



Original Research Article

Tourism Megaprojects as Catalysts for Regional Development in Saudi Arabia: An Integrated Framework for Infrastructure Planning, Utility Readiness, Stakeholder Coordination and Project Delivery Under Vision 2030

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Abstract: Saudi Arabia's tourism megaprojects are intended to do more than create visitor attractions. They are instruments of regional restructuring that can redirect investment, extend infrastructure networks, diversify local economies, improve access to peripheral destinations, and create new institutional relationships between national programs and local places. This review develops an integrated framework for understanding how those regional effects depend on four delivery capabilities: infrastructure planning, utility readiness, stakeholder coordination, and project delivery. Evidence published from 2020 to 2025 was synthesized across tourism development, spatial planning, construction management, sustainability, resilience, and digital project delivery. The literature indicates that destination success is weakened when hospitality assets advance faster than airports, roads, public transport, power, water, wastewater, digital connectivity, and municipal services. It also shows that stakeholder fragmentation, incomplete scope definition, late design changes, weak information exchange, and delayed approvals can convert strategic ambition into cost, schedule, and operational risk. Conversely, integrated spatial planning, early utility load modelling, transparent interface governance, digital coordination, and benefit-led delivery can transform individual projects into durable regional systems. The proposed framework treats a tourism megaproject as a regional platform rather than a bounded construction site. It links strategic objectives to spatial structure, enabling infrastructure, utility capacity, coordinated delivery, destination operations, and measurable regional benefits through a closed feedback loop. The review concludes that Vision 2030 outcomes will depend increasingly on the quality of integration between physical assets, institutions, local economies, and long-term operations, not simply on the completion of flagship facilities.

Keywords: Tourism megaprojects; regional development; infrastructure planning; utility readiness; stakeholder coordination; project delivery; Saudi Arabia; Vision 2030; destination development; resilience.

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1. INTRODUCTION

Saudi Arabia has placed tourism at the centre of economic diversification, cultural activation, quality-of-life improvement, and international connectivity. The resulting portfolio includes heritage destinations, coastal resorts, entertainment cities, mixed-use districts, mobility investments, and large public-realm programs. Research on AlUla and The Red Sea shows that these developments are being positioned as new destination models rather than conventional resort projects [1–4]. Their scale matters because a tourism megaproject can influence settlement patterns, labor markets, logistics, land values, public services, environmental systems, and investment across a wider region. Tourism becomes a mechanism of regional development when visitor demand is connected to productive infrastructure, local enterprise, skills, and durable public assets.

This interpretation is consistent with spatial-planning literature. National and regional strategies are effective when national objectives, ministries, municipalities, infrastructure providers, investors, and communities operate through coordinated implementation rather than parallel mandates [8,9]. Saudi planning studies likewise stress balanced regional development, quality of life, public space, connectivity, and infrastructure [10–12]. Tourism megaprojects intensify these relationships because remote or underdeveloped locations often require major enabling works before hotels, attractions, cultural venues, or residential districts can function at the intended scale.

The delivery challenge is systemic. A destination may have strong architecture and branding yet remain constrained by insufficient air access, incomplete roads, weak last-mile mobility, inadequate power redundancy, water scarcity, wastewater capacity, solid-waste systems, telecommunications, or emergency services. The Red Sea case illustrates that ecological planning and infrastructure decisions must be made together if tourism growth is to remain compatible with conservation objectives [2]. Aviation research likewise shows that destination growth is inseparable from national and regional connectivity [6,7]. Utility and infrastructure readiness are therefore strategic determinants of whether tourism capacity can open on time and operate reliably.

Project-delivery evidence adds another concern. Saudi studies repeatedly identify planning deficiencies, incomplete scope, communication failures, client changes, procurement constraints, skills shortages, and coordination problems as drivers of delay and cost escalation [13–18,21]. These pressures become more serious in megaprojects because interfaces multiply across packages,

authorities, designers, contractors, operators, and external utility agencies. Stakeholder coordination is consequently an engineering and governance function, not merely a communications exercise [22,23].

This review addresses the need for a unified regional-development perspective. Rather than assessing tourism demand, infrastructure, utilities, stakeholder management, and construction separately, it examines how they interact to produce regional value. The proposed framework is designed for Saudi conditions under Vision 2030, where the central question is not simply whether megaprojects are completed, but whether they create connected, resilient, locally productive regions that remain operationally sustainable after construction.

2. Aim, Objectives and Review Questions

The aim of this review is to develop an integrated framework explaining how tourism megaprojects can act as catalysts for regional development in Saudi Arabia when infrastructure planning, utility readiness, stakeholder coordination, and project delivery are treated as a single implementation system.

Five objectives guide the study. First, the review examines how tourism megaprojects influence regional structure through access, investment, employment, public services, and place-making. Second, it identifies infrastructure-planning principles that connect destination capacity with airports, roads, transit, logistics, public realm, housing, and social facilities. Third, it evaluates utility readiness as a staged process covering demand forecasting, network capacity, redundancy, land and corridor protection, connection sequencing, commissioning, and operational resilience. Fourth, it analyzes stakeholder and interface governance across sponsors, government entities, municipalities, utilities, designers, contractors, operators, investors, and communities. Fifth, it converts the combined evidence into a delivery roadmap and performance framework aligned with Vision 2030 outcomes.

Three review questions follow. RQ1 asks which planning and infrastructure conditions allow tourism investment to generate benefits beyond the project boundary. RQ2 asks how utility readiness, stakeholder interfaces, and delivery controls should be governed to reduce opening risk and lifecycle fragility. RQ3 asks how project-level completion measures can be connected to regional outcomes such as accessibility, local enterprise, employment, liveability, environmental performance, and long-term asset utilization.

3. REVIEW METHODOLOGY

A structured integrative review was selected because the subject spans tourism studies, regional and spatial planning, infrastructure engineering, construction management, resilience, and stakeholder governance. A narrowly disciplinary review would not capture the interdependence between visitor demand, physical networks, institutional coordination, and delivery performance. The approach therefore emphasizes transparent evidence selection, thematic comparison, and conceptual integration rather than statistical pooling.

The evidence window was limited to 2020–2025. Searches were organized around five concept groups: Saudi tourism and destination development; megaprojects and regional development; infrastructure and spatial planning; utility or critical-infrastructure readiness; and project delivery, stakeholder coordination, scope, risk, and digital integration. Saudi-specific research was prioritized for claims about Vision 2030, destination development, construction conditions, and governance. Gulf or international evidence was retained where the mechanism was transferable. The attached paper was used as a structural reference because it links national spatial strategy, infrastructure development, stakeholder engagement, and implementation responsibilities, but the present review uses an independent evidence set focused on tourism megaproject delivery [8].

Thirty peer-reviewed sources were retained. Each was screened for relevance to at least one of four domains: regional development, enabling infrastructure and utilities, stakeholder governance, or project delivery. Sources were appraised for clarity of method, relevance of context, traceability of evidence, and applicability to large destination programs. The final set includes tourism case studies, spatial-planning research, construction risk studies, project-delivery research, digital-construction studies, and resilience literature [1–30].

Thematic synthesis proceeded in two stages. Deductive coding classified findings under regional value creation, infrastructure planning, utility readiness, stakeholder coordination, delivery controls, and lifecycle operations. Inductive coding captured recurring mechanisms, including dependency mapping, corridor protection, scope completeness, interface ownership, capacity phasing, approval latency, information quality, commissioning readiness, local participation, and benefit realization. Contradictory findings were retained rather than normalized; accelerated schedules, for example, can support strategic momentum but can also amplify change when scope and utility assumptions are immature [13,14,24].

The synthesis produced an evidence matrix linking each capability to failure modes, controls, and regional outcomes, plus a closed-loop conceptual framework connecting strategic targets with spatial structure, enabling infrastructure, utility capacity, coordinated delivery, destination operations, and measurable benefits. The framework is conceptual rather than predictive and presents no invented primary data.

4. Tourism Megaprojects and Regional Development

Tourism megaprojects can generate regional development through several pathways, but none is automatic. The first is accessibility. New airports, highways, rail connections, mobility hubs, and visitor transport can reduce effective distance between peripheral regions and national or international markets. Aviation development under Vision 2030 illustrates how destination growth and network connectivity reinforce one another [6,7]. Once a region becomes easier to reach, the same infrastructure can support residents, suppliers, emergency services, investment, and labor mobility if access is planned as a regional network rather than a dedicated tourist corridor.

The second pathway is economic diversification. Studies in AlUla show that tourism creates opportunities for local enterprises, cultural production, hospitality, events, retail, and land-based businesses, while raising concerns about uneven participation and cultural change [3,4]. Regional value therefore depends on local supply-chain access, entrepreneurship support, skills development, and mechanisms allowing communities to capture new demand. Employment counts alone can overstate transformation if higher-value functions and procurement opportunities remain external.

The third pathway is public-service and place improvement. Destination programs often require streets, public spaces, landscapes, utilities, safety systems, digital connectivity, and environmental management that can improve local liveability when designed for shared use. Saudi quality-of-life and public-space research supports the importance of such assets [10,11]. Conversely, project-specific infrastructure can create enclaves if networks terminate at resort boundaries or local communities face higher land and housing costs without service gains.

The fourth pathway is spatial restructuring. The attached regional-planning study emphasizes balanced development, secondary cities, infrastructure linkages, and institutional coordination [8]. Tourism megaprojects can operationalize these goals by anchoring investment

outside established metropolitan cores. Yet regional catalysis requires explicit connections to nearby settlements, logistics centers, cultural landscapes, and workforce locations.

The fifth pathway is environmental and heritage stewardship. The Red Sea case demonstrates that tourism development can be constrained deliberately to protect ecological value while enabling investment [2]. Al-Hijr research likewise shows that heritage tourism can create opportunity while generating concerns about cultural erosion and unsustainable growth [3]. A megaproject becomes a regional-development catalyst only when the functional region of access, utilities, labor, supply, ecosystems, communities, and public administration is included in the planning logic.

5. Integrated Infrastructure Planning

Infrastructure planning is the mechanism that converts destination ambition into regional accessibility and service capacity. The first requirement is an integrated spatial structure. Land-use plans should identify where tourism assets, housing, employee accommodation, logistics, public services, environmental buffers, transport corridors, and utility reservations will sit over time. Gulf planning research warns that master plans can lose effectiveness when they are insufficiently aligned with local institutional, economic, social, and environmental conditions [9]. For Saudi tourism programs, the implication is that master planning must remain connected to regional networks and implementation agencies rather than functioning as a self-contained design exercise.

Transport planning should begin with demand by user type and season. International tourists, domestic visitors, residents, employees, contractors, suppliers, and emergency services create different movement patterns. Airports and major roads establish external access, but last-mile capacity, junction performance, parking, public transport, pedestrian systems, freight routes, and event operations determine whether the destination functions during peaks. Aviation studies show that

connectivity is strategic to tourism growth [6,7]. The same logic applies within the region: a destination that is easy to fly to but difficult to reach from the airport remains operationally constrained.

Infrastructure sequencing also matters. Enabling roads, logistics access, temporary utilities, drainage, and construction compounds must support the build phase before permanent networks are complete. Later, permanent assets must be commissioned in a sequence that matches hotel openings, attractions, residential occupancy, and public-realm activation. Scope-definition research in Saudi Arabia highlights the importance of regulatory requirements, site information, financial requirements, and complete front-end definition [21]. These findings are directly relevant to infrastructure packages because missing early assumptions create cascading change across interfaces.

Digital coordination improves visibility but cannot substitute for governance. Research on building information modelling in Saudi Arabia associates digital integration with better planning, time performance, sustainability, and coordination, while also identifying skills and implementation barriers [17–20]. At megaproject scale, shared geospatial and model-based environments can connect roads, utilities, plots, structures, public realm, and construction phasing. Their value depends on common data standards, model ownership, approval workflows, and timely updates.

Regional infrastructure should also be designed for legacy use. Oversized or highly specialized assets can become expensive burdens if tourism demand develops more slowly than forecast. Conversely, under-sized networks can require disruptive retrofits. Staged capacity, modular expansion, protected corridors, and trigger-based investments provide a middle path. Infrastructure planning is therefore not the production of a fixed end-state plan; it is a managed sequence that preserves options while protecting the spatial relationships needed for future growth.

Table 1: Evidence synthesis for tourism megaproject regional-development delivery

Capability	Evidence synthesis	Typical failure mode	Key control	Regional outcome
Regional development	Tourism can activate accessibility, enterprise, heritage and public-service investment when spillovers are designed explicitly [1–4,8–12].	Enclave destination with weak local linkages.	Regional benefit map linked to spatial plan and investment phasing.	Connectivity, local value and balanced development.
Infrastructure planning	Transport, public realm, housing and enabling works must be aligned	Assets open before access or supporting	Integrated spatial plan, protected	Reliable access and scalable regional networks.

Capability	Evidence synthesis	Typical failure mode	Key control	Regional outcome
	with demand, land use and staged openings [6–12,21].	networks are ready.	corridors and readiness gates.	
Utility readiness	Service capacity, redundancy, commissioning and recovery must be verified by phase, not only by ultimate design [2,21,26].	Hotels or attractions complete without dependable utilities.	Version-controlled demand model; phased capacity; integrated commissioning.	Operational resilience and lower lifecycle disruption.
Stakeholder coordination	Complex authority and contract interfaces require clear decision rights, communication and escalation [15,16,22,23].	Late decisions, conflicting requirements and repeated changes.	Interface ownership, decision-age tracking and cross-functional governance.	Faster decisions and more coherent implementation.
Project delivery	Scope, risk, schedule, digital coordination and opening readiness must be managed as a program system [13–24].	Package completion without destination readiness.	Scope maturity gates, dependency-based risk, common data and opening plans.	Predictable launch and stronger asset handover.

6. Utility Readiness and Operational Resilience

Utility readiness is often treated as a technical checklist, yet for tourism megaprojects it is a critical opening condition. Electricity, potable water, wastewater treatment, irrigation, district cooling where applicable, drainage, solid waste, telecommunications, data services, and emergency systems must be available at the right capacity, location, quality, and date. Remote destinations intensify this challenge because connection to existing networks may be limited or uneconomic, while seasonal visitor peaks can create highly variable loads.

The first control is demand integrity. Utility forecasts should be based on the approved development program, occupancy assumptions, hotel keys, attraction profiles, climate, operating hours, landscape requirements, resilience standards, and realistic diversity factors. Forecasts should be version-controlled and linked to land-use and phasing decisions. A common failure pattern occurs when design teams use different demand baselines, producing incompatible substations, reservoirs, treatment plants, cooling systems, or telecom capacities. Scope completeness therefore becomes a utility-risk control [21].

The second control is capacity-to-phase alignment. Permanent systems should not be judged only against ultimate demand. Each opening phase requires minimum viable networks, redundancy, spare parts, operating teams, testing procedures, permits, and emergency arrangements. Critical-infrastructure research emphasizes integrated assessment, dependencies, recovery, and multi-hazard resilience rather than isolated asset strength

[26]. Tourism destinations need the same systems view because a hotel cannot operate if the power system is complete but wastewater, telecoms, fire water, or access remains unavailable.

The third control is interface assurance. Utility corridors compete for space with roads, structures, landscapes, and environmental constraints. Crossings, easements, connection points, plant locations, and future expansion zones should be protected early. Changes must be assessed across the whole network, not only within a package. The marine-planning experience at The Red Sea demonstrates the value of integrating development and environmental constraints before irreversible commitments are made [2].

The fourth control is operational handover. Construction completion is not equivalent to service readiness. Systems require integrated testing, commissioning, operator training, asset data, maintenance strategies, performance verification, and emergency drills. Resilience should be demonstrated through scenarios such as peak occupancy, extreme heat, supply interruption, equipment failure, cyber disruption, or transport blockage. Where economically justified, modularity, storage, redundancy, demand management, and alternate supply paths can reduce single-point exposure.

Utility readiness therefore links planning to operations. A useful governance metric is not “percentage installed” but “service available for the next operational milestone with verified capacity, resilience, permits, trained operators, and recovery

arrangements.” This shifts attention from construction progress to destination functionality.

7. Stakeholder Coordination and Interface Governance

Tourism megaprojects involve a dense stakeholder network. Sponsors define strategic outcomes; national ministries regulate and enable; municipalities manage local interfaces; utility providers control connections; environmental and heritage bodies protect sensitive assets; developers coordinate plots and public realm; designers define technical solutions; contractors deliver packages; operators inherit assets; investors and hotel brands influence requirements; and communities experience the regional consequences. The attached spatial-strategy study argues that successful implementation depends on horizontal and vertical coordination across these institutional levels [8].

The literature on Saudi project delivery reinforces this point. Communication quality and consideration of stakeholder preferences are associated with successful scope delivery [22]. Research on public-private partnership complexity shows that stakeholder systems require structured decision processes because interests, authority, uncertainty, and contractual roles interact [23]. Integrated delivery research similarly emphasizes early involvement, shared information, and collaborative structures [15,16]. These findings are particularly relevant where tourism assets must open together even though they are procured through different contracts.

Interface governance should begin with a clear authority map. Every major dependency needs an accountable owner, decision path, required inputs, due date, and escalation route. Interface registers are useful only if they are linked to schedule milestones and design decisions. A road-to-hotel interface, for example, may include finished levels, drainage, power, telecoms, fire access, signage, landscaping, security, and commissioning access. Treating these as separate technical questions obscures the fact that they converge at one opening milestone.

Decision latency should be measured. Large programs often track construction progress in detail while ignoring the time required to resolve design issues, authority comments, operator decisions, or land conflicts. Long approval cycles can consume schedule float without visible physical delay until late in the program. Governance dashboards should therefore track unresolved decisions by consequence, age, owner, and required-by date.

Community and local-business engagement needs equal discipline. Tourism development at Al-

Hijr and AlUla shows that local stakeholders can identify cultural, economic, and operational concerns that are not visible through engineering data alone [3,4]. Engagement should not be limited to consultation after plans are substantially fixed. It can inform access design, local enterprise spaces, workforce programs, heritage interpretation, public services, and seasonal operations.

The objective is not consensus on every issue. Effective coordination creates a transparent method for making timely decisions while documenting trade-offs and protecting critical regional outcomes. In complex programs, governance quality is therefore measurable through interface closure, decision lead time, change recurrence, stakeholder commitment reliability, and the number of late requirements that reach construction or commissioning.

8. Project Delivery, Risk and Digital Controls

Project delivery determines whether integrated plans survive procurement, construction, commissioning, and operational change. Saudi studies identify delay and cost risks associated with poor planning, incomplete design, scope change, communication problems, skills shortages, procurement, finance, and client decisions [13,14,24]. Tourism megaprojects magnify these risks because multiple assets are tied to coordinated openings and infrastructure packages often precede final downstream definition.

Front-end planning is the first defense. Scope should define physical quantities, interfaces, performance requirements, authority obligations, operational criteria, temporary works, commissioning boundaries, and data deliverables. Research on scope definition in Saudi building projects shows that incomplete early definition weakens later control [21]. For regional infrastructure, the same principle applies to corridor ownership, utility demand, plot handoffs, and external connections.

Risk management should focus on dependency chains rather than isolated registers. A delayed substation may affect hotels, water treatment, telecoms, public realm, testing, and occupancy. The risk is therefore loss of an opening scenario, not simply one late package. Saudi megaproject risk research supports structured identification and ranking of high-impact risks [24], which at program scale should extend to interface-based schedule analysis and scenario planning.

Digital methods strengthen control when they connect information rather than create parallel systems. Saudi BIM studies associate model-based

coordination with reduced delay and improved planning, while highlighting barriers related to skills, standards, and readiness [17–20]. A common data environment should link design status, quantities, schedule, progress, interface decisions, requests for information, testing, and handover. Geospatial data are equally important because regional projects are networked as well as vertical.

Integrated delivery methods can improve constructability and information flow, but their success depends on commercial incentives, trust, capability, and procurement structures [15,16]. Where full contractual integration is not feasible, similar behaviors can be created through joint planning, shared design reviews, interface workshops, aligned milestones, and transparent change control.

The final control is readiness management. Each opening should cover construction completion, testing, permits, utility services, operator staffing, emergency arrangements, technology, mobility, waste, security, supply chains, and guest-facing processes. This prevents the error of equating physical completion with operational readiness. Delivery performance should be judged against the regional milestone.

9. Integrated Regional-Development Framework

The evidence supports a closed-loop framework with six connected stages. The first stage is strategic intent: tourism, diversification, employment, heritage, environmental, and quality-of-life objectives are translated into measurable regional outcomes. The second stage is spatial structure, which defines destination nodes, communities, environmental limits, transport connections, logistics areas, housing, and growth corridors. The third stage is enabling infrastructure, covering access, mobility, public realm, and social facilities. The fourth stage is utility readiness, where demand, capacity, resilience, land, connection points, and commissioning are aligned to the development sequence. The fifth stage is coordinated delivery, integrating stakeholders, scope, procurement, digital information, schedule, risk, approvals, and interfaces. The sixth stage is destination operations and benefit realization.

These stages are linked by feedback rather than a one-way project lifecycle. If visitor demand changes, infrastructure and utility phasing may need adjustment. If environmental monitoring reveals a constraint, land use and construction sequencing may change. If local enterprise uptake is weak, procurement or commercial-space strategies may require intervention. If operators identify maintainability problems during commissioning,

design standards should be updated across later phases. Figure 1 visualizes this architecture.

Three assurance layers cut across the sequence. Stakeholder governance establishes decision rights and interface ownership. Resilience assurance tests whether transport, utilities, digital systems, and operations can tolerate disruption. Benefit governance measures whether the project is producing regional outcomes rather than only physical outputs. Table 1 summarizes the evidence for these layers.

The framework changes the definition of project success. Schedule, cost, safety, and quality remain essential, but they are intermediate measures. The ultimate test is whether the completed system improves regional accessibility, supports reliable services, enables local economic participation, preserves valued environmental and cultural assets, and remains financially and operationally manageable. This perspective is especially important for Vision 2030 because the strategic justification for tourism megaprojects is broader than tourism revenue alone.

10. Vision 2030 Implementation Roadmap

Implementation should be phased by maturity. Stage one establishes the regional baseline: land constraints, communities, environmental assets, mobility, utilities, labor markets, suppliers, and public services are mapped against the destination program. Stage two creates infrastructure and utility readiness by protecting corridors, validating demand, identifying capacity gaps, defining connection strategies, and sequencing enabling works. Stage three institutionalizes stakeholder control through authority matrices, interface registers, common decision calendars, and benefit ownership.

Stage four integrates delivery. Scope maturity gates, coordinated digital models, risk-based schedules, procurement interfaces, construction logistics, and commissioning plans are connected to opening milestones. Stage five shifts from asset completion to regional legacy. Operational performance, visitor flows, local procurement, employment quality, public-service use, environmental indicators, and asset utilization are monitored and used to adjust later phases.

Table 2 sets out practical gates and indicators, while Figure 2 presents the maturity pathway. Useful measures include external and internal travel time, percentage of opening demand with verified utility capacity, critical-interface closure, decision lead time, design-change recurrence, commissioning completion, service

reliability, local supplier participation, local employment progression, visitor satisfaction, resident service access, and lifecycle cost.

The roadmap should remain adaptive. Tourism demand, technology, private investment, and regional growth will not follow a perfectly linear

forecast. The planning system therefore needs protected options: scalable plants, reserved corridors, modular assets, flexible plots, and governance mechanisms that can change sequence without losing strategic coherence. This is how megaproject speed can be combined with regional resilience.

Closed-loop tourism megaproject regional-development architecture

From strategic intent to operational destinations and measurable regional benefits

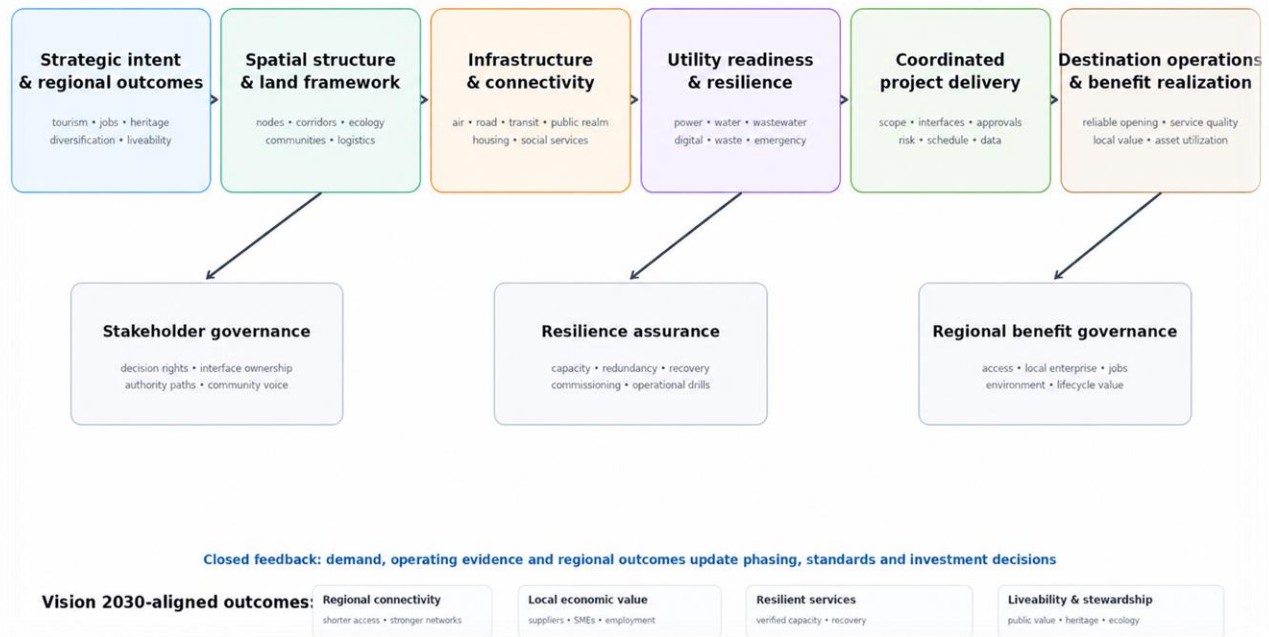


Figure 1: Closed-loop tourism megaproject regional-development architecture

Table 2: Phased implementation gates and regional-development indicators.

Stage	Primary actions	Readiness gate	Key indicators	Vision 2030 contribution
1. Regional baseline	Map land, communities, ecosystems, access, utilities, labor, suppliers and public services.	Shared evidence baseline approved by key entities.	Data completeness; constraint closure; baseline agreement.	Evidence-led regional targeting.
2. Infrastructure & utilities	Protect corridors; validate demand; close capacity gaps; define connection and enabling sequence.	Next opening phase has feasible access and service strategy.	Verified capacity; corridor protection; permits; enabling works status.	Connectivity and resilient services.
3. Interface governance	Set authority matrix, decision calendar, interface register, community and benefit ownership.	Critical interfaces have accountable owners and due dates.	Decision lead time; interface closure; late requirement count.	Coordinated institutions and local participation.
4. Integrated delivery	Use scope gates, digital coordination, dependency schedules, risk scenarios and commissioning plans.	Opening scenario is buildable, testable and operationally staffed.	Change recurrence; critical-path risk; testing; operator readiness.	Reliable project and destination delivery.

Stage	Primary actions	Readiness gate	Key indicators	Vision 2030 contribution
5. Regional legacy	Track operations, local procurement, jobs, service use, environment and asset utilization.	Benefits are measured and later phases adjusted from evidence.	Local supplier value; accessibility; reliability; utilization; lifecycle cost.	Durable diversification and regional development.

Tourism megaproject regional-delivery maturity roadmap

A phased pathway from fragmented planning to resilient regional benefit realization

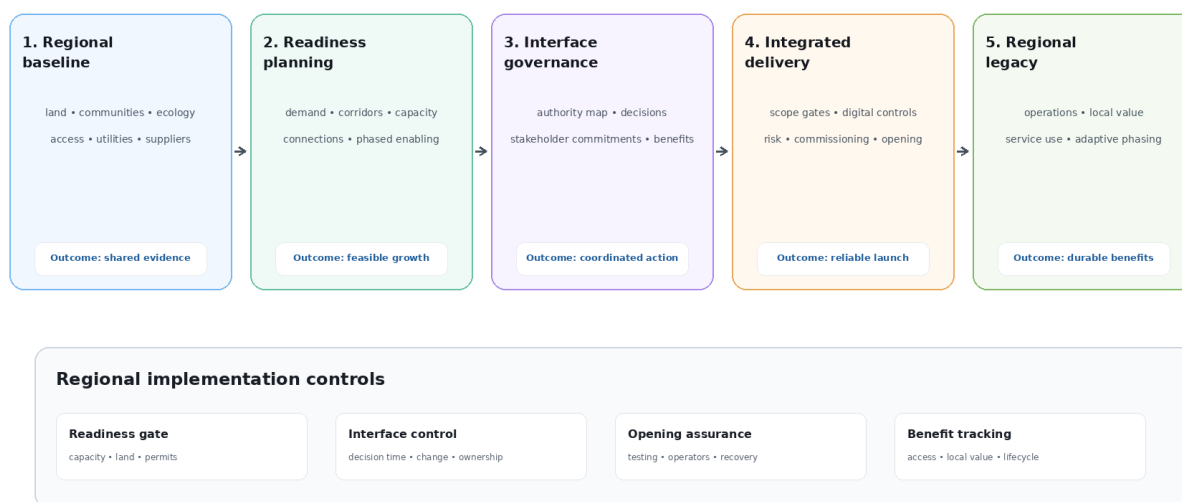


Figure 2: Tourism megaproject regional-delivery maturity roadmap

Importantly, regional value depends on the transition from construction readiness to operating readiness. Sponsors should therefore require evidence that utility systems, mobility interfaces, emergency services, digital networks, operators, maintenance resources, and local supplier arrangements can function together under realistic demand. This shifts assurance from isolated asset completion toward demonstrated destination performance and regional continuity at scale.

11. DISCUSSION AND RESEARCH GAPS

The review identifies integration as the central issue. Tourism research explains destination growth, heritage impacts, local enterprise, and environmental limits [1–4]. Spatial-planning research explains regional structure, public value, and institutional coordination [8–12]. Construction research explains delay, scope, risk, digitalization, and collaboration [13–24]. Resilience research explains dependencies and recovery [26]. Yet these literatures rarely meet at the same unit of analysis. Tourism megaprojects sit precisely at that intersection.

One implication is that infrastructure cannot be treated as a downstream response to a destination

master plan. Access, utilities, public services, environmental capacity, and operations shape what can be built, when it can open, and how much regional value it can support. This argues for infrastructure and utility teams to participate in strategic planning before land use and asset schedules become fixed.

A second implication concerns governance. Traditional organization charts show reporting lines but not dependency lines. Megaprojects need a second architecture that maps interfaces across packages and institutions. Research on stakeholder communication, integrated delivery, and P3 complexity supports this shift [15,16,22,23]. Future studies should test which governance structures most effectively reduce decision latency and late change in Saudi mega-project environments.

A third gap concerns benefit realization. Many project studies end at cost and schedule, while tourism studies often assess visitor or community outcomes after development. More longitudinal research is needed to connect construction decisions with later regional outcomes. Useful questions include whether new transport assets improve resident accessibility, whether utility investments support adjacent settlements, whether local firms

move into higher-value supply roles, and whether public assets remain financially sustainable after the initial development cycle.

A fourth gap is utility readiness. Despite its operational importance, peer-reviewed tourism megaproject literature contains relatively little detailed analysis of how electricity, water, wastewater, cooling, waste, telecoms, and emergency systems are phased against destination openings. Research should develop readiness indices that combine capacity, resilience, permitting, commissioning, operator capability, and recovery planning.

Finally, digital delivery requires evaluation beyond software adoption. Saudi BIM studies document important drivers and barriers [17–20], but future work should examine whether integrated data environments actually reduce interface failure, approval time, rework, and operational information gaps at regional-program scale. The most useful research will connect digital practices to measurable delivery and regional-development outcomes.

12. Limitations

This review is conceptual and synthesizes heterogeneous evidence rather than estimating a single causal effect. Saudi tourism megaprojects are evolving quickly, and publicly available studies do not provide uniform data on cost, schedule, utility capacity, local procurement, or long-term regional outcomes. Some evidence therefore comes from the wider Saudi construction and Gulf planning literature and is transferred cautiously to tourism programs.

The 2020–2025 evidence window prioritizes recent conditions but excludes foundational megaproject and regional-development literature published earlier. The framework also treats tourism megaprojects as a broad class even though heritage, coastal, entertainment, and mixed-use destinations have different environmental, governance, and operational requirements. Future empirical work should test and adapt the framework by project type, region, delivery model, and maturity stage.

13. CONCLUSION

Tourism megaprojects can catalyze regional development in Saudi Arabia when they are designed and delivered as regional systems rather than isolated destinations. The evidence shows that visitor assets alone cannot create durable transformation. Regional value depends on connectivity, utility capacity, public services, local enterprise, institutional coordination, environmental stewardship, and reliable operations.

The proposed framework integrates these requirements through a closed loop from strategic objectives to spatial structure, enabling infrastructure, utility readiness, coordinated project delivery, destination operations, and benefit realization. It emphasizes early scope definition, protected infrastructure corridors, demand-based utility planning, interface ownership, transparent decision processes, digital information integration, readiness management, and lifecycle feedback.

For Vision 2030, this changes the practical meaning of successful delivery. Completing a resort, attraction, airport, or public realm package is necessary but insufficient. Success is achieved when the wider region becomes more accessible, resilient, productive, liveable, and capable of sustaining the destination over time. Tourism megaprojects should therefore be governed through both project metrics and regional-benefit metrics. This combined discipline offers a more defensible pathway for converting large capital investment into long-term regional development rather than short-lived construction output.

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