



ARTIFICIAL INTELLIGENCE AND WOMEN WORKERS: A SOCIOLOGICAL ANALYSIS OF EMPLOYMENT OPPORTUNITIES AND JOB DISPLACEMENT

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Abstract

Artificial intelligence (AI), especially generative AI (GenAI), is reshaping labour markets through task automation, augmentation, and the creation of new roles. This article offers a critical sociological analysis of how these changes differentially affect women workers. Drawing on recent evidence from the International Labour Organization (ILO), the OECD, UNESCO, and the World Economic Forum (WEF), we show that women face higher exposure to task automation because they are overrepresented in administrative and clerical occupations, while also encountering structural barriers to entering higher growth AI-adjacent fields. We synthesize findings on algorithmic bias in hiring and promotion and map these dynamics onto feminist labour theories, intersectionality, and care-economy perspectives. The article closes with a policy and practice agenda centered on rights-based guardrails, gender-responsive upskilling, transparency and audits for AI systems, worker voice in technology adoption, and metrics that make gendered impacts visible.

Keywords: *Artificial Intelligence, Women Workers, Employment Opportunities, Job Displacement, Gender Inequality, Occupational Segregation*

Introduction

AI's diffusion across sectors has reanimated longstanding sociological concerns about technological change, gender stratification, and the social organization of work. While early automation debates often emphasized displacement in routine manual occupations, GenAI's capacity to handle cognitive, linguistic, and clerical tasks shifts the locus of impact toward office-based work, where women are disproportionately employed. Recent global analyses suggest women's jobs are more likely to experience task substitution or redesign, particularly in high-income settings, even as many roles are expected to be transformed rather than eliminated.

This article examines three intertwined dynamics:

1. Gendered exposure to AI-driven task change;
2. Barriers and enablers for women's participation in AI-complementary, higher-wage roles; and
3. Algorithmic governance issues, especially bias in AI-enabled hiring and evaluation systems.

2. Literature Review: What the Latest Evidence Shows

2.1 Gendered exposure to GenAI

New ILO analyses find that a substantial share of jobs will be transformed by GenAI rather than wholly automated, but the distribution of risks and benefits is uneven. Clerical and administrative tasks, where women are overrepresented, are among the most exposed to automation and redesign. Several 2025 ILO briefs emphasize that this exposure is nearly three times higher for women's roles in some contexts, with the highest risks concentrated in high-income countries.

2.2 Pipeline and skills gaps

The OECD and WEF document persistent gender gaps in digital, data, and AI skills, as well as in access to leadership roles in tech-intensive sectors trends that constrain women's mobility into newly created AI-complementary roles. WEF's recent Gender Gap assessments show stalling progress in women's leadership hiring since 2022, complicating upward mobility pathways precisely when AI is revaluing advanced analytical skills.

2.3 Algorithmic bias in hiring and evaluation

Audits and research syntheses highlight significant risks of algorithmic discrimination in AI-enabled recruitment and evaluation ranging from gender stereotyping in large language models (LLMs) to biased ranking of CVs. Recent studies and policy briefs (UNESCO/IRCAI; Brookings; *Nature*) report that LLMs frequently associate women with domestic roles and men with leadership or technical roles, potentially skewing decisions in AI-mediated talent pipelines.

3. Theoretical Framework

3.1 Feminist political economy of technology

From a feminist labour perspective, technologies are not neutral: they are developed, deployed, and governed within existing power relations. When AI tools substitute for routine clerical tasks (often feminized labour) but complement advanced technical tasks (male-dominated), returns to skill may become more unequal unless institutions actively counteract segregation.

3.2 Intersectionality

Exposure to displacement and access to new opportunities vary by class, race/ethnicity, migration status, and care giving responsibilities. Algorithmic bias can compound these inequalities, as LLM-based screening has shown complex, intersectional patterns of favoritism or disadvantage across gender and race.

3.3 The care economy lens

Women's disproportionate unpaid care work intersects with re-skilling opportunities and mobility. Without supportive social policy (childcare, flexible training), women may be less able to pivot into AI-complementary

roles or sustain transitions during periods of technological change. Global education and skills data show uneven access to ICT and advanced STEM pathways, underscoring the importance of pipeline reforms.

4. Methods (for an empirical study)

To critically assess AI's impact on women workers, a mixed-methods design is recommended:

- **Task-level exposure mapping:** Apply the ILO occupational exposure framework to national labour force micro data to estimate gender-differentiated exposure by occupation/industry.
- **Longitudinal worker survey:** Track transitions (displacement, pay changes, task recomposition) over 12–18 months, with oversamples of clerical/admin, customer support, finance, health documentation, and education support workers.
- **Firm-level case studies:** Study AI adoption in contrasting settings (public sector, services, BPO, healthcare administration), including HR analytics and governance practices.
- **Algorithmic audits:** Evaluate AI hiring/screening tools with synthetic and real CVs to measure disparate impacts by gender and intersecting attributes (race/caste, parental status, career breaks).
- **Policy/environment scan:** Map regulatory and standards contexts (e.g., audit mandates, transparency requirements) that shape differential outcomes.

5. Findings (synthesized from current evidence)

- **Transformation over elimination, yet uneven:** The modal effect of GenAI is task augmentation/substitution, not outright job loss, but women face higher exposure because of occupational segregation. The most affected families of tasks are routine writing, transcription, scheduling, and document processing.
- **Leadership and STEM gaps constrain mobility:** Women's slower advancement into leadership and AI-intensive roles depresses the complementarity premium from AI (i.e., wage gains when tech enhances productivity), entrenching pay and promotion gaps unless corrected by targeted interventions.
- **Bias in AI-mediated decisions:** Audits show LLMs can encode and reproduce gender stereotypes in hiring contexts, risking discriminatory short listing or ranking unless models are constrained and systems audited. Evidence from UNESCO/IRCAI and Brookings highlights recurring associations of women with domesticity and men with career/leadership.
- **Policy maturity lags deployment:** Only a few jurisdictions have comprehensive audit or impact assessment mandates for automated hiring, leaving many workers without redress or transparency regarding AI decisions.

6. Discussion: A Critical Sociological Reading

Technological change reproduces social structures unless deliberate countermeasures are taken. GenAI's skill-biased nature can widen gender inequalities via three channels:

- (a) task substitution in feminized occupations;

(b) barriers to entering AI-complementary roles due to skills, networks, credentialing, and care giving constraints; and

(c) algorithmic governance failures in HR technologies that render inequality less visible yet more scalable.

However, AI also presents opportunities: productivity tools can reduce drudgery, flexible digital work can expand access, and new roles in data stewardship, AI safety, and human-in-the-loop quality assurance may align with skill sets commonly held by women if training, hiring, and workplace design are intentional and inclusive. A rights-based approach anchored in fairness, explainability, and worker participation can shift trajectories from displacement to dignified transformation.

7. Policy and Practice Agenda

- Targeted, paid upskilling and recognition of prior learning for women in high-exposure roles (clerical/admin, back-office services), with pathways to data, compliance, and AI-operations roles; integrate flexible, modular training aligned with care giving realities.
- Mandatory algorithmic impact assessments and independent audits for AI used in hiring, promotion, scheduling, and pay decisions; require robust documentation, bias testing, and human-in-the-loop review.
- Transparency and contestability rights for workers: clear notices when AI is used, accessible appeal mechanisms, and logging for post-hoc review.
- Anti-segregation labour market policies: scholarships/bridges into STEM and data roles; incentives for employers who demonstrate gender-equitable transitions (e.g., internal mobility programs from admin to AI-ops).
- Care infrastructure and flexible work to enable participation in training and AI-complementary jobs, recognizing the care-work burden.
- Worker voice and collective bargaining on tech adoption, workload, surveillance, and job redesign to avoid intensification and preserve autonomy and pay equity.
- Leadership parity goals tied to AI-era growth occupations; transparent reporting on gendered outcomes of AI deployment (hiring rates, promotion, pay).

8. Conclusion

AI is reconfiguring work faster than institutions are adapting. The empirical record indicates that women's jobs, especially in clerical and administrative families, face disproportionately high exposure to GenAI-driven task change. At the same time, women remain underrepresented in the most AI-complementary, higher-wage roles, and AI-enabled HR systems can encode bias without deliberate governance. A critical sociological approach underscores that these are not inevitable outcomes of technology, but choices about training investments, regulatory design, workplace practices, and whose voices matter in shaping the future of work. A gender-responsive strategy can turn AI from a vector of displacement into an engine of inclusion and better-quality work.

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