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Digital Transformation and Organizational Sustainability in Healthcare: The Mediating Roles of Organizational Learning and Service Quality

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Abstract

Digital transformation has become a strategic priority for healthcare organizations seeking to improve service delivery and achieve long-term organizational sustainability. However, the organizational mechanisms through which digital transformation creates sustainable value remain insufficiently understood. This paper develops a conceptual framework that examines the relationships among digital transformation, organizational learning, service quality, and organizational sustainability. Grounded in the Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT), the framework proposes that digital transformation enhances organizational learning, which improves service quality and ultimately contributes to organizational sustainability. Six conceptual propositions are developed to explain the direct and indirect relationships among these constructs. The study contributes to the literature by integrating fragmented research into a unified framework that advances understanding of sustainable digital transformation in healthcare. The framework also provides practical insights for healthcare managers and policymakers by emphasizing the importance of combining technological investments with organizational learning and continuous service quality improvement to achieve sustainable organizational performance.

Keywords: Digital transformation; Organizational learning; Service quality; Organizational sustainability; Healthcare; Resource-Based View; Dynamic Capabilities Theory.

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1. Introduction

The healthcare sector is undergoing one of the most profound transformations in its history, driven by rapid advances in digital technologies and increasing demands for efficient, patient-centered, and sustainable healthcare systems. Technologies such as electronic health records (EHRs), artificial intelligence (AI), big data analytics, cloud computing, telemedicine, the Internet of Medical Things (IoMT), and blockchain are reshaping how healthcare organizations deliver services, manage information, and make strategic decisions. Collectively, these technologies have become central to what is commonly referred to as digital transformation (DT), a strategic process through which organizations fundamentally redesign their structures, processes, and capabilities to create value in an increasingly digital environment (Vial, 2019; Verhoef et al., 2021). In the healthcare industry, digital transformation extends beyond the adoption of technological tools; it represents a comprehensive organizational change aimed at improving clinical outcomes, operational efficiency, patient experiences, and long-term organizational resilience.

The strategic importance of digital transformation has been reinforced by global healthcare challenges, including ageing populations, the growing prevalence of chronic diseases, escalating healthcare costs, workforce shortages, and the increasing demand for equitable access to quality healthcare services (Adesola et al., 2024). The COVID-19 pandemic further accelerated digital adoption by demonstrating the critical role of digital technologies in maintaining continuity of care through telemedicine, remote monitoring, digital surveillance, and electronic information sharing (Zoubi, 2022; Ezenwaji et al., 2024). Consequently, governments, healthcare providers, and international organizations have identified digital transformation as a key enabler of Universal

Health Coverage (UHC) and Sustainable Development Goal 3 (SDG 3), which seeks to ensure healthy lives and promote well-being for all (WHO, 2025). High-quality healthcare services remain the principal objective of healthcare organizations because they directly influence patient safety, satisfaction, clinical effectiveness, organizational reputation, and institutional sustainability (Lohela-Karlsson et al., 2025).

Despite substantial investments in digital technologies, many healthcare organizations continue to experience disappointing outcomes from digital transformation initiatives. Although advanced digital infrastructure has the potential to improve healthcare delivery, technology implementation alone does not guarantee organizational improvement (Berry, 2021). According to Oludapo et al. (2024), transformation programmes often fail to achieve their intended objectives because organizations approach digital transformation as a technology acquisition project rather than as a strategic organizational change process. Some of the factors leading to digital transformation failures identified from the research include resistance to change, fragmented organizational cultures, inadequate leadership commitment, insufficient digital competencies, poor knowledge sharing, and ineffective change management often limit the realization of expected benefits.

These challenges suggest that the value of digital transformation depends not solely on technological resources but also on the organizational capabilities that enable healthcare institutions to absorb, integrate, and exploit digital knowledge effectively. From a strategic management perspective, technological resources create sustainable value only when they are supported by organizational capabilities that facilitate continuous adaptation and innovation (Ince et al., 2016). This perspective is consistent with the Resource-Based View (RBV), which argues that sustainable competitive advantage arises from valuable organizational resources and capabilities, and Dynamic Capabilities Theory (Sun et al., 2024). It emphasizes an organization's ability to sense environmental changes, seize emerging opportunities, and continuously reconfigure resources in response to evolving conditions (Barney, 1991; Teece et al., 1997). Within healthcare organizations, one of the most important capabilities supporting digital transformation is organizational learning.

Organizational learning refers to the processes through which organizations acquire, create, disseminate, interpret, and institutionalize knowledge to improve organizational effectiveness and adaptability (Argyris & Schön, 1978; Crossan, Lane, & White, 1999). In the healthcare sector, Mayo et al. (2023) reported that organizational learning enables healthcare professionals to develop digital competencies, integrate emerging technologies into clinical practice, share knowledge across professional boundaries, and continuously improve service delivery. Rather than viewing learning merely as a consequence of digital transformation, contemporary strategic management literature increasingly recognizes organizational learning as the mechanism through which technological investments are translated into meaningful organizational outcomes. Healthcare organizations with strong learning capabilities are better positioned to overcome implementation barriers, adapt to technological change, and derive sustained value from digital innovations (Starke & Ludviga, 2025).

Furthermore, Min and Ji (2026) identified another important organizational outcome influenced by digital transformation and organizational learning: service quality. This is because it can drive key outcomes such as faster response times, higher customer satisfaction, and better operational efficiency. More so digital technologies can enhance service quality by improving diagnostic accuracy, facilitating timely access to patient information, strengthening communication among healthcare professionals, reducing medical errors, and expanding access to healthcare services (Allcock et al., 2024). However, these benefits are realized only when healthcare organizations successfully integrate digital technologies into organizational routines through effective learning and knowledge management processes. Accordingly, service quality may represent the operational pathway through which digital transformation contributes to broader organizational goals (Min & Ji, 2026; Lohela-Karlsson et al., 2025).

Ultimately, healthcare organizations are expected not only to improve operational performance but also to achieve organizational sustainability by focusing on these as well as financial viability, and resource stewardship (Ashley & Parumasur, 2026). Organizational sustainability refers to an institution's ability to maintain long-term economic viability while simultaneously delivering high-quality healthcare services, fulfilling its social responsibilities, and adapting to changing environmental conditions (Ibrahim et al., 2025). Sustainable healthcare organizations continuously balance financial performance, clinical excellence, innovation, workforce development, and stakeholder expectations to ensure long-term organizational resilience by integrating core operational pillars (Balkhy, 2025). Although digital transformation is widely regarded as a driver of organizational sustainability, existing research provides limited understanding of the organizational mechanisms through which digital technologies generate sustainable outcomes.

A review of the existing literature reveals several important gaps. First, many studies have concentrated on

technology adoption, digital infrastructure, or information systems implementation while paying comparatively less attention to the organizational capabilities required for successful transformation. Second, previous research has often examined direct relationships between digital transformation and organizational performance without adequately explaining the intermediate processes that convert technological investments into sustainable organizational outcomes. Third, although organizational learning and service quality have each received considerable scholarly attention, relatively few studies have integrated these constructs within a comprehensive theoretical framework explaining how digital transformation contributes to organizational sustainability in healthcare. This fragmented body of knowledge limits both theoretical development and managerial understanding of sustainable digital transformation.

To address these gaps, this paper develops a conceptual framework that integrates digital transformation, organizational learning, service quality, and organizational sustainability within a single theoretical model. Drawing upon the Resource-Based View and Dynamic Capabilities Theory, the paper proposes that digital transformation creates sustainable organizational value not merely through technological investment but through the development of organizational learning capabilities that enhance healthcare service quality and ultimately strengthen organizational sustainability. By positioning organizational learning as the central organizational capability linking digital transformation with service quality and sustainability, the proposed framework opens the "black box" between technology adoption and long-term organizational performance.

This paper makes several contributions to the literature. First, it synthesizes fragmented research on digital transformation, organizational learning, service quality, and organizational sustainability into an integrated conceptual model tailored to the healthcare sector. Second, it extends the application of the Resource-Based View and Dynamic Capabilities Theory by explaining the organizational processes through which digital technologies generate sustainable value. Additionally, by developing theoretically grounded propositions to guide future empirical research examining the relationships among digital transformation, organizational learning, service quality, and organizational sustainability. Finally, the paper provides practical insights for healthcare leaders and policymakers by emphasizing that successful digital transformation requires simultaneous investment in technological infrastructure, organizational learning, and service excellence to achieve long-term sustainability.

The remainder of the paper is organized as follows. The next section reviews the literature on digital transformation, organizational learning, service quality, and organizational sustainability. This is followed by a discussion of the theoretical foundations underpinning the proposed framework. The paper then develops the conceptual model and research propositions, discusses the theoretical and managerial implications, identifies directions for future research, and concludes by highlighting the significance of organizational learning as a strategic capability for achieving sustainable digital transformation in healthcare.

2. Literature Review

2.1 Digital Transformation in Healthcare

Digital transformation (DT) has emerged as one of the most significant strategic developments influencing contemporary organizations across both public and private sectors (Kraus et al., 2021). Although the concept is often associated with the adoption of digital technologies, scholars increasingly argue that digital transformation extends far beyond technological implementation. Rather, it represents a comprehensive organizational transformation involving the integration of digital technologies into organizational strategies, business processes, organizational culture, and value creation mechanisms (Vial, 2019; Verhoef et al., 2021). Consequently, digital transformation is widely regarded as a strategic organizational capability that enables firms to adapt to rapidly changing business environments while improving operational performance, business model innovation and long-term competitiveness (Ilham et al., 2026; Kraus et al., 2021; Oludapo et al., 2024).

Within the healthcare sector, digital transformation encompasses the systematic integration of advanced digital technologies into healthcare delivery, administration, clinical decision-making, and patient management (Starke & Ludviga, 2025). These technologies include electronic health records (EHRs), telemedicine, artificial intelligence (AI), cloud computing, the Internet of Medical Things (IoMT), blockchain, big data analytics, robotics, and mobile health applications (Agarwal et al., 2010; Topol, 2019). Their collective objective is to improve healthcare accessibility, efficiency, patient safety, diagnostic accuracy, and organizational effectiveness. Rather than simply digitizing existing manual processes, digital transformation seeks to fundamentally redesign healthcare systems to support more integrated, evidence-based, and patient-centered models of care (Miozza et

al., 2025).

The increasing importance of digital transformation has been driven by several global developments. Healthcare systems face unprecedented pressures arising from ageing populations, increasing prevalence of chronic diseases, rising healthcare expenditure, shortages of healthcare professionals, and growing patient expectations for timely and personalized care (World Health Organization [WHO], 2021). These challenges have compelled healthcare organizations to embrace digital innovations capable of improving service delivery while ensuring long-term organizational sustainability. The COVID-19 pandemic further accelerated digital transformation by demonstrating the indispensable role of telemedicine, electronic prescribing, remote monitoring, and digital health information systems in maintaining continuity of care during periods of severe disruption (Keesara, Jonas, & Schulman, 2020). Consequently, digital transformation has evolved from a technological option to a strategic necessity for healthcare organizations worldwide.

Contemporary literature emphasizes that successful digital transformation depends on the interaction between technological resources and organizational capabilities. Vial (2019) conceptualizes digital transformation as an organizational response to environmental change through the strategic deployment of information, computing, communication, and connectivity technologies to improve organizational performance. Similarly, Verhoef et al. (2021) argue that digital transformation involves organizational restructuring, process innovation, and cultural change in addition to technological investment. These perspectives challenge earlier technology-centric views by suggesting that organizational success depends not only on acquiring digital technologies but also on developing the capabilities required to integrate and exploit them effectively.

This capability perspective is particularly relevant in healthcare, where digital technologies operate within complex socio-technical systems involving clinicians, administrators, patients, regulators, and multiple professional disciplines (Mwogosi & Mambile, 2025). The implementation of technologies such as electronic health records or artificial intelligence frequently requires substantial changes in clinical workflows, communication patterns, organizational culture, and decision-making processes (Ebo et al., 2025). Without corresponding organizational adaptation, technological investments may produce limited improvements in healthcare outcomes despite considerable financial expenditure (Agarwal et al., 2010). Consequently, digital transformation should be viewed as an organizational change process driven by people, culture, and strategy rather than a purely technological initiative (Musaigwa & Kalitanyi, 2026).

The Resource-Based View (RBV) provides an important theoretical lens for understanding digital transformation within healthcare organizations (Barney & Arikan, 2005). According to Barney (1991), organizations achieve sustained competitive advantage by developing valuable, rare, inimitable, and well-organized resources. Digital technologies undoubtedly represent valuable organizational resources because they improve information processing, communication, and operational efficiency (Shukla et al., 2023). However, technological resources alone rarely satisfy the conditions necessary for sustained competitive advantage because competing organizations can often acquire similar technologies (Yao & Li, 2023). Sustainable value therefore depends on complementary organizational capabilities that enable healthcare organizations to utilize digital technologies more effectively than their competitors (Viswanadham, 2021).

Dynamic Capabilities Theory extends this argument by emphasizing an organization's ability to continuously sense environmental opportunities, seize technological innovations, and reconfigure internal resources in response to changing conditions (Teece et al., 1997). Acknowledging the fast-pace in which healthcare organizations operate in a highly dynamic environments characterized by rapid technological advances, changing patient expectations, evolving clinical guidelines, and increasing regulatory requirements (Poček et al., 2026). Digital transformation therefore requires continuous organizational adaptation rather than one-time technology implementation. Thus, organizations possessing strong dynamic capabilities are more likely to successfully integrate digital innovations into routine healthcare delivery and sustain superior organizational performance over time (Setiawan et al., 2025).

Despite widespread recognition of its potential benefits, digital transformation remains associated with significant implementation challenges. Many healthcare organizations experience difficulties related to employee resistance, inadequate digital competencies, fragmented organizational structures, insufficient leadership commitment, and ineffective change management (Westerman, Bonnet, & McAfee, 2014). These barriers frequently prevent healthcare institutions from realizing the anticipated benefits of digital technologies, contributing to high failure rates among digital transformation initiatives (Singun, 2025). Riyadi et al. (2024) suggests that technological sophistication alone does not guarantee improved organizational performance; instead, success depends on organizational readiness, learning capacity, and the ability to manage change

effectively.

Recent scholarship has therefore shifted attention from technological adoption toward the organizational processes that enable digital transformation to create sustainable value (Dyduch et al., 2021; Musaigwa & Kalitanyi, 2026). Researchers increasingly argue that organizational learning plays a central role in helping healthcare organizations acquire digital competencies, disseminate knowledge, adapt organizational routines, and institutionalize innovation (Crossan et al., 1999; Marsick & Watkins, 2003). Through continuous learning, healthcare professionals develop the skills and shared understanding required to integrate digital technologies into everyday clinical practice. This perspective suggests that organizational learning may function as the critical mechanism through which digital transformation influences service quality and long-term organizational sustainability (Xiao et al., 2025).

Although substantial progress has been made in understanding digital transformation within healthcare, important gaps remain in the literature. Much of the existing research concentrated on technology adoption, information systems implementation, or digital infrastructure, while comparatively limited attention has been devoted to explaining the organizational capabilities that convert digital investments into sustainable organizational outcomes. Moreover, previous studies often examine direct relationships between digital transformation and organizational performance without considering the sequential organizational processes through which digital technologies generate lasting value (Rahman & Ramzani, 2025). This fragmentation limits theoretical understanding and constrains the development of integrated frameworks capable of explaining sustainable digital transformation in healthcare organizations.

2.2 Organizational Learning

Organizational learning (OL) has become one of the most influential concepts in strategic management, organizational behaviour, and knowledge management. This is because it explains how organizations acquire, create, disseminate, and institutionalize knowledge to improve organizational performance and sustain competitive advantage (Amirnejad & Zahra Milad, 2015). In today's dynamic business environment, characterized by rapid technological advancement, increasing market uncertainty, and continuous organizational change. Learning has evolved from a supportive organizational activity into a strategic capability that enables organizations to adapt, innovate, and remain competitive (Mohammad et al., 2024; Maqbuli & Al-Mahmoudi, 2026). This capability is particularly important in healthcare organizations, where continuous advances in medical science, digital technologies, and patient expectations require organizations to update knowledge and modify organizational practices continually.

Unlike individual learning, which occurs at the personal level, organizational learning involves collective processes through which knowledge generated by individuals becomes embedded within organizational routines, policies, systems, and culture (Anderson & Lewis, 2013). Accordingly, to Mokher et al. (2019), organizations learn when employees share experiences, interpret new information collectively, modify existing practices, and institutionalize improved ways of performing organizational activities. Consequently, organizational learning represents a dynamic organizational capability that enables institutions to respond effectively to changing environmental conditions while continuously improving organizational performance (Ellström, 2010).

The concept of organizational learning has been widely discussed from different theoretical perspectives. Argyris and Schön (1978) conceptualized organizational learning as a process through which organizations detect and correct errors by modifying existing routines and underlying assumptions. They distinguished between **single-loop learning**, which focuses on correcting errors without questioning existing organizational norms, and **double-loop learning**, which challenges underlying assumptions and promotes transformational organizational change. Double-loop learning is particularly relevant to healthcare organizations undergoing digital transformation because successful implementation frequently requires healthcare professionals to redesign clinical workflows, reconsider traditional practices, and embrace innovative approaches to healthcare delivery (Li et al., 2021).

Building upon this foundation, Crossan et al. (1999) developed the influential 4I Framework of Organizational Learning, which conceptualizes organizational learning as a multilevel process involving four interconnected stages: Intuiting, Interpreting, Integrating, and Institutionalizing. The framework explains how knowledge evolves from individual insights to organizational capabilities. Employees first recognize opportunities or problems through intuition, communicate these insights to colleagues, develop shared understanding across organizational groups, and eventually embed new knowledge within organizational systems and routines. This framework has become one of the most widely adopted theoretical models for understanding organizational learning because it demonstrates how organizations continuously renew their knowledge base while adapting to

environmental change (Hael et al., 2024).

More recent scholarship has expanded the concept by emphasizing learning as a strategic organizational capability rather than merely a knowledge management process. Marsick and Watkins (2003) argue that learning organizations deliberately establish systems that encourage knowledge acquisition, collaboration, dialogue, experimentation, and continuous improvement. Such organizations integrate learning into everyday organizational activities, empowering employees to solve problems collectively while promoting innovation and organizational adaptability. This perspective aligns closely with contemporary healthcare organizations, where multidisciplinary collaboration and evidence-based decision-making are essential for improving patient outcomes and organizational performance (Bendowska & Baum, 2023).

Within healthcare organizations, organizational learning assumes even greater strategic importance because healthcare delivery depends heavily on knowledge-intensive professional activities (Shahmoradi et al., 2017). Medical knowledge evolves rapidly, clinical guidelines are continuously updated, and healthcare professionals must integrate emerging scientific evidence into routine clinical practice. Consequently, healthcare organizations require effective learning mechanisms to ensure that new clinical knowledge, technological innovations, and evidence-based practices are disseminated throughout the organization and incorporated into patient care (Garvin, Edmondson, & Gino, 2008). Organizations that cultivate strong learning capabilities are therefore better positioned to improve healthcare quality, enhance operational efficiency, and respond effectively to emerging healthcare challenges (Horwood et al., 2025).

The growing adoption of digital technologies has further strengthened the importance of organizational learning in healthcare. Successful implementation of these technologies requires healthcare professionals to acquire new digital competencies, collaborate across professional boundaries, and continuously adapt to evolving technological environments (Lloyd & Craig, 2023). Consequently, digital transformation and organizational learning are closely interconnected. While digital technologies provide organizations with new capabilities, organizational learning determines whether these capabilities are effectively utilized to improve healthcare delivery (Van Hoang et al., 2025).

From a strategic management perspective, organizational learning complements both the Resource-Based View (RBV) and Dynamic Capabilities Theory. The Resource-Based View argues that organizations achieve sustained competitive advantage through valuable, rare, inimitable, and well-organized resources (Barney, 1991). However, digital technologies alone rarely satisfy these conditions because competing organizations can often acquire similar technological resources (Sun et al., 2024). Organizational learning therefore functions as the capability that transforms technological resources into unique organizational competencies (Min & Ji, 2026). Similarly, Dynamic Capabilities Theory emphasizes an organization's ability to sense environmental changes, seize emerging opportunities, and continuously reconfigure internal resources to remain competitive (Teece, 2007). Organizational learning enables these adaptive processes by facilitating knowledge creation, organizational adaptation, and continuous capability development (Constantin, 2015).

Despite broad agreement regarding the strategic importance of organizational learning, scholars continue to debate its conceptual boundaries. Some researchers emphasize knowledge acquisition and transfer, whereas others focus on organizational culture, leadership, innovation, and employee empowerment as integral dimensions of organizational learning capability (Easterby-Smith & Lyles, 2011). Nevertheless, there is growing consensus that organizational learning should be viewed as a multidimensional organizational capability encompassing knowledge creation, knowledge dissemination, shared interpretation, collective problem-solving, and institutionalized organizational change (Hael et al., 2024).

Although considerable research has examined organizational learning independently, relatively few studies have investigated its role as the organizational mechanism through which digital transformation influences service quality and organizational sustainability within healthcare settings (Ellström, 2010; Brodeur et al., 2023). Existing studies have largely examined direct relationships between digital transformation and organizational performance while overlooking the sequential organizational processes through which technological resources create sustainable value. This limitation is particularly important based on the research of Iyanna et al. (2022). That, healthcare organizations frequently fail to realize the anticipated benefits of digital transformation despite substantial investments in digital infrastructure.

In this study, organizational learning is viewed as an important organizational capability that enables healthcare institutions to acquire, share, integrate, and institutionalize knowledge generated through digital transformation. Digital technologies may provide healthcare organizations with improved information systems and operational tools, but their value depends on how effectively employees learn, adapt, and apply new knowledge in practice

(Onwujekwe et al., 2025). Through continuous learning, healthcare professionals develop the competencies required to integrate digital technologies into clinical and administrative routines, improve service delivery, strengthen organizational adaptability, and support long-term organizational sustainability (Starke & Ludviga, 2025). Accordingly, organizational learning provides the capability through which healthcare organizations can translate digital transformation into improved organizational outcomes.

The following section examines the dimensions of organizational learning and explains how these dimensions facilitate successful digital transformation within healthcare organizations.

2.2.1 Dimensions of Organizational Learning

Although several conceptualizations of organizational learning exist, one of the most widely accepted frameworks is the Dimensions of the Learning Organization Questionnaire (DLOQ) developed by Marsick and Watkins (2003). The framework conceptualizes organizational learning as a set of organizational characteristics that promote continuous learning, knowledge sharing, collaboration, empowerment, systems thinking, and strategic leadership. These dimensions collectively determine an organization's ability to adapt to environmental change and sustain organizational effectiveness (Wang & Ellinger, 2011).

Within healthcare organizations, these dimensions are particularly important because healthcare delivery relies heavily on multidisciplinary collaboration, evidence-based decision-making, and continuous professional development. As healthcare organizations increasingly adopt digital technologies, effective organizational learning enables employees to acquire digital competencies, exchange knowledge across professional boundaries, and integrate technological innovations into routine clinical practice (Hamid et al., 2025).

2.2.1.1 Continuous Learning

Continuous learning refers to the extent to which organizations encourage employees to continuously acquire new knowledge, develop professional competencies, and improve their performance throughout their careers (Marsick & Watkins, 2003). Rather than viewing learning as an occasional training activity, learning organizations integrate continuous education into everyday organizational operations (Mohammad et al., 2024).

In healthcare organizations, continuous learning is indispensable because medical knowledge, treatment protocols, and healthcare technologies evolve rapidly. Healthcare professionals must continuously update their knowledge to provide safe, effective, and evidence-based patient care. Digital transformation further increases this need by introducing sophisticated technologies such as artificial intelligence, electronic health records, and telemedicine platforms that require ongoing skill development (Ebo et al., 2025). Organizations that encourage continuous learning are therefore better positioned to adapt to technological change while improving organizational performance.

2.2.1.2 Inquiry and Dialogue

Inquiry and dialogue represent the organizational processes through which employees openly exchange ideas, question existing assumptions, and collectively develop new knowledge (Eapen et al., 2025). Learning organizations cultivate environments in which employees feel psychologically safe to express opinions, challenge traditional practices, and participate in constructive discussions (Garvin et al., 2008).

Within healthcare organizations, inquiry and dialogue facilitate interdisciplinary communication among physicians, nurses, pharmacists, administrators, and information technology professionals (Jaroń et al., 2025). Such collaboration becomes particularly important during digital transformation because successful implementation frequently requires employees from diverse professional backgrounds to develop shared understandings of new technologies and redesigned clinical workflows. Thus, open dialogue therefore promotes innovation while reducing resistance to organizational change.

2.2.1.3 Team Learning and Collaboration

Healthcare delivery is inherently collaborative. Effective patient care depends upon coordinated interactions among multidisciplinary healthcare professionals. Team learning refers to the process through which organizational members collectively acquire knowledge, solve problems, and improve organizational practices through collaboration (Crossan et al., 1999).

Digital transformation further strengthens the importance of team learning by requiring healthcare professionals to integrate technological innovations into coordinated clinical activities (Ilham et al., 2026). Teams that regularly exchange knowledge and collaborate effectively are more capable of adapting to digital technologies, identifying implementation challenges, and improving healthcare service delivery (Pereira & Fernandes, 2025).

Consequently, collaborative learning enhances organizational flexibility while supporting continuous organizational improvement.

2.2.1.4 Embedded Knowledge Systems

Learning organizations establish systems that capture, preserve, and disseminate organizational knowledge beyond individual employees. Embedded knowledge systems include organizational databases, electronic knowledge repositories, clinical guidelines, standard operating procedures, decision-support systems, and institutional memory that facilitate organizational learning over time (Marsick & Watkins, 2003).

Within healthcare organizations, digital technologies significantly strengthen embedded knowledge systems. Electronic health records, clinical decision-support tools, artificial intelligence applications, and integrated hospital information systems preserve valuable organizational knowledge while making evidence-based information readily available to healthcare professionals (Abdelaziz & Rosa, 2024). These systems reduce dependence on individual expertise and ensure continuity of organizational learning despite employee turnover.

2.2.1.5 Empowerment

Empowerment refers to the degree to which employees are encouraged to participate in organizational decision-making, solve problems independently, and contribute to organizational improvement (Modise, 2023). Learning organizations recognize employees as valuable sources of knowledge and innovation, providing them with opportunities to influence organizational change.

Healthcare organizations undergoing digital transformation require empowered employees who are willing to experiment with new technologies, identify implementation challenges, and recommend improvements. Empowerment encourages ownership of digital transformation initiatives, increases employee engagement, and facilitates the successful integration of technological innovations into everyday clinical practice (Eapen et al., 2025).

2.2.1.6 Systems Connection

Systems connection reflects an organization's ability to understand how internal activities relate to the external environment. Learning organizations continuously monitor technological developments, regulatory changes, stakeholder expectations, and emerging healthcare trends while adapting organizational practices accordingly (Marsick & Watkins, 2003).

Healthcare organizations operate within rapidly evolving environments characterized by technological innovation, changing patient expectations, and evolving healthcare policies. Maintaining strong connections with external stakeholders including patients, regulatory agencies, technology providers, and academic institutions, enables healthcare organizations to anticipate change, adopt best practices, and remain competitive (Sun et al., 2024).

2.2.1.7 Strategic Leadership for Learning

Strategic leadership represents one of the most important determinants of organizational learning. Leaders establish organizational vision, allocate resources, encourage innovation, promote collaboration, and create environments that support continuous learning (Garvin et al., 2008). Leadership commitment is particularly critical during digital transformation because technological change frequently generates uncertainty and resistance among employees (Riyadi et al., 2024).

Healthcare leaders who actively promote organizational learning create cultures that encourage experimentation, knowledge sharing, and continuous professional development. Such leaders facilitate successful digital transformation by aligning technological investments with organizational strategy, workforce development, and long-term organizational objectives. Consequently, strategic leadership strengthens organizational resilience while enhancing the sustainability of digital transformation initiatives (Shatila, 2025).

The dimensions discussed above demonstrate that organizational learning extends far beyond employee training. Rather, it represents a comprehensive organizational capability encompassing continuous learning, collaboration, knowledge management, empowerment, systems thinking, and strategic leadership. These dimensions collectively enable healthcare organizations to absorb technological innovations, redesign organizational processes, improve service delivery, and sustain organizational performance.

2.2.1.8 Organizational Learning and Digital Transformation

Within the context of the present study, organizational learning is conceptualized as the central organizational capability through which digital transformation generates sustainable value. Digital technologies provide

healthcare organizations with unprecedented opportunities to improve healthcare delivery; however, these opportunities can only be realized when organizations possess the learning capabilities necessary to acquire, interpret, disseminate, and institutionalize new knowledge. Consequently, organizational learning functions as the primary mechanism linking digital transformation to improved service quality and long-term organizational sustainability (Constantin, 2015).

2.3 Service Quality

Service quality has long been recognized as a fundamental determinant of organizational success within the healthcare sector driven by empathy, assurance, and responsiveness (Rahmatia et al., 2025). This is because it directly influences patient satisfaction, clinical outcomes, organizational reputation, operational efficiency, and long-term sustainability (Ashley & Parumasur, 2026). Unlike manufacturing industries, where quality is primarily assessed by through a wide framework of product and process traits, primarily anchored by David Garvin's eight dimensions of quality, which includeperformance, features, reliability, durability and, aesthetics (Fasko, 2023). Healthcare service quality encompasses the effectiveness, safety, accessibility, responsiveness, and patient-centeredness of healthcare delivery (Hosseinzadeh et al., 2024). Consequently, healthcare organizations continuously strive to improve service quality to meet increasing patient expectations, comply with regulatory standards, and achieve superior organizational performance.

Parasuraman, Zeithaml, and Berry (1988) define service quality as the gap between customers' expectations and their perceptions of the services received. According to this perspective, high-quality services are achieved when perceived performance equals or exceeds customer expectations. Although this conceptualization was originally developed for commercial service industries, it has been widely applied in healthcare because patients increasingly evaluate healthcare providers based on both clinical outcomes and service experiences. Modern healthcare therefore recognizes that excellent clinical treatment alone is insufficient; patients also value timely access, effective communication, empathy, reliability, and responsiveness throughout the healthcare journey (Rahmatia et al., 2025). Consequently, researchers have proposed several theoretical models to conceptualize and evaluate healthcare service quality.

One of the most influential frameworks is the SERVQUAL model developed by Parasuraman et al. (1988), which evaluates service quality across five dimensions: tangibility, reliability, responsiveness, assurance, and empathy. Tangibility refers to the physical facilities, equipment, and appearance of healthcare personnel. Reliability reflects the organization's ability to deliver promised healthcare services accurately and consistently. Responsiveness concerns the willingness of healthcare professionals to assist patients promptly. Assurance encompasses employee competence, professionalism, and the ability to inspire patient confidence, while empathy refers to individualized care and attention provided to patients.

Although SERVQUAL remains one of the most widely applied models in healthcare research, scholars have argued that healthcare quality extends beyond patients' perceptions of service encounters. Donabedian (1988) proposed a more comprehensive framework by conceptualizing healthcare quality through three interrelated components: **structure**, **process**, and **outcomes**. Structure refers to organizational resources such as facilities, equipment, staffing, and technology. Process encompasses the activities involved in healthcare delivery, including diagnosis, treatment, communication, and patient management. Outcomes represent the consequences of healthcare interventions, including patient recovery, satisfaction, safety, and overall health status. Donabedian's framework has become one of the most influential models for evaluating healthcare quality because it recognizes that organizational systems and clinical processes jointly determine patient outcomes.

Recent advances in digital technologies have substantially transformed healthcare service quality. Electronic health records, artificial intelligence, telemedicine, clinical decision-support systems, wearable health devices, and predictive analytics enable healthcare organizations to improve diagnostic accuracy, reduce medical errors, enhance communication, and provide more personalized healthcare services (Topol, 2019). Digital technologies also facilitate remote patient monitoring, online consultations, electronic prescriptions, and integrated healthcare information systems, thereby improving healthcare accessibility and operational efficiency (Zoubi, 2022).

Although extensive research has examined service quality within healthcare settings, much of the existing literature focuses on patient satisfaction, healthcare utilization, or clinical performance independently.

Digital technologies improve healthcare capabilities by enabling organizations to acquire, process, and utilize information more effectively, while organizational learning ensures that healthcare professionals develop the competencies required to utilize these technologies efficiently. Enhanced service quality subsequently strengthens organizational sustainability by improving patient outcomes, operational efficiency, stakeholder trust, and organizational reputation.

Overall, service quality represents the operational outcome through which organizational learning translates digital transformation into improved healthcare performance. In this study, service quality is therefore positioned as a key pathway linking organizational learning with organizational sustainability.

2.4 Organizational Sustainability

Organizational sustainability has emerged as a central objective for contemporary organizations seeking to maintain long-term performance while responding to increasing economic, social, environmental, and technological challenges (Musaigwa & Kalitanyi, 2026). Unlike traditional performance measures that primarily emphasize financial outcomes, organizational sustainability reflects an organization's capacity to create enduring value by balancing economic viability, social responsibility, environmental stewardship, and organizational resilience (Elkington, 1997). Within the healthcare sector, sustainability extends beyond financial performance to encompass the continuous provision of safe, accessible, high-quality healthcare services while adapting to changing patient needs, technological advancements, and regulatory requirements (Ibrahim et al., 2025).

Healthcare organizations operate in increasingly complex environments characterized by rising healthcare costs, aging populations, chronic disease burdens, workforce shortages, rapid technological innovation, and growing public expectations for high-quality healthcare services (Xiao et al., 2025). These challenges have heightened the importance of organizational sustainability as healthcare providers seek to improve operational efficiency while maintaining high standards of patient care. Consequently, healthcare organizations must continuously strengthen their organizational capabilities to remain resilient, innovative, and responsive in dynamic healthcare environments (Van Hoang et al., 2025).

One of the most influential perspectives on sustainability is the **Triple Bottom Line (TBL)** framework proposed by Elkington (1997), which argues that sustainable organizations simultaneously pursue **economic**, **social**, and **environmental** performance. Economic sustainability refers to an organization's ability to maintain financial stability, efficiently utilize resources, and ensure long-term operational viability. Social sustainability emphasizes improving employee well-being, patient outcomes, stakeholder relationships, and community health. Environmental sustainability focuses on minimizing environmental impacts through responsible resource utilization, waste reduction, and environmentally sustainable operational practices.

Although the Triple Bottom Line was originally developed for corporate sustainability, its principles have been widely adopted within healthcare organizations to balance patient care, ecological safety, and financial health (Vergunst et al., 2019). Hospitals and healthcare systems increasingly recognize that sustainable healthcare requires balancing financial efficiency with these pillars including workforce development, ethical governance, and environmental responsibility. For example, investments in digital technologies not only improve operational efficiency but also reduce paper consumption, optimize energy utilization, minimize unnecessary patient travel through telemedicine, and enhance resource management (Ganapathy, 2023). Consequently, digital transformation contributes simultaneously to economic, social, and environmental sustainability.

Beyond the Triple Bottom Line perspective, organizational sustainability has increasingly been conceptualized as an adaptive capability that enables organizations to survive and thrive under conditions of continuous environmental change (Riyadi et al., 2024). This perspective aligns closely with the Resource-Based View (RBV), which argues that sustainable organizational performance depends upon valuable organizational resources and capabilities that competitors cannot easily imitate (Barney, 1991). Within healthcare organizations, such capabilities include technological competence, organizational learning, knowledge management, leadership effectiveness, innovation capability, and service excellence These strategic resources collectively enable healthcare organizations to maintain superior performance over extended periods (Barney & Arikan, 2005).

Dynamic Capabilities Theory further strengthens this perspective by emphasizing that organizational sustainability depends not only on possessing valuable resources but also on continuously renewing organizational capabilities in response to changing environments (Teece, 2007). Healthcare organizations face constant technological innovation, evolving healthcare regulations, emerging diseases, and changing patient expectations. Sustainable organizations therefore continuously sense environmental changes, seize emerging opportunities, and reconfigure organizational resources to maintain organizational effectiveness (Mahmood & Ahmed, 2025). Digital transformation represents one such strategic response that enables healthcare organizations to strengthen adaptability, resilience, and long-term competitiveness (Iyanna et al., 2022).

Within healthcare settings, organizational sustainability is closely associated with organizational resilience. Resilient healthcare organizations possess the capacity to anticipate disruptions, respond effectively to crises, recover rapidly from adverse events, and continue delivering essential healthcare services despite environmental uncertainty (Poček et al., 2026). The COVID-19 pandemic highlighted the importance of resilience by

demonstrating that healthcare organizations with advanced digital capabilities, effective knowledge-sharing mechanisms, and adaptive organizational cultures were better positioned to maintain healthcare delivery during periods of unprecedented disruption (Keesara, Jonas, & Schulman, 2020). These experiences have reinforced the strategic importance of digital transformation as a driver of sustainable healthcare systems.

The growing integration of digital technologies has significantly expanded opportunities for achieving organizational sustainability. Electronic health records improve information accessibility and reduce duplication of clinical procedures (Abdelaziz & Rosa, 2024). Artificial intelligence supports evidence-based clinical decision-making while improving diagnostic accuracy (Shatila, 2025). Telemedicine enhances healthcare accessibility, particularly for rural and underserved populations, while reducing operational costs and environmental impacts associated with patient transportation (Zoubi, 2022). Big data analytics facilitate population health management, predictive healthcare planning, and efficient resource allocation (Berry, 2021). Collectively, these technologies strengthen healthcare organizations' capacity to deliver high-quality services while maintaining long-term organizational viability.

In summary, organizational sustainability in healthcare depends on the ability of institutions to balance economic viability, service quality, social responsibility, resilience, and continuous adaptation. Digital transformation can support these objectives, but its contribution to sustainability is strengthened when healthcare organizations develop learning capabilities and continuously improve service quality.

3. Theoretical Foundation

A robust theoretical foundation is essential for explaining the mechanisms through which digital transformation contributes to organizational sustainability in healthcare. While numerous studies have examined the direct effects of digital technologies on organizational performance, comparatively fewer have explained why some healthcare organizations derive greater value from digital transformation than others. Together, these theories provide a comprehensive explanation of how technological resources, organizational capabilities, and continuous learning interact to generate sustainable organizational outcomes.

The Resource-Based View explains how organizations create competitive advantage through valuable internal resources (Sun et al., 2024), whereas Dynamic Capabilities Theory explains how organizations continuously renew and reconfigure those resources to respond to changing environments (Dukhaykh & Alangri, 2026). Because healthcare organizations operate in knowledge-intensive and technologically dynamic environments, combining these theoretical perspectives provides a stronger explanation of sustainable digital transformation than either theory alone.

3.1 Resource-Based View (RBV)

The Resource-Based View (RBV), introduced by Barney (1991), is one of the most influential theories in strategic management. RBV argues that organizational success depends primarily on internal resources and capabilities rather than external market conditions. According to the theory, organizations achieve sustainable competitive advantage when they possess resources that are valuable, rare, inimitable, and organized (VRIO) to exploit them effectively.

Within healthcare organizations, valuable resources include digital technologies, organizational knowledge, skilled healthcare professionals, information systems, organizational culture, leadership capability, and clinical expertise. However, the Resource-Based View emphasizes that possessing technological resources alone is insufficient for achieving sustainable organizational performance (Barney & Arikan, 2005). Since many healthcare organizations can purchase similar technologies, digital infrastructure by itself rarely creates a lasting competitive advantage.

Instead, sustainable value emerges when technological resources are integrated with organizational capabilities such as organizational learning, knowledge management, employee competencies, and collaborative cultures (Musaigwa & Kalitanyi, 2026). These capabilities enable healthcare organizations to utilize digital technologies more effectively than competitors, thereby improving operational performance, healthcare service quality, and long-term organizational sustainability.

In the context of this study, digital transformation represents a strategic organizational resource that provides healthcare organizations with advanced technological capabilities (Xiao et al., 2025). Accordingly, Resource-Based View (RBV) supports this view by focusing on valuable, rare, imperfectly imitable, and non-substitutable (VRIN) assets. In the health sector, digital tools alone are easy to copy, but internal skills and routines make

them truly useful for long-term success.

3.2 Dynamic Capabilities Theory (DCT)

While the Resource-Based View explains the importance of organizational resources, it has been criticized for providing limited explanation of how organizations adapt to rapidly changing environments (Priem & Butler, 2001). Dynamic Capabilities Theory addresses this limitation by emphasizing an organization's ability to continuously integrate, build, and reconfigure internal and external resources in response to environmental change (Teece, Pisano, & Shuen, 1997; Teece, 2007).

Dynamic capabilities refer to the organizational processes through which firms **sense** opportunities and threats, seize emerging opportunities, and reconfigure organizational resources to maintain long-term competitiveness (Dyduch et al., 2021). Unlike operational capabilities, which are zero-level, day-to-day skills, processes, and routines that allow a company to execute core tasks, maintain daily functions, and "earn a living in the present" (Hassan et al., 2017). Dynamic capabilities emphasize organizational adaptability, innovation, learning, and strategic renewal (Starke & Ludviga, 2025).

Healthcare organizations operate within environments characterized by continuous technological innovation, evolving clinical guidelines, changing government regulations, increasing patient expectations, demographic changes, and emerging public health challenges (Spracklin & Koeller, 2025). Consequently, long-term organizational success depends upon the ability to continuously adapt organizational structures, clinical processes, workforce competencies, and technological systems. Dynamic Capabilities Theory therefore provides an appropriate theoretical lens for explaining digital transformation within healthcare organizations (Dukhaykh & Alangri, 2026).

Digital transformation itself represents an important dynamic capability because it enables healthcare organizations to respond proactively to technological change and evolving stakeholder expectations. However, digital technologies can only generate sustainable value when healthcare organizations continuously develop new knowledge, modify organizational routines, and improve operational processes (Brown et al., 2023). Organizational learning therefore becomes the mechanism through which healthcare organizations develop and strengthen dynamic capabilities.

Service quality further reflects the successful application of dynamic capabilities. Organizations capable of continuously learning, adapting, and improving healthcare delivery are better positioned to provide responsive, reliable, safe, and patient-centered healthcare services. Over time, these improvements strengthen organizational sustainability by enhancing patient satisfaction, organizational reputation, operational efficiency, and institutional resilience.

3.3 Theoretical Implications

The integration of RBV and Dynamic Capabilities Theory contributes to the digital transformation literature in several important ways. First, it moves beyond technology-centered explanations by emphasizing that sustainable organizational performance depends on the interaction between technological resources and organizational capabilities. Second, it identifies organizational learning as the central mechanism through which digital transformation generates sustainable value within healthcare organizations. Third, it positions service quality as the operational outcome linking organizational learning with organizational sustainability. Finally, the integrated framework provides a comprehensive theoretical foundation for the conceptual propositions developed in the following section.

Thus, RBV explains the strategic importance of digital transformation as an organizational resource, while Dynamic Capabilities Theory explains how healthcare organizations continuously learn, adapt, and improve service delivery to achieve long-term organizational sustainability. Together, these theories provide the conceptual basis for the proposed relationships among digital transformation, organizational learning, service quality, and organizational sustainability.

4. Conceptual Framework and Proposition Development

The literature reviewed in the preceding sections established that digital transformation, organizational learning, service quality, and organizational sustainability are closely interconnected. Section 3 further demonstrated that the Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT) provide complementary theoretical foundations for explaining these relationships. Building on these insights, this section applies both theories to develop an integrated conceptual framework that explains how digital transformation creates sustainable

organizational value in healthcare organizations.

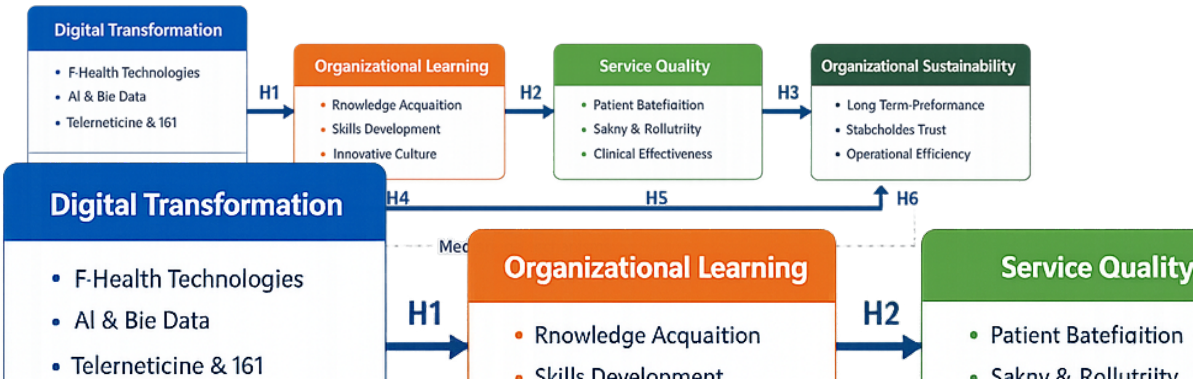
Within the proposed framework, digital transformation is conceptualized as a strategic technological resource that enhances organizational capabilities through investments in digital infrastructure, information systems, artificial intelligence, electronic health records, telemedicine, and data analytics. However, consistent with the Resource-Based View (Barney, 1991), these technological resources do not create sustainable competitive advantage simply through their acquisition. Their value depends on an organization's ability to organize, integrate, and deploy them effectively alongside complementary organizational capabilities.

Organizational learning represents the dynamic capability through which healthcare organizations transform digital resources into improved organizational performance. Through continuous learning, knowledge sharing, interdisciplinary collaboration, and adaptation, healthcare professionals acquire the competencies required to utilize digital technologies effectively, redesign clinical and administrative processes, and support continuous organizational improvement. In this way, Dynamic Capabilities Theory (Teece, 2007) explains how healthcare organizations continuously reconfigure their knowledge and operational routines to respond to technological change and evolving healthcare demands.

Within this framework, service quality is positioned as the immediate operational outcome of successful digital transformation and organizational learning. Improvements in organizational learning strengthen clinical effectiveness, responsiveness, reliability, and patient-centered care, thereby enhancing overall healthcare service quality. Improved service quality subsequently contributes to organizational sustainability, which represents the long-term strategic outcome reflected in organizational resilience, operational effectiveness, stakeholder trust, and sustained organizational performance.

Accordingly, the proposed framework suggests that digital transformation contributes to organizational sustainability through both direct and indirect pathways. While digital technologies may directly enhance organizational performance, their greatest strategic value is realized when they strengthen organizational learning capabilities that improve healthcare service quality and support sustainable organizational success. Figure 1 illustrates the proposed conceptual framework, while the following propositions specify the expected relationships among the study constructs.

Figure 1. Proposed Conceptual Framework



The following propositions are developed based on the theoretical arguments presented in the literature review and theoretical foundation.

The following propositions are developed based on the theoretical arguments presented in the literature review and theoretical foundation.

4.1 Digital Transformation and Organizational Learning

Digital transformation fundamentally changes the way healthcare organizations acquire, process, and utilize information. The implementation of technologies such as electronic health records, artificial intelligence, telemedicine, cloud computing, and big data analytics creates new opportunities for organizational knowledge creation and dissemination. However, realizing these opportunities requires healthcare professionals to continuously acquire new competencies, share knowledge, and adapt organizational routines.

From the perspective of the Resource-Based View, digital technologies represent valuable organizational resources, while organizational learning represents the capability that enables organizations to exploit those resources effectively (Barney, 1991). Dynamic Capabilities Theory similarly argues that organizations continuously develop new competencies through learning, adaptation, and resource reconfiguration (Teece, 2007). Consequently, healthcare organizations undertaking digital transformation are expected to strengthen organizational learning by encouraging continuous education, interdisciplinary collaboration, knowledge sharing, and innovation.

Empirical studies consistently report that healthcare organizations implementing digital technologies experience increased organizational learning through improved knowledge management, enhanced communication, and greater organizational adaptability (Vial, 2019; Verhoef et al., 2021). Therefore, digital transformation is expected to positively influence organizational learning.

Proposition 1 (P1): *Digital transformation positively influences organizational learning in healthcare organizations.*

4.2 Organizational Learning and Service Quality

Organizational learning enables healthcare organizations to continuously improve clinical practices, operational procedures, and service delivery by facilitating knowledge acquisition, knowledge sharing, and continuous professional development. Healthcare professionals operating within learning organizations are better equipped to integrate new medical evidence and digital technologies into patient care, thereby improving healthcare service quality.

The Dynamic Capabilities perspective suggests that organizations continuously improve operational performance through learning and adaptation. As organizational knowledge expands, healthcare organizations become more capable of providing responsive, reliable, safe, and patient-centred services.

Learning-oriented healthcare organizations also demonstrate stronger interdisciplinary collaboration, more effective problem-solving, and greater innovation in healthcare delivery. These capabilities contribute directly to improvements in patient satisfaction, healthcare efficiency, and overall service quality.

Accordingly, organizational learning is expected to have a positive influence on healthcare service quality.

Proposition 2 (P2): *Organizational learning positively influences service quality in healthcare organizations.*

4.3 Service Quality and Organizational Sustainability

Service quality represents one of the most important indicators of healthcare organizational performance because it directly affects patient outcomes, organizational reputation, operational efficiency, and stakeholder confidence. Healthcare organizations consistently delivering high-quality services are more likely to achieve long-term sustainability through improved patient satisfaction, stronger community trust, and enhanced organizational resilience.

The Triple Bottom Line perspective suggests that sustainable healthcare organizations simultaneously pursue economic performance, social responsibility, and operational effectiveness (Elkington, 1997). High service quality contributes to each of these objectives by improving healthcare outcomes, reducing unnecessary operational costs, increasing patient loyalty, and strengthening institutional legitimacy.

Consequently, organizations capable of consistently delivering superior healthcare services are expected to demonstrate higher levels of organizational sustainability.

Proposition 3 (P3): *Service quality positively influences organizational sustainability in healthcare organizations.*

4.4 Organizational Learning and Organizational Sustainability

Organizational learning contributes to long-term organizational sustainability by enabling healthcare organizations to continuously adapt to changing technologies, healthcare policies, patient expectations, and environmental challenges. Organizations characterized by strong learning capabilities develop resilient organizational cultures capable of sustaining innovation and continuous improvement.

Through continuous learning, healthcare organizations strengthen employee competencies, improve organizational flexibility, encourage innovation, and develop effective knowledge management systems. These organizational capabilities improve resilience during periods of uncertainty while supporting sustainable organizational performance.

Accordingly, organizational learning is expected to contribute directly to organizational sustainability beyond its indirect effect through service quality.

Proposition 4 (P4): *Organizational learning positively influences organizational sustainability in healthcare organizations.*

4.5 Digital Transformation and Organizational Sustainability

Digital transformation enables healthcare organizations to modernize clinical processes, improve operational efficiency, reduce administrative burdens, strengthen decision-making, and enhance patient care (Kraus et al., 2021). These improvements contribute directly to organizational sustainability by increasing productivity, improving financial performance, strengthening healthcare accessibility, and supporting organizational resilience.

However, direct relationship between digital transformation and organizational sustainability may be weaker than relationships involving organizational capabilities because technology alone rarely generates sustainable organizational value. Nevertheless, digital transformation remains an important strategic resource that directly contributes to long-term organizational effectiveness (Setiawan et al., 2025).

Therefore, digital transformation is expected to positively influence organizational sustainability.

Proposition 5 (P5): *Digital transformation positively influences organizational sustainability in healthcare organizations.*

4.6 The Serial Mediating Roles of Organizational Learning and Service Quality

Although digital transformation provides healthcare organizations with advanced technological capabilities, sustainable organizational value is unlikely to emerge solely through technology adoption. Instead, digital transformation initiates organizational learning processes that improve employee competencies, strengthen organizational knowledge, and facilitate continuous organizational improvement. These learning processes subsequently enhance healthcare service quality, which ultimately contributes to organizational sustainability.

The integrated theoretical framework developed in this study suggests that organizational learning and service quality function sequentially rather than independently. Organizational learning enables healthcare professionals to utilize digital technologies effectively, while improved service quality represents the operational outcome through which learning contributes to sustainable organizational performance.

This sequential perspective extends previous research (Teece, 2007; Vial, 2019; Verhoef et al., 2021) by explaining the organizational mechanisms through which digital transformation creates sustainable value. Rather than emphasizing direct technological effects, the proposed framework highlights organizational capabilities as the critical drivers of successful digital transformation.

Accordingly, the study proposes the following serial mediation relationship:

Proposition 6 (P6): *Organizational learning and service quality sequentially mediate the relationship between digital transformation and organizational sustainability in healthcare organizations.*

Summary of the Proposed Propositions

Proposition	Proposed Relationship
P1	Digital Transformation → Organizational Learning
P2	Organizational Learning → Service Quality
P3	Service Quality → Organizational Sustainability
P4	Organizational Learning → Organizational Sustainability
P5	Digital Transformation → Organizational Sustainability
P6	Digital Transformation → Organizational Learning → Service Quality → Organizational Sustainability (Serial Mediation)

The proposed framework contributes to the digital transformation literature by integrating technological resources, organizational capabilities, operational outcomes, and strategic sustainability into a unified conceptual model. Grounded in the Resource-Based View and Dynamic Capabilities Theory, the framework explains how healthcare organizations can transform digital investments into sustainable organizational value through continuous organizational learning and enhanced service quality. The following section discusses the theoretical and managerial implications of the proposed framework and identifies directions for future empirical research.

5. Discussion

The purpose of this paper was to develop a comprehensive conceptual framework explaining how digital transformation contributes to organizational sustainability in healthcare organizations through the mediating roles of organizational learning and service quality. Drawing upon the Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT), the proposed framework argues that digital transformation should not be viewed solely as a technological initiative but rather as a strategic organizational capability that creates sustainable value when supported by effective learning processes and high-quality healthcare service delivery.

The framework contributes to the growing body of digital transformation literature by addressing an important theoretical limitation. Existing studies have largely emphasized the direct effects of digital technologies on organizational performance, healthcare quality, or innovation outcomes. While these studies have significantly advanced understanding of digital transformation, they often overlook the organizational mechanisms through which technological resources generate sustainable organizational value. Consequently, the literature provides only a partial explanation of why similar digital technologies produce substantially different outcomes across healthcare organizations.

The present conceptual framework addresses this limitation by positioning **organizational learning** as the central organizational capability linking digital transformation with healthcare service quality and organizational sustainability. This perspective recognizes that digital technologies themselves do not improve organizational performance. Rather, value is created when healthcare professionals acquire new knowledge, develop digital competencies, modify organizational routines, and institutionalize innovative practices. Through these learning processes, healthcare organizations become better equipped to integrate technological innovations into clinical practice and organizational decision-making.

The proposed framework further identifies **service quality** as the operational mechanism through which organizational learning contributes to organizational sustainability. Healthcare organizations characterized by strong learning capabilities are expected to deliver more reliable, responsive, safe, and patient-centred healthcare services. Improvements in service quality subsequently strengthen patient satisfaction, organizational reputation, stakeholder confidence, and operational efficiency, thereby supporting long-term organizational sustainability. This sequential relationship extends previous research (Barney, 1991; Teece, 2007; Donabedian, 1988) by demonstrating that service quality represents more than a performance outcome; it also functions as a strategic pathway connecting organizational capabilities with sustainable organizational success.

The integration of RBV and Dynamic Capabilities Theory also provides a more comprehensive theoretical explanation of sustainable digital transformation. RBV explains why digital technologies constitute valuable strategic resources, whereas Dynamic Capabilities Theory explains how healthcare organizations continuously adapt, learn, and reconfigure these resources to maintain organizational effectiveness under changing environmental conditions. The integration of these theories therefore strengthens the explanatory power of the proposed framework by recognizing that technological resources and organizational capabilities are complementary rather than independent determinants of organizational success.

From a healthcare perspective, the framework highlights the importance of balancing technological investment with organizational development. Healthcare organizations increasingly invest substantial financial resources in electronic health records, artificial intelligence, telemedicine platforms, cloud computing, and advanced information systems. However, the proposed framework suggests that these investments will generate sustainable organizational benefits only when accompanied by continuous employee learning, effective knowledge management, collaborative organizational cultures, and leadership commitment to organizational change. Consequently, successful digital transformation requires simultaneous investment in technology, people, and organizational capabilities.

The conceptual model also provides a useful explanation for the high failure rates reported in many digital transformation initiatives. Numerous healthcare organizations experience implementation difficulties despite significant technological investment because they underestimate the organizational changes required to support technological innovation. Resistance to change, inadequate digital competencies, fragmented communication, weak leadership support, and insufficient knowledge-sharing mechanisms frequently limit the successful implementation of digital technologies. By emphasizing organizational learning as the mechanism connecting technology with organizational outcomes, the framework provides a more realistic understanding of sustainable digital transformation.

Furthermore, the proposed framework has important implications for future empirical research. Although previous studies have investigated individual relationships among digital transformation, organizational learning,

service quality, and organizational sustainability, relatively few have examined these constructs within a single integrated framework. The propositions developed in this paper therefore provide a theoretical foundation for future quantitative studies employing structural equation modeling, longitudinal research designs, or mixed-methods approaches to validate the proposed relationships. Such empirical investigations would enhance understanding of the causal mechanisms through which digital transformation creates sustainable organizational value in healthcare settings.

Overall, the discussion reinforces the central argument of this paper that sustainable digital transformation depends not only on technological innovation but also on the organizational capabilities that enable healthcare organizations to continuously learn, improve service quality, and adapt to changing environmental conditions. Consequently, organizational learning emerges as the critical strategic capability that transforms digital investments into sustainable organizational performance.

6. Theoretical Implications

The proposed conceptual framework makes several important theoretical contributions to the literature on digital transformation, organizational learning, service quality, and organizational sustainability. By integrating these constructs within a single theoretical model, the study advances existing knowledge regarding the organizational mechanisms through which digital transformation generates sustainable organizational value in healthcare settings.

First, the study contributes to the digital transformation literature by extending the understanding of digital transformation beyond technology adoption. Existing research has largely concentrated on the implementation of digital technologies such as electronic health records, artificial intelligence, telemedicine, cloud computing, and big data analytics. Although these studies have demonstrated the operational benefits of digital technologies, they often treat digital transformation as a technological phenomenon rather than an organizational capability. The present framework challenges this technology-centered perspective by proposing that digital transformation represents a strategic organizational resource whose effectiveness depends on complementary organizational capabilities. Consequently, the study reinforces the view that digital transformation should be conceptualized as a comprehensive organizational transformation involving technological, structural, cultural, and strategic change.

Second, the study contributes to the organizational learning literature by positioning organizational learning as the central organizational capability through which digital transformation creates sustainable value. Previous research has extensively examined organizational learning as an independent predictor of organizational performance, innovation, and knowledge management. However, relatively limited attention has been devoted to explaining how organizational learning enables healthcare organizations to convert digital technologies into sustainable organizational outcomes. By conceptualizing organizational learning as the primary mediating capability between digital transformation and organizational sustainability, this study extends organizational learning theory into the rapidly expanding field of digital transformation research.

Third, the proposed framework contributes to the service quality literature by repositioning service quality from a traditional performance indicator to a strategic organizational mechanism. Earlier healthcare research has primarily examined service quality in relation to patient satisfaction, healthcare utilization, or service evaluation. The present study extends this perspective by arguing that service quality represents the operational outcome of successful organizational learning during digital transformation. In doing so, the framework explains how improvements in organizational capabilities ultimately translate into superior healthcare services that support long-term organizational sustainability.

Fourth, the study advances the **organizational sustainability literature** by proposing a capability-based explanation of sustainable organizational performance. Existing sustainability research frequently emphasizes environmental management, corporate social responsibility, governance, or financial performance. While these perspectives remain important, comparatively fewer studies have examined how digital transformation contributes to sustainability through internal organizational capabilities. The proposed framework addresses this gap by integrating digital transformation, organizational learning, and service quality into a coherent explanation of sustainable healthcare performance. Consequently, organizational sustainability is conceptualized not merely as an organizational outcome but as the result of continuous organizational adaptation and capability development.

The study also makes an important contribution to **strategic management theory** by integrating the Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT). Although both theories have independently been

applied to explain organizational performance and innovation, relatively few studies have combined them to explain digital transformation within healthcare organizations. The present study demonstrates that these theories are highly complementary. The Resource-Based View explains the strategic importance of digital technologies as valuable organizational resources, while Dynamic Capabilities Theory explains the organizational processes through which healthcare organizations continuously develop, integrate, and renew these resources. Their integration therefore provides a more comprehensive explanation of sustainable digital transformation than either theory alone.

Furthermore, the proposed framework contributes to the growing literature on **healthcare management** by introducing an integrated perspective that recognizes the interdependence of technological resources, organizational capabilities, service delivery, and sustainability. Healthcare organizations increasingly operate in environments characterized by technological disruption, demographic change, financial constraints, and rising patient expectations. Existing theoretical models often examine these challenges separately. In contrast, the present framework demonstrates how digital transformation, organizational learning, and service quality collectively contribute to sustainable healthcare organizations. This integrated perspective enriches healthcare management theory by providing a holistic explanation of organizational adaptation in technologically dynamic healthcare environments.

Another important theoretical contribution concerns the **serial mediation mechanism** proposed in this study. Previous research has frequently examined direct relationships between digital transformation and organizational performance or investigated isolated mediating variables independently. The present framework extends this literature by proposing that organizational learning and service quality operate sequentially. Specifically, digital transformation strengthens organizational learning capabilities, organizational learning enhances healthcare service quality, and improved service quality contributes to organizational sustainability. This sequential explanation provides a deeper understanding of the organizational processes underlying successful digital transformation and offers a richer theoretical foundation for future empirical investigation.

Finally, the conceptual framework establishes a comprehensive research agenda for future studies. The six propositions developed in this paper provide a theoretically grounded basis for empirical validation using quantitative, qualitative, or mixed-methods research designs. Future studies may investigate contextual factors such as organizational culture, leadership style, digital maturity, institutional support, organizational size, regulatory environments, or national healthcare systems that may strengthen or weaken the proposed relationships. Consequently, the framework not only synthesizes existing knowledge but also creates opportunities for future theoretical refinement and empirical advancement.

Overall, the theoretical contributions of this study lie in its ability to integrate fragmented streams of literature into a coherent conceptual model explaining how healthcare organizations can achieve sustainable organizational performance through digital transformation, organizational learning, and service quality. By combining strategic management theories with healthcare management perspectives, the study provides a stronger theoretical foundation for understanding sustainable digital transformation in healthcare organizations.

7. Practical Implications

The proposed conceptual framework provides several practical implications for healthcare managers, hospital administrators, policymakers, technology providers, and healthcare professionals responsible for planning and implementing digital transformation initiatives. Rather than treating digital transformation as a technology implementation project, the framework emphasizes that sustainable organizational success depends on integrating technological innovation with organizational learning and continuous service improvement.

7.1 Implications for Healthcare Managers

Healthcare managers play a critical role in determining the success of digital transformation initiatives. While substantial investments are often made in technologies such as electronic health records, artificial intelligence, telemedicine, cloud computing, and digital health platforms, these investments alone are unlikely to produce sustainable organizational outcomes without corresponding investments in organizational capabilities.

The proposed framework suggests that managers should adopt a holistic approach to digital transformation by aligning technological investments with workforce development, organizational learning, and process redesign. Instead of measuring success solely through technology implementation, managers should evaluate whether employees possess the knowledge, skills, and competencies necessary to utilize digital technologies effectively. Continuous professional development, interdisciplinary collaboration, and knowledge-sharing initiatives should

therefore become integral components of digital transformation strategies.

Healthcare managers should also promote organizational cultures that encourage innovation, experimentation, and continuous improvement. Employees who actively participate in organizational learning are more likely to accept technological change, develop digital competencies, and contribute to improving healthcare service delivery. Consequently, leadership should foster environments characterized by open communication, collaborative problem-solving, and continuous organizational learning.

7.2 Implications for Hospital Administrators

Hospital administrators are responsible for allocating financial, technological, and human resources necessary to support digital transformation. The findings of this conceptual framework suggest that investments should not focus exclusively on acquiring advanced digital technologies but should also prioritize complementary organizational capabilities.

Administrators should establish integrated digital transformation strategies that simultaneously strengthen information technology infrastructure, organizational learning systems, and healthcare service quality. Such strategies may include structured employee training programs, digital competency development, interdisciplinary learning platforms, knowledge management systems, and continuous performance evaluation.

Furthermore, administrators should recognize that organizational learning is a long-term strategic investment rather than a short-term operational activity. Hospitals that continuously develop employee competencies are better positioned to respond to technological innovation, regulatory changes, and evolving patient expectations. Consequently, organizational learning should be embedded within strategic planning, human resource development, and organizational performance management.

7.3 Implications for Policymakers

National governments and healthcare policymakers increasingly recognize digital transformation as an essential component of healthcare modernization. National digital health strategies have encouraged healthcare organizations to adopt electronic health records, telemedicine, artificial intelligence, interoperable information systems, and other digital technologies to improve healthcare accessibility and efficiency.

The present framework suggests that policymakers should complement technology investment initiatives with policies supporting organizational capability development. Financial incentives should encourage not only technology acquisition but also workforce development, continuous professional education, digital literacy, and organizational innovation. Policies promoting collaboration among healthcare organizations, universities, research institutions, and technology providers can further strengthen organizational learning and facilitate the dissemination of best practices across healthcare systems.

Additionally, policymakers should develop national standards for digital competencies, knowledge management, cybersecurity, interoperability, and organizational learning to ensure that digital transformation initiatives contribute to sustainable healthcare development rather than isolated technological modernization.

7.4 Implications for Human Resource Management

Human resource departments have a strategic role in facilitating successful digital transformation. As healthcare technologies continue to evolve, healthcare professionals must continuously update their technical competencies, digital literacy, and collaborative skills.

The proposed framework highlights the importance of integrating organizational learning into human resource management practices. Recruitment should emphasize adaptability, continuous learning, and digital competence alongside clinical expertise. Performance evaluation systems should recognize knowledge sharing, teamwork, innovation, and participation in organizational learning initiatives.

Healthcare organizations should also invest in mentoring programs, interdisciplinary learning teams, simulation-based digital training, and continuous professional education to ensure that employees remain capable of utilizing emerging digital technologies effectively.

7.5 Implications for Digital Transformation Strategy

One of the most important practical implications of this study is that digital transformation should be managed as a strategic organizational change process rather than an information technology project. Successful digital transformation requires coordinated improvements in technology, organizational structure, leadership, culture, employee competencies, and service delivery.

Healthcare organizations should therefore develop comprehensive digital transformation roadmaps that include:

- Clear digital transformation objectives aligned with organizational strategy.
- Continuous employee training and digital competency development.
- Effective knowledge management and organizational learning systems.
- Process redesign to maximize the benefits of digital technologies.
- Continuous monitoring of healthcare service quality and patient outcomes.
- Evaluation of long-term organizational sustainability indicators.

Such integrated approaches are more likely to produce sustainable organizational improvements than isolated technological investments.

7.6 Implications for Healthcare Service Quality

The framework further suggests that healthcare organizations should consider service quality as a strategic performance indicator rather than merely an operational outcome. Continuous monitoring of patient satisfaction, clinical effectiveness, responsiveness, reliability, and patient safety enables organizations to evaluate whether digital transformation initiatives are producing meaningful improvements in healthcare delivery.

Healthcare managers should integrate service quality indicators into digital transformation performance measurement systems. Regular assessment of healthcare quality provides valuable feedback regarding organizational learning effectiveness and identifies opportunities for continuous improvement.

7.7 Building Sustainable Healthcare Organizations

The proposed framework demonstrates that organizational sustainability depends upon the interaction of technological resources, organizational learning capabilities, and healthcare service quality. Sustainable healthcare organizations continuously invest in technological innovation while simultaneously strengthening organizational culture, leadership, workforce competencies, and organizational adaptability.

Consequently, healthcare leaders should view digital transformation as a long-term organizational journey rather than a single implementation project. Continuous organizational learning enables healthcare institutions to adapt successfully to technological change, improve healthcare services, strengthen organizational resilience, and maintain sustainable organizational performance under conditions of increasing environmental uncertainty.

Overall, the practical implications of this study emphasize that successful digital transformation requires balanced investments in technology, people, organizational capabilities, and service excellence. Healthcare organizations adopting this integrated perspective are expected to achieve greater organizational resilience, improved healthcare outcomes, stronger stakeholder trust, and long-term organizational sustainability.

8. Future Research Agenda

Although the proposed conceptual framework advances understanding of how digital transformation contributes to organizational sustainability through organizational learning and service quality, it also identifies several opportunities for future research. Given the increasing pace of technological innovation and the evolving complexity of healthcare systems, further empirical investigation is needed to validate, refine, and extend the proposed relationships.

8.1 Empirical Validation of the Conceptual Framework

The foremost priority for future research is the empirical validation of the conceptual model proposed in this paper. The six propositions developed from the Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT) should be tested using quantitative research designs to determine whether the proposed relationships are supported in different healthcare contexts.

Future studies may employ Structural Equation Modeling (SEM), Partial Least Squares Structural Equation Modeling (PLS-SEM), or Covariance-Based Structural Equation Modeling (CB-SEM) to examine both direct and indirect relationships among digital transformation, organizational learning, service quality, and organizational sustainability. Such studies would provide empirical evidence regarding the strength and significance of the proposed theoretical relationships.

8.2 Longitudinal Research Designs

Most existing studies on digital transformation employ cross-sectional research designs that capture organizational conditions at a single point in time. However, digital transformation is an evolving organizational process that unfolds over several years. Organizational learning, service quality improvement, and sustainability outcomes likewise develop gradually.

Future researchers should therefore adopt longitudinal research designs to examine how healthcare organizations progress through different stages of digital transformation. Longitudinal studies would provide deeper insights into the causal relationships among the proposed constructs and enable researchers to examine how organizational capabilities evolve over time.

8.3 Comparative Studies Across Healthcare Systems

Healthcare organizations operate within diverse institutional, cultural, economic, and regulatory environments. Consequently, the effectiveness of digital transformation initiatives may differ substantially across countries, healthcare systems, and organizational settings.

Future studies should compare public and private hospitals, primary healthcare centers, specialized medical institutions, and integrated healthcare networks. Comparative research across developed and developing countries would also improve understanding of how contextual factors influence digital transformation outcomes.

Such comparisons would strengthen the external validity of the proposed framework while identifying context-specific factors affecting organizational sustainability.

8.4 Potential Moderating Variables

The present framework focuses primarily on the direct and mediating relationships among the four principal constructs. However, several organizational and environmental factors may influence the strength of these relationships.

Future studies should examine potential moderating variables, including:

- Organizational culture
- Digital maturity
- Leadership style
- Employee digital competence
- Organizational size
- Innovation capability
- Organizational resilience
- Government support
- Information technology capability
- Regulatory environment
- Healthcare funding
- Environmental uncertainty

Examining these moderators would improve understanding of the conditions under which digital transformation is most likely to generate sustainable organizational outcomes.

8.5 Additional Mediating Mechanisms

Although organizational learning and service quality are proposed as the principal mediators in the present framework, other organizational capabilities may also explain how digital transformation influences organizational sustainability.

Future studies may investigate mediating variables such as:

- Knowledge management capability
- Organizational innovation
- Employee engagement
- Digital capability
- Organizational agility

- Knowledge-sharing behaviour
- Technology acceptance
- Process innovation
- Organizational resilience
- Healthcare innovation capability

Investigating multiple mediators would provide a more comprehensive understanding of the organizational mechanisms supporting successful digital transformation.

8.6 Emerging Digital Technologies

Digital transformation is continuously evolving as new technologies emerge. Artificial intelligence, machine learning, blockchain, digital twins, robotics, precision medicine, Internet of Medical Things (IoMT), wearable health technologies, and generative artificial intelligence are expected to reshape healthcare delivery over the coming decade.

Future research should investigate how these emerging technologies influence organizational learning, healthcare service quality, and organizational sustainability. Researchers should also examine whether different technologies create distinct organizational capabilities requiring alternative implementation strategies.

8.7 Sustainability Measurement

Organizational sustainability remains a multidimensional construct that can be conceptualized using financial, operational, social, environmental, and governance perspectives.

Future empirical studies should develop more comprehensive sustainability measurement frameworks tailored specifically to healthcare organizations. Such frameworks should integrate economic performance, patient outcomes, employee well-being, environmental responsibility, innovation capability, organizational resilience, and stakeholder satisfaction into multidimensional sustainability indicators.

8.8 Mixed-Methods Research

While quantitative research can test the proposed relationships statistically, qualitative approaches can provide deeper insights into how digital transformation unfolds within healthcare organizations.

Future researchers should consider mixed-methods designs combining surveys, interviews, focus groups, case studies, and organizational document analysis. Such approaches would provide richer explanations of organizational learning processes, leadership practices, employee experiences, and implementation challenges associated with digital transformation.

8.9 Toward an Integrated Digital Healthcare Ecosystem

Finally, future research should move beyond individual healthcare organizations toward examining digital transformation across integrated healthcare ecosystems. Collaboration among hospitals, primary healthcare providers, insurance companies, government agencies, universities, technology vendors, and patients increasingly determines healthcare effectiveness.

Future conceptual and empirical studies should therefore investigate interorganizational learning, digital health ecosystems, collaborative innovation, and network capabilities that support sustainable healthcare development.

Summary of the Future Research Agenda

The future research agenda presented in this paper provides a foundation for advancing scholarship on digital transformation within healthcare. By encouraging empirical validation, longitudinal investigation, comparative analysis, and exploration of additional mediators and moderators, future studies can strengthen theoretical understanding of how digital transformation contributes to sustainable healthcare organizations.

Ultimately, continued research will not only refine the conceptual framework proposed in this paper but also provide practical guidance for healthcare organizations seeking to leverage digital transformation to improve healthcare service quality and achieve long-term organizational sustainability.

9. Conclusion

Digital transformation has become a strategic imperative for healthcare organizations seeking to improve healthcare delivery, strengthen operational performance, and achieve long-term organizational sustainability.

Rapid technological advances, increasing patient expectations, demographic changes, and evolving healthcare challenges require healthcare organizations to move beyond traditional models of service delivery toward digitally enabled, knowledge-driven, and patient-centered healthcare systems. However, despite substantial investments in digital technologies, many healthcare organizations continue to experience difficulties in realizing the anticipated benefits of digital transformation. These challenges indicate that technology alone is insufficient to generate sustainable organizational value.

This paper addressed this challenge by developing a conceptual framework that integrates digital transformation, organizational learning, service quality, and organizational sustainability within a single theoretical model. Drawing upon the Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT), the framework proposes that digital transformation serves as a strategic organizational resource whose value is realized through organizational learning capabilities that improve healthcare service quality and ultimately strengthen organizational sustainability. By positioning organizational learning and service quality as sequential mechanisms connecting digital transformation to sustainable organizational outcomes, the framework provides a more comprehensive explanation of sustainable digital transformation than technology-centered approaches.

The proposed framework contributes to the literature in several important ways. First, it advances digital transformation research by conceptualizing digital transformation as an organizational capability rather than merely a technological initiative. Second, it extends organizational learning theory by identifying learning as the primary mechanism through which healthcare organizations convert technological resources into sustainable organizational value. Third, it broadens the service quality literature by positioning service quality as both an operational outcome and a strategic pathway to organizational sustainability. Finally, it contributes to sustainability research by integrating technological resources, organizational capabilities, and healthcare performance into a unified conceptual model grounded in strategic management theory.

From a practical perspective, the framework provides valuable guidance for healthcare managers, hospital administrators, and policymakers responsible for designing and implementing digital transformation initiatives. The findings suggest that investments in digital technologies should be complemented by continuous workforce development, effective knowledge management, supportive organizational cultures, and strategic leadership. Healthcare organizations that successfully integrate these elements are more likely to improve service quality, enhance organizational resilience, strengthen stakeholder trust, and achieve sustainable organizational performance.

The study also establishes a comprehensive agenda for future research. The six propositions developed in this paper provide a foundation for empirical investigation using quantitative, qualitative, and mixed-methods research designs. Future studies should validate the proposed framework across diverse healthcare settings, examine contextual moderators and additional mediating mechanisms, and explore the influence of emerging technologies such as artificial intelligence, blockchain, the Internet of Medical Things (IoMT), and predictive analytics on organizational sustainability. Longitudinal and cross-national research will further enhance understanding of how healthcare organizations develop and sustain digital transformation capabilities over time.

In conclusion, sustainable digital transformation in healthcare depends not only on the adoption of advanced digital technologies but also on the organizational capabilities that enable healthcare institutions to learn, adapt, innovate, and continuously improve service delivery. Organizational learning serves as the critical capability through which digital transformation enhances service quality and creates sustainable organizational value. Consequently, healthcare organizations seeking long-term success should adopt integrated digital transformation strategies that simultaneously strengthen technological resources, organizational learning, and service excellence. By doing so, they will be better positioned to achieve resilient, high-performing, and sustainable healthcare systems capable of meeting the complex challenges of the digital era.

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