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CRITICAL SUCCESS FACTORS FOR HEALTHCARE PROJECTS AND THEIR IMPACT ON PROJECT PERFORMANCE IN PAKISTANI HOSPITALS

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Abstract

Healthcare projects play a growing role in upgrading hospital infrastructure, raising the standard of service delivery, introducing digital-health tools, protecting patient safety, and widening access to quality care. Such projects, however, unfold in settings marked by numerous stakeholders, scarce resources, regulatory obligations, evolving technology, clinical demands, and general uncertainty, all of which make disciplined project management essential in Pakistani hospitals. This paper investigates the critical success factors that shape healthcare project outcomes in Pakistan and builds a conceptual framework, grounded in existing literature, that links eight such factors to project performance: top-management support, project planning, stakeholder engagement, communication effectiveness, risk management, team competency, resource availability, and technology adoption. Drawing on the Resource-Based View and Stakeholder Theory, the paper explains how organisational capability, resource endowments, leadership, stakeholder ties, and coordinated decision-making jointly shape project outcomes. The body of project-management scholarship consulted here consistently links successful delivery to committed leadership, realistic planning, clear communication, stakeholder involvement, structured risk management, capable teams, sufficient resources, and fit-for-purpose technology. These conditions carry particular weight in Pakistan, where strengthening the health system still depends on infrastructure expansion, workforce development, health-information systems, technology investment, and reform of service delivery. Programmes run by WHO and the World Bank in the country illustrate both the scale of current health-system investment and the centrality of governance, human resources, financing, technology, information systems, and stakeholder coordination to that effort. The paper also argues that judging project performance solely by cost, time, and scope is too narrow, and that quality, stakeholder satisfaction, sustainability, organisational gains, and contribution to health outcomes should be added to the assessment. The resulting framework offers a starting point for future empirical work and practical direction for hospital administrators, project managers, policymakers, and healthcare organisations seeking stronger, more durable project outcomes in Pakistan.

Keywords: *Healthcare projects; Critical success factors; Project performance; Pakistani hospitals; Project management; Stakeholder engagement; Healthcare management; Technology adoption*

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INTRODUCTION

Modern health systems rely heavily on projects to open new facilities, expand hospital capacity, roll out information systems, upgrade medical equipment, strengthen patient-safety mechanisms, improve clinical services, and carry through sector reforms. What sets healthcare projects apart from most conventional projects is that they must satisfy technical, managerial, financial, regulatory, professional, and clinical requirements all at once. As a result, success cannot be judged solely by whether activities were completed on schedule and within budget; it also depends on whether the finished project delivers lasting organisational and health benefits. Traditionally, project-management scholarship equated success with meeting scope, time, and cost targets. More recent work, however, treats success as a multidimensional outcome that can also encompass quality, stakeholder satisfaction, organisational benefit, strategic fit, sustainability, and long-term value (Atkinson, 1999; Shenhar et al., 2001; Müller & Turner, 2007; Serrador & Turner, 2015). This wider view matters especially in healthcare, where a project can finish on time and on budget yet still fail to produce the intended improvement in care. Sound project management matters most where health systems are under-resourced. Healthcare organisations often have to carry out projects while contending with shortages of trained staff, tight budgets, infrastructure gaps, procurement bottlenecks, regulatory demands, and competing operational priorities. In Pakistan, these pressures sit alongside substantial system-wide needs and ongoing efforts to build up infrastructure, human resources, health-information systems, service delivery, governance, and financing. The World Health Organization frames governance, service delivery, health financing, human resources for health, vaccines and technologies, and health-information systems as central pillars of health-system strengthening in Pakistan. WHO's most recent country reporting on Pakistan reiterates these same priorities — governance, workforce development, service delivery, information systems, financing, and technology. Recent initiatives in the sector show just how large and multifaceted healthcare projects in Pakistan have become. WHO, for instance, has backed projects covering facility upgrades, equipment, staff accommodation, training, community engagement, and improvements to service delivery; one WHO-supported primary-healthcare initiative alone upgraded fifteen health facilities and equipped five hospitals as part of a push toward universal health coverage. World Bank-financed programmes follow a similar pattern, spanning health-system strengthening, facility construction, service delivery, financing, community participation, and institutional development. Delivering projects of this kind requires close coordination among hospital administrators, physicians, nurses, engineers, government bodies, donors, contractors, suppliers, patients, communities, IT specialists, and other parties. Given how intricate these relationships can be, there is a clear need to pin down the factors that most consistently drive project success. The source manuscript points to eight critical success factors for healthcare projects in Pakistan: top-management support, project planning, stakeholder engagement, communication effectiveness, risk management, team competency, resource availability, and technology adoption. Building on this, the present paper weaves these eight factors into a single, literature-grounded framework.

2. Background and Context

2.1 The Nature of Healthcare Projects

Healthcare projects take many forms, including:

- construction and expansion of hospital facilities;
- renovation of clinical departments;
- rollout of electronic health records;
- installation of medical equipment;
- digital-health initiatives;
- patient-safety programmes;
- development of laboratory and diagnostic systems;
- infection-prevention projects;
- workforce-development initiatives;
- quality-improvement projects;
- emergency-preparedness programmes; and
- broader health-system reform projects.

What separates healthcare projects from most commercial undertakings is the need to keep clinical operations and patient safety running normally throughout implementation. Construction work or technological change

can ripple directly into patient care, staff routines, infection control, emergency access, and clinical output. Healthcare project managers must therefore weigh project goals against the uninterrupted demands of ongoing care delivery.

2.2 The Healthcare Project Landscape in Pakistan

Pakistan's health sector is a mix of public, private, military, charitable, and not-for-profit providers, and hospitals differ widely in scale, resources, governance structures, technological maturity, and managerial strength. This environment presents both openings and obstacles for project work. WHO reporting points to ongoing efforts in Pakistan to build governance capacity, expand health services, grow the workforce, strengthen financing, and improve technology and information systems. Workforce shortages are a particular concern: WHO has flagged a marked shortfall in nursing staff and called for coordinated investment in developing and retaining health workers. Gaps of this kind can undermine healthcare projects, since successful implementation depends on having adequately skilled people both to run project activities and, later, to operate whatever new facility, technology, or system results. Project success in Pakistani hospitals should therefore be read against this wider institutional and health-system backdrop.

3. Problem Statement

Healthcare projects typically absorb significant investment and are expected to lift the quality, accessibility, efficiency, safety, and overall performance of care. Yet finishing a project is no guarantee that it will succeed. The source manuscript points to resource constraints, governance complexity, uneven technology adoption, and stakeholder-coordination difficulties as major obstacles facing healthcare projects in Pakistan — obstacles that can translate into delays, cost overruns, weak coordination, underused resources, resistance to change, and projects that ultimately fall short of their intended benefits. Compounding this, healthcare organisations must keep delivering services throughout the life of a project. Hospital managers rarely have unlimited staff, funding, facilities, or time to devote to project work, so projects have to be fitted around routine clinical operations rather than run alongside them in isolation. The real issue, then, is not whether hospitals start projects but whether they have the organisational capacity to see them through successfully. What is missing is an integrated framework that captures the main drivers of healthcare project performance in Pakistani hospitals — one that hospital administrators and project managers can use to focus attention and resources on the factors most likely to shape outcomes.

4. Aim, Objectives and Research Questions

4.1 Aim

This paper sets out to examine the critical success factors shaping healthcare project performance in Pakistani hospitals and to build a conceptual framework linking these factors to that performance.

4.2 Objectives

- Examine the role of top-management support in healthcare project performance.
- Assess the importance of effective project planning.
- Examine the influence of stakeholder engagement.
- Analyse the role of communication effectiveness.
- Examine the contribution of risk management.
- Assess the importance of team competency.
- Examine the effect of resource availability.
- Analyse the role of technology adoption.
- Integrate these factors into a conceptual framework of healthcare project performance.
- Offer practical implications for healthcare organisations and hospital administrators in Pakistan.

4.3 Research Questions

RQ1: How does top-management support influence healthcare project performance?
RQ2: How does project planning affect healthcare project performance?
RQ3: What role does stakeholder engagement play in healthcare project success?
RQ4: How does communication effectiveness influence project performance?
RQ5: How does risk management contribute to healthcare project success?
RQ6: What is the role of team competency in healthcare project performance?

RQ7: How does resource availability affect project outcomes?
RQ8: How does technology adoption contribute to healthcare project performance?
RQ9: How can these critical success factors be integrated into a framework applicable to Pakistani hospitals?

5. Literature Review

5.1 Critical Success Factors

The idea of critical success factors (CSFs) entered management research as a way of narrowing attention to the small set of areas where adequate performance is essential to organisational success (Rockart, 1979). Within project management, CSFs cover the managerial, organisational, technical, and contextual conditions that materially raise the odds of a project meeting its objectives. A large body of project-success research shows that outcomes hinge on more than technical controls alone. Pinto and Slevin (1987), for instance, singled out project mission, top-management support, scheduling, client consultation, personnel, technical tasks, client acceptance, monitoring and feedback, communication, and troubleshooting as key elements of implementation. Subsequent work has broadened this list further, bringing in stakeholder relationships, organisational capability, leadership, risk, knowledge, resources, and technology. A systematic review of success factors in construction projects found that stakeholder involvement, technology, sustainability, health and safety, and uncertainty management have all grown in importance as dimensions of project success, and more recent systematic reviews confirm that stakeholder-related and organisational factors continue to matter for project outcomes. Healthcare projects share much of this ground with construction and organisational-change projects, but they also carry additional clinical and patient-safety obligations that set them apart.

6. Theoretical Foundation

6.1 Resource-Based View

The Resource-Based View (RBV) holds that organisations sustain a performance edge through resources and capabilities that are valuable, rare, hard to imitate, and embedded in the organisation itself (Barney, 1991).
In a healthcare project, such resources include:

- financial resources;
- human resources;
- managerial expertise;
- technical knowledge;
- organisational processes;
- information systems;
- technology;
- institutional relationships; and
- project-management capability.

RBV applies here because healthcare projects call on organisations to draw multiple resources together effectively — simply having resources on hand is not enough; the organisation also needs the capability to coordinate and deploy them.
A hospital, for example, might acquire a sophisticated information system, yet still see poor project performance if staff lack the skills to use it, management withholds support for implementation, or clinical and technical teams fail to communicate well.
RBV thus offers a theoretical lens for examining team competency, resource availability, technology adoption, management support, and organisational capability.

6.2 Stakeholder Theory

Stakeholder Theory holds that organisational outcomes are shaped by relationships with the groups and individuals who affect, or are affected by, what the organisation does (Freeman, 1984).
Healthcare projects typically bring together a wide range of stakeholders, including:

- hospital management;
- physicians;
- nurses;
- patients;
- government departments;
- regulators;

- contractors;
- suppliers;
- technology vendors;
- donors;
- project teams;
- communities; and
- professional bodies.

Each group tends to bring its own priorities to the table. Hospital administrators, for example, may focus on cost and schedule; clinicians on clinical functionality and patient safety; patients on quality and access to services; and contractors on meeting contractual obligations.

Stakeholder Theory therefore offers a strong basis for examining stakeholder engagement and communication within healthcare projects. Research on stakeholder management in construction projects likewise shows a strong link between stakeholder management and project success, and that the way stakeholder-management factors interact with one another also matters for outcomes.

7. Critical Success Factors and Hypothesis Development

7.1 Top-Management Support

Among the factors most consistently linked to successful implementation is the support of senior management. Senior leaders set strategic priorities, allocate resources, settle organisational conflicts, grant authority, and signal how important a project is to the organisation.

Pinto and Slevin (1987) treated top-management support as a central factor in project implementation, and Young and Jordan (2008) later argued that this support can be decisive for project success precisely because senior managers control resource allocation and organisational buy-in.

Support from senior leadership matters especially in healthcare organisations, where projects often require changes to clinical processes. Without it, project managers can struggle to secure resources or settle disputes between departments.

Senior management contributes by:

- clearly defining project priorities;
- allocating sufficient funding;
- appointing competent project leaders;
- removing organisational barriers;
- supporting staff participation;
- monitoring progress; and
- sustaining organisational commitment.

On this basis:

H1: Top-management support positively influences healthcare project performance.

7.2 Project Planning

Planning lays the groundwork for everything that follows in implementation. Sound planning sets out:

- objectives;
- scope;
- schedules;
- responsibilities;
- budgets;
- deliverables;
- quality requirements;
- procurement arrangements;
- risk responses; and
- performance indicators.

Where planning is weak, the result can be unrealistic schedules, unclear responsibilities, budget problems, procurement delays, and scope creep. Pinto and Slevin (1987) identified scheduling and planning-related activity as central to implementation, and Kerzner (2022) likewise treats planning as a core project-management function. In healthcare, planning has the added burden of accounting for clinical workflows and

patient safety. A hospital renovation, for instance, cannot be treated purely as a construction exercise — patient movement, infection control, emergency access, continuity of clinical services, equipment relocation, and staff workflow all have to be built into the plan.

On this basis:

H2: Effective project planning positively influences healthcare project performance.

7.3 Stakeholder Engagement

Stakeholder engagement means actively involving the relevant individuals and organisations throughout both planning and implementation.

Healthcare projects tend to draw in an unusually broad mix of stakeholders — clinicians, administrators, technical staff, patients, suppliers, regulators, and government bodies — each with distinct interests. Failing to engage them can generate resistance, misunderstanding, delayed decisions, and weak acceptance of the finished project.

Bourne and Walker (2005) stressed the value of understanding and managing stakeholder influence in projects, and Olander (2007) similarly showed the importance of stakeholder analysis and management within project settings.

Genuine stakeholder participation can strengthen:

- requirements identification;
- decision quality;
- project acceptance;
- conflict management;
- communication;
- implementation; and
- sustainability.

In Pakistani hospitals, this matters all the more because healthcare projects often involve government authorities, hospital boards, clinical professionals, donors, suppliers, and local communities together.

On this basis:

H3: Effective stakeholder engagement positively influences healthcare project performance.

7.4 Communication Effectiveness

Communication underpins coordination across a project. Projects generate a constant flow of information about:

- schedules;
- responsibilities;
- risks;
- changes;
- technical specifications;
- procurement;
- clinical requirements;
- performance; and
- decisions.

Where communication breaks down, misunderstandings and delays tend to follow.

Pinto and Slevin (1987) identified communication as a key implementation factor, and PMI guidance similarly places communication and stakeholder engagement at the core of project management practice. Healthcare projects require communication across professional groups that often speak different technical languages and hold different priorities — IT specialists, for example, may focus on system functionality while clinicians focus on workflow and patient safety, and effective communication is what translates these differing requirements into a workable project design.

On this basis:

H4: Communication effectiveness positively influences healthcare project performance.

7.5 Risk Management

Healthcare projects unfold in inherently uncertain environments. Risks that can arise include:

- financial uncertainty;

- procurement delays;
- supply-chain disruption;
- regulatory changes;
- technology failure;
- staff turnover;
- construction problems;
- clinical disruption;
- cybersecurity threats;
- stakeholder resistance;
- political changes; and
- natural disasters.

Managing risk effectively means identifying, assessing, responding to, and continuously monitoring these threats. Zwikael and Ahn (2011) found that risk-management practice can shape project performance, though its impact depends on how well such processes are designed and applied. Healthcare organisations need particularly robust risk management because failures here can jeopardise not just cost and schedule but patient safety and continuity of care as well.

On this basis:

H5: Effective risk management positively influences healthcare project performance.

7.6 Team Competency

Project teams are what turn plans and resources into finished outputs. Competency in this context spans:

- technical expertise;
- project-management knowledge;
- leadership;
- problem-solving;
- communication;
- teamwork;
- decision-making; and
- healthcare-sector knowledge.

Belassi and Tukel (1996) pointed to the importance of project-team and organisational factors in driving project success, and Müller and Turner (2007) similarly demonstrated how the right leadership competencies matter across different project settings. Healthcare projects call for multidisciplinary teams — a hospital technology project, for example, may need clinicians, nurses, IT professionals, administrators, procurement specialists, engineers, and project managers working together. If team members lack the necessary skills, or cannot collaborate effectively, project performance is likely to suffer.

On this basis:

H6: Team competency positively influences healthcare project performance.

7.7 Resource Availability

Resources are the fuel that drives project execution. In healthcare projects, these include:

- financial resources;
- human resources;
- physical infrastructure;
- medical equipment;
- technology;
- materials;
- time; and
- managerial attention.

Resource constraints carry particular weight in developing health systems. As RBV suggests, organisational resources and capabilities feed directly into performance (Barney, 1991); when healthcare projects lack adequate resources, the result can be delays, reduced quality, overloaded staff, and incomplete implementation. Pakistan's own health-system strengthening agenda underscores the same point, with WHO naming health financing, human resources, technology, information systems, and governance among the areas most in need

of investment.
On this basis:
H7: Adequate resource availability positively influences healthcare project performance.
7.8 Technology Adoption
Technology has become central to healthcare project work, spanning:
- electronic health records;
- hospital information systems;
- telemedicine;
- digital diagnostics;
- medical equipment;
- electronic procurement;
- health-information systems;
- data analytics; and
- artificial-intelligence applications.

Adopting technology well can lift efficiency, information availability, coordination, quality, and decision-making — but acquiring technology is no guarantee of successful adoption. Technology-related projects tend to falter when:
- users resist the change;
- systems don't work together;
- training is inadequate;
- infrastructure can't support the system;
- technical support is weak; or
- requirements were poorly defined from the outset.

Davis (1989) showed how perceived usefulness and ease of use shape technology acceptance, and Venkatesh et al. (2003) later built on this with a broader model explaining acceptance through a wider set of organisational and individual factors.
In Pakistan, WHO lists vaccines and technologies, together with health-information systems, among the key building blocks of health-system strengthening.
On this basis:
H8: Appropriate technology adoption positively influences healthcare project performance.
8. Project Performance
Judging project performance solely by the traditional "iron triangle" of time, cost, and scope is too narrow a lens. Atkinson (1999) argued for broader success criteria, and Shenhar et al. (2001) proposed a multidimensional view spanning project efficiency, impact on customers, business success, and preparation for the future.
Applied to healthcare, project performance can be understood across the following dimensions:
Project Efficiency
- completion within the planned schedule;
- budget control;
- efficient use of resources.

Project Quality
- compliance with specifications;
- technical quality;
- clinical functionality;
- patient-safety requirements.

Stakeholder Satisfaction
- satisfaction among hospital management;
- clinician acceptance;
- patient and community acceptance;
- supplier and partner satisfaction.

Organisational Benefits

- improved hospital efficiency;
- expanded service capacity;
- better information availability;
- improved workflow.

Sustainability

- continued use of what the project produced;
- capacity for ongoing maintenance;
- organisational ownership;
- long-term benefit.

Project performance in Pakistani hospitals should, accordingly, be assessed through this wider, multidimensional lens.

9. Integrated Conceptual Framework

Drawing the literature together, the framework proposed here runs as follows:

Top-Management Support → Project Planning → Stakeholder Engagement → Communication Effectiveness → Risk Management → Team Competency → Resource Availability → Technology Adoption → PROJECT PERFORMANCE

The framework treats these eight factors as critical success factors, each contributing independently to healthcare project performance. Its theoretical logic rests on two complementary perspectives. The **Resource-Based View** accounts for how resources, competencies, technology, and managerial capability feed into organisational project performance, while **Stakeholder Theory** accounts for how stakeholder relationships, communication, participation, and alignment feed into project success. Taken together, the two theories offer a joint explanation that covers both organisational capability and stakeholder relationships.

9.1 Proposed Hypotheses

H1: Top-management support has a positive relationship with healthcare project performance.
H2: Effective project planning has a positive relationship with healthcare project performance.
H3: Stakeholder engagement has a positive relationship with healthcare project performance.
H4: Communication effectiveness has a positive relationship with healthcare project performance.
H5: Effective risk management has a positive relationship with healthcare project performance.
H6: Team competency has a positive relationship with healthcare project performance.
H7: Resource availability has a positive relationship with healthcare project performance.
H8: Technology adoption has a positive relationship with healthcare project performance.

10. Discussion

Taken as a whole, the literature suggests that healthcare project performance emerges from the interplay of managerial, organisational, human, technological, and stakeholder factors, rather than from any single determinant acting alone.Top-management support supplies organisational authority and a commitment of resources; planning turns strategic intent into concrete, actionable steps; stakeholder engagement keeps project requirements aligned with the needs of users and beneficiaries; and communication holds project participants together in coordinated action. Risk management shields projects from uncertainty, team competency supplies the human capability needed to carry out project work, resource availability provides the financial, human, physical, and technological means for execution, and technology adoption — when the technology is well chosen and properly supported — can lift efficiency and service delivery. These factors matter more in healthcare than in many other sectors precisely because project implementation cannot be cleanly separated from clinical operations. Rolling out a new hospital information system, for example, simultaneously requires management commitment, careful planning, stakeholder involvement, communication, risk management, competent staff, financial resources, and technological infrastructure — all at once. Healthcare project performance is therefore best understood as the product of an interconnected system of factors, not a set of independent administrative tasks.

11. Relevance to Pakistani Hospitals

The framework proposed here speaks directly to the situation in Pakistani hospitals, given how much the country's health sector still needs to invest in infrastructure, service delivery, workforce, governance, information systems, and technology. WHO's current work on Pakistan's health system is explicitly organised

around governance, service delivery, health financing, human resources, technology, and health-information systems, and WHO reporting continues to flag workforce and institutional challenges — nursing shortages among them — alongside the broader need to build health-system capacity. At project level, WHO-backed programmes show how healthcare projects in Pakistan bring together infrastructure upgrades, equipment, workforce training, community engagement, and service-delivery reform all at once, while World Bank-supported health programmes follow a similar pattern, combining health-system strengthening, facility development, service delivery, financing, community participation, and institutional capacity-building. Together, these examples show that healthcare projects in Pakistan are inherently multidimensional and depend on coordination that cuts across organisational and stakeholder boundaries.

12. Practical Implications

12.1 Hospital Administrators

Hospital administrators should put clear governance arrangements in place for major projects and provide visible leadership support, making sure that:

- project objectives align with hospital strategy;
- project managers hold appropriate authority;
- resources are made available;
- stakeholders are engaged; and
- progress is actively monitored.

12.2 Project Managers

Project managers should build realistic plans, keep risk registers current, set up clear communication channels, and track stakeholder expectations throughout — while also fitting project planning around clinical operations to minimise disruption to patient care.

12.3 Healthcare Professionals

Physicians, nurses, pharmacists, and other clinical and allied-health staff should be brought into projects that touch clinical processes from an early stage, since early involvement tends to sharpen requirements definition, build user acceptance, and ease implementation.

12.4 Technology Managers

Technology projects should build in user training, assessment of existing infrastructure, interoperability planning, technical support, and change management — treating technology adoption as an organisational-change process rather than a simple procurement exercise.

12.5 Policymakers

Policymakers should invest in building institutional capacity for healthcare project management and encourage governance grounded in evidence. National and provincial health programmes stand to benefit from standardised project-management frameworks, performance indicators, risk-management processes, and mechanisms for stakeholder engagement.

13. Theoretical Implications

This paper's theoretical contribution lies in bringing together the Resource-Based View and Stakeholder Theory within a single framework for healthcare project performance.

RBV accounts for the importance of:

- resources;
- competencies;
- technology;
- organisational capabilities; and
- management support.

Stakeholder Theory accounts for:

- stakeholder engagement;
- communication;
- alignment;
- participation; and
- relationship management.

Combining the two theories makes sense here because healthcare projects depend simultaneously on

internal organisational capability and on effective relationships across departments and external parties.

14. Research Gaps and Future Research Directions

14.1 Research Gaps

Despite a substantial international literature on project success, several gaps remain relevant to the Pakistani context. Much of the existing CSF literature is concentrated in construction, information technology, and general business projects, and healthcare projects have distinctive features because implementation runs alongside patient-care operations. The Pakistani healthcare setting itself remains comparatively underrepresented in international project-management scholarship. There is also a need to examine all eight factors together rather than in isolation, and to measure project success using multidimensional indicators rather than time and cost alone.

The source manuscript likewise points to the need to examine these eight factors jointly as predictors of project performance in Pakistani hospitals, and future empirical work can test the framework proposed here using data drawn from project managers, hospital administrators, clinical professionals, and other relevant stakeholders.

14.2 Future Research Directions

Future research should test the relationships proposed here empirically across public and private hospitals in Pakistan, comparing, for example:

- public versus private hospitals;
- large versus small hospitals;
- urban versus rural hospitals;
- infrastructure versus technology projects;
- donor-funded versus government-funded projects; and
- clinical versus administrative projects.

Longitudinal studies could also examine whether these critical success factors influence project performance differently at different project stages, and future work could explore whether variables such as organisational culture, governance quality, project complexity, regulatory demands, and funding structure moderate the relationship between critical success factors and project performance. Developing validated measurement scales suited to the Pakistani healthcare context would further strengthen this line of empirical research.

15. Conclusion

Healthcare projects are central to improving hospital infrastructure, health services, technology, patient safety, and organisational capability — but their success depends on far more than financial investment and technical execution. This paper identifies eight critical success factors of particular relevance to healthcare projects in Pakistani hospitals: **top-management support, project planning, stakeholder engagement, communication effectiveness, risk management, team competency, resource availability, and technology adoption**, consistent with the framework set out in the source healthcare-project manuscript.

The literature reviewed here indicates that management commitment supplies strategic direction and resources; effective planning builds a realistic structure for implementation; stakeholder engagement builds ownership and alignment; communication enables coordination; risk management reduces uncertainty; competent teams supply the capability to implement; resources enable execution; and appropriate technology supports operational improvement. This is especially true in the Pakistani context, where the health system continues to face challenges around governance, workforce capacity, financing, technology, information systems, infrastructure, and service delivery — all areas WHO identifies as central to health-system strengthening in the country, and which current WHO and World Bank initiatives illustrate in terms of scale and complexity. The conceptual framework put forward in this paper lays a foundation for understanding how organisational resources, management capability, stakeholder relationships, and technological capacity may combine to shape healthcare project performance. The paper concludes that raising healthcare project performance in Pakistani hospitals calls for an integrated approach rather than a narrow focus on any single success factor. Hospital leaders, project managers, policymakers, clinicians, and technical teams need to address the managerial, human, financial, technological, and stakeholder dimensions of a project together, throughout its life cycle.

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