

Original Research Article

The impact of AI use on employee resilience from the perspective of psychological ownership

Xinchen An

Anhui University of Finance and Economics, Bengbu, Anhui, 233030, China

Abstract: Resilience, as a key ability for employees to cope with stress, has attracted widespread attention from academia and industry. Although existing research confirms that AI use affects employee resilience, most approach it from a technical perspective, and the complex relationship between the two has yet to be deeply revealed. Based on psychological ownership theory and using questionnaire surveys, this paper explores the impact and mechanisms of AI use on employee resilience. Survey results show that AI use positively affects employee resilience; The relationship between AI use and employee resilience is mediated by Job Psychological Ownership. This study not only enriches theoretical research on the relationship between AI use and employee resilience, but also provides practical insights for managers and employees in intelligent workplaces.

Keywords: AI use; employee resilience; job psychological ownership

1. Introduction

With the development of AI technology, human-AI collaboration has become the mainstream way of working, and AI has shifted from being just a supporting tool to an important partner for employees. The McKinsey Global Institute (MGI) released the '2025 AI Development Status Report,' which shows that 88% of employees are already working with AI in at least one business function, and 56% of software developers say that collaborating with AI can reduce business costs. However, AI also brings changes in work modes and efficiency pressures. Employee resilience, as a key ability to cope with stress, needs to be explored in terms of how it develops. Existing research shows that creative self-efficacy, proactive personality, and social support all promote employee resilience^[1], but studies on human-AI collaboration often focus on AI as a tool from a technical perspective, overlooking its impact on employees' psychology and behavior. Psychological ownership can reveal changes in employees' sense of control over their work in human-AI collaboration. Based on psychological ownership theory, AI can affect work-related psychological ownership through three paths: control, intimate understanding, and investment, and Job Psychological Ownership may be an important bridge connecting AI use and employee resilience. So, this article explores: how does AI use affect employee resilience? And how does Job Psychological Ownership mediate this relationship?

2. Theoretical foundation

Psychological ownership is a person's mental and emotional state of feeling that something belongs to them; it is the sense of 'this is mine' for a particular job, task or organisation^[2]. It is based on the psychology of ownership; people want to have some control over things, make them familiar to themselves, and feel a sense of self-worth. There are three ways to develop psychological ownership. Control of the Target Object: By gaining decision-making and management power over the target, the foundation for the sense of 'this is mine' is laid. Familiarity with the goal: When we know the goals and how to achieve them, we are more motivated and feel in control. Investment in the target object: One is constantly spending time, energy and other resources to nurture a sense of self. Scholars have extended the concept of psychological ownership in the workplace to propose constructs such as organisational psychological ownership and job psychological ownership.

3. Research hypotheses

3.1. The influence of artificial intelligence on employee resilience

Resilience is a person's ability to face and recover from the stresses and difficulties in life in a positive way. Employees who are resilient will be better able to cope with changes^[3] in their work due to artificial intelligence, and those who are not resilient will be left out. The application of artificial intelligence has changed employees' resilience in the following ways: First, automation of routine tasks has reduced the volume of work and work-related stress, helping employees better manage their stress. Second, by improving work efficiency, it can enhance employees' sense of self-worth and make them feel more capable of facing difficulties and overcoming them. Based on the above, Hypothesis H1 is that AI application positively affects employee resilience.

3.2. The mediating role of job psychological ownership

When employees use AI in their work, it automates tedious tasks, freeing them from low-value repetitive labor and allowing them to focus on core tasks^[4]. Meanwhile, employees' time and effort can be transformed into high-value input. This process enhances employees' sense of control, engagement, and intimate understanding of their work^[5], thereby strengthening their psychological ownership of their job. Furthermore, psychological ownership theory emphasizes that employees with high work-related psychological ownership, due to a strong sense of possession over their work, integrate their job into their self-concept^[6]. They are not only willing to actively take risks at work but also proactively monitor work developments, anticipate potential problems, and prepare solutions out of a sense of responsibility^[7], showing stronger adaptability and flexibility. Therefore, these employees are more likely to take proactive measures when facing challenges and setbacks at work, which in turn enhances their resilience. Based on this, Hypothesis H2 is proposed: Job Psychological Ownership mediates the relationship between AI use and employee resilience.

Based on the above analysis, this paper builds the theoretical model shown in **Figure 1**.

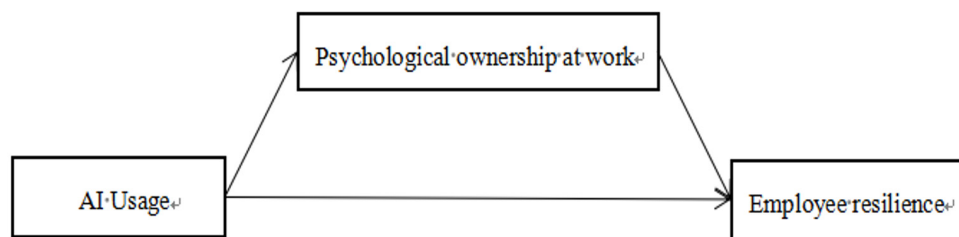


Figure 1. Theoretical model.

4. Survey research

4.1. Data and samples

Credamo was employed to collect the data from the R&D staff. R&D staff carry out technical research and other intellectual activities; they are significantly impacted by AI, their work has a high degree of complexity and creativity, and thus they can better demonstrate their psychological qualities and resilience in the era of human-computer collaboration. To reduce the bias of the common method, anonymous questionnaires have been distributed and collected over the past two weeks, and reasonable questions have been developed to address response bias. A preliminary question on the application of AI was added before the main survey to confirm that the participants were R&D staff. 420 questionnaires were distributed in the first round, and after obtaining the valid ones along with demographic and AI-use data, 400 were collected; in the second round, data on job psychological ownership and employee resilience were obtained from 374 respondents. Match the two stages, and then exclude the invalid questionnaires that have abnormal completion times or contradictory answers; 322 valid questionnaires were left. Among the sample, 56.8% were female, 73.9% were aged 26-40, 63.2% had a bachelor's degree, and 31.4% had used AI for 1-3 years.

4.2. Variable measurement

All the indicators in this paper are well-known scales. Tang and others developed a scale to measure the

application of artificial intelligence; it has three items and a Cronbach's alpha of 0.741. Job psychological ownership was measured by the scale developed by Brown et al.^[8], and it had a Cronbach's alpha of 0.868. Employee resilience was measured by the scale developed by Näswall et al., and it had a Cronbach's alpha of 0.741. Age, sex and other factors were taken as control variables to exclude their influence from the results of this study.

5. Research results and analysis

5.1. Confirmation factor analysis

To confirm that the main variables have structural validity and discriminant validity, AMOS 29.0 was used in this paper to conduct confirmatory factor analysis of the main variables. As shown in **Table 1**, when comparing the three-factor model, the two-factor model, and the single-factor model, the three-factor model had the best fit ($\chi^2/df=2.544$, RMSEA=0.069, CFI=0.923, TLI=0.902, IFI=0.924) and thus exhibited good discriminant validity among the variables.

Table 1. Confirmation factor analysis.

Models	χ^2	df	χ^2/df	CFI	TLI	IFI	RMSEA
Three-Factor Model: A, B, C	241.637	95	2.544	0.923	0.902	0.924	0.069
Two-Factor Model: A + B, C	380.226	98	3.880	0.851	0.818	0.853	0.095
Single-factor model: A +B+C	455.540	99	4.601	0.812	0.772	0.814	0.106

Note: A represents AI usage, B represents work psychological ownership, C represents employee resilience; + indicates a combined factor.

5.2. Descriptive statistics and correlation analysis

Table 2 is the result of the correlation analysis. Based on the correlation coefficients, AI use is positively and significantly correlated with employee resilience ($r=0.667$, $p<0.01$), so we will proceed with the hypothesis test.

Table 2. Mean, standard deviation and correlation coefficient.

Variable	1	2	3	4	5	6	7	8	9
1 Gender									
2 Age	-0.052								
3 Education	0.120*	0.02							
4 Years of Using AI	-0.113*	0.326**	0.032						
5Years since company was founded	-0.083	0.266**	0.182**	0.211**					
6Work experience	-0.105	0.710**	-0.008	0.365**	0.425**				
7 AI use	-0.072	0.267**	0.082	0.243**	0.341**	0.285**			
8 Job Psychological Ownership	-0.028	0.233**	0.087	0.246**	0.338**	0.303**	0.630**		
9 Employee Resilience	-0.119*	0.269**	0.054	0.201**	0.365**	0.336**	0.667**	0.584**	
Mean	1.57	2.46	3.31	2.51	4.60	2.98	4.09	4.06	4.31
Standard Deviation	0.50	1.05	0.67	0.79	0.77	1.02	0.73	0.79	0.39

Note: **Significantly correlated at the 0.01 level (two-tailed); *Significantly correlated at the 0.05 level (two-tailed).

5.3. Hypothesis testing

Hierarchical regression analysis is used to test the hypotheses in this paper.

Direct Effect Test. The results of hierarchical regression for AI usage, Job Psychological Ownership and employee resilience are shown in **Table 3**. As shown in **Table 3**, the coefficient for AI use on employee resilience is 0.321 and $p < 0.001$; thus, Hypothesis 1 is supported.

Table 3. Hierarchical regression analysis results.

Variable	Employee resilience			
	Model 1	Model 2	Model 3	Model 4
Gender	-0.075	-0.046	-0.066	-0.052
Age	0.071	-0.003	0.021	0.001
Education	0.013	-0.004	-0.003	-0.006
Years of Using AI	0.062	-0.007	-0.004	-0.015
Years since company was founded	0.262***	0.056*	0.073**	0.044
Work experience	0.144	0.048*	0.03	0.038
AI use		0.321***		0.248***
Job Psychological Ownership			0.248*	0.119***
R ²	0.185	0.482	0.393	0.515
F	11.903	41.551	28.960	41.339

Note: * p < 0.05, ** p < 0.01, *** p < 0.001.

Mediation effect test. We tested whether job psychological ownership plays a mediating role between AI use and employee resilience. This article conducts a Bootstrap test, setting the number of resamples to 5000 and the confidence interval to 95%. The analysis results are shown in **Table 4**. The results show that the indirect effect value is 0.0726, and the confidence interval does not include 0 (LLCI=0.024, ULCI=0.133), indicating that AI use has a significant indirect effect on employee resilience through job psychological ownership. Therefore, the hypothesis is supported.

Table 4. Mediation effect analysis.

Path	Effect	Value Standard Error	95% Confidence Interval	
			LLCI	ULCI
Total Effect	0.321	0.024	0.274	0.368
Direct Effect	0.248	0.028	0.193	0.304
Indirect Effect	0.073	0.028	0.024	0.133

6. Conclusion and research significance

6.1. Research conclusions

On the one hand, AI can promote the mental health of employees. AI can automate some of the staff's routine work and promptly inform them of problems so they are better prepared. At the same time, work-related psychological ownership is also an intermediary in the path to AI-employee resilience; that is, the investment, control and emotional attachment employees have in their work through AI usage can create a sense of psychological ownership. Employees with a high sense of psychological ownership over their work internalise it, take initiative in solving problems, actively learn through experience, develop strong professional skills, and enhance their resilience. The above results indicate that AI affects the sense of organisation support among employees.

6.2. Research significance

In short, this paper extends the concept of psychological ownership theory to the context of AI collaboration and finds that AI can also foster employees' sense of psychological ownership over their work. At the same time, in accordance with the theory of psychological ownership, it can be concluded that AI use affects employees' resilience through work-related psychological ownership and thus presents a new research direction. Managers need to know why they are using artificial intelligence to enhance efficiency, how to optimise the process for more cooperation benefits, and be aware of employees' emotions towards the application of AI. Have employees use AI to do some of the repetitive work; they will feel more responsible for it and gain some self-confidence.

6.3. Limitations and future work

Although it is a multi-point questionnaire, we are still unable to cover all the fluctuations of the variables. In the future, longitudinal tracking data will be collected to study the mediating effect of Job

Psychological Ownership, and at the same time, other mediating factors will also be examined to gain more knowledge on how AI use affects employee resilience.

References

- [1] Prayag G, Dassanayake D M C: Tourism employee resilience, organizational resilience and financial performance: The role of creative self-efficacy, *Journal of Sustainable Tourism*, Vol 31 (2023) No.10, p.2312-2336.
- [2] Pierce J L., Kostova T., Dirks K T: Toward a theory of psychological ownership in organizations, *Academy of Management Review*, Vol 26 (2001) No.2, p.298-310.
- [3] Näswall K, Malinen S, Kuntz J, et al: Employee resilience: Development and validation of a measure, *Journal of Managerial Psychology*, Vol 34 (2019) No.5, p.353-367.
- [4] Kong H Y, Yin Z H, Chon Ket al: How does artificial intelligence (AI) enhance hospitality employee innovation? The roles of exploration, AI trust, and proactive personality, *Journal of Hospitality Marketing & Management*, Vol. 33 (2024) No.3, p.261-287.
- [5] Brown G, Crossley C, Robinson S L: Psychological ownership, territorial behavior and being perceived as a team contributor: The critical role of trust in the work environment, *Personnel Psychology*, Vol 67 (2014) No.2, p.463-485.
- [6] Pierce J L., Kostova T., Dirks K T: The state of psychological ownership: Integrating and extending a century of research, *Review of General Psychology*, Vol. 7 (2003) No.1, p.84-107.
- [7] Najam A, Mustamil M: Algorithm aversion and control deprivation: How AI feedback undermines employee motivation, *Journal of Business and Psychology*, Vol 37 (2022) No.4, p.601-616.
- [8] Tang P, Koopman J, McClean S T, et al: When conscientious employees meet intelligent machines: An integrative approach inspired by complementarity theory and role theory, *Academy of Management Journal*, Vol 65 (2022) No.3, p.1019-1054.