Original Research Article

Employee Perceptions of Artificial Intelligence on Job Security, Skill Development, and Workplace Dynamics

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ABSTRACT

As artificial intelligence (AI) adoption increases across a diverse network of industries, concerns regarding job security, skill development, and workplace dynamics have intensified, especially in roles that rely on human skills such as judgment, communication, and creativity. This study examines how employees across multiple industries perceive the impact of AI on their work, with a focus on AI usage frequency, perceived job security, and AI literacy. Having surveyed 153 employed participants from a variety of professional backgrounds, this research analyzes patterns of AI adoption and perceptions of task automation rather than full job replacement. Findings indicate a polarized workforce, as a substantial portion of respondents rarely use AI, while a similarly large group relies on it daily or considers it necessary for their role. Average AI literacy was moderate, and perceived job security remained cautiously optimistic. Respondents reported that AI is being used primarily to automate routine tasks and augment human work rather than replace entire jobs, which is consistent with existing academic dialogue. These findings suggest that AI's short-term impact is better understood as augmentation on the task level, with implications for workforce training, role redesign, and the long-term security of human-centric professions (professions that rely on factors unaffected by AI).

Keywords: Artificial intelligence; job security; skill development; workplace dynamics; workforce; labor market

INTRODUCTION

Artificial intelligence (AI) has rapidly transitioned from a specialized technological tool to a widely accessible workplace resource. Generative AI is becoming increasingly embedded in everyday work procedures, as it can help with tasks such as document drafting, data analysis, scheduling, and customer support. This expansion is fueling concern about the future of employment, particularly regarding whether AI will displace workers or reshape how work is performed. Much of the existing discourse focuses on the threat of AI at the occupation level (1-6). However, emerging research suggests that AI's effects are uneven and task-specific, with significant variation across industries and roles (4, 7). Positions that rely heavily on routine cognitive tasks appear more exposed to automation, while roles that require critical thinking, interpersonal interaction, and contextual judgment (human-centric tasks) are more likely to experience AI as a complementary tool.

This study builds on that distinction by examining how workers perceive the role of AI in their jobs. This research focuses on current employee experiences: how frequently AI is used, how confident workers feel in using AI tools, and whether they believe AI threatens

or enhances their job security. By centering employee perceptions across a variety of industries, this study aims to contribute detailed evidence on the micro level to ongoing discussions about AI, work configuration, and human-centric labor moving forward.

While prior studies have examined AI's macro-economic and occupational effects, this study contributes a micro-level perspective by focusing specifically on employee perceptions of AI adoption across industries. Unlike institutional reports that rely primarily on task mapping or employer projections, this research analyzes how workers themselves interpret AI's role in their daily tasks, job security, and required skill sets. By focusing on perception-based evidence, this study provides insight into how AI is experienced in practice rather than how it is modeled in theory. Future analyses may further explore subgroup differences by industry, years of experience, and frequency of AI usage.

LITERATURE REVIEW

Rather than presenting these reports independently, the literature converges on several core debates: whether AI primarily displaces or augments labor, how task composition is associated with risk, and whether reskilling can offset disparities. While institutional studies generally emphasize task-level augmentation, unresolved questions remain regarding how workers themselves experience these changes and whether perceptions differ across industries and experience levels.

Implications of AI Adoption on Employment

The IMF states that around two-fifths of the world's employment is exposed to generative AI, and that exposure is more than half of all of the jobs in advanced economies. The distribution splits between displacement risk in menial tasks and augmentation in work that requires higher skills and critical thinking (1). Complementing that, the ILO's index traces which occupations' core tasks align with current model capabilities and marks meaningful exposure in clerical, back-office and some professional services, while underscoring that institutions, complement investments, and job design mediate outcomes (2). OECD's Employment Outlook also finds no associated collapse in labor demand; rather, it finds that there is early displacement concentrated in routine cognitive tasks, offset by expanding demand for roles that orchestrate or apply AI, with differences across countries and industries depending on the level of adoption and

regulation of AI (3). The World Economic Forum's employer survey states that a quarter of roles should be expected to change materially within five years, and most reductions will be clustered in clerical functions and most additions in AI, data, and roles in transitioning to environmentally friendly practices. This signals churn more than an employment apocalypse (5). Thus, the short term employment picture is about reconfiguration and restructuring rather than replacement, and there are massive differences across industries and tasks.

Implications for Performance

Field and lab evidence converges on great productivity gains from generative AI tools while revealing distributional wrinkles that matter for job security. In a randomized field experiment in a large call-center, giving agents access to a customized assistant raised productivity particularly among lower-tenure workers and streamlined knowledge diffusion from top employees, indicating that augmentation can narrow performance gaps and reduce separation risk for the less experienced. In a university-level randomized study of knowledge-work tasks, using a general-purpose AI boosted the quantity and quality of output and reduced performance dispersion, indicating that AI can equalize skills inside firms (5). The AI Index documents a sharp rise in job postings that demand skills in AI and generative AI across sectors in 2023-2024, but the absolute share remains small, which signals complementary demand rather than substitutionary demand (6).

AI and Workforce Skilling

Regarding skill development, all of the sources stressed upskilling and reskilling and focused on the widening premium on human-machine teaming. OECD's skills chapter and the WEF employer survey both point to fast-turnover demand for data literacy, prompt creating skills, and critical reasoning, alongside softer skills like communication and leadership that become more valuable as routine tasks like drafting and summarization get automated (3, 5). The AI Index's labor demand series shows generative-AI skills tripling every year in postings in the United States in 2024, reinforcing that "knowing how to use the tools" is rapidly becoming a baseline requirement across many roles, even non-technology ones (6). Both the call-center field trial and the controlled university experiments find the largest productivity gains with AI among lower-baseline performers, suggesting that targeted training and AI usage can reduce performance gaps and protect employability (5).

The Role of AI in the Workplace

Workplace dynamics are already shifting. Managers' report the increasing ability to reallocate time from first-draft production to review, obstacle handling, and client interaction (4). OECD's job-quality chapter cautions that poorly governed deployments can increase work intensity and erode autonomy or privacy, while controlled and better designed systems reduce drudgery and improve ergonomics (3). The study published in the NBER indicates implicit knowledge acquisition by AI that subtly flattens hierarchies within a work team: junior agents are able to catch up faster because the system embeds senior agents' moves, changing mentoring patterns and potentially career ladders (7).

As a whole, the papers reviewed for this study generally agree on one line. First, generative AI is best understood as a broad, uneven shock at the task level: job security correlates with whether one's daily bundle is predominantly substitutable cognition versus critical thinking, interpersonal, or physical tasks, and with how firms choose to design and redesign roles. Second, skills are moving targets, as complementary human capabilities and operator proficiency with AI tools are dispersing across the market quickly and can be taught easily, with credible evidence that training combined with access yields immense gains for lower-performance employees. Third, workplace dynamics are re-balancing from production toward supervision, exception handling, and client interface, with high stakes for autonomy, intensity, and equity that depend on how managers govern the needs of their workers. The IMF's exposure maps, ILO's task-level index, and OECD/WEF employer views set the macro frame, the AI Index traces the market signals on skills, and the two studies reveal what happens to productivity and teams' behavior when AI meets office work. Together, they form a nuanced opinion: in the short term, augmentation generally dominates displacement, but the distribution of tasks and training will determine which professions will be secure, which need to reskill, and how workplaces evolve moving forward (1-7).

Methodological Trends in AI Research

The studies on AI's workforce impact employ diverse methods. Institutional research by the ILO, IMF, OECD, WEF, and Stanford HAI relied on large-scale surveys, occupational task mapping, descriptive statistics, and macroeconomic modelling to assess exposure and job security risks (1-6). The BIS study uses simulation modelling of U.S. occupations to project future inequality and skill impacts. At the micro level, a team published in the NBER conducted a field experiment with thousands of customer service agents. Broad institutional reports establish the scale of potential disruption, showing how automation and augmentation vary across industries, regions, and job types (4, 7).

Simulation modelling adds nuance by project distributional effects, highlighting risks of inequality and skill polarization. Field and lab experiments provide causal evidence of how AI tools reshape productivity, skill use, and workplace dynamics in practice. Broad institutional reports establish the scale of potential disruption, showing how automation and augmentation vary across industries, regions, and job types. Simulation modelling adds nuance by project distributional effects, highlighting risks of inequality and skill polarization. Field and lab experiments provide causal evidence of how AI tools reshape productivity, skill use, and workplace dynamics in practice.

From global assessments to individual-level experiments, the research fits together as a study on AI's impact on work. Together, the reviewed studies demonstrate that AI brings efficiency and new skill demands while raising concerns about job security and inequality. This study will examine whether this holds true in human-centric industries.

METHODS AND MATERIALS

Study Design and Participants

This study employed a cross-sectional, anonymous online survey to examine employee perceptions of artificial intelligence (AI) adoption and its impact on work. A total of 153 participants (N = 153) completed the survey using a convenience sampling approach drawn from the author's personal and extended professional networks. No identifying information was collected at any stage of data collection.

Eligibility criteria required participants to be currently employed and to have recent experience with AI tools in their workplace. Respondents were instructed to answer all questions based on their current role and present exposure to AI technologies.

Survey Instrument

The survey consisted of a combination of categorical items, Likert-scale response items, and open-ended questions designed to capture both quantitative trends and qualitative insights related to AI adoption and workplace impact. Survey items assessed industry and job role, frequency of AI use (ranging from "never" to

"necessary for work"), years of professional experience, perceived job security related to AI (rated on a 0–10 scale), self-reported AI literacy (rated on a 0–10 scale), and perceptions of AI's impact on work. Open-ended questions invited respondents to describe perceived benefits and concerns associated with AI use in their workplace.

AI literacy was defined as respondents' self-assessed ability to understand and effectively use AI tools in their work environment, with higher scores indicating greater familiarity and confidence. Job security was defined as perceived stability of one's current role in the context of AI adoption, including concerns related to task displacement and long-term relevance of skills. Human-centric professions were defined as roles that rely heavily on interpersonal interaction, contextual judgment, creativity, and ethical decision-making and are not readily automated by current AI systems.

Procedure and Ethical Considerations

Participants completed the survey online at their own pace using Google Forms. Survey responses were automatically exported into Google Sheets for data management and analysis. No financial or non-financial incentives were provided for participation.

This study involved human participants and was conducted anonymously. The research was determined to be exempt from Institutional Review Board (IRB) review, as it involved minimal risk and did not collect personally identifiable information. Participation was voluntary, and informed consent was obtained electronically prior to survey completion. All responses were de-identified at the point of collection and stored securely without personal identifiers to ensure confidentiality.

Data Collection and Analysis

Primary data for this study were collected exclusively through a self-reported online survey. Participants were recruited via convenience sampling through personal and extended professional networks. Although efforts were made to reach individuals employed in human-centric fields such as law, human resources, business, and finance, participation ultimately depended on voluntary response.

The study did not include objective productivity trials, experimental manipulation, or observational measures. Respondents were asked to reflect on their experiences with AI tools in their workplace, including perceived changes in efficiency, task allocation, and job security. Accordingly, the findings represent subjective perceptions rather than direct measures of performance or productivity.

A total of 153 valid survey responses were analyzed. Participants represented a range of industries and job roles; however, the sample is not intended to be representative of the broader workforce. Quantitative data were summarized using descriptive statistics. Open-ended responses were analyzed using thematic analysis. Responses were reviewed manually by the author and coded into recurring themes related to automation, productivity, job security, and ethical considerations. Data organization and categorization were performed using Google Sheets.

Use of AI Tools

Table 1 reveals a strongly divided workforce, as a large fraction rarely or never uses AI (42%) and a similarly large fraction deems it necessary for work or relies on it on a daily basis (38%). This is consistent with recent findings from organizations such as the IMF and OECD, which describe rapid AI adoption in some roles but lag in others (1, 3).

AI Literacy and Job Security

Table 2 gathered that average AI literacy is moderate, which indicates that there is room for structured workplace training. Job security is rated slightly above the midpoint, which suggests cautious optimism.

Table 1. *Distribution of participant responses regarding frequency of artificial intelligence (AI) use in the workplace (n = 153). Values are reported as counts and percentages.*

Frequency	Count	Percentage
Never	27	18.0%
Rarely	37	24.0%
Monthly	5	3.0%
Weekly	26	17.0%
Daily	27	18.0%
Necessary for Work	31	20.0%

Table 2. *Mean, median, and standard deviation of self-reported AI literacy and perceived job security measured on a 0-10 scale (n = 153).*

Variable	Mean	Median	Standard Deviation (SD)
AI Literacy	5.45	6	2.59
Job Security	6.72	7	2.72

Perceived AI Impact on Work

Of respondents, 41.5% reported that AI is not used in their line of work, while the remaining 58.5% reported that AI is frequently being used in their line of work. 28.6% are certain AI is automating some of their daily tasks, while another 22.7% are unsure, while the remaining 48.7% are sure that AI is not automating any of their daily tasks. Only 9.7% reported that their role could be fully replaced by AI within 5 years. The most frequently reported automated tasks included email drafting, data extraction, overview, and scheduling. Open-ended responses were analyzed thematically, revealing consistent emphasis on task-level augmentation rather than job replacement.

RESULTS

Use of AI Tools

As shown in Table 1, respondents exhibited a polarized pattern of AI usage in the workplace. A substantial proportion of participants reported rarely or never using AI tools (42%), while a comparably large group indicated that AI was either used daily or considered necessary for their work (38%). This bimodal distribution suggests uneven adoption of AI across roles and industries, reflecting differential exposure and task relevance. Such variation is consistent with prior institutional findings indicating rapid AI uptake in certain occupations alongside limited adoption in others.

AI Literacy and Job Security

Descriptive statistics for self-reported AI literacy and perceived job security are presented in Table 2. Overall, respondents reported moderate levels of AI literacy, indicating a general familiarity with AI tools but also suggesting potential benefits from structured training and skill development initiatives. Perceived job security scores were slightly above the midpoint of the scale, reflecting cautious optimism regarding employment stability in the context of increasing AI adoption.

Perceived Impact of AI on Work

When asked about the presence and impact of AI in their roles, 41.5% of respondents reported that AI was not currently used in their line of work, whereas 58.5% indicated that AI was frequently used in their workplace. Regarding task automation, 28.6% of participants reported that AI was automating some of their daily tasks, while 22.7% were uncertain. Nearly half of respondents (48.7%) reported no task-level automation.

Only a small proportion (9.7%) believed that their role could be fully replaced by AI within the next five years.

Tasks most frequently identified as being automated included email drafting, data extraction, summarization, and scheduling. Thematic analysis of open-ended responses revealed a consistent emphasis on task-level augmentation rather than full job replacement, suggesting that AI is primarily perceived as a supportive tool that enhances efficiency rather than as a substitute for human labor.

DISCUSSION

The findings of this study align closely with existing research on AI and employment. Consistent with assessments by the International Monetary Fund and the Organisation for Economic Co-operation and Development, respondents reported that AI was applied selectively to routine cognitive tasks, while higher-level responsibilities—such as decision-making, interpersonal communication, and oversight—remained predominantly human-centric (1, 3). This supports the view that AI's impact is more accurately understood at the task level rather than the occupational level.

It is important to note that the findings reflect subjective perceptions of AI's impact rather than objective measures of productivity, automation, or labor displacement. Conclusions should therefore be interpreted as reflecting how workers experience and interpret AI in their roles, rather than as direct indicators of labor-market outcomes.

Participant demographics were based primarily on years of professional experience and current industry. A majority of respondents (61.1%) reported more than 10 years of professional experience, while only 18.2% reported fewer than three years. Approximately 270 individuals were invited to participate, of whom 153 completed the survey, yielding a response rate of approximately 57%. These characteristics provide important context for assessing representativeness and potential non-response bias.

Participants represented a range of industries, including education (23.4%), healthcare (14.3%), professional, scientific, and technical services (11%), and finance (8.4%). Industries such as real estate, retail, and information marketing were underrepresented, which may limit the generalizability of findings, particularly for roles with lower levels of human-centric activity.

Consistent with findings reported by Brynjolfsson, Li, and Raymond (2023), respondents with lower AI

familiarity frequently described AI as a productivity aid rather than a threat, suggesting that AI may help reduce performance disparities when paired with basic training (7). The moderate average AI literacy observed in this sample further reinforces calls from the OECD and the World Economic Forum for structured reskilling initiatives focused on effective human–AI collaboration (3, 5).

Importantly, perceptions of job security varied across roles and industries. Workers in more routine or standardized positions expressed greater concern about displacement, whereas those in human-centric roles reported higher perceived stability. These findings underscore the importance of job design and task composition as central determinants of AI's labor-market effects and support policy approaches that emphasize task reconfiguration rather than wholesale job replacement.

CONCLUSION

This study finds that AI is already reshaping work through selective task automation and augmentation rather than widespread job displacement as previously assumed. Employee perceptions suggest cautious optimism, as while AI is not universally adopted, those who rely on it often view it as essential rather than threatening. These findings reinforce existing literature that highlights AI's uneven and task-specific effects and the growing necessity for AI literacy in the workplace.

For human centric professions, AI appears more likely to complement labor rather than replace it, provided that organizations and companies invest in training and role redesign. Future research should expand on this work using larger, more representative samples and objective productivity measures to assess how AI adoption shapes long-term job security and career trajectories.

The most important limitation to acknowledge is the relatively small sample size and the rapidly changing nature of AI and its use in the workplace, possibly rendering responses at the time less useful. The nature of the participants being selected by non-probability sampling limits the generalizability of the results. There is also possible self-selection bias as there was no incentive offered, leading to results that may not possibly reflect the general population. Additionally, self-reported measures may not be entirely accurate due to personal bias rather than objectivity or at least the perspective of another observer. Another limitation is the underrepresentation of some industries, as the nature of how the survey was conducted led to clusters of responses from certain industries and not many if any responses from other industries.

CONFLICT OF INTEREST

The author declares that there are no conflicts of interests related to this work.

APPENDIX A

Complete Survey Instrument
file:///Users/jeraldjudecampana/Downloads/AI%20 in%20the%20Workforce%20Survey%20(Responses)/ Form%20Responses%201.html

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