

AI, Psychological Safety, and the Transformation of Modern Leadership

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Abstract: This study explores how artificial intelligence (AI) impacts organizational leadership and workplace psychological safety across diverse industries. Using a mixed-methods design combining 36 cross-industry questionnaires and 3 semi-structured executive interviews in sales, product development, and human resources fields, the research examines the impacts on traditional organizations and identifies leadership competencies irreplaceable by AI. The study demonstrates that digital and AI tools reduce employees' reliance on hierarchical leadership, while psychological safety seems to drive team innovation and performance. Moreover, diverse leadership models have corresponding impacts on psychological safety at the individual level. According to the study, core irreplaceable traits include empathy, accountability for high-stakes decisions, and interpersonal emotional-value provision. This research offers practical suggestions for managers or leaders adapting leadership practices to the AI era and supplements existing organizational behavior research. The article supplements current leadership models that discuss contingency theory and provides evidence and references for enterprises that are transforming from traditional leadership models to developing innovative competency models.

Author keywords: Leadership; Psychological Safety; Artificial Intelligence; Contingency Leadership Theory; Business Management

Introduction

Digital transformation powered by artificial intelligence continuously remodels daily corporate operations and traditional leadership frameworks. According to Brock and Von Wangenheim,¹ AI democratizes specialized information by drastically cutting the cost of accessing expert knowledge, enabling average workers to acquire professional know-how once limited to insiders, and achieving information equity. This follow-up on "information equality" leads to the blurring of organizational hierarchies. However, Dong et al.² claimed this flattening and transparency also places higher demands on employees' psychological safety. In the context of digitalization and AI, psychological safety refers to employees' willingness to expose their cognitive blind spots, propose disruptive ideas, or try unconventional AI applications when faced with new technologies, tools, or business models, without fear of punishment, ridicule, or being left behind by technology, as demonstrated by Reich et al.³ This feeling of security has become unprecedentedly important because the rapid iteration of AI has amplified employees' fear of being left behind by technology and their anxiety about being exposed to blind spots. Peifer⁴ and Beer and Mulder⁵ had predominantly focused on macro-level organizational readiness and general performance

outcomes, yet few highlight insights into the underlying psychological processes and the impacts on the individual level through questionnaire statistics and real executive field interviews for empirical analysis. This paper analyzes data collected from questionnaire surveys and in-depth managerial conversations to answer three core questions: how AI alters traditional leadership practice, which leadership abilities cannot be substituted by artificial intelligence, and how psychological safety interacts with team outcomes under digitalization. Research data span multiple sectors, including manufacturing, technology, consumer goods, and healthcare, covering management staff ranging from middle supervisors to senior executives. The structure follows an academic arrangement of literature review, data and methodology, empirical results, discussion, and conclusion.

Literature Review

Traditional leadership models define leaders as the holders and coordinators of power. Specifically, in 1959, John R. P. French and Bertram Raven identified five bases of social power: referent, expert, coercive, reward, and legitimate power.^{6(p.151)} In 1964, Raven expanded the theory by adding the 6th base power of a leader, the informational power.^{7(p.371-372)} Information therefore became an important asset for managers to interpret and disseminate knowledge and demonstrate their identity as leaders within an organization. According to French and Raven, leaders are responsible for using their own knowledge and judgment to centralize

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power. In other words, leaders are symbolized as authority. However, AI's involvement in modern workplaces requires leaders to adapt to different organizational patterns. Recent studies directly connect the democratization of information caused by AI with the radical evolution of modern leadership roles,^{8(p.188–193)} proving that the leaders are required to shift their roles in the digital era, specifically by shifting their purpose toward orchestrating human–AI collaboration and providing strategic ethical judgment.⁹ While AI has transformed how leaders and employees interact, technological change alone does not determine organizational success. Research argues that employees' willingness to adopt new technologies also depends on the social and psychological environment in which they work.⁵ This highlights the importance of Psychological Safety.

Psychological safety, first introduced by Edmondson in 1999, refers to a shared belief held by members of a team that the team is safe for interpersonal risk-taking^{10(p. 350–381)}. In psychologically safe workplaces, employees are more willing to communicate openly, provide upward feedback, and engage in collaborative problem-solving. Jin and Peng¹¹ have shown that psychological safety contributes positively to team learning, innovation, employee engagement, and overall organizational performance. Arshad et al.¹² revealed the importance of psychological safety, especially in rapidly changing environments. For instance, research demonstrated that integrating artificial intelligence into traditional workplaces will inevitably increase transformation costs, partly due to the wrong decision-making results and the potential for failure brought about by unfamiliar technologies. Therefore, fostering psychological safety enables employees to experiment with new technologies, openly discuss challenges, and learn from mistakes, thereby supporting more effective AI implementation and organizational innovation.

While AI demonstrates strong capabilities in information processing and automation, previous studies suggest that several core leadership competencies remain difficult to replicate through technology. Goleman¹³ argued that emotional intelligence, including empathy, self-awareness, and relationship management, is fundamental to effective leadership. These competencies allow leaders to understand employees' emotions and further build trust within the organization. The importance of human-centric leadership approaches may become even greater during AI adoption. Specifically, Brougham and Haar¹⁴ argued that employees' perceptions of AI adoption affect their emotions and attitudes toward work. These findings state that AI can create anxiety in the workplace, as employees are increasingly worried about their future. As a result, leaders are required to maintain a healthy working environment using emotional intelligence. More recently, scholars from Harvard Business School suggest that although AI can automate many cognitive tasks, it cannot build trust, demonstrate empathy, or exercise human judgment in complex interpersonal situations.¹⁵ These findings indicate that human leadership remains essential despite rapid advances in AI.

Although Peifer et al.⁴ navigated the possible impact of AI on traditional human-centric organizational structures, emphasized psychological safety within the workplace, and

discussed core leadership traits that are irreplaceable by AI, these topics have largely been examined and studied independently. In other words, existing AI research primarily focuses on technological capability and organizational efficiency, while studies on psychological safety emphasize employee voice and innovation, and leadership research concentrates on emotional intelligence and interpersonal relationships. Currently, interdisciplinary research on how technology, organizational, and individual feedback influence perceived psychological safety is limited. A mature modern work environment requires a multifaceted approach, not just focusing on psychological safety, AI adoption rates, or leadership models across industries. Furthermore, existing literature largely relies on large-scale quantitative surveys or conceptual discussions, with relatively few studies integrating employee perceptions and management experiences across industries. Therefore, this study employs a hybrid approach to explore how AI influences modern leadership and workplace psychological safety at the individual level, while identifying human leadership traits that remain indispensable in the age of AI.

Method

This study adopts a mixed-methods research design, combining a qualitative questionnaire survey with qualitative in-depth interviews to systematically explore the research questions. This study involves human subjects. All research protocols, including digital questionnaires and semi-structured executive interviews, were reviewed and formally approved by the Institute of Strategic Leadership and Coaching, Shenzhen. Informed consent was obtained from all participants prior to data collection, and all individual data have been fully anonymized to protect participant privacy. The questionnaire was designed to collect responses on the impact of AI on leadership, organizational structure, psychological safety, and other variables, and to conduct descriptive statistical and correlation analyses across the participants' diverse working environments. From the questionnaire, three representative samples were selected based on their diverse working areas, including sales, product development, and human resources fields, for further online interviews to examine the impact of AI across the work field. For questions involving personal backgrounds, participants were allowed to choose one or more options. However, for evaluation sections using a 5-point Likert scale, participants were allowed to choose only one option but had the opportunity to provide follow-up open-ended responses.

Participants

The study employs a snowball sampling method, distributing surveys through the researchers' personal and professional networks to rapidly reach respondents nationwide in China. [Table 1](#) provides an overview of the participants' backgrounds. Background information retains the single option that best describes the participant, but in a coordinated

study, participants are given the opportunity to choose multiple options, thus allowing for more detailed self-description and the identification of trends.

Table 1. Industry background of participants

Variables	n	%
Current industry of participants		
<i>Technology</i>	12	33.3
<i>Healthcare/Biotech</i>	2	5.6
<i>Manufacturing</i>	5	13.9
<i>Finance/Investment</i>	6	16.7
<i>Consumer/Luxury</i>	6	16.7
<i>Education</i>	4	11.1
<i>Other</i>	1	2.8
Current role level		
<i>Staff-Entry</i>	7	19.4
<i>Human resource</i>	4	11.1
<i>Mid-Level management</i>	14	38.9
<i>Senior leadership/Executive</i>	11	30.6
Current company size		
<i>Small (1–100 employees)</i>	9	25.0
<i>Medium (101–1000 employees)</i>	15	41.7
<i>Large (1000 + employees)</i>	7	19.4
<i>Multinational corporation</i>	5	13.9
Perceived organizational structure		
<i>Hierarchical</i>	13	36.1
<i>Flat</i>	11	30.6
<i>Hybrid</i>	11	30.6
<i>Other</i>	1	2.8
Total participants (n = 36)	36	100

For the interviews, the study selected three participants from the questionnaire (individuals A, B, and C) based on their functional complementarity: the three participants were from diverse industries (technology, healthcare, and consumer goods) and were responsible for different sectors (production, sales, and human resources), representing the three core pillars of corporate operations: technological innovation, external markets, and internal organizational governance. Selecting samples covers the variety of impacts of AI on general industries. Table 2 provides an overview of the backgrounds of the interviewees with pseudonyms A, B, and C.

Questionnaire

The questionnaire was designed to assess three dimensions: (1) organizational structure and application of digital tools (questions 4–6), measuring the existing structural attributes and daily collaboration tools of enterprises; (2) the impact of technology on the dependence on traditional leadership (questions 7, 8, 13, and 14), directly measuring the changes in employees’ perceived dependence and the impact of AI

positions through a 5-point Likert scale; and (3) workplace psychological security and upward feedback mechanisms (questions 9–12), directly assessing whether there are safe channels for voice within the organization and their subjective impact on innovation. The questionnaire was collected through the online platform named Wenjuanxing and is included in Appendix 1.

Interview

The interviews were semi-structured, meaning that the three department leaders could answer unified core questions while sharing their unique, real managerial experiences in each industry to address the lack of practical executive insights in prior research. All interview contents were transcribed into written documents for further thematic analysis. Participants’ names were anonymized to ensure their privacy. Each interview lasted around 40–60 minutes, and the interviews were conducted online through VooV Meeting.

Results

The quantitative results from the questionnaire of the 36 participants reveal an ongoing trend of AI exerting its influence on modern work fields. As illustrated in Table 3, 77.78% of the participants explicitly state that AI has already impacted their working processes or role expectations in a traditional workplace. Moreover, this finding aligns with the results in the Leadership Independence section, in which 44.44% of the respondents agreed that the democratization of digital tools has actively reduced employee dependence on traditional leadership figures.

Specifically, Respondent 23 stated that AI had “*greatly reduced the processing of tedious work,*” and Respondent 30 highlighted its role in “*reducing workload related to basic copywriting tasks*” during the open-ended responses. These responses suggest that AI enables employees to complete routine tasks and access information more independently, thereby reducing reliance on traditional managerial support. Specifically, AI helps sales teams conduct due diligence by collecting background information on potential customers and companies before visiting, while also serving the purposes of creating new business value and improving internal workplace efficiency. Although the quantitative data show that AI has greatly improved the efficiency of daily office work and report output, results from the open-ended questions in the questionnaire (Question 15–16) show that respondents have reached a high degree of consensus on the core leadership characteristics that AI cannot replace. The 36 respondents generated a total of 48 valid capability mentions. The distribution of these data is presented in Fig. 1.

By cross-referencing the quantitative frequencies with the corresponding qualitative interview texts, the results reveal the following two specific core competency characteristics unique to human leaders. First, a total of 9 responses mentioned courage and accountability in the questionnaire, while 8 responses mentioned courage and accountability in the work field. As another trait, emotional responses, including

Table 2. Profiles of selected interviewees for semi-structured interviews

Interviewee	Department	Position	Industry	AI exposure
A	Sales	Mid-level manager	Technology	High
B	Human resources	Vice president	Healthcare technology	Moderate
C	Product development	Business director	AI & data services	Very high

Table 3. Quantitative summary of key indicators on AI and leadership

Behavioral dimension/survey item	Strongly disagree/Disagree (%)	Neutral (%)	Agree/Strongly agree (%)	Mean score (1–5)
Operational impact <i>“AI has affected my work processes or role expectations.”</i>	5.56	16.67	77.78	4.06
Leadership independence <i>“Digital tools reduce dependence on traditional leadership.”</i>	27.78	27.78	44.44	3.19
Psychological safety <i>“My organization provides safe/effective upward feedback.”</i>	16.67	16.67	66.67	3.58

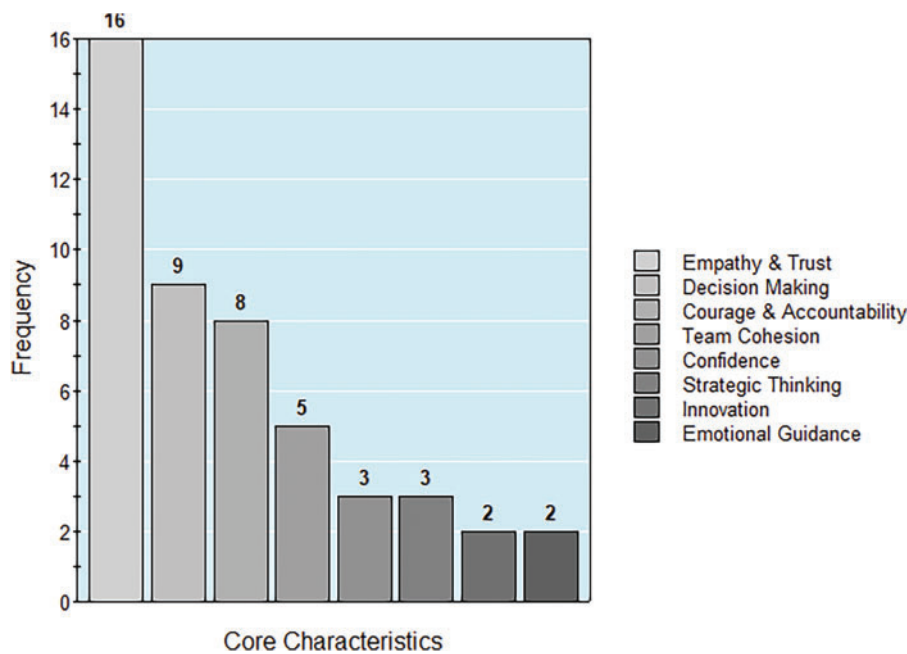


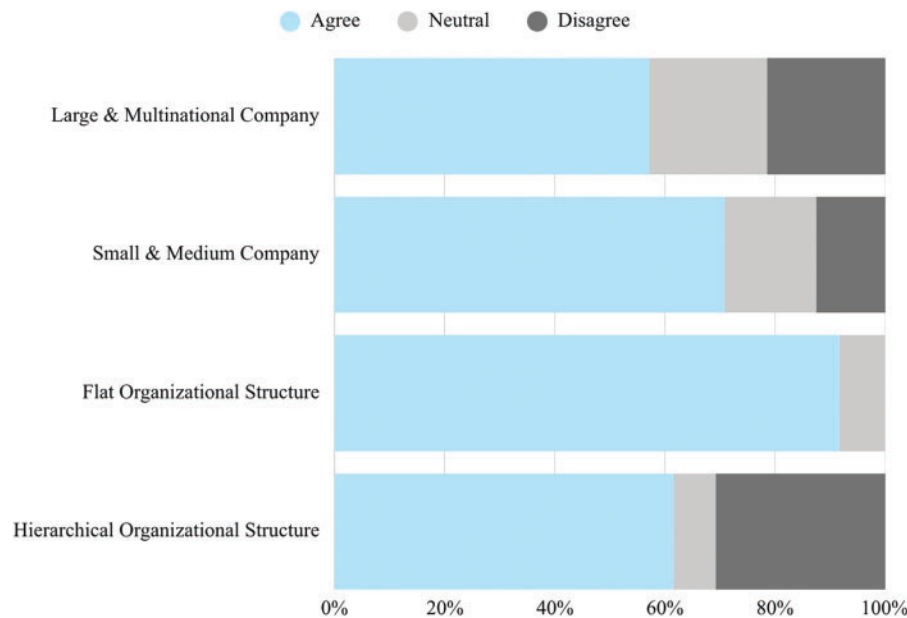
Figure 1. Irreplaceable leadership dimensions in the AI era

trust and empathy, were mentioned a total of 16 times in the quantitative analysis of the samples, representing the highest proportion of all tags according to Fig. 1. According to the interview summary, AI cannot understand human nature, relational nuances, or exercise proper discretion in sensitive situations like terminating contracts. Also, humans excel at providing genuine emotional value, which is critical in B2B sales where trust and relationships drive decisions. Furthermore, data show that although AI adoption is high,

in hierarchical or large companies, employee feedback still lacks upward feedback transparency due to the many layers involved. The influence of AI in the work field is demonstrated according to Table 4: 77.78% (n = 28) of the participants agreed that AI had affected their work processes or role expectations, while 44.44% of the participants (n = 16) agreed that digital tools had reduced their reliance on traditional managers.

Table 4. Statistics and distribution of AI impact and leadership independence

Survey statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Likert mean ($\bar{x}$)	SD (s)
<i>AI has affected work processes or role expectations.</i>	1	1	6	15	13	4.06	0.95
<i>Digital tools reduce employees' dependence on traditional leadership.</i>	4	6	10	15	1	3.19	1.08

**Figure 2.** Percentage distribution of upward feedback channels across differing organizational structures and scales

Discussions and Recommendations for Future Work

The necessity of establishing a psychologically secure environment is supported by the interview. While the study did not explicitly ask the managers about their organization's condition due to privacy concerns and implicit biases, several stories are revealed by the interviewees that demonstrate their efforts or impressions of a psychologically safe environment:

AI reduces employees' dependence on traditional leaders for information and routine decision-making. Most (77.78%) of participants reported that AI had affected their work processes, while nearly half (44.44%) agreed that digital tools reduce reliance on traditional leadership. This suggests that leadership is gradually moving away from its traditional role of information control. In traditional organizations, managers are often characterized as possessing superior information or knowledge that is not accessible to employees. However, AI tools now allow employees to independently gather information, conduct research, and complete routine analytical tasks. Similarly, leadership evolves to a position that involves guiding employees rather than controlling information. This represents a crucial

change in modern companies: as AI reduces information asymmetry, leaders are increasingly required to coordinate and facilitate organizational work, since traditional information gatekeeping can impede communication within an organization.

Another finding in the study seems to indicate that human-centric leadership has become more valuable in the AI era. The open-ended questionnaire results revealed that the most frequently mentioned indispensable skills among respondents included empathy, trust, accountability, and courage. Among these, skills related to emotions appeared most frequently, while accountability and courage were also repeatedly emphasized in both the questionnaire and interview data. This result indicates that while AI can assist in tasks such as information analysis, report writing, and process optimization, its capabilities are primarily focused on cognitive tasks, rather than complex interpersonal interactions and emotional judgments.

In the interviews, Interviewee B mentioned that AI can quickly generate legally compliant employee termination documents, but it fails to accurately assess the potential psychological impact of the wording on employees, and it cannot determine the most appropriate communication method in a specific organizational context. This

demonstrates that AI lacks a deep understanding of human relationships and organizational context. Similarly, Interviewee A points out that in business-to-business sales environments, customer decision-making processes often involve multiple stakeholders, making trust-building and providing emotional value crucial drivers of collaboration. Even though AI can assist salespeople with customer background checks and market analysis, the key to ultimately facilitating collaboration remains building interpersonal relationships. Therefore, this study argues that as AI takes over routine tasks, the sources of leaders' value are shifting. Future leaders' competitive advantages will no longer primarily be based on informational capabilities, but rather on forming unique human abilities such as emotional intelligence, ethical judgment, and accountability. In other words, AI has not diminished the importance of leadership; rather, it has redefined the core competencies leaders need.

Another key finding of this study is the clear link between psychological safety and organizational innovation capabilities as shown in Fig. 2. The data show that 91.67% of respondents in flat organizational structures believed their organizations had an effective upward feedback mechanism, compared to only 61.54% of those in hierarchical organizational structures. Furthermore, employees in small and medium-sized enterprises (SMEs) rated their feedback environment more highly than those in large enterprises and multinational corporations.

These results demonstrate that organizational structures directly influence employees' willingness to express their opinions and innovative thoughts. Due to the rapid pace of AI innovation, they often need to acknowledge their lack of knowledge, propose unproven new ideas, and even challenge existing workflows. If an organization lacks psychological safety, employees may choose to remain silent for fear of making mistakes or receiving negative feedback, thus limiting the practical application value of AI.

The interview results further support this view. Interviewee B shared a case study of an employee incentive program. Although the project initially faced opposition from the finance department, leadership did not reject the employee's proposal but instead helped the employee adjust the plan and ultimately push the project to implementation. This case study demonstrates that when employees feel supported rather than punished, they are more willing to propose innovative ideas and take the risk of trying new solutions. Meanwhile, Interviewee A emphasized that one of the key responsibilities of a leader is to listen to employees and face problems and challenges together. This leadership style seems to differ from traditional authority-centered leadership, placing greater emphasis on collaboration and support.

The first limitation of this study is the small sample size ($n = 36$) and high homogeneity (all participants were from mainland China and aged between 35 and 60). Therefore, the findings cannot be generalized to emerging industries and modern corporations. Future research should replicate the study design using international samples and participants from different age groups to test boundary conditions and validate the findings with larger sample sizes.

The second limitation results from the snowball sampling method. The study employed snowball sampling, whereby participants were recruited through the researcher's personal and professional networks. While this approach allowed efficient access to working professionals across multiple industries, it may have introduced selection bias, as respondents were more likely to share similar professional backgrounds, organizational cultures, or attitudes toward AI. Furthermore, because the questionnaire relied on self-reported responses, some participants may have provided socially desirable answers, particularly when evaluating their organization's leadership practices or workplace psychological safety. As a result, the findings may present a more positive perception of AI adoption and organizational culture than what exists in practice, thereby limiting the generalizability of the results. Future research should employ random sampling of representative organizations from different industries and ensure strict anonymity while using neutral and indirect questioning techniques in questionnaires.

The last limitation concerns the measurement of key variables. Concepts such as Psychological Safety, leadership effectiveness, and AI impact were assessed primarily through self-reported perceptions using a 5-point Likert scale and optional open-ended comments. Although this method provides a practical way to capture participants' attitudes, the responses are inherently subjective and may be interpreted differently across individuals. Therefore, the measurements may not fully capture the complexity of these concepts, and the results should be interpreted as perceptions rather than objective indicators of organizational performance or leadership quality. Future studies should include validated psychometric surveys and behavioral observations to achieve more accurate results.

Conclusion

This study examined the evolving relationship between artificial intelligence, modern leadership practices, and workplace psychological safety. Through a mixed-methods empirical investigation combining cross-industry survey data with executive interviews, the findings demonstrate that AI adoption seems to alter traditional organizational dynamics. By democratizing access to expert knowledge and automating routine analytical tasks, digital tools reduce employee reliance on top-down, hierarchical control. However, technology alone does not drive organizational transformation; instead, workplace psychological safety serves as a catalyst, enabling team members to experiment with emerging technologies, voice disruptive ideas, and learn from operational failures without fear of reprisal. The empirical results further highlight that while AI excels at cognitive data processing, core human leadership traits remain entirely irreplaceable. Capabilities such as empathy, interpersonal trust, ethical judgment, and accountability for high-stakes decisions represent the primary drivers of sustainable team performance in the digital age. Moreover, the study reveals that flatter organizational structures seem to coordinate

stronger upward communication and feedback loops than rigid hierarchies, directly amplifying an organization's innovative capacity.

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Appendix

Data Collection Survey:

https://docs.google.com/spreadsheets/d/14a1ViDrt_lmGc8sd5CFTtmFybDDm00WO/edit?usp=drive_link&oid=110193091499250334326&rtpof=true&sd=true