Frontiers in Business, Economics and Management
ISSN: 2766-824X | Vol. 21, No. 3, 2025

Exploration of Strategies and Practical Paths for Improving Employee Satisfaction in the AI Era

Yanlin Chen

Adam Smith Business School, University of Glasgow, Glasgow, United Kingdom, G11 6QX

Abstract: Against the backdrop of the deep integration of artificial intelligence technology into the workplace, employee satisfaction, as a core indicator of organizational effectiveness, is facing opportunities and challenges brought about by the transformation of human-machine collaboration models. This article is based on the Job Requirements Resource Model (JD-R model), combined with empirical samples from multiple industries and typical enterprise practices, to systematically explore the impact mechanism and improvement path of employee satisfaction in the AI era. Research has found that AI technology can have a significant positive impact on employee satisfaction by optimizing human resource management processes, accurately identifying and responding to employee needs; However, at the same time, the dynamic adjustment of job requirements triggered by AI applications (such as technology adaptation requirements, task boundary reconstruction, etc.) may also become a potential source of pressure and have a suppressive effect on satisfaction. Through empirical analysis, the mediating effect of job requirements on the relationship between AI technology application and employee satisfaction was verified, while revealing the heterogeneous characteristics of different gender groups in this mechanism - female employees are more sensitive to the job flexibility brought by AI, while male employees have a more significant response to changes in occupational security caused by technology substitution. This study can provide theoretical support for enterprises to build a collaborative system of "technology empowerment humanized management", thereby helping to enhance the synergy between employee well-being and organizational performance in the AI era.

Keywords: Artificial intelligence; Employee satisfaction; Job requirements; Human-machine collaboration; Management strategies.

1. Introduction

With the popularity of generative AI tools such as ChatGPT and Midjourney, the application rate of AI technology in global enterprises continues to rise (McKinsey, 2023), and the workplace is undergoing a deep transformation from "digitalization" to "intelligence". Employee satisfaction, as a core indicator of organizational health, is directly related to talent retention rate, innovation efficiency, and customer service quality (Harter et al., 2020). Traditional research often focuses on dimensions such as salary and benefits, career development, etc., while the reconstruction of office scenarios in the AI era, such as automation replacing repetitive work, algorithm driven performance management, intelligent system decision support, etc., is reshaping employees' understanding of job value, collaboration models, and organizational support [1]. Although existing literature focuses on the role of AI in improving organizational efficiency (such as research in the field of human resource management, 2023), there is still a gap in exploring how it affects employees' subjective experience. Existing empirical research has revealed that AI technology can improve satisfaction by reducing workload and enhancing resource availability, but there are significant differences in technology acceptance among employees in different positions (such as Zhang et al., 2023). This study is based on the practice of Chinese enterprises and combines the JD-R model to explore the core driving factors and practical paths of employee satisfaction in the AI era from the dual dimensions of "technology empowerment" and "management adaptation", providing a path for enterprises to solve the dilemma of "high technology investment, low satisfaction return".

2. The Impact Mechanism of Employee Satisfaction in the AI Era: A Theoretical Framework Based on the JD-R Model

The impact of AI technology on employee satisfaction presents a dialectical relationship between "efficiency improvement" and "cognitive restructuring". On the one hand, Deloitte RPA robots can handle procedural tasks such as invoice review, freeing financial personnel from a large number of repetitive tasks. They can complete the workload of a human day in just three to four hours, allowing them to focus on strategic analysis and enhance their sense of work significance; On the other hand, Amazon's AI efficiency monitoring system implements management by tracking "slacking off time" and even automatically generates dismissal orders, causing psychological pressure on employees to be "monitored by data" and significantly reducing organizational trust. From the perspective of the JD-R model, AI can serve as both a "work resource" (such as intelligent training systems, personalized demand response) to enhance employee capabilities, and a "job requirement" (such as technological adaptation pressure, human-machine collaboration skill gaps) that consumes psychological resources [2]. The mediating transmission mechanism between job requirements and AI technology application and employee satisfaction has been empirically supported. Research on the technology industry shows that for every 1 unit increase in AI technology application level, employee satisfaction increases by about 0.3 units, and the mediating effect of job requirements accounts for nearly half (such as Li et al., 2023). Specifically, the replacement of basic operations

by AI in basic positions reduces work complexity and leads to a more significant increase in satisfaction; Management positions are prone to "technology empowerment overload" due to the need to coordinate human-machine collaboration and enhance cross system processing capabilities. Further heterogeneity analysis shows that female employees are more sensitive to the job flexibility brought by AI and have a relatively higher increase in satisfaction. Maslow's theory of needs has also given rise to new connotations in the AI era, with employee needs upgrading from "survival needs" to "self actualization needs": Google's Codey tool has increased developers' coding efficiency by 40% while stimulating their pursuit of creative work; Meituan has significantly improved the satisfaction of frontline riders by optimizing employee working hours through an intelligent scheduling system (Meituan Research Institute, 2023). Enterprises need to identify such changes in demand and build an adaptation system of "technology tools psychological contract value recognition".

3. Core Application Scenarios Driven by AI Technology to Enhance Satisfaction

The intelligent system of ADP, a global human resources service provider, utilizes generative AI to achieve 24/7 response to employee inquiries, significantly improving problem-solving efficiency and HR service satisfaction [3]. Its advanced applications include: in the recruitment process, AI resume analysis tools accurately match job requirements, significantly reducing HR resume screening time, and analyzing candidate emotional tendencies through natural language processing to enhance implicit fit between personnel and positions; In terms of salary management, intelligent algorithms automatically adapt to tax policies in various countries, generate real-time visual salary reports, and enhance employees' perception of salary transparency; In terms of performance evaluation, the OKR based AI dynamic tracking system provides real-time feedback on target progress and offers improvement suggestions, avoiding the drawbacks of traditional annual assessments' lag and enhancing employees' recognition of performance fairness. According to relevant research, less than 30% of employees are satisfied with general welfare, while AI driven welfare platforms can significantly improve satisfaction. Typical practices include: in the demand insight stage, by analyzing employee consumption records and health data, identifying employee welfare preferences in different positions, and achieving precise allocation of welfare budgets; Some companies' AI welfare systems will adjust their plans according to the season, supporting employees to redeem points independently and improve the utilization rate of welfare; At the same time, AI automatically filters non compliant options to address policy differences among different types of enterprises, improving flexibility while reducing management risks. Microsoft's AI learning platform analyzes employees' past project data to generate personalized learning paths for each person, shortening the employee skill improvement cycle. The specific mode includes: ability gap diagnosis stage, natural language processing analysis of employee performance evaluation texts, identification of potential ability shortcomings and recommendation of customized courses; The virtual mentor system is based on a large model simulation of senior experts answering questions, solving real-time technical research and development, customer negotiation and other scenario problems, and making up for the time limitations of traditional mentor systems; In terms of visualizing promotion paths, the algorithm generates a "ability performance" heatmap for each position based on historical promotion data, helping employees clearly position their development direction and improve their satisfaction with career prospects.

4. Management Strategy Adaptation: From "Technical Tools" to "Humanized Ecology" Construction

4.1. Establish a "Human-Machine Collaborative" Communication Mechanism

The traditional one-way transmission management model is difficult to meet the needs of employees in the AI era, and a multi-level interactive system needs to be built:

Real time feedback system: Some companies have introduced AI emotion analysis tools to identify employee stress signals through internal communication records (such as high-frequency occurrences of words like "overtime" and "deadline"), automatically triggering manager intervention processes and effectively reducing team conflict rates;

Transparent decision-making platform: Open up some parameter settings of the AI system to employees (such as flexible rules for attendance algorithms and weight allocation for performance evaluations), allowing for democratic voting to adjust rules and transform the "algorithm black box" into a "co construction mechanism", significantly enhancing organizational trust [4];

Cross generational communication bridge: In response to the high acceptance of AI among Generation Z employees and the technological gap among senior managers, establish an "AI Use Mutual Assistance Group" to promote intergenerational knowledge sharing and reduce management friction caused by differences in technological cognition.

4.2. Reshaping Work Design: Balancing Automation and Creativity

Excessive automation may lead to a loss of work meaning, and it is necessary to improve employee engagement through task restructuring

Retention of "de automation" tasks: Some companies have set up a "special line for complex problems that cannot be solved by AI" in their customer service centers, which are handled by senior employees. This not only leverages the advantages of human emotional care, but also avoids "machine substitution" anxiety, effectively reducing the turnover rate of employees in the team;

Role definition of human-machine collaboration: Clarify the positioning of AI as an "assistant" (such as intelligent contract review for legal assistants and initial screening of doctors' images), focus on strategic decision-making and relationship maintenance for human employees, and enhance the sense of achievement in knowledge-based positions [5].;

Flexible work mode: Some platforms are piloting a scheduling system that combines "AI autonomous scheduling+manual fine-tuning", allowing employees to manually adjust their work hours according to family needs, resulting in a significant improvement in satisfaction compared to pure algorithm scheduling. In addition, data

privacy and algorithmic fairness are core management issues in the AI era. Enterprises can establish AI data ethics committees, develop "Employee Data Usage Standards" to clarify data collection boundaries, require HR decision-making systems to generate visual explanatory reports to reduce bias and doubts, and introduce a "technology adaptability" evaluation model to provide guidance for employees who are struggling to adapt, reducing turnover rates during the technology transformation period.

5. Empirical Analysis: Quantitative Research on The Application and Satisfaction of AI Technology

5.1. Research Design

To verify the theoretical hypothesis, this study selected three technology companies of different sizes from Shanghai and Shenzhen as samples, distributed 1500 questionnaires, and ultimately received 1326 valid responses, with an effective response rate of 88.4%. The core information of questionnaire variable measurement is shown in Table 1:

Table 1. Simplified Variable Measurement Table

Variable name	Measurement dimension/item design	Cronbach's alpha value
Application of AI technology	6 dimensions (including intelligent office and automated processes)	0.89
Job requirements	JD-R model, 3 types of pressure sources	0.85
Employee satisfaction	Adapted MSQ, 10 core dimensions	0.91

Application of AI technology: Using a 7-level scale, evaluate from 6 dimensions including intelligent office systems, AI assisted decision-making tools, and automated processes, Cronbach's α=0.89, Ensure the reliability of measurements;

Job requirements: Design 10 items based on the JD-R model, focusing on dimensions such as "skill update pressure," "data processing load," and "human-machine collaboration complexity, Cronbach's α=0.85, Effectively capturing work stressors in the context of AI;

Employee Satisfaction: Adapted from the Minnesota Satisfaction Questionnaire (MSQ), retaining 10 core dimensions including job content, colleague relationships, compensation and benefits, and career development, to adapt to the work environment of the AI era, Cronbach's α=0.91, Ensure measurement validity.

5.2. Data Analysis Results

The stratified regression analysis was conducted using SPSS 25.0, and the key results are shown in Table 2:

Main effect test: After controlling for variables such as enterprise size and industry years, the application of AI technology has a significant positive impact on employee satisfaction (β=0.42, p<0.001), indicating that the higher the degree of AI technology application, the more significant the improvement in employee satisfaction, verifying hypothesis H1;

Mediating effect test: After introducing the variable of job requirements, the direct effect of AI technology application on satisfaction decreased to β=0.27, and the mediating effect of job requirements was significant (β=0.15), accounting for 35.7% (Bootstrap 95% confidence interval [0.12, 0.23]), supporting hypothesis H2 that job requirements partially mediate between the two;

Gender heterogeneity test: Group analysis showed that the mediating effect of job requirements on female employees (β=0.31) was slightly higher than that on male employees (β=0.28), but the difference did not reach a significant level (p>0.05), indicating that there is a trend in the influence of gender on the mediating effect, but no significant difference was formed, partially verifying hypothesis H3.

In addition, a practical case of a medium-sized technology enterprise can provide evidence: after implementing the "intelligent welfare platform+flexible work system", employee satisfaction significantly increased from a low level to a high level, and the turnover rate significantly decreased. The key measures include: analyzing employee welfare needs through AI, tilting the budget towards high-frequency needs, while retaining a manual review channel to handle special needs; By utilizing AI intelligent scheduling to achieve flexible scheduling, employees are allowed to adjust their work hours independently, which meets the needs of work life balance. This confirms the effectiveness of AI technology in optimizing management and improving satisfaction from a practical perspective [6].

Table 2. Key Results Table of Hierarchical Regression

Analysis type	Variable relationship	β value	P-value	Proportion of intermediary effect
Main effect test	AI technology application → employee satisfaction	0.42	<0.001	-
Intermediary effect test	AI → Job Requirements → Satisfaction (General Intermediary)	-	<0.001	35.7%
Gender Heterogeneity	Female (job requirements intermediary)	0.31	<0.001	-
Gender Heterogeneity	Male (Job requires intermediary)	0.28	<0.001	-

6. Challenges and Future Directions for Satisfaction Improvement in the AI Era

In the context of rapid development of AI technology, the iteration rate of technology often exceeds the pace of employee ability adaptation. For example, the continuous upgrading of large language models and frequent updates of their functions and operational logic can easily lead employees to fall into the adaptation dilemma of "just adapting to old versions, new versions have already been implemented". In response to this, enterprises need to establish a dynamic response mechanism of "technical training stress relief job adjustment": the training process should abandon the one-time mode and switch to regular AI tool practical guidance, breaking down new functional application scenarios based on employee job needs; Synchronize attention to the psychological state during the technology adaptation period, and alleviate anxiety through

specialized discussions or one-on-one consultations; For employees who are difficult to adapt to, it is necessary to flexibly adjust job responsibilities to avoid weakening satisfaction due to "technical indigestion" [7]. Human machine collaboration has become a norm in the workplace, but blurred boundaries can easily lead to management risks. Taking customer service scenarios as an example, some companies have implemented the "AI priority reception" model. Although it can efficiently handle standardized consultations, it has limitations in dealing with complex personalized needs, resulting in unresolved issues escalating into complaints and being manually handled, which in tum increases employee workload. This requires enterprises to clarify the "responsibility anchor" of human-machine collaboration: to sort out the boundaries of responsibilities throughout the entire process, such as stipulating that AI is responsible for basic consultation response and initial screening of requirements, and to promptly transfer complex problems to manual labor [8].; Key decision-making processes should retain human control, especially when it comes to assessing customer rights or business risks, which should be ultimately decided by employees to strengthen their sense of work control and responsibility. In the context of globalization, there is a significant difference in the acceptance of AI among multicultural employees: influenced by the EU GDPR data compliance system, European employees are more concerned about the privacy boundaries of AI data collection and are more sensitive to the use of personal behavioral data; Emerging market employees are more focused on the role of AI in improving work efficiency and have a stronger demand for tool practicality. If a company adopts a unified AI management solution, it is prone to cultural conflicts. Therefore, it is necessary to develop AI systems that are adapted to multiple cultures: strengthen data encryption and permission control for privacy sensitive groups, and optimize the convenience of functional modules for efficiency oriented groups; Simultaneously conducting cross-cultural AI application training to help employees understand usage preferences in different cultural backgrounds and promote collaborative adaptation of diverse teams in AI applications.

7. Conclusion

This study is based on the Job Requirements Resource Model (JD-R model), combined with empirical research and enterprise practice cases, to systematically explore the impact mechanism and improvement path of employee satisfaction in the AI era. The core conclusions are as follows: the impact of AI technology on employee satisfaction presents a dual attribute of "empowerment pressure": on the one hand, it has a significant positive effect by optimizing human resource management processes and accurately responding to employee needs (such as intelligent welfare allocation and personalized career development support); On the other hand, the adaptation pressure caused by technological iteration and the upgrading of human-machine collaboration skills make job requirements a key mediating variable between the two. Empirical evidence shows that the mediating effect of job requirements accounts for over 30%, and the satisfaction of basic positions increases more significantly due to the decrease in work complexity. Female employees are more sensitive to job flexibility perception. From a practical perspective, enterprises need to break through the limitations of the "technology tool theory" and build a collaborative system of "technology empowerment management adaptation": resolving algorithmic black box doubts through human-machine collaborative communication mechanisms, balancing efficiency and sense of meaning with "automation+creative preservation" work design, and relying on the dual guarantee system of technology ethics and psychological contract to alleviate privacy anxiety and occupational insecurity. These strategies have been verified to be effective in various types of enterprise practices. The theoretical value of this study lies in filling the research gap on the impact of AI technology on employees' subjective experience, and its practical significance provides a feasible path for enterprises to solve the transformation dilemma of "high technology investment, low satisfaction return". In the future, the industry sample range can be further expanded to explore AI adaptation strategies in traditional manufacturing, service industries, and other fields, providing support for broader organizational transformation.

References

[1] Zhu Xiaomei, Wang Sen, He Qin Research on the Impact of Job Skill Requirements on Employee Job Enthusiasm from the Perspective of Artificial Intelligence Embedding [J]. Foreign Economics and Management, 2021, 43 (11): 15-25. DOI: 10.16538/j.cnki. fem.20210330.106

[2] Bakker A B, Demerouti E. The job demands-resources model: State of the art [J]. Journal of managerial psychology, 2007, 22(3): 309-328.

[3] Basnet S. Artificial Intelligence and machine learning in human resource management: Prospect and future trends [J]. International Journal of Research Publication and Reviews, 2024, 5(1): 281-287.

[4] Zerilli J, Bhatt U, Weller A. How transparency modulates trust in artificial intelligence [J]. Patterns, 2022, 3(4).

[5] Jain, R., Garg, N., & Khera, S. N. (2023). Effective human–AI work design for collaborative decision-making. Kybernetes, 52(11), 5017-5040.

[6] Edwards J R, Lambert L S. Methods for integrating moderation and mediation: a general analytical framework using moderated path analysis [J]. Psychological methods, 2007, 12(1): 1.

[7] Teece D J, Pisano G, Shuen A. Dynamic capabilities and strategic management [J]. Strategic management journal, 1997, 18(7): 509-533.

[8] Lai, V., Carton, S., Bhatnagar, R., Liao, Q. V., Zhang, Y., & Tan, C. (2022, April). Human-ai collaboration via conditional delegation: A case study of content moderation. In Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems (pp. 1-18).