

Examining the Role of Transformational and Transactional Leadership in Driving Digital Transformation in Saudi Healthcare

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ABSTRACT

Starting with the healthcare systems across the globe, digital transformation is a strategic focus, more so in Saudi Arabia as the country rapidly progress through Vision 2030. Leadership is a significant driver of this transformation, however the conceptual knowledge on the impact of various leadership styles in digital adoption from the health organizations perspective is scarce. This is a conceptual paper examining the roles of transformational and transactional leadership in influencing digital transformation within Saudi's healthcare system. Based on extant leadership theories and digital transformation literature, this paper puts forward a conceptual model on how such leadership styles either facilitate or inhibit digital readiness, innovation capability, system adoption and organizational change. In turn, transformational leadership encourages digital transformation by establishing vision, employee enablement, knowledge sharing and innovation-facilitative cultures. In comparison, transactional leadership adds up through role clarity, performance monitoring and compliance with standards and procedures. The paper finds that both leadership styles are synergistic, and when combined they can enhance the digital transformation of Saudi healthcare institutions. Policy implications and theoretical contributions are considered, providing direction to policy makers and future empirical inquiries.

Keywords: Digital transformation, Healthcare, Transformational leadership, Transactional leadership

INTRODUCTION

Digital transformation refers to the profound integration of digital technologies into organizational processes. It fundamentally reshaping how organizations deliver services, improve operational efficiency, and enhance decision-making capabilities (Vial, 2021). The transformation is increasingly evident as organizations worldwide adopt innovations such as electronic health records (EHRs), telemedicine, artificial intelligence (AI)-driven diagnostics, and integrated health information systems. These technologies streamline administrative with operational tasks, and also significantly enhance the quality of patient care, facilitating a more personalized and efficient service delivery that meets the evolving needs of patients and healthcare providers alike (Susanto et al., 2024; England et al., 2000).

Globally, the push toward digital health solutions are driven by several factors, such as the need for improved patient outcomes, enhanced accessibility to healthcare services, and the increasing demand for data-driven decision-making. In particular, the COVID-19 pandemic has accelerated the adoption of telehealth and remote monitoring technologies, as healthcare systems sought to maintain continuity of care while minimizing inperson visits. This shift has underscored the critical role of digital transformation in building resilient healthcare systems capable of responding to crises.

In Saudi Arabia, national digital health initiatives exemplify a strategic commitment to modernizing healthcare services in alignment with Vision 2030, a comprehensive framework aimed at diversifying the economy and

improving the quality of life for citizens. Programs such as the SEHA Virtual Hospital and various e-health applications are pivotal in fostering a more connected and efficient healthcare system, designed to enhance patient outcomes, accessibility, and overall public health (Toktas, 2024). These initiatives reflect a broader global trend where digital health solutions are recognized as essential for addressing the growing demands of healthcare systems and improving overall public health. Leadership is a critical factor in facilitating digital transformation within healthcare organizations.

Transformational leaders, who inspire and motivate employees to embrace change, are essential in fostering a culture of innovation and adaptability (Bass & Riggio, 2006; Burns, 2012). They encourage collaboration, empower teams, and create an environment where new ideas can flourish, ultimately driving the successful implementation of digital initiatives. Conversely, transactional leaders focus on structured performance and compliance, emphasizing the importance of adherence to established protocols and short-term task execution (Tahir, 2015). While both leadership styles can significantly impact the adoption of digital technologies, the interplay between transformational and transactional leadership approaches remains underexplored, particularly in the context of Saudi healthcare (Alanezi, 2021; Kane et al., 2015).

This paper aims to address this research gap by developing a comprehensive conceptual framework that elucidates how transformational and transactional leadership styles jointly influence the adoption of digital transformation initiatives at both individual and organizational levels. By integrating insights from existing literature and empirical evidence, the study seeks to provide actionable recommendations for healthcare administrators, policymakers, and researchers. Understanding the dynamics of leadership within the digital transformation framework is crucial for leveraging the full potential of digital health innovations, ultimately leading to improved healthcare services, enhanced patient experiences, and better health outcomes. Furthermore, this research will contribute to the ongoing discourse on effective leadership in the digital era, offering valuable perspectives that can inform future leadership training and development programs within the healthcare sector.

LITERATURE REVIEW

Digital Transformation in Healthcare

Digital transformation is a multi-dimensional process that involves technological, organizational, and social changes (Vial, 2021; Susanto et al., 2024). In healthcare, digital transformation encompasses electronic health records, telehealth platforms, mobile health apps, and AI-assisted diagnostics (Alsahmah & Alshammari, 2025; England et al., 2000). Evidence suggests that digital adoption improves patient outcomes, reduces operational costs, and enhances service accessibility (Toktas, 2024; van den Hoed et al., 2022).

However, implementation challenges remain, including resistance to change, lack of digital literacy, and organizational culture barriers (Alanezi, 2021; Alotaibi et al., 2025). Leadership plays a pivotal role in overcoming these challenges by guiding employees through change, encouraging learning, and maintaining motivation (Deschamps et al., 2016; Kazim, 2019).

Transformational Leadership

Transformational leadership emphasizes vision, inspiration, intellectual stimulation, and individualized consideration (Bass & Riggio, 2006; Northouse, 2025). Leaders adopting this style encourage innovation, promote organizational learning, and motivate employees to achieve goals beyond their personal interests (van den Hoed et al., 2022).

In the context of healthcare, transformational leaders have been shown to enhance employee engagement, technology adoption, and digital readiness (Stephens, 2017; Lin, 2025). The idealized influence of transformational leaders builds trust and commitment among staff, while intellectual stimulation encourages

experimentation with digital tools (Avolio et al., 2009; Bennett & Lemoine, 2014).

Transactional Leadership

Transactional leadership focuses on structured processes, rewards, and performance monitoring (Bass, 1985; Tahir, 2015). Components include contingent reward and management by exception, emphasizing accountability and compliance (Avolio & Bass, 2004). In healthcare, transactional leadership ensures that digital adoption is systematic, safe, and consistent (McKnight et al., 2020). Transactional leaders provide clear role definitions, performance feedback, and adherence to digital protocols, which reduces errors and ensures alignment with organizational objectives (AlKaway et al., 2023).

Leadership and Digital Transformation

Leadership is among the most critical determinants of digital transformation success (Susanti et al., 2022; Raisch & Krakowski, 2021). Transformational leadership fosters innovative climates, knowledge sharing, and employee empowerment, supporting the adoption of new technologies (van den Hoed et al., 2022; Kazim, 2019).

Transactional leadership ensures structured implementation, accountability, and operational stability, which is necessary for maintaining quality in complex healthcare systems (Tahir, 2015; Yoong, 2009). Studies indicate that a hybrid approach, combining transformational and transactional leadership, can optimize digital transformation outcomes (Bass & Riggio, 2006; Alanezi, 2021).

CONCEPTUAL FRAMEWORK

This paper proposes a framework illustrating how transformational and transactional leadership styles influence digital transformation adoption in Saudi healthcare organizations.

Transformational Leadership Mechanisms

- Vision articulation: Inspiring a shared vision for digital innovation (Bass & Riggio, 2006; Northouse, 2025).
- Innovation climate: Encouraging experimentation with digital tools (van den Hoed et al., 2022).
- Employee empowerment: Enhancing motivation and digital skills (Kazim, 2019; Lin, 2025).
- Knowledge sharing: Promoting collaboration across units (Susanto et al., 2024; Stephens, 2018).

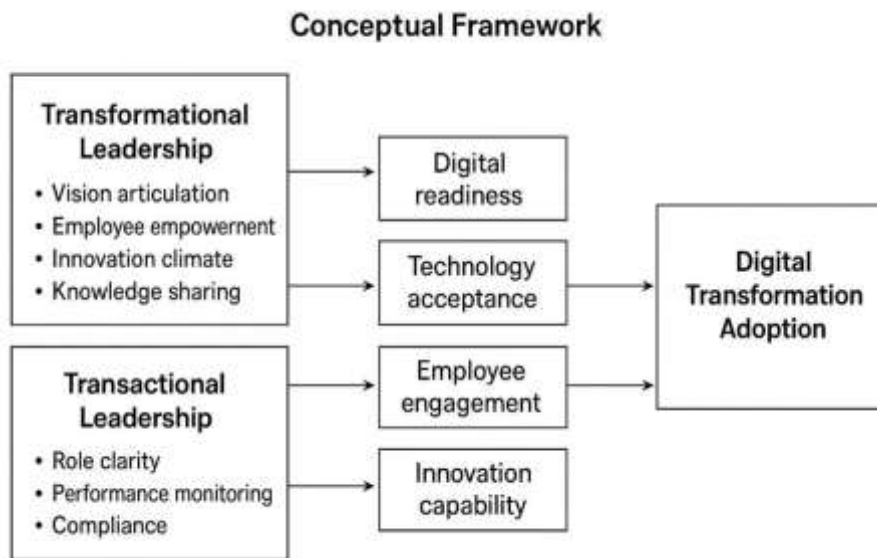
Transactional Leadership Mechanisms

- Role clarity: Defining responsibilities during digital adoption (Tahir, 2015).
- Performance monitoring: Ensuring adherence to procedures (McKnight et al., 2020).
- Structured processes: Minimizing errors during implementation (AlKaway et al., 2023).
- Compliance-driven culture: Reinforcing standards for safety and quality (Yoong, 2019; Alshamah & Alshammari, 2025).

Combined Influence

The framework suggests that transformational leadership drives innovation and readiness, while transactional leadership ensures disciplined implementation and sustainability (Bass & Riggio, 2006; Susanti et al., 2022; Vial, 2021).

Figure 1: Conceptual Framework of Leadership Styles



METHODS (CONCEPTUAL APPROACH)

This conceptual paper employs a theoretical review and integrative analysis, drawing on established literature in the fields of leadership and digital transformation. By synthesizing insights from various sources, this study aims to develop a robust conceptual framework that elucidates the interplay between leadership styles and the adoption of digital transformation initiatives within the Saudi healthcare context (Avolio et al., 2009; Susanto et al., 2024). The methodological approach consists of the following key steps:

Reviewing Leadership Theories: This step involves a critical examination of prominent leadership theories that inform our understanding of how leadership influences organizational change.

- a. **Transformational Leadership:** This framework, articulated by Bass (1985) and further developed by Avolio, posits that transformational leaders inspire and motivate their followers to achieve exceptional outcomes and foster an environment of innovation and change (Bass & Riggio, 2006). The characteristics and behaviors associated with transformational leadership, such as vision articulation, individualized consideration, and intellectual stimulation, will be explored in depth.
- b. **Transactional Leadership:** In contrast, transactional leadership, as described by Burns (2012) and further examined by Tahir (2015), focuses on structured performance, compliance, and the exchange between leaders and followers. This review will delve into how transactional leaders facilitate stability and operational efficiency, which can be crucial during the initial phases of digital transformation.
- c. Through this comprehensive review, we aim to identify the strengths and limitations of each leadership style in the context of digital health initiatives.

Reviewing Digital Transformation Models: This step will involve an analysis of existing digital transformation models that provide a framework for understanding the processes and challenges associated with technological adoption in healthcare.

1. **Technology Acceptance Models:** These models, including the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT), will be examined to understand the factors that influence healthcare professionals' acceptance of digital tools. Key determinants such as perceived ease of use, perceived usefulness, and social influence will be considered.
2. **Organizational Change Models:** Additionally, we will review models of organizational change, such as Kotter's 8-Step Change Model and Lewin's Change Management Model, which provide insights into how

organizations can effectively manage transitions and drive cultural shifts necessary for successful digital transformation (Laig & Abocejo, 2021). This analysis will help to contextualize the challenges and opportunities faced by Saudi healthcare organizations in implementing digital solutions.

Synthesizing Findings to Develop a Conceptual Framework: The final step involves synthesizing the insights gained from the reviews of leadership theories and digital transformation models to develop a comprehensive conceptual framework specifically tailored to the Saudi healthcare context.

1. This framework will illustrate how transformational and transactional leadership styles can collaboratively influence the adoption and implementation of digital transformation initiatives. It will highlight the roles of various leadership behaviors in promoting innovation, fostering employee engagement, and navigating resistance to change within healthcare settings.
2. Additionally, the framework will consider contextual factors unique to the Saudi healthcare environment, such as cultural dynamics, regulatory frameworks, and the impact of national initiatives like Vision 2030, which aim to modernize and enhance the delivery of healthcare services.

This methodological approach aligns with accepted guidelines for conceptual research in management and social sciences, as outlined by Northouse (2025) and Vial (2021). By employing a rigorous theoretical review and integrative analysis, this study aims to contribute valuable insights into the complexities of leadership in the digital transformation of healthcare, ultimately offering practical implications for healthcare administrators, policymakers, and researchers in Saudi Arabia and beyond.

DISCUSSION

Both transformational and transactional leadership play important but different roles in guiding digital transformation in healthcare. Transformational leaders inspire and motivate healthcare workers to embrace new technologies, encouraging learning, creativity, and innovative thinking (van den Hoed et al., 2022; Kazim, 2019). In practice, this means leaders who can clearly communicate a vision for digital change and support their teams in experimenting with tools like electronic health records, telemedicine, or AI-driven diagnostic systems are more likely to see successful adoption. Transformational leadership creates an environment where staff feel valued and empowered to explore new approaches, rather than being afraid of mistakes.

On the other hand, transactional leadership focuses on structure, rules, and accountability, ensuring that digital transformation efforts are implemented in a consistent and safe manner (Tahir, 2015; McKnight et al., 2020). In healthcare, this style is critical because it reinforces adherence to protocols, reduces errors, and maintains patient safety during the transition to new digital systems. By setting clear expectations and linking compliance to performance or rewards, transactional leaders create predictability, which complements the innovation-driven approach of transformational leaders.

In Saudi Arabia, the healthcare sector operates within a highly hierarchical system with strict regulatory requirements, making a balanced approach even more important (Alanezi, 2021; Toktas, 2024). Transformational leadership alone might inspire staff to innovate, but without clear guidelines and structured implementation, there is a risk of inconsistent adoption or operational mistakes. Conversely, transactional leadership alone could ensure compliance but might limit creativity and reduce staff motivation to explore new digital solutions. Combining both styles allows organizations to create a culture that encourages experimentation while maintaining safe and reliable healthcare practices.

Moreover, transformational leaders play a crucial role in shaping organizational culture to be more receptive to technology (Susanti et al., 2022; Yoong, 2019). By fostering trust, open communication, and collaborative problem-solving, these leaders help employees feel confident in using new systems and participating in digital initiatives. Employees are more likely to adopt new technologies enthusiastically when they see that leadership genuinely supports their growth and learning. At the same time, transactional practices, such as performance monitoring, feedback, and accountability measures, ensure that technological changes are integrated smoothly

into daily operations without compromising standards of care.

Ultimately, the synergy of transformational and transactional leadership creates an environment where digital transformation can thrive in healthcare. Transformational leadership provides the vision, motivation, and encouragement needed to embrace change, while transactional leadership ensures structure, compliance, and operational consistency. In the Saudi healthcare context, where hierarchies and regulations are prominent, this combination is essential for achieving innovation while maintaining safety and reliability. Organizations that successfully blend these leadership styles are better positioned to implement digital solutions that improve patient care, streamline operations, and build a workforce that is adaptable and future-ready.

CONCLUSION

This paper highlights the complementary roles of transformational and transactional leadership in driving digital transformation in Saudi healthcare. Transformational leadership enhances innovation, digital readiness, and employee engagement, while transactional leadership ensures structure, compliance, and process reliability (Bass & Riggio, 2006; Tahir, 2015). Integrating both styles may optimize digital transformation outcomes and improve healthcare service quality. Future empirical research should validate this framework using surveys, interviews, or mixed-method studies in Saudi healthcare organizations.

Implications Practical Implications

- Healthcare leaders should blend transformational and transactional styles to optimize digital adoption.
- Leadership development programs should include change management, digital literacy, and innovation training (Stephens, 2017; Kazim, 2019).
- Organizations should cultivate cultures that balance innovation with compliance (Lin, 2025; Yoong, 2009).

Theoretical Implications

- The framework contributes to leadership theory by linking transformational and transactional leadership to digital transformation outcomes.
- Provides a foundation for future empirical studies in Saudi healthcare (Susanti et al., 2022; Vial, 2021; Alanezi, 2021).

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Conflict of Interest

The authors declare there is no conflict of interest.

REFERENCES

1. Alanezi, F. (2021). Factors affecting the adoption of e-health system in the Kingdom of Saudi Arabia. *International Health*, 13(5), 456-470.
2. AlKnawy, B., Kozlakidis, Z., Tarkoma, S., Bates, D., Honkela, A., Crooks, G., ... & McKillop, M. (2023). Digital public health leadership in the global fight for health security. *BMJ global health*, 8(2).
3. Alotaibi, N., Wilson, C. B., & Traynor, M. (2025). Enhancing digital readiness and capability in healthcare: a systematic review of interventions, barriers, and facilitators. *BMC health services research*, 25(1), 500.
4. Alsahmah, M. M., & Alshammari, S. A. (2025). Impact of Digital Transformation on Healthcare Accessibility in Saudi Arabia: A Systematic Review. *International Journal of Pharmacy Research &*

- Technology (IJPRT), 15(1), 390-399.
5. Avolio, B. J., & Bass, B. M. (2004). Multifactor leadership questionnaire (TM). Mind Garden, Inc. Menlo Park, CA, 1-10.
 6. Avolio, B. J., Walumbwa, F. O., & Weber, T. J. (2009). Leadership: Current theories, research, and future directions. *Annual review of psychology*, 60(1), 421-449.
 7. Bass, B. M., & Bass Bernard, M. (1985). *Leadership and performance beyond expectations* (Vol. 25, No. 3, pp. 481-484). New York: Free press.
 8. Bass, B. M. (2006). *Transformational leadership*. Lawrence Erlbaum Associating.
 9. Bennett, N., & Lemoine, J. (2014). What VUCA really means for you. *Harvard business review*, 92(1/2).
 10. Burns, J. M. (2012). *Leadership*. Open Road Media.
 11. Deschamps, C., Rinfret, N., Lagacé, M. C., & Privé, C. (2016). Transformational leadership and change: How leaders influence their followers' motivation through organizational justice. *Journal of Healthcare Management*, 61(3), 194-213.
 12. England, I., Stewart, D., & Walker, S. (2000). Information technology adoption in health care: when organisations and technology collide. *Australian Health Review*, 23(3), 176-185.
 13. Lin, Q. (2025). Digital leadership: a systematic literature review and future research agenda. *European Journal of Innovation Management*, 28(6), 2469-2488.
 14. Fitzgerald, M., Kruschwitz, N., Bonnet, D., & Welch, M. (2014). Embracing digital technology: A new strategic imperative. *MIT sloan management review*, 55(2), 1.
 15. Kane, G. C., Palmer, D., Phillips, A. N., Kiron, D., & Buckley, N. (2015). Strategy, not technology, drives digital transformation. *MIT Sloan management review*.
 16. Kazim, F. (2019). Digital transformation and leadership style: A multiple case study. *The ISM journal of international business*.
 17. Laig, R. B. D., & Abocejo, F. T. (2021). Change management process in a mining company: Kotter's 8step change model. *Journal of Management, Economics, and Industrial Organization*, 5(3), 31-50.
 18. Stephens, J. H. (2017). *Leadership for Health Professionals*. Jones & Bartlett Learning.
 19. McKnight, D. H., Liu, P., & Pentland, B. T. (2020). Trust change in information technology products. *Journal of Management Information Systems*, 37(4), 1015-1046.
 20. Northouse, P. G. (2025). *Leadership: Theory and practice*. Sage publications.
 21. Raisch, S., & Krakowski, S. (2021). Artificial intelligence and management: The automation–augmentation paradox. *Academy of management review*, 46(1), 192-210.
 22. Susanti, E., Mulyanti, R. Y., & Wati, L. N. (2022). Systematic literature review: Increasing performance of women MSMEs through competitive advantage based on digital transformation and innovation. In *International Conference on Global Innovation and Trends in Economics and Business (ICOBIS 2022)* (pp. 25-61). Atlantis Press.
 23. Susanto, F. L., Maulani, A., & Nuri, S. N. (2024). Implementation of Big Data Analytics and its Challenges in Digital Transformation Era: A Literature Review. *International Journal of Informatics and Information Systems*, 7(2), 90-99.
 24. Tahir, H. (2015). Leadership style and organizational performance: A comparative study between transformational and transactional leadership styles. *IBT Journal of Business Studies (JBS)*, 2(2).
 25. Toktas, E. (2024). The Future of E-Health: Opportunities and Challenges in Public Health Systems. *Journal of Foresight and Health Governance*, 1(1), 1-14.
 26. van den Hoed, M. W., Backhaus, R., de Vries, E., Hamers, J. P., & Daniëls, R. (2022). Factors contributing to innovation readiness in health care organizations: a scoping review. *BMC Health Services Research*, 22(1), 997.
 27. Vial, G. (2021). Understanding digital transformation: A review and a research agenda. *Managing digital transformation*, 13-66.
 28. Yoong, P. (Ed.). (2009). *Leadership in the Digital Enterprise: Issues and Challenges: Issues and Challenges*.