Supplementary material

UNDERSTANDING EMPLOYEE ATTITUDES TOWARD ARTIFICIAL INTELLIGENCE IN THE WORKPLACE: A SYSTEMATIC REVIEW OF ATTITUDE DEFINITIONS AND MEASUREMENTS

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Systematic Review Protocol

Background and rationale

The 4th Industrial Revolution, which is currently unfolding, is characterized by the ongoing integration of advanced technologies into the physical and biological domains, particularly through the Internet of Things (Navarro et al., 2023) with Artificial Intelligence (AI) serving as its core technological enabler (Darko et al., 2020). Some authors have already begun to examine the emergence of the 5th Industrial Revolution, which is seen as a continuation of the 4th one, promoting a more equitable and sustainable society through synergistic human-machine interaction (Coelho et al., 2022).

The increasing adoption of AI technologies within organizations is both evident and accelerating (Bankins et al., 2023), with applications spanning science, the economy and business, and expected to extend across companies of all sizes and geographic locations in the near future (Łukasik-Stachowiak, 2023). These ongoing transformations present organizations with new and unprecedented challenges, within which employee attitudes towards AI are becoming increasingly relevant (Bankins et al., 2023; Cao et al., 2021; Gerlich, 2023; Kelly et al., 2023; Schepman & Rodway, 2020). Although empirical studies on this issue are becoming more frequent, there is a lack of conceptual clarity and measurement consistency in the literature.

This systematic review emerged from the author's doctoral research, which focuses specifically on employee attitudes toward AI technologies in the workplace. During the early stages of the doctoral project, it became evident that the existing body of literature in this area is fragmented and lacks a consolidated overview. Moreover, much of the existing research approaches AI adoption primarily from technical, operational, or managerial perspectives, often overlooking the fact that attitudes are fundamentally a psychological construct, rooted in cognition, emotion, and behavioral intentions. By foregrounding the human-centered dimension, this review positions attitudes not merely as variables to be measured in the context of system performance, but as complex, multifaceted reflections of employees' experiences, perceptions, and readiness for technological change. This is particularly critical in the case of AI, which, unlike conventional IT tools, can evoke deeper cognitive, emotional, and ethical responses due to its perceived autonomy, decision-making capabilities, and potential impact on professional identity.

This review aims to encourage future research to integrate psychological theory and methods more systematically, ensuring that AI implementation strategies account for the human factors that ultimately determine their success or failure. Accordingly, it systematically maps and defines how employee attitudes are conceptualized and measured in empirical research. The resulting synthesis is intended both to inform the author's future empirical work and to serve as a reference point for other researchers working in this rapidly developing and psychologically relevant field.

Eligibility criteria

Studies published from 2010 onwards will be included to reflect contemporary developments in artificial intelligence and its increasing integration into organizational contexts, aligned with the approximate onset of the 4th Industrial Revolution. Publications prior to 2010 will be excluded, as they are less likely to capture the technological, social, and organizational transformations associated with current AI adoption trends.

Given the novelty of the topic and the still-emerging state of research on employee attitudes toward AI in the workplace, this review will include all empirical study designs (qualitative, quantitative, and mixed methods, experimental, cross-sectional studies, etc.). This inclusive approach is chosen to ensure that the synthesis captures the full breadth of available evidence and methodological perspectives, rather than limiting the analysis to a single research method.

In light of the topic's recency, particular effort will be made, both in developing the search strategy and during the initial screening, to adopt broad inclusion parameters so as not to overlook potentially relevant and informative studies. This will ensure the identification of diverse empirical contributions that together provide a more comprehensive understanding of how employee attitudes toward AI are conceptualized and measured.

Search proceeding

The systematic review will be carried out during May–June 2025. The literature search will be conducted in June 2025 across EBSCOhost and Scopus, using a predefined search strategy given in the Table 1.

Table 1. Search strategy

Database	Search strategy algorithm	Quantity of sources
EBSCO host	(attitude* OR perception* OR acceptance OR resistance OR trust OR belief* OR „emotional response*" OR skepticism OR „algorithm aversion") AND („artificial intelligence" OR AI OR „machine learning" OR automation OR „intelligent technolog*" OR „algorithmic decision*" OR „autonomous technolog*") AND (employee* OR manager* OR worker* OR staff OR personnel OR leader* OR professional* OR occupational) AND („human resource*" OR HR OR workplace OR organization* OR corporate OR job OR work-related) AND (definition* OR dimension* OR classification* OR measure* OR scale* OR questionnaire* OR instrument* OR survey*) NOT (consumer* OR customer* OR client* OR student* OR patient*)	323
Scopus	TITLE-ABS-KEY ((attitude* OR trust OR acceptance OR resistance OR „algorithm aversion") AND („artificial intelligence" OR „AI" OR „machine learning" OR automation OR „intelligent technolog*" OR „algorithmic decision*" OR „autonomous technolog*") AND (employee* OR manager* OR worker* OR staff OR personnel OR leader* OR professional* OR occupational) AND („human resource*" OR hr OR workplace OR organization* OR corporate OR job OR „work-related") AND (definition* OR dimension* OR classification* OR measure* OR scale* OR questionnaire* OR instrument* OR survey*)) AND NOT TITLE-ABS-KEY (consumer* OR customer* OR client* OR student* OR patient*)	319

Screening will consist of two stages: (1) title and abstract screening, and (2) full-text screening, applying the eligibility criteria outlined in the Table 2. Two reviewers (RB, AE) will independently screen all records, with disagreements resolved through discussion. If necessary, additional records will be identified at the final stage through supplementary searches (reference list screening and forward citation tracking).

Table 2. Detailed eligibility criteria

Inclusion criteria	Studies must focus on employees (including both subordinates and managers) within private & public organizational setting; studies examining general workforce populations or clearly defined employee sub-groups (e.g., managers, specific professions); studies explicitly addressing attitudes toward AI, including perceptions, beliefs, acceptance, resistance, fears, trust, emotional reactions, or intentions to use AI technologies in the workplace; empirical studies (quantitative and mixed methods), including experimental, quasi-experimental, cross-sectional, longitudinal designs, and intervention studies; studies clearly specifying AI-related technologies, such as machine learning systems, robotics powered by AI, AI-driven decision-making systems, automation based on AI, chatbots, intelligent virtual assistants, algorithms utilizing AI, or related technological tools explicitly described as AI; studies published from 2010 onwards to reflect contemporary AI trends in organizations; studies published in English; peer-reviewed journal articles, book chapters, published conference papers, research reports.
Exclusion criteria	Studies examining attitudes or reactions toward general technology, automation, or digital transformation without explicitly defining or specifying AI technologies; studies exclusively addressing the attitudes or perceptions of customers, consumers, or other external stakeholders without examining employee or managerial perspectives; studies focused solely on the technical development, performance evaluation, or algorithmic aspects of AI technologies without exploring employee attitudes or responses; studies providing only general discussions of AI impacts in workplaces, without presenting a clear categorization, classification, or measurement of employee attitudes; studies that consider employee attitudes towards AI only as secondary or peripheral outcomes without sufficient depth, clarity, or detail regarding attitude characteristics or influencing factors; non-empirical publications unless they explicitly define, conceptualize, or classify employee attitudes toward AI.

The planned screening and selection process will be documented in a PRISMA flow diagram, specifying the number of records at each stage and the reasons for exclusion. To ensure methodological rigor and address potential challenges in review implementation, insights from Uttley et al. (2023) will be incorporated. In addition, Uttley et al. (2023) conducted Systematic Reviewlution platform (https://systematicreviewlution.com/) will be consulted to identify and mitigate potential sources of error during the review process.

Quality assessment

Assessing the quality of evidence is essential, yet challenging (Kmet et al., 2004). In order to maximize the methodological rigor of the included records, a structured quality appraisal process will be implemented. As a first step, a checklist is developed (see Table 3), based on the main aspects of the Standard Quality Assessment Criteria for Evaluating Primary Research Papers from a Variety of Fields (Kmet et al., 2004). This checklist is adapted for the specific purposes of this review, focusing on methodological clarity, measurement reliability, and scientific validity, thereby providing a systematic and transparent basis for including or excluding records.

Table 3. Quality assessment checklist

No.	Question	Evaluation			
		Yes (2)	Partially (1)	No (0)	N/A
1.	Is it clearly described which specific dimension/indicator of employee attitudes towards AI is being measured?				
2.	Are sample questions, definitions or operational concepts provided?				
3.	Has the scale been validated (e. g. CFA, EFA, AVE, CR, Cronbach's α)?				
4.	Are the data analysis methods clearly described and justified?				
5.	Are the analysis methods appropriate for the study objectives and data type?				
6.	Are statistical results presented in sufficient detail (e.g., significance levels, effect sizes)?				
7.	Has the analysis avoided obvious methodological errors or unfounded conclusions?				
8.	Are the data analysis methods clearly described and justified?				
9.	Is the publication reliable (indexed by WoS/Scopus, not affiliated with potentially predatory journals)?				
10.	Do the authors have clear academic affiliations?				
11.	Does the study provide sufficient theoretical justification and references to the literature?				
12.	Does the article adhere to academic writing standards (clear structuring, reference system, review features)?				

Drawing on this checklist, three overarching quality appraisal categories were established, which served as additional exclusion criteria during the final records evaluation:

- measurement of attitudes toward artificial intelligence is not clearly defined or lacks evidence of reliability/validity;
- data analysis is insufficiently described or lacks methodological rigor;
- lacks scholarly credibility due to questionable publication source or authorship.

Of the 41 records that proceeded after the final screening, 14 were subsequently excluded based on these quality criteria. In all excluded cases, the reasons fell into the first two categories. The quality scores of the included studies ranged from 16 to 24 (mean = 20.3), whereas excluded studies scored between 12 and 15 points (34%). A cut-off score of < 16 out of 24 points (66%) was applied, ensuring the inclusion of only studies with acceptable levels of measurement validity and methodological rigor. It is noted, that at the final stage of the screening process, two additional records were identified through supplementary searches. Both met al. predefined inclusion and quality criteria and were therefore incorporated into the final set of included studies.

Protocol availability and registration

This protocol is not registered in a public registry such as PROSPERO, as the platform does not currently accept systematic reviews outside the health sciences. To ensure transparency, the full protocol is provided as a supplementary material to this review.

References

Bankins, S., Ocampo, A. C., Marrone, M., Restubog, S. L. D., & Woo, S. E. (2023). A multilevel review of artificial intelligence in organizations: Implications for organizational behavior research and practice. *Journal of Organizational Behavior*, *45*(2), 159–182. https://doi.org/10.1002/job.2735

Cao, G., Duan, Y., Edwards, J. S., & Dwivedi, Y. K. (2021). Understanding managers' attitudes and behavioral intentions towards using artificial intelligence for organizational decision-making. *Technovation*, *106*, Article 102312. https://doi.org/10.1016/j.technovation.2021.102312

Coelho, P., Bessa, C., Landeck, J., & Silva, C. (2022). Industry 5.0: The arising of a concept. *Procedia Computer Science*, *217*, 1137–1144. https://doi.org/10.1016/j.procs.2022.12.312

Darko, A., Chan, A. P. C., Adabre, M. A., Edwards, D. J., Hosseini, M. R., & Ameyaw, E. E. (2020). Artificial intelligence in the AEC industry: Scientometric analysis and visualization of research activities. *Automation in Construction*, *112*, Article 103081. https://doi.org/10.1016/j.autcon.2020.103081

Gerlich, M. (2023). Perceptions and acceptance of Artificial Intelligence: A multi-dimensional study. *Social Sciences*, *12*(9), Article 502. https://doi.org/10.3390/socsci12090502

Kelly, S., Kaye, S. A., & Oviedo-Trespalacios, O. (2023). What factors contribute to the acceptance of artificial intelligence? A systematic review. *Telematics and Informatics*, *77*, Article 101925. https://doi.org/10.1016/j.tele.2022.101925

Kmet, L. M., Lee, R. C., Cook, L. S. (2004). *Standard quality assessment criteria for evaluating primary research papers from a variety of fields*. Alberta Heritage Foundation for Medical Research.

Łukasik-Stachowiak, K. (2023). Uncertainties and challenges in human resource management in the era of artificial intelligence. *Scientific Papers of Silesian University of Technology*. *Organization and Management Series*, *2023*(181), 341–356. https://doi.org/10.29119/1641-3466.2023.181.23

Navarro, C. G., Flores, N. H., Lozano, C. P., Brown, L. (2023). How can Artificial Intelligence Improve organizational psychology? A Systematic Review. *Journal of Psychological Science and Research*, *3*(1), 1–15. https://doi.org/10.53902/JPSSR.2023.03.000537

Schepman, A., & Rodway, P. (2020). Initial validation of the general attitudes towards Artificial Intelligence Scale. *Computers in Human Behavior Reports*, *1*, Article 100014. https://doi.org/10.1016/j.chbr.2020.100014

University of Sheffield. (n.d.). *Systematic Reviewlution*. https://systematicreviewlution.com/

Uttley, L., Quintana, D. S., Montgomery, P., Carroll, C., Page, M. J., Falzon, L., Sutton, A., & Moher, D. (2023). The problems with systematic reviews: A living systematic review. *Journal of Clinical Epidemiology*, *156*, 30–41. https://doi.org/10.1016/j.jclinepi.2023.01.011