
Emotional Intelligence as a Human Leadership Capability in the AI-Driven Technology Workplace

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Abstract

This study examines emotional intelligence (EI) as a human leadership capability among information technology professionals and interprets empirical relationships within the contemporary AI-driven technology workplace. The empirical foundation is a quantitative, correlational, cross-sectional dissertation study. A total of 230 surveys were collected in 2016; 45 incomplete responses were excluded, leaving 185 usable cases. Leadership was measured with 36 items from the Multifactor Leadership Questionnaire (MLQ 5X), and EI was measured with the Schutte Self-Report Emotional Intelligence Test (SSEIT). Blockwise multiple regression incorporated demographic controls. Overall, EI significantly predicted transformational leadership ($R^2 = .343$, $\beta = .585$, $F(1, 183) = 95.424$, $p < .001$) and transactional leadership ($R^2 = .222$, $\beta = .471$, $F(1, 183) = 52.236$, $p < .001$) but did not significantly predict passive-avoidant leadership. Transformational leadership also showed the broadest relationship across the four EI components examined. The study contributes IT-specific evidence that EI is associated with active leadership forms and provides a defensible pre-generative-AI empirical baseline for examining human leadership capabilities in increasingly AI-enabled workplaces. Because AI was not measured in the original dataset, the study does not claim an AI effect; rather, contemporary AI and digital-leadership literature is used to interpret the continuing importance of emotional, relational, and adaptive leadership capabilities.

Keywords: emotional intelligence, artificial intelligence, IT leadership, transformational leadership, digital leadership, human-AI collaboration

1. Introduction

Artificial intelligence is changing the distribution of work between people and technology. In information technology organizations, AI can accelerate coding, analysis, documentation, monitoring, forecasting, and decision support. Yet these capabilities do not eliminate the human work of leadership. Technology professionals still experience uncertainty, identity concerns, learning demands, conflict, trust questions, and the need to make sense of organizational change. The leadership challenge is therefore shifting from simply possessing technical expertise toward integrating technical judgment with communication, emotional regulation, collaboration, and responsible decision-making.

Recent scholarship reinforces this point. Keisham and Lathabhavan (2026), reviewing 66 studies of digital leadership, identify leadership competencies, innovative mindset, organizational culture, collaboration, reskilling, and alignment of technology with business goals as important features of digital leadership. Gerhardt et al. (2026) similarly conclude from a comprehensive review that leader EI is positively associated with relational leadership styles and leader effectiveness. In IT-specific research, Kaur and Chauhan (2025) identify adaptability, trustworthiness, and interpersonal influence as consequential EI-related factors in hybrid work. These developments make the dissertation evidence useful as a historical baseline for the human side of technology leadership.

The central research gap is not whether AI is transforming technology work, but how organizations should understand the human leadership capabilities that remain consequential as more analytical and technical tasks become AI-enabled. Existing digital-leadership research increasingly emphasizes adaptability, trust, communication, and human-centered change, yet empirical IT-specific evidence linking emotional intelligence to full-range leadership styles remains useful for clarifying which forms of leadership are most closely associated with emotional capability.

2. Research Question and Objectives

The study examines the extent to which emotional intelligence is associated with transformational, transactional, and passive-avoidant leadership among information technology professional leaders and considers what these relationships imply for human leadership capability in an AI-driven technology workplace. Specifically, the study examines the relationship between overall EI and the three full-range leadership styles, identifies the EI components closely associated with active leadership, and interprets the findings cautiously within contemporary AI-enabled and digitally intensive work without attributing AI effects to data that did not measure AI.

3. Theoretical Framing

Emotional intelligence concerns the perception, regulation, management, and constructive use of emotional information. Transformational leadership emphasizes influence, inspiration, intellectual stimulation, and individualized consideration, while transactional leadership relies more heavily on exchanges, expectations, rewards, monitoring, and corrective action. Passive-avoidant leadership is characterized by delayed intervention or the absence of active leadership. The Job Demands-Resources (JD-R) framework provides an additional lens for understanding why EI may be increasingly consequential in technology-intensive work. JD-R theory distinguishes job demands that require sustained cognitive or emotional effort from job resources that help employees meet those demands, remain engaged, and reduce strain (Bakker & Demerouti, 2007). AI-enabled work can increase the speed, volume, novelty, and ambiguity of information while also creating reskilling demands and uncertainty about changing roles. In this context, emotionally intelligent leadership can function as a social and relational resource by supporting sensemaking, trust, communication, emotional regulation, and adaptive coping. This

framing strengthens the urgency of EI not because AI was measured in the original study, but because contemporary technological demands can intensify the human demands surrounding change.

A complementary human-AI collaboration perspective treats AI as an augmenting capability rather than a substitute for the relational functions of leadership. AI can automate portions of information processing, but leaders remain accountable for how technology is introduced, how employees understand its implications, and how teams respond to uncertainty. Transformational behavior is especially relevant when employees must learn new tools, reconsider established roles and sustain motivation during change. Transactional behavior remains relevant for clarifying standards, accountability, and performance expectations. Passive avoidance may be especially problematic when employees need timely guidance about rapidly changing technologies.

4. Methodology

The empirical foundation is the author's dissertation study of emotional intelligence and leadership styles among information technology professional leaders. The original study used a quantitative, correlational, cross-sectional design. Data were collected in 2016 after ethics clearance was obtained. Participants were recruited through convenience and snowball sampling from the researcher's professional IT network. A total of 230 surveys were collected; 45 incomplete surveys were excluded, leaving 185 usable cases. Participants included IT professional leaders in the United States and some other countries.

Leadership was measured with 36 items from the Multifactor Leadership Questionnaire (MLQ 5X), representing transformational, transactional, and passive-avoidant leadership. Emotional intelligence was measured with the Schutte Self-Report Emotional Intelligence Test (SSEIT), organized in the dissertation into four components: perception of emotion, managing own emotions, managing others' emotions, and utilization of emotion. Demographic controls included gender, age, ethnicity, education, and leadership tenure. The original analyses used blockwise multiple regression at $\alpha = .05$. Demographic variables were entered before the leadership or EI variables of primary interest. Because the design was cross-sectional and self-report, the term predictor is used in statistical rather than causal sense.

The original dissertation study received approval from the Our Lady of the Lake University Institutional Review Board (OLLU IRB) before data collection. The IRB Notice of Approval to Begin Research lists the study as EXEMPT STATUS, with an approval date of February 15, 2016 (2/15/16), PI: Eniola Olagundoye, faculty advisor: Dr. Yu Sun, and study title: "The Relationship Between Emotional Intelligence and Leadership Style Among Information Technology Professionals." The dissertation further states that an informed consent form was presented to each survey respondent before administration of the survey; participation was voluntary, participants could discontinue at any time without penalty, there were no costs or known risks, and anonymity was maintained because names were not collected or connected to

the survey results. No new human-participant data were collected for the present manuscript; it reanalyzes and reinterprets the previously collected dissertation data.

5. Results

The dissertation produced a coherent pattern across the full-range leadership model. Overall emotional intelligence significantly predicted transformational leadership and transactional leadership but did not significantly predict passive-avoidant leadership. Table 1 presents the two significant overall-EI regression models using the exact model statistics reported in the dissertation. Because each final model contained one retained continuous predictor, the corresponding *t* statistic is equivalent to the signed square root of the *F* statistic; exact significance is reported in APA form as $p < .001$ rather than $p = .000$.

Table 1. Multiple regression results for overall emotional intelligence predicting active leadership styles

Leadership outcome	R ²	β	F	df	t	p
Transformational leadership	.343	.585	95.424	1, 183	9.768	< .001
Transactional leadership	.222	.471	52.236	1, 183	7.227	< .001

Note. *N* = 185. *F* values and degrees of freedom are from the original dissertation model summaries. The *t* values are mathematically equivalent to $\sqrt{F}$ for these one-predictor final models and retain the positive sign of β . The original dissertation reported Sig. = .000; APA convention reports this as $p < .001$. Overall EI did not significantly predict passive-avoidant leadership, and the source did not report a corresponding retained-predictor model statistic for that nonsignificant relationship.

In the leadership-to-EI models, transformational leadership significantly predicted all four EI components. For perception of emotion, the dissertation reported $R^2 = .138$ and $\beta = .371$ for transformational leadership, with transactional leadership adding a smaller significant contribution ($\Delta R^2 = .026$, $\beta = .192$, partial $r = .175$). For managing own emotions, transformational leadership was significant ($R^2 = .239$, $\beta = .489$), whereas transactional leadership was not.

For managing others' emotions, both active leadership styles were significant; transactional leadership added $\Delta R^2 = .038$ ($\beta = .233$, partial $r = .234$), and gender was also significant, with women scoring higher than men. For utilization of emotion, transformational leadership accounted for 31.4% of model variance ($R^2 = .314$, $\beta = .560$), and transactional leadership added 3.4% ($\Delta R^2 = .034$, $\beta = .219$, partial $r = .223$). These findings are interpreted as associations and not causal effects.

6. Discussion

The findings show that EI was most strongly aligned with active leadership. The association with transformational leadership was particularly substantial: the EI model explained 34.3% of variance in transformational leadership. The 22.2% figure for transactional leadership was also meaningful, but smaller. The absence of a significant relationship with passive-avoidant leadership sharpens the interpretation: emotional capabilities in this sample were associated with engagement in leadership rather than withdrawal from it.

The JD-R framework helps explain why this pattern has contemporary relevance. As AI-enabled work increases cognitive load, learning demands, pace of change, and uncertainty, leaders can provide resources that buffer demand and sustain engagement. EI-related behaviors—recognizing emotional cues, regulating one's own reactions, responding constructively to others, and communicating through uncertainty—can operate as relational resources. Transformational leadership may be especially important because inspiration, individualized consideration, and sensemaking can help employees navigate changing technologies, whereas passive-avoidant leadership withholds precisely the guidance and support that heightened job demands may require (Bakker & Demerouti, 2007).

From a human-AI collaboration perspective, the results also support a complementarity argument. AI can expand analytical capacity and decision support, while human leaders remain responsible for trust, interpretation, conflict resolution, ethical judgment, motivation, and adaptation. The dissertation predates widespread generative AI and did not ask participants about AI use, AI attitudes, algorithmic management, or human-AI collaboration. Accordingly, the present analysis treats the findings as a baseline rather than a direct test of AI effects. Contemporary evidence on digital leadership and technostress nevertheless makes the baseline relevant: Ertiö et al. (2024), for example, emphasize communication, transparency, trust, and emotionally intelligent digital leadership in addressing technostress.

The contribution is therefore twofold. Empirically, the study isolates an IT-professional pattern in which EI is associated with transformational and transactional leadership but not passive-avoidant leadership. Conceptually, it positions this pattern as a pre-generative-AI baseline for investigating whether emotional and relational leadership capabilities become more, less, or differently important as AI changes the content of technology work.

7. Managerial Implications

Technology organizations should avoid framing AI readiness as a purely technical competency. Leadership-development systems can assess and develop emotional perception, self-regulation, interpersonal influence, and constructive use of emotion alongside AI literacy and technical expertise. Promotion criteria for technical leaders can include evidence of coaching, change in communication, conflict management, and the ability to build trust during technology transitions. A practical implication is a dual-capability model: leaders need sufficient AI literacy to understand the technology and sufficient emotional intelligence to lead the people affected by it.

Organizations can build this model into succession planning, management development, project-lead selection, and post-implementation reviews.

8. Limitations and Future Research

The study used convenience and snowball sampling, self-report instruments, and a cross-sectional design. The data cannot establish causality and should not be generalized to all IT leaders. Most importantly for the present framing, AI was not measured. Future studies should replicate the model with contemporary IT leaders and add measures of AI adoption, AI anxiety, trust in AI, perceived job displacement, human-AI collaboration, psychological safety, digital change readiness, and job demands and resources. Longitudinal and multi-source designs would be particularly valuable.

9. Conclusion

The dissertation evidence indicates that emotional intelligence is closely associated with active leadership among IT professionals, especially transformational leadership. Contemporary AI and digital-leadership research make this historical finding more, not less, relevant. As AI assumes a larger role in analytical and technical work, organizations still require leaders who can interpret human reactions, regulate themselves, influence others constructively, and guide changes. The strongest conclusion is therefore not that EI causes success in AI environments, but that it is a credible human capability to test and develop as technology work becomes increasingly AI-enabled.

Declarations and Publication Transparency

Data and related-manuscript disclosure. This manuscript is developed from the same dissertation dataset used in companion manuscripts. It is intentionally organized around a distinct research question and contemporary interpretation and does not invent analyses, subgroup results, or AI-era effects that were not measured in the dissertation. The shared dissertation dataset and related manuscripts should be disclosed to the editor as appropriate.

Conflict of interest. The author declares no conflict of interest.

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Ethics statement. The original dissertation study was approved by the Our Lady of the Lake University Institutional Review Board (OLLU IRB) before data collection. The IRB Notice of Approval to Begin Research designated the study as EXEMPT STATUS and records an approval date of February 15, 2016 (2/15/16), for PI Eniola Olagundoye, under the study title “The Relationship Between Emotional Intelligence and Leadership Style Among Information Technology Professionals.” Informed consent was presented to each respondent before the online survey. Participation was voluntary, respondents could discontinue at any time without penalty, and anonymity was maintained because names were not collected or linked to survey results.

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