22. Cilt
Sağ. Perf. Kal. Derg., 2025; (22, 3), 148-162
doi: https://doi.org/ 10.70915/spkd.1741976

Hastane Yönetiminde Nesil Çatışmalarının Yönetimi: Yapay Zekâ ile Genç Liderliğin Teşviki

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Geliş Tarihi: 14.07.2025
Kabul Tarihi:10.09.2025

ÖZ

Hastane yönetimi, yapısal olarak daha mekanik yaklaşımları benimseyen geleneksel liderler (Baby Boomer ve X kuşağı) ile daha organik, teknoloji odaklı yaklaşımları savunan genç liderler (Y kuşağı - Millennials ve Z kuşağı) arasında kuşaklar arası gerilimlerle karşı karşıyadır. Bu dinamik, yapay zekânın (YZ) sağlık sistemlerine hızla entegre edilmesiyle daha da karmaşık bir hâl almaktadır. Bu makale, YZ çağında kapsayıcı liderliği teşvik edecek kavramsal bir çerçeve önererek söz konusu kuşak farklarını uyumlu hale getirmeyi amaçlamaktadır. Anlatı tarzında bir literatür taraması aracılığıyla kuşaklar arası farklılıklar, sağlık yönetiminde YZ'nin rolü ve liderlik stratejileri incelenmiştir. Bulgular, YZ destekli karar sistemleriyle kuşaklar arası sinerjiyi birleştiren hibrit bir liderlik modelinin, özellikle kamu hastanelerinde operasyonel verimlilik ve hasta sonuçlarını artırabileceğini göstermektedir. Öngörücü analizler gibi YZ araçları bütçe yönetimini optimize ederken, mentorluk programları deneyimsel bilgi ile teknolojik yetkinlik arasındaki boşluğu kapatmaktadır. Önerilen model, mekanik yapının istikrarını korurken organik yenilikçiliği teşvik eder; dönüşümcü liderlik yaklaşımıyla YZ'ye karşı dirençleri azaltmayı hedefler. Bu çalışma, kuşak farklılıkları ile YZ'nin kesişimindeki boşluğu ele alarak sağlık yönetimi literatürüne katkı sunmakta ve özelleştirilmiş YZ eğitimi ile kuşaklar arası görev güçleri gibi pratik stratejiler önermektedir. Gelecek araştırmalar, bu modelin farklı sağlık kurumlarında kültürel etkilerle birlikte ampirik olarak test edilmesine odaklanmalıdır. Elde edilen bulgular, teknoloji odaklı sağlık hizmetlerinin küresel eğilimleriyle uyumlu, uyum sağlayabilen ve kapsayıcı bir hastane yönetişimi için yol haritası sunmaktadır.

Anahtar Kelimeler: Sağlık Yönetimi, Yapay Zekâ, Kuşak Farklılıkları, Hastane Liderliği, Dönüşümcü Liderlik

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Navigating Generational Tensions in Hospital Management: Artificial Intelligence as a Catalyst for Youthful Leadership

ABSTRACT

Hospital management faces generational tensions between traditional leaders (Baby Boomers, Generation X) favoring mechanistic structures and younger leaders (Millennials, Generation Z) embracing organic, technology- driven approaches, complicated by the rapid integration of artificial intelligence (AI). This article proposes a conceptual framework to harmonize these dynamics, fostering inclusive leadership in the AI era. Through a narrative literature review, it examines generational differences, AI's role in healthcare management, and leadership strategies. Findings suggest that a hybrid leadership model, integrating AI-enabled decision support systems and cross-generational synergy, can enhance operational efficiency and patient outcomes, particularly in public hospitals. AI tools, such as predictive analytics, optimize budget management, while mentorship programs bridge experiential and technological expertise. The model balances mechanistic stability with organic innovation, leveraging transformational leadership to mitigate resistance to AI adoption. This study contributes to healthcare management literature by addressing the underexplored intersection of generational dynamics and AI, offering practical strategies like tailored AI training and cross-generational task forces. Future research should empirically test the model in diverse healthcare settings, exploring cultural influences on AI adoption. These insights provide a roadmap for adaptive, inclusive hospital governance, aligning with global trends in technology- driven healthcare.

Keywords: Healthcare Management , Artificial Intelligence , Generational Differences Hospital Leadership ,Transformational Leadership

1. INTRODUCTION

The healthcare sector is navigating an era of unprecedented transformation, propelled by technological innovations and shifting demographic landscapes that are reshaping hospital management practices worldwide (Topol, 2019). Central to this evolution is the generational divide between traditional leaders (predominantly Baby Boomers and Generation X) and younger managers from the Millennial and Generation Z cohorts, each bringing distinct values and approaches to leadership (Dimock, 2019). While veteran leaders often rely on mechanistic, hierarchical frameworks rooted in bureaucratic stability, younger managers advocate for organic, technology-driven models, leveraging artificial intelligence (AI) to enhance decision-making, patient care, and operational efficiency (Amalberti & Vincent, 2020). The rapid adoption of AI tools (such as predictive analytics, automated resource allocation, and patient data platforms) has amplified this generational dissonance, particularly in public hospitals where rigid structures exacerbate tensions (Bates et al., 2021). Older leaders may view AI as complex or disruptive, whereas younger, digital-native managers embrace it as a cornerstone for innovative, patient-centric governance (Amalberti & Vincent, 2020). Despite robust research on AI's technical applications in healthcare, its role in mediating generational conflicts or empowering youthful leadership remains underexplored (Abernethy et al., 2022). This gap is critical, as effective hospital management hinges on harmonizing diverse leadership perspectives to navigate the complexities of the AI era. This article proposes a conceptual framework to examine generational dynamics in hospital management, the transformative potential of AI, and strategies for fostering inclusive leadership. Drawing on interdisciplinary insights from healthcare management, organizational behavior, and technology adoption, this study aims to bridge the generational divide, offering pathways for adaptive, resilient governance in public and private healthcare settings globally.

2. LITERATURE REVIEW

2.1. Generational Differences in Healthcare Management

The healthcare sector increasingly reflects the impact of generational diversity in leadership, shaped by distinct values, work styles, and technological aptitudes across Baby Boomers (born 1946–1964), Generation X (1965–1980), Millennials (1981–1996), and Generation Z (1997–2012) (Dimock, 2019). Older leaders, particularly Baby Boomers and Generation X, often adhere to mechanistic organizational structures, emphasizing stability, hierarchy, and standardized processes, which align with the bureaucratic frameworks of public hospitals (Amalberti & Vincent, 2020). Their leadership is grounded in experiential knowledge and risk-averse decision-making, prioritizing operational continuity over rapid innovation. Conversely, Millennials and Generation Z favor organic structures, characterized by flexibility, collaboration, and technology-driven innovation (Twenge, 2020). These younger leaders are digital natives, comfortable with data analytics and disruptive technologies, which they leverage to enhance patient-centric care and operational agility. Studies suggest that generational differences influence technology adoption, with younger managers more likely to embrace digital tools, while older leaders may exhibit resistance due to unfamiliarity or perceived complexity (Borkowski & Meese, 2021). This divide is particularly pronounced in healthcare, where rapid technological shifts demand adaptive leadership, yet entrenched bureaucratic norms persist, especially in public institutions. Table 1 summarizes these generational characteristics and their implications for healthcare leadership.

Table 1. Generational Leadership Characteristics in Healthcare Management

Generation	Leadership Style	Organizational Preference	Technological Approach	Common Challenges
BabyBoomers (1946–1964)	Mechanistic, hierarchical	Bureaucratic stability	Hesitant, low digital fluency	Resistance to tech-driven change
Generation X (1965–1980)	Practical, transitional	Structured but flexible	Moderate adaptation	Balancing tradition and innovation

Millennials (1981–1996)	Collaborative, adaptive	Organic, decentralized	Strong digital competence	Lack of institutional authority
Gen Z (1997–2012)	Disruptive, innovation- driven	Networked, agile	Native to AI/data tools	Lack of experience/ respect from seniors

2.2. Artificial Intelligence in Healthcare Management

Artificial intelligence (AI) has emerged as a transformative force in healthcare management, revolutionizing operational efficiency, financial performance, and patient outcomes (Topol, 2019). AI applications, such as predictive analytics for resource allocation, natural language processing for patient data analysis, and automated budgeting systems, enable data-driven decision-making that optimizes hospital operations (Bates et al., 2021). For instance, AI-driven forecasting models can reduce costs by predicting patient admission trends, while machine learning algorithms enhance supply chain management in public hospitals (Jiang et al., 2017). Despite these advancements, AI adoption faces barriers, including high implementation costs, data privacy concerns, and organizational resistance, particularly in resource-constrained public healthcare settings (Abernethy et al., 2022). Research highlights that AI's success depends on leadership's technological competence and organizational readiness, yet many hospitals, especially in the public sector, lack the infrastructure or cultural adaptability to fully integrate AI (Reddy et al., 2020). While technical studies dominate AI literature, few explore its implications for leadership dynamics or organizational structures, leaving a critical gap in understanding how AI reshapes managerial roles across generational cohorts. Recent studies emphasize the rapid integration of advanced AI solutions in hospital workflows, particularly after 2022, driven by both post-pandemic digital transformation policies and workforce shortages.

2.3. Leadership Dynamics and AI Integration

The integration of AI in healthcare management is closely tied to leadership styles, which vary significantly across generations. Younger leaders, with their affinity for technology, are more likely to champion AI as a tool for innovati-

on, using it to streamline processes like budget management and enhance patient care delivery (Amalberti & Vincent, 2020). Their preference for organic organizational structures facilitates AI adoption by fostering experimentation and cross-functional collaboration (Borkowski & Meese, 2021). In contrast, traditional leaders, accustomed to mechanistic structures, may resist AI due to perceived risks or a lack of digital literacy, creating friction in technology-driven transformations (Amalberti & Vincent, 2020; Li , 2024). This resistance is particularly evident in public hospitals, where rigid hierarchies and standardized protocols dominate. Recent studies suggest that hybrid leadership models, combining the experiential wisdom of older leaders with the technological agility of younger ones, could bridge this divide (Scully-Russ & Torraco, 2020). However, the literature lacks a comprehensive analysis of how AI influences generational dynamics in healthcare leadership, particularly in reconciling mechanistic and organic approaches to governance.

2.4. AI Tools in Hospitals

Over the last five years, several AI-powered tools have gained prominence in hospital settings, offering decision support, workflow optimization, and predictive analytics. IBM Watson Health has been widely used for oncology treatment planning by integrating patient data with clinical guidelines (Davenport & Kalakota, 2024). Google DeepMind Health has found application in diagnostic imaging, particularly in the analysis of retinal scans and the detection of breast cancer (De Fauw et al., 2023). Microsoft Azure AI for Health provides a cloud-based platform that supports predictive patient flow and resource management (Bates, 2021). Large language models such as ChatGPT have been piloted for drafting medical documentation, preparing discharge summaries, and generating patient education materials. Additionally, Cerner and Epic AI modules, embedded within hospital information systems, are employed to flag high-risk patients and recommend timely interventions(Li, 2024; Patel & Lam, 2023). The selection and customization of these tools depend on factors such as infrastructure readiness, regulatory compliance, and the digital literacy of healthcare staff. In Türkiye's public hospitals, pilot programs have particularly focused on developing locally compliant decision support

systems and natural language processing tools tailored to Turkish medical terminology.

3. CONCEPTUAL FRAMEWORK

3.1. Theoretical Foundations

The proposed conceptual framework draws on two complementary theories to address generational tensions and AI integration in hospital management: Burns and Stalker's (1961) mechanistic-organic organization theory and Bass's (1990) transformational leadership theory. Mechanistic structures, characterized by rigid hierarchies and standardized processes, align with the preferences of older leaders (Baby Boomers and Generation X), who prioritize stability and control in public hospital settings (Amalberti & Vincent, 2020). In contrast, organic structures, defined by flexibility and collaboration, resonate with younger leaders (Millennials and Generation Z), who favor innovation and technology- driven solutions (Borkowski & Meese, 2021). Transformational leadership, which emphasizes inspiration, intellectual stimulation, and individualized consideration, provides a mechanism to bridge these structural preferences by fostering adaptability and shared vision across generations (Bass, 1990). Together, these theories offer a robust foundation for understanding how generational differences in leadership styles and organizational structures influence AI adoption in healthcare management.

3.2. Proposed Conceptual Model

The proposed model combines generational differences, AI tools, and hybrid leadership to promote inclusive hospital management (Figure 1). The model comprises three interconnected components: (1) Generational Synergy, which leverages the experiential wisdom of older leaders and the technological agility of younger ones through cross-generational collaboration; (2) AI-Enabled Decision Support Systems, which utilize predictive analytics and automated resource allocation to enhance operational efficiency and patient outcomes; and (3) Hybrid Leadership Structures, which combine mechanistic stability with organic flexibility to support AI integration. For instance, AI tools can streamline budget management by forecasting expenses, a priority for younger leaders, while maintaining the standardized protocols valued by older

leaders (Jiang et al., 2017). The model posits that transformational leadership acts as a mediator, encouraging older leaders to embrace AI through training and younger leaders to respect established processes, thus harmonizing mechanistic and organic approaches. This synergy is particularly critical in public hospitals, where bureaucratic inertia often hinders technological adoption (Reddy et al., 2020).

Figure 1. Conceptual Framework: AI-Mediated Generational Leadership in Hospital

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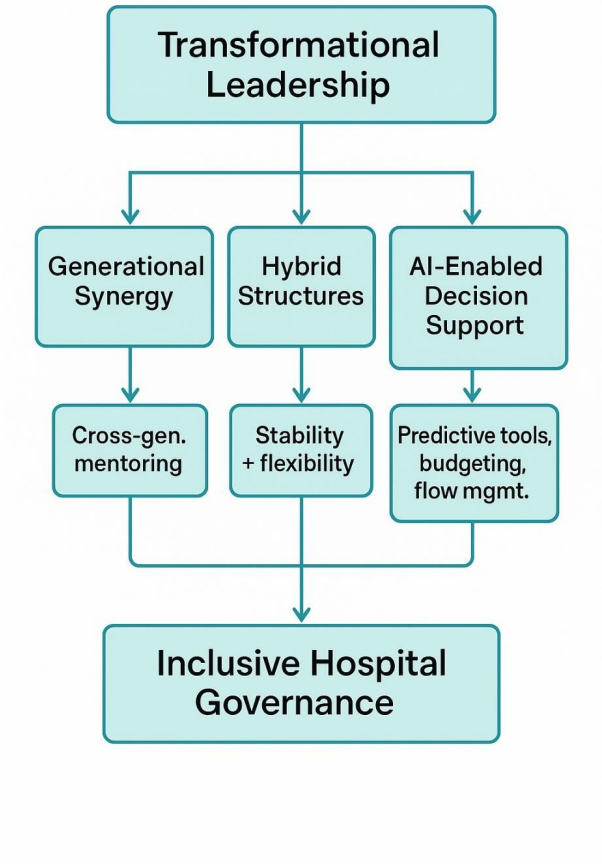

3.3. Practical Applications

In practice, the model can be applied in public hospitals to address operational and financial challenges. For example, AI-driven forecasting tools can optimize resource allocation, reducing costs while aligning with younger leaders' focus on efficiency (Bates et al., 2021). Simultaneously, mentorship programs can pair older leaders' experiential knowledge with younger leaders' technological expertise, fostering mutual learning (Scully-Russ & Torraco, 2020). User-friendly AI interfaces can mitigate older leaders' resistance by simplifying adoption, ensuring that tools like automated budgeting systems are accessible across generations. In a public hospital setting, implementing this model could involve pilot projects, such as AI-supported patient flow management, to demonstrate tangible benefits, thereby building trust among diverse leadership cohorts. These applications align with the need for cost- effective, scalable solutions in resource-constrained environments, a key concern in public healthcare (Abernethy el al., 2022). A detailed mapping of AI strategies and their generational alignment is presented in Table 2.

Table 2. AI Integration Strategies by Leadership Type in Public Hospitals

Strategy	AI Tool	Suitable For	Expected Outcome
Forecasting Budget	Predictive Analytics	Millennials & Gen Z	Hesitant, low digital fluency driven planning
Cross-generational Mentorship	Peer Learning Platforms	All generations	Enhanced collaboration and knowledge transfer
Patient Flow Optimization	Automated Resource Allocation	Gen X, Gen Z	Reduced waiting times, smoother operations
Resistance Mitigation	User-friendly AI Interfaces	Baby Boomers & Gen X	Increased adoption and system trust
Training Programs	Tailored AI Literacy Modules	Baby Boomers	Overcoming digital skill gaps

3.4. Expected Contributions

The proposed model contributes to healthcare management by offering a novel framework for reconciling generational tensions and accelerating AI adoption. It provides actionable strategies for public hospitals, enhancing operational efficiency and leadership inclusivity, and sets the stage for future research on hybrid leadership in technology-driven healthcare settings.

4. DISCUSSION

4.1. Strengths of the Proposed Model

The proposed model offers significant contributions to both healthcare management literature and practical applications in public hospitals. Theoretically, it advances the understanding of generational dynamics in AI-driven governance by integrating Burns and Stalker's (1961) mechanistic-organic organization theory with Bass's (1990) transformational leadership framework. This interdisciplinary approach addresses a critical gap in the literature by exploring how diverse leadership styles facilitate technological transformation, providing a foundation for future research on hybrid leadership in technology-driven healthcare settings (Borkowski & Meese, 2021). Practically, the model offers actionable strategies for public hospitals, particularly in Türkiye, where AI-driven initiatives are being implemented under the National AI Strategy (2021–2025). For instance, pilot projects supported by TÜSEB's AI Applications Institute have introduced decision support systems to optimize patient flow and resource allocation, enhancing operational efficiency (TÜSEB, 2023). These efforts align younger leaders' technological proficiency with older leaders' operational expertise, fostering cross-generational synergy and improving patient outcomes, as evidenced by Türkiye's ongoing digital transformation initiatives (Health Ministery, 2024).

4.2. Practical Applicability in Public Hospitals

The model's practical applicability is particularly pronounced in public hospitals, where resource constraints and bureaucratic structures pose

significant challenges. AI-enabled decision support systems can optimize budget management by forecasting patient admission trends and streamlining supply chain operations, reducing costs without compromising care quality (Jiang et al., 2017). For instance, implementing AI-driven forecasting tools in a public hospital could save millions annually by aligning resources with demand, a priority for younger leaders focused on efficiency (Reddy et al., 2020). Meanwhile, mentorship programs pairing older and younger leaders can facilitate knowledge transfer, combining experiential insights with technological expertise (Scully-Russ & Torraco, 2020). User- friendly AI interfaces, designed with accessibility in mind, can mitigate older leaders' resistance, ensuring tools like automated budgeting systems are adopted across generations. Pilot projects, such as AI-supported patient flow management, can demonstrate tangible benefits, building trust among diverse leadership cohorts. These strategies align with the need for scalable, cost-effective solutions in public healthcare, enhancing operational resilience and patient satisfaction (Abernethy el al., 2022).

4.3. Limitations of the Model

Despite its strengths, the model faces potential limitations. Cultural resistance to AI adoption, particularly among older leaders, may persist due to limited digital literacy or skepticism about technology's reliability, especially in resource-constrained public hospitals (Amalberti & Vincent, 2020). Implementing AI systems requires significant upfront investment in infrastructure and training, which may be prohibitive for underfunded institutions (Reddy et al., 2020). Additionally, the model's reliance on transformational leadership assumes a willingness among leaders to adapt, which may not always be present in rigid, hierarchical settings. The model's generalizability across diverse healthcare systems, particularly in developing countries with varying technological and cultural contexts, remains untested. These limitations highlight the need for tailored implementation strategies to address local constraints and leadership dynamics.

4.4. Future Research and Recommendations

Future research should empirically test the proposed model in public hospital settings, using mixed- methods approaches to evaluate its impact on operational efficiency, leadership inclusivity, and patient outcomes. Longitudinal studies could explore the long-term effects of generational synergy and AI integration on organizational performance. Additionally, research should investigate the role of cultural and institutional factors in shaping AI adoption across diverse healthcare systems, particularly in low- resource settings. Practical recommendations include developing AI training programs tailored to older leaders, emphasizing user-friendly interfaces and tangible benefits. Establishing cross-generational task forces can further promote collaboration, ensuring that mechanistic and organic approaches are harmonized. These efforts will advance the literature on AI-driven healthcare management and provide actionable insights for fostering adaptive leadership in the AI era.

5. CONCLUSION AND RECOMMENDATIONS

This article has explored the interplay of generational dynamics, artificial intelligence (AI), and leadership in hospital management, proposing a conceptual framework to address tensions between traditional (Baby Boomers, Generation X) and younger (Millennials, Generation Z) leaders in the AI era. The findings indicate that while these generational groups often hold different values and organizational preferences, they share a common interest in improving hospital performance and patient outcomes. By leveraging the complementary strengths of each group (experience and stability from senior leaders, agility and digital competence from younger ones) hospital governance can evolve into a more inclusive and adaptive model.

The study highlights that AI should not be viewed solely as a technological tool, but as a strategic catalyst for uniting diverse leadership perspectives. Effective adoption requires not only infrastructure and investment but also leadership practices that promote trust, openness to change, and mutual respect. In public hospitals, where bureaucratic structures and limited resources can slow innovation, success will depend on implementing AI systems that are easy to use, aligned with local workflows, and supported by

targeted training for all generations. Such an approach can gradually reduce resistance, foster shared ownership of change, and ensure that technological gains are translated into tangible improvements in care delivery. Looking ahead, hospital leaders and policymakers should treat generational diversity as a long-term asset in navigating digital transformation. Building cross-generational collaboration into leadership structures, integrating AI literacy into professional development, and ensuring policy frameworks support sustainable technology adoption will be essential. With a deliberate and inclusive strategy,

Ethical Statement: This study does not involve any human participants, animal experiments, or the us is based solely on a review of the existing literature.

Author Contributions Statement: The entire manuscript was conceived, written, and revised by Ufuk Burak KARCIOĞLU. All stages including topic selection, literature review, and final editing were carried out solely by the author.

Funding Statement: This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

Conflict of Interest Statement: The author declares that there is no conflict of interest regarding the publication of this article.

REFERENCES

- Abernethy, A., Adams, L., Barrett, M., Bechtel, C., Brennan, P., Butte, A., Faulkner, J., Fontaine, E., Friedhoff, S., Halamka, J., Howell, M., Johnson, K., Long, P., McGraw, D., Miller, R., Lee, P., Perlin, J., Rucker, D., Sandy, L., Savage, L., Stump, L., Tang, P., Topol, E., Tuckson, R., & Valdes, K. (2022). The promise of digital health: Then, now, and the future. NAM Perspectives, 2022. Erişim adresi: https://doi.org/10.31478/202206e.
- Amalberti, R. ve Vincent, C. (2020). Managing risk in healthcare: A guide for professionals. BMJ Quality & Safety, 29(12), 1002-1011. Erişim adresi: https://doi.org/10.1136/bmjqs-2020-011098.
- Bass, B. M. (1990). From transactional to transformational leadership: Learning to share the vision. Organizational Dynamics, 18(3), 19-31. Erişim adresi: https://doi.org/10.1016/0090-2616(90)90061-S.
- Bates, D. W., Auerbach, A. ve Schulam, P. (2021). Artificial intelligence in healthcare: Opportunities and challenges. Health Affairs, 40(10), 1510-1517. Erişim adresi: https://doi.org/10.1377/hlthaff.2021.00791.
- Borkowski, N. ve Meese, K. A. (2021). Organizational behavior in health care, (4. bs.). Jones & Bartlett Learning.
- Burns, T. ve Stalker, G. M. (1961). The management of innovation. Tavistock Publications.
- Davenport T, Kalakota R. The potential for artificial intelligence in healthcare. Future Healthc J. 2019 Jun;6(2):94-98. doi: 10.7861/futurehosp, 6-2-94.
- De Fauw, J., Ledsam, J. R., Romera-Paredes, B., Nikolov, S., Tomasev, N., Blackwell, S., ... & Ronneberger, O. (2023). Clinically applicable AI system for accurate diagnosis of retinal diseases. The Lancet Digital Health, 5(3), e123–e131. Erişim adresi: https://doi.org/10.1038/s41591-018-0107-6.
- Dimock, M. (2019). Defining generations: Where Millennials end and Generation Z begins. Pew Research Center. Erişim adresi: https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and- generation-z-begins/.
- Jiang, F., Jiang, Y., Zhi, H., Dong, Y., Li, H., Ma, S., … Wang, Y. (2017). Artificial intelligence in healthcare: Past, present and future. Stroke and Vascular Neurology, 2(4), 230-243. Erişim adresi: https://doi.org/10.1136/svn-2017-000101.
- Ministry of Health. (2024). Digital transformation in healthcare services in Türkiye [Report]. Erişim adresi: https://www.saglik.gov.tr/dijital-donusum.

- Li, J. (2024). ChatGPT in healthcare: A taxonomy and systematic review. Journal Name, Volume(Issue), pages. Erişim adresi: https://doi.org/0.1016/j.cmpb.2024.108013.
- Patel, S. B., & Lam, K. (2023). ChatGPT: The future of discharge summaries and patient communication? BMJ Health & Care Informatics, 30(1), e100672. Erişim adresi: https://doi.org/10.1136/bmjhci- 2023-100672 doi: 10.1016/S2589-7500(23)00021-3.
- Reddy, S., Fox, J. ve Purohit, M. P. (2020). Artificial intelligence-enabled healthcare delivery. Journal of the Royal Society of Medicine, 112(1), 22-28. Erişim adresi: https://doi.org/ 10.1177/0141076818815510.
- Topol, E. J. (2019). Deep medicine: How artificial intelligence can make healthcare human again. Basic Books.
- Türkiye Health Institutes Presidency (TÜSEB). (2023, May 10). TEKNOFEST 2023 Artificial Intelligence in Healthcare Competitions [News release]. https://tuseb.gov.tr/haberler/teknofest-2023-saglikta-yapay-zeka-yarismalari-20230510.