

DIGITAL TRANSFORMATION LESSONS LEARNED FROM FAILURES IN AN URBAN HOSPITAL NETWORK

KerriLaine PRUNELLA
kcp58009@marymount.edu
Marymount University, Arlington, VA, USA
ORCID iD: 0009-0001-0177-3545

ABSTRACT

This paper examines the complex challenges of digital transformation in a healthcare organization that has relied on an outdated, mainframe-based system from the 1990s. Despite expanding its services into modern care, the failure to modernize core digital infrastructure has created a misalignment between its legacy technology and current operational needs. The crisis stems from interconnected issues, including a passive strategic posture that prioritized short-term cost containment, inadequate risk management, and a lack of leadership readiness. These compounded failures have hindered the organization's ability to adapt and align with the demands of contemporary healthcare, underscoring the critical need for comprehensive change management that addresses both structural and cultural elements of the organization.

KEYWORDS:

digital transformation, leadership readiness, risk management, strategic failures

1. Introduction

Managing digital transformation requires aligning multiple stakeholders, adapting workflows, and strategic sourcing, which can be complex in healthcare environments (Stoumpos et al., 2023, p. 32). CityOne Care Centers (COCC) (a pseudonym) has historically relied on a mainframe-based patient record and billing system developed in the 1990s using the COBOL programming language. Despite significant expansion into modern healthcare services, including telehealth and outpatient care, COCC has regrettably failed to adequately modernize its core digital infrastructure, resulting in outdated systems misaligned with the demands of contemporary healthcare delivery.

At the heart of this crisis lie compounded failures in interconnected domains: strategic alignment, risk management, leadership readiness, IT integration, and

stakeholder impact (Burrell, 2024, p. 41). Anusi and Mutambara (2022, p. 6) noted that change initiatives require attention to both complex elements (strategy, structure, and systems) and soft elements (shared values, skills, style, and staff) of the organization. In this case, a passive strategic posture consistently deferred essential information technology (IT) modernization initiatives, prioritizing immediate cost containment over long-term organizational resilience and adaptability. Compounding these challenges, persistent data silos within the organization further inhibited efficient information flow and analytics readiness, thereby hindering the delivery of coordinated, high-quality care across the entire network. This case analysis will delve deeper into these challenges and propose actionable recommendations to guide COCC leaders and others towards a more resilient, efficient, and patient-centric future.

1.1. Problem Statement

The effective functioning of a hospital, as a complex adaptive system, hinges upon strategic foresight, risk management, and agile change leadership. Sony et al. (2023, pp. 2, 3, 14) identified that hospitals face intertwined technical, social, organizational, and financial challenges when adopting new systems, requiring strategic leadership, workforce skills, cultural adaptation, and regulatory navigation to succeed. Failures in any one domain, such as operations or strategy, pose a significant threat (Kraus et al., 2021, p. 562).

1.2. Significance

Several factors influence hospitals' decisions about pursuing capital investments in technology. Teplensy et al. (1995, pp. 438, 442) identified technological change, product obsolescence, and questions about clinical efficacy, optimal product configuration, unit reliability, and operating costs as causes of technological uncertainty. The authors also noted that poorly timed commitments to new equipment could leave a hospital with a costly investment in an unproven technology. Their initial attempt at transformation appeared to have a top-down approach, whereby the top management is driving the change. The leaders often fail to understand that digital transformation is primarily a business transformation, not just a matter of technology adoption, leading to insufficient involvement or minimal oversight (Yap et al., 2023, p. 46). Leadership did not adequately assess the components that may pose challenges, despite the existence of information, including potential resistance to change, lack of agility, limited collaboration, and risks to building trust and ethical digital leadership necessary for sustainable digital transformation (Sacavém et al., 2025, p. 5). According to McKinsey, digital transformation is a significant and necessary strategic imperative to ensure future sustainability, competitiveness, and improved healthcare delivery. However, its successful realization depends on adequate

investment, reimagining workflows, and building new capabilities (Eastburn et al., 2024, p. 7).

2. Literature Review

Digital transformation is not merely about technology adoption; it is fundamentally a human and cultural endeavor. Leaders must skillfully manage cultural transformation alongside technological implementation to ensure successful digital transformation outcomes (Steiber & Alvarez, 2023, p. 29). Xu et al. (2024, p. 371) suggested several avenues to deepen understanding of digital transformation, enterprise risk management, and governance mechanisms. Specifically, their research highlighted the importance of considering factors such as digital culture within organizations and the influence of top leadership.

2.1. Methods

This narrative literature review drew insights from peer-reviewed materials in management, organizational psychology, information systems, sociology, and ethics related to the thematic critical failures found in the case. The use of a narrative review enables researchers to describe the current status of topics while supplementing with scholarly insights (Sukhera, 2022, p. 414). To conduct this literature review, Boolean searches using AND/OR refined results. For example:

- “change management” AND “digital transformation” AND “healthcare” or
- “digital health” AND “organizational change” AND “urban healthcare”.

Keywords for databases such as Web of Science, PubMed, and Google Scholar identified scholarly articles published during COVID-related timeframes (2022-2025), given the significant impact on various aspects of healthcare, particularly hospital operations. Keywords were first categorized under the overarching themes of “strategy failure”, “people/leadership failure”, and “risk management failures”. Boolean search terms were combined with healthcare,

hospital, digital transformation, technology, leading change, and change management models to expand the search options.

2.2. Inclusion and Exclusion Strategy

The process for refining the initial pool of over 20,000 articles to a final, targeted list of 40 references employed a rigorous, multi-stage methodological approach. Initially, the scope was reduced to 623 articles by applying strict exclusion criteria to filter out narrow topics (e.g., specific diseases) in favor of global references pertaining to overarching healthcare and hospital management. This interim set was then subjected to de-duplication and chronological sorting. The final selection was achieved through a systematic qualitative screening of abstracts and thematic content to ensure explicit alignment with the case study's core concepts: strategy, change management, and readiness assessment. While most references are contemporary, six articles predating 2020 were deliberately retained due to their seminal applicability and enduring relevance to these foundational organizational themes.

3. Context and Theories from Literature

3.1. Context

While the central issues in the case are the underlying failure elements, the literature revealed other topics to consider for creating practical adoption and future recommendations. Successful digital transformation requires closing the gap between strategy formulation and execution through leadership commitment and organizational readiness (Ramadan et al., 2023, p. 3).

Strategic Alignment in Healthcare Transformation – In healthcare, a strategic failure occurs when a hospital's goals do not align with the constantly changing healthcare environment. According to Weill and Woerner (MIT, 2018), effective leadership is crucial for organizations to

succeed in the digital era, as it influences strategic development, cultural adaptation, and operational effectiveness. Ruel et al. (2021, p. 165) further emphasized the importance of leadership's ability to foster collaboration in turning digital strategies into reality. This failure to adapt manifests in several ways, including a lack of clear direction, an inability to adapt, and the misallocation of resources. The significance of strategic failure is profound as it undermines a hospital's long-term sustainability, compromises its competitive position, and diminishes its ability to deliver high-quality, patient-centered care (Sacavém et al., 2025, p. 14).

Risk Management in Digital Environments – Within a hospital, inadequate risk management goes beyond simply failing to comply with regulations; it is a fundamental breakdown in protecting patients, staff, and finances. This was highlighted during the COVID-19 pandemic, which exposed critical failures in the healthcare system's ability to manage risks (Khasawneh & Alayat, 2021, pp. 9-11). The COVID-19 pandemic, for instance, highlighted key failures, demonstrating that a weak risk management framework fails to adequately identify emerging threats or implement effective mitigation strategies (Khasawneh & Alayat, 2021, pp. 14-15). Financially, these failures can lead to increased litigation, higher insurance premiums, and irreparable reputational damage.

Leadership Readiness – In hospitals, a failure to adapt and innovate is a significant problem. This is often caused by poor change leadership, which prevents the organization from embracing new technologies, clinical practices, and operational models. Poor change in leadership is a major barrier, as it fails to cultivate a culture that embraces new technologies, clinical practices, or operational models, which can lead to stagnation and a decline in care standards. Without a clear, transformative vision, employees may be unclear about the

necessity and direction of change, leading to significant resistance (He et al., 2023, p. 155). This requires leaders to be empathetic, authentic, and empowering, promoting experimentation and a “fail fast, learn faster” mindset (Koporcic et al., 2024, p. 183). Similarly, digital transformation necessitates substantial shifts in an organization’s culture, including cultivating agility, embracing risk-taking, and adopting a startup mentality. Resistance to these cultural changes often derails even well-planned initiatives (Saldanha, 2019, p. 139).

Barriers to IT Integration – The technological limitations of a hospital’s legacy systems were especially evident during the COVID-19 pandemic, severely limiting its ability to respond effectively. These limitations include incompatibility with modern application programming interfaces (API) and the absence of cloud-based functionality, which prevents real-time data access and decision-making (Sarioguz & Miser, 2024, p. 1646). Furthermore, the underestimation of the work required to integrate decades of siloed data from various systems hinders a comprehensive understanding of analytics (Finelli & Narasimhan, 2020, p. 757). The inherent technological limitations of legacy architecture, such as those at COCC, became critically apparent during the COVID-19 pandemic, significantly impairing the hospital’s ability to respond effectively (Burrell, 2024, p. 42). Paul et al. (2023, p. 577) offered two insights. First, for staff, leaders must be mindful of social and organizational challenges, such as disagreements over hospital strategy or staff behavior that may impede the integration of new technologies. For patients, the incorporation of digital technology should focus on comprehensive healthcare by emphasizing individual patient needs, ensuring personalized and equitable care (p. 578).

Stakeholder Impact and Engagement – Digital transformation efforts in hospitals can fail if key stakeholders, including employees, patients, and the public, are not

adequately addressed. Fostering trust is crucial and involves assigning credible personnel, proactively addressing concerns, and building consensus (Uchihira & Eimura, 2020, p. 4). The biggest challenge is employee resistance, which stems from fears of job loss, skill gaps, and disruption to routines, leading to potential employee turnover (Klein et al., 2024, pp. 1001-1003). Failed transformation efforts in hospitals often result from a breakdown in managing the needs and expectations of both internal and external stakeholders, leading to significant operational and trust-related issues. A primary reason for this failure is widespread employee resistance, which Klein et al. (2024, p. 1003) identify as a major barrier to successful digital transformation. This resistance is often rooted in fears of job displacement due to new technologies, a perception of skill gaps, and a disruption of established routines. As a result, hospitals may struggle to retain staff and build the necessary team competencies for integrated care, as focusing too narrowly on individual skills can create gaps in real-world application (McLaney et al., 2022, p. 112).

3.2. Theoretical Framework

The literature presented several approaches to change management. Key analytical frameworks include PESTLE Analysis (Merrill, 2023, p. 22), the McKinsey 7-S Model (Singh, 2013), and Design Thinking (Tanev, 2024). From a strategic change management perspective, Organizational Development (OD) can help organizations align their structure, processes, and culture with new strategic directions (Rothwell, 2015, p. 9). Leaders can integrate OD into their strategic planning and recognize that successful strategy execution relies on the organization’s ability to evolve and adapt, and that OD provides the methodologies to facilitate this evolution effectively. A misalignment in any of these areas, as Saldanha noted regarding insufficient change management and lack of executive buy-in, can derail even the most promising digital initiatives (2019, p. 27).

Kotter's model presents a straightforward, linear, and structured eight-step process for driving the reason behind the change, with a strong leadership focus, suitable for both large-scale and smaller transformations (Carreno, 2024, p. 2). While behavior change is critical, critics argue that the Kotter model alone limits its focus to behavior change only, lacks emphasis on acceptance of change, and depicts a sequential behavioral approach that may not sustain long-term change (Anusi & Mutambra, 2022, p. 6). It can feel rigid and prescriptive in fast-paced environments that require rapid pivots and real-time adaptation (Carreno, 2024, p. 9). Due to the potential limitations of Kotter's model, it is recommended to align it with Saldanha, McKinsey's 7S, and PESTLE frameworks. Specifically, Kotter's change management model provides overall project guidance, McKinsey's 7S framework is used to diagnose misalignment among the components, and Saldanha's recommended transformational phases are applied to the specific technology upgrade. Using his recommended series of questions in the form of a checklist provides helpful and practical methods to assess conditions within an organization, serving as a check and balance among the phases (2019, pp. 179-184). For risks and warning signs, Saldanha noted that, in this COCC case, employee attrition, patient feedback, and system delays all served as indicators of problems to manage.

3.2.1. Comparative Insights

Drawing upon governance frameworks successfully used in other or related sectors, healthcare can establish clear structures and policies to avoid duplication and fragmentation, and ensure strategic investment in digital health solutions (Charalambous, 2024, p. 1). COVID-19 created a global burning platform for change, enabling teams to access and share information to ensure patients received required care

(Novartis, 2021). Novartis, a pharmaceutical company, adopted Artificial Intelligence to aid in the selection of clinical trials and drug development. Critical to their success in these transformation efforts were the strategic approach to aligning data, preparing leaders and the workforce, and integrating technology (Finelli & Narasimhan, 2020, p. 760). Novartis also ensured its front-line employees were equipped with the necessary capabilities, which enabled it to accelerate the pace of innovation and enhance business outcomes companywide (Iansiti & Nadella, 2022, p. 43). This company operates in parallel to COCC as both are balancing patients, employees, data, and technology in a rapidly changing environment. The distinction is Novartis's strengths in laying its financial commitment, adoption of advanced digital tools, willingness to experiment across units, and growing managerial engagement with the digital agenda (Denning, 2023, p. 13).

3.2.2. Theoretical Application and Proposed Model

The failure of digital transformation efforts is multifaceted, involving technological, human, organizational, strategic, and environmental factors that need to be jointly addressed for transformation success (Oludapo et al., 2024, p. 12). The absence of clear goals and disciplined execution contributed to the project failures. If COCC had adopted Kotter's model, the leaders could have established the first step, which might have involved a cross-functional forum to create urgency about the outdated IT systems, employee attrition, and the impact on patient care (Table no. 1). These phases and steps can be used by an internal or external consultant to develop a holistic approach to change management, to strengthen organizational operations and ensure leaders are better prepared to execute and evaluate the transformation.

Table no. 1
Phases and Steps adopted by Kotter's model

Phase	Kotter Step	Key Integration/ Frameworks	Action	Leadership	Employee Engagement	Systems Requirements
1	1. Create a Sense of Urgency	PESTLE	Analyze current state, identify compelling opportunities/threats, and consult IT experts.	Top leadership must acknowledge the need for change.	Openly communicate the 'burning platform' and the transformation benefits.	Consult IT experts for system analysis.
1	2. Form a Powerful Guiding Coalition	Saldanha	Assemble a cross-functional team with authority and influence to drive the transformation.	Team must have strong leadership, credibility, and a shared commitment to the vision.	Continue communications to all stakeholders.	Establish a clear governance structure and communication channels for the coalition.
1	3. Create a Vision and Strategy	McKinsey 7-S (Strategy, Structure, Skills)	Develop a clear, compelling future vision and the strategy to achieve it.	Vision must be articulated by the CEO and other senior leaders.	Seek initial feedback from stakeholders.	Vision should inform the high-level systems architecture and technology roadmap.
2	4. Communicate the Vision	McKinsey 7-S (Shared Values)	Broadcast the vision and strategy throughout the organization using multiple channels.	Leaders must consistently model new behaviors and reinforce the vision.	Create a two-way communication process for feedback and questions.	Continuously refine and improve new systems
2	5. Empower Broad-Based Action	McKinsey 7-S (Systems)	Remove obstacles and encourage employees to take initiative.	Managers must be trained to coach and support their teams through the change.	Managers should continue open communication	Review/adjust systems (e.g., performance management) and implement new tools/processes to empower employees.
2	6. Generate Short-Term Wins	Saldanha (Middle Managers)	Plan for and celebrate early, visible successes.	Leaders align wins to overall change goals	Publicly recognize and reward teams/ individuals, especially middle managers.	Establish clear metrics and dashboards to track progress and report on wins.
2	7. Consolidate Gains and Produce More Change	McKinsey 7-S (Staff, Style)	Use credibility from wins to tackle more complex issues; continue collaboration.	The guiding coalition must remain active and focused on long-term goals.	Share successes and continue open communication for teams.	Continuously refine and improve new systems and training based on feedback and performance data.
3	8. Anchor New Approaches in the Culture	Saldanha, McKinsey 7-S (Shared Values, Systems, Style)	Make the new behaviors and practices part of the day-to-day operations and culture.	CEO and senior leaders must champion the new culture and hold people accountable.	Incorporate transformation success stories into onboarding and training programs.	Ensure Systems reinforce the new Shared Values and Style of leadership.

4. Recommendations

The collective research shared common themes that digital success is not solely a technological undertaking but also a leadership challenge and opportunity. Leaders across sectors considering a digital transformation may use Table no. 1 and examples found within this COCC case to position their organizations to collaborate, to prepare their workforce, and to align their resources, both technical and financial, in order to achieve high performance and sustained growth in the digital age.

Recommendation 1 – Strategic

Alignment: Ramadan et al. (2023, p. 7) highlighted strategic implications, suggesting that firms should prioritize investments in leadership development, agility enhancement, knowledge management, and continuous business model innovation to succeed in the digital economy. This idea aligned with Tony Saldanha's insights, which emphasized that digital transformation necessitates cultural shifts, including fostering agility, embracing risk, and adopting a startup mentality. Most importantly, resistance to these cultural changes frequently undermines even carefully planned initiatives (2019, pp. 55, 139). Research has confirmed that technology is important, but not the only essential element for growth and change. Leaders need to effectively communicate how digital transformation will improve patient outcomes, reduce errors, optimize resources, and enhance operational efficiency. Emphasizing the long-term advantages helps align staff with organizational goals (Mohammad et al., 2024, p. 5505).

Recommendation 2 – Risk

Management: Ongoing risk management should include awareness of warning signs from customers, as well as performance and industry trends (Saldanha, 2019, pp. 148-150). Sanne (2024, p. 45) noted that risk management entails strategic planning, phased implementation, ongoing monitoring, and cultivating a culture of agility and transparency to mitigate the common pitfalls associated with digital transformation.

Recommendation 3 – Leadership

Readiness: Weber et al. (2022, p. 14) refined framework offered a lens through which to understand the multifaceted roles leaders must embody, moving beyond traditional management paradigms to adapt to the dynamic digital landscape. Saldanha's (2019, p. 177) experience highlights that the most significant hurdles are often cultural, reinforcing the need for leaders to be proactive in cultivating an organizational environment that embraces change, experimentation, and a forward-thinking mindset to overcome inherent resistance.

Recommendation 4 – IT Integration and Acceptance:

Leaders should monitor key factors that significantly influence technology acceptance, such as perceived usefulness, ease of use, social influence, and user attitude. Understanding these correlations can help in identifying the technology's strengths and weaknesses and guide improvement efforts (AlQudah et al., 2021, p. 15). Integrating digital tools into everyday workflows and processes makes their use a natural part of work routines, increasing acceptance and consistent usage (Ahmad et al., 2023, p. 234). Technologies should be integrated smoothly into existing clinical processes. Proper change management, iterative feedback, and customization are vital to prevent disruptions and frustrations that hinder acceptance (Mohammad et al., 2024, p. 5506).

Recommendation 5 – Stakeholder

Engagement: Leaders should consider adopting storytelling to help facilitate swift and persuasive communication, building mutual understanding, and motivating employees, which can extend to external stakeholders by aligning them with the organization's vision and values (Khodour et al., 2023, p. 207). Hadziahmetovic & Salihovic (2022, p. 561) found a substantial relationship between authentic leadership and employee engagement, suggesting that authentic leadership directly boosts engagement levels through transparent communication and genuine leader

behaviors. Fostering trust revolves around assigning credible personnel, engaging in informal consensus-building activities, and proactively addressing stakeholder concerns through these culturally attuned strategies (Uchihira & Eimura, 2022, p. 5).

5. Conclusions and Future Studies

The literature identified that future research could investigate the digital divide affecting patients' access to and interaction with digital health information, focusing on patients' relationships with healthcare

professionals and how to bridge gaps in digital literacy (Stoumpos et al., 2023, p. 31). Additionally, based on the lessons from the case, future research may also assess how leaders provide the strategic direction to more effectively manage technological integration, foster collaborative environments, and actively assess their talent requirements to drive cultural shifts before a disruption occurs. There are warning signs for each element and if managed proactively, can create an opportunity to better manage the changes required.

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