions. Fourth, long-term dynamic tracking research should be launched. Follow-up studies can build multi-period labour market observation frameworks to describe the changing trend of technological unemployment and wage polarization as AI functions upgrade and industrial talent training systems mature.

5. Conclusion

This paper aimed to research how artificial intelligence shapes the banking industry. The industry is experiencing a permanent structural shift rather than an adjustment. The core issue is the rate of change. The integration of artificial intelligence happens faster than workers can adapt, as they require years to relearn a trade or recover from career disruption. This means the labour market is in a constant state of friction. Banks are financially more successful by using artificial intelligence, but this success creates a workforce where traditional routine workers lose their value. After sorting out existing literature, this review identifies four prominent research blank areas in current academic research, including single data sources, separated micro-macro theoretical systems, insufficient discussion of reskilling solutions and lack of dynamic long-term analysis. The research gaps and corresponding future research directions summarised in this paper can provide clear clues for subsequent literature exploring the balanced development of banking intelligent transformation and stable labour markets.

References

[1] OECD. (2024). OECD employment outlook 2024: The net-zero transition and the labour market. OECD Publishing. https://doi.org/10.1787/ac8b3538-en

[2] Corr, P. J. (2004). Reinforcement sensitivity theory and personality. Neuroscience & Biobehavioral Reviews, 28(3), 317–332. https://doi.org/10.1016/j.neubiorev.2004.01.005

[3] Boustani, N. M. (2022). Artificial intelligence impact on banks clients and employees in an Asian developing country. Journal of Asia Business Studies, 16(2), 267–278. https://doi.org/10.1108/JABS-09-2020-0376

[4] Keynes, J. M. (1930). Economic possibilities for our grandchildren. Macmillan Press.

[5] Singh, A., Kaur, A., Kumar, P., & Kumar, V. H. (2025). AI-driven disruption in finance: Redefining work roles and economic opportunities in the banking system. Journal of Information and Optimization Sciences, 46(8), 2477–2486. https://doi.org/10.47974/JIOS-2062

[6] Citigroup. (2024, June 17). AI in finance: Bot, bank & beyond. Citi Global Insights. https://www.citigroup.com/global/insights/ai-in-finance

[7] Afrin, S., Roksana, S., & Akram, R. (2025). AI-enhanced robotic process automation: A review of intelligent automation innovations. IEEE Access, 13, 173–197. https://doi.org/10.1109/ACCESS.2024.3513279

[8] Mas-Colell, A. (1985). The theory of general economic equilibrium. Cambridge University Press. https://doi.org/10.1017/ccol0521265142

[9] World Economic Forum. (2025). The future of jobs report 2025. https://www.weforum.org/reports/the-future-of-jobs-report-2025

[10] Acemoglu, D., & Restrepo, P. (2019). Automation and new tasks: How technology displaces and reinstates labor. Journal of Economic Perspectives, 33(2), 3–30. https://doi.org/10.1257/jep.33.2.3

Funding

This research received no external funding.

Conflicts of Interest

The authors declare no conflict of interest.

Acknowledgment

This paper is an output of the science project.

Open Access