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Original Research Article

Strategic Contract Management and Dispute Prevention in Saudi Oil and Gas Projects

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Abstract: Oil and gas infrastructure projects rely on technically complex contracts, tightly integrated engineering interfaces, and long procurement chains. These conditions increase exposure to scope changes, documentation failures, schedule disruption, payment disagreements, and contested responsibility. This structured integrative review examines how strategic contract management can improve cost efficiency and prevent disputes in Saudi Arabian energy infrastructure projects. The analysis synthesizes peer-reviewed research published principally from 2020 to 2025 together with official Saudi Vision 2030 policy material. Themes include contract design, early-warning processes, variation control, correspondence governance, collaborative negotiation, digital records, commercial risk allocation, and performance evaluation. The review identifies a recurring weakness in reactive administration: parties often investigate contractual entitlement only after project records have become fragmented and commercial positions have hardened. A proactive framework is therefore proposed, connecting pre-award clarity with post-award monitoring, documented decisions, escalation protocols, and independent assurance. Its purpose is to make contractual events visible while corrective action remains feasible. The framework is conceptual and is not represented as an empirically validated.

Keywords: Contract Management, Dispute Prevention, Oil and Gas, Saudi Arabia, EPC Projects, Change Orders, Claims, Risk Governance, Vision 2030.

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1. INTRODUCTION

Saudi Arabia continues to invest in energy assets, processing facilities, terminals, pipelines, utilities, and associated industrial infrastructure. Such projects frequently require specialist contractors, international suppliers, sophisticated technical specifications, and coordinated interfaces among owners, designers, construction teams, and operators. Their financial significance makes cost control essential, but focusing exclusively on purchase prices overlooks the expense of delayed decisions, duplicated work, unsettled variations, and formal disputes. Saudi Vision 2030 emphasizes maximizing value from the energy sector and strengthening industrial capability, giving effective project delivery a wider economic relevance (Saudi Vision 2030, n.d.).

A contract is both a legal allocation of obligations and a practical system for coordinating project decisions. It defines scope, change authority, communication routes, evidence requirements, payment procedures, completion criteria, and remedies. Yet even carefully written terms cannot eliminate uncertainty in underground conditions, engineering development, vendor interfaces, operational shutdowns, and unforeseen constraints. The question is not whether circumstances will

change, but how responsibly the parties identify, document, price, approve, and implement those changes.

Disputes tend to grow when commercially important events are recorded inconsistently or interpreted after the fact. An instruction may be operationally necessary but issued without clear authority; a delay may involve several concurrent causes; or a contractor may proceed to preserve momentum before financial implications are resolved. Kalogeraki and Antoniou (2024) identify claim causes, human relationships, performance, resolution procedures, and analytical models as connected dimensions of contemporary dispute research. These dimensions suggest that prevention cannot be delegated to a claims department alone.

The Saudi setting creates distinctive governance demands because energy facilities often operate within demanding safety, quality, procurement, localization, and commissioning requirements. Contract administration must preserve a traceable link between approved scope, field execution, deliverable acceptance, cost commitments, and operational handover. The present paper treats these functions as an integrated management system rather than separate clerical activities. It develops an evidence-informed framework suitable for evaluation on large engineering, procurement, and construction projects, while acknowledging differences among contract types and ownership models.

2. Aim and Research Objectives

The aim of this review is to critically evaluate strategic contract management practices that can strengthen cost efficiency and prevent avoidable disputes in Saudi Arabian oil and gas infrastructure projects, and to formulate a practical governance framework for further validation.

The first objective is to identify contractual and organizational causes of claims during planning, procurement, construction, and closeout. The second is to examine mechanisms for governing change orders, notices, records, and commercial decisions. The third is to evaluate how collaboration, negotiation, and escalation influence dispute avoidance. The fourth is to assess the supporting role and limits of digital contract technologies. The fifth is to develop measurable indicators and implementation recommendations aligned with the needs of Saudi energy infrastructure projects.

3. LITERATURE REVIEW

3.1 Contractual Uncertainty and Project Complexity

Long-duration infrastructure contracts are exposed to uncertainty that cannot be fully eliminated through initial estimation. Engineering maturity may evolve, approval sequences may change, and interdependent work packages can produce cascading consequences when an interface is missed. Importantly, uncertainty is not equivalent to contractual ambiguity. A well-designed contract can describe how unforeseen circumstances will be processed even when their precise occurrence is unknown. Strategic administration therefore begins by identifying provisions that must function under pressure, including notice periods, valuation rules, schedule analysis, approval limits, and dispute escalation.

Research on variation management in Saudi construction shows that change orders can interact with both cost and time performance. A proposed model for variation order management stresses dealing proactively with causes rather than treating approved changes as an inevitable administrative afterthought (A Proposed Model for Variation Order Management, 2024). Alsulami (2025) likewise examines the domino effects of change orders in Saudi public projects. Although public buildings and specialized oil and gas EPC contracts differ, the common lesson is that weak control at the point of change can create downstream rework and contested commercial obligations.

3.2 Pre-Award Clarity and Risk Allocation

Dispute prevention starts before a contract is signed. Scope gaps, inconsistent drawings, unclear interface boundaries, and unrealistic milestones create disputes that later administration can only mitigate. Pre-award review should therefore examine the hierarchy of documents, site information assumptions, responsibility matrices, measurement rules, pricing schedules, security requirements, and access constraints. Parties should record clarifications rather than relying on informal understandings. Liynawatta and colleagues (2024) emphasize pre-contract lapses and the role of professional coordination in avoiding subsequent disagreements.

Risk allocation should consider which party can actually influence each event. Assigning all uncertainty to the contractor may produce a low apparent owner exposure, but it can encourage contingencies, defensive notices, or adversarial positions. Equally, leaving owner-directed change undefined makes budget discipline difficult. Balanced allocation is not leniency; it is a way to match control, information, and commercial responsibility. For

energy projects, owners should additionally align contract responsibilities with operating permits, safety systems, shutdown windows, and existing-asset interfaces.

3.3 Change Orders and Entitlement

A change order is more than a price amendment. It changes the authorized baseline for scope, resources, sequence, completion, or commercial terms. Contract teams should distinguish a request for information from an instruction, an instruction from approved compensation, and a provisional estimate from final agreement. Failing to preserve these distinctions can cause work to proceed under incompatible assumptions. Appropriate procedures specify who may direct a change, how its effects are evaluated, when the schedule is updated, and which records constitute acceptance.

Cost efficiency requires early commercial visibility. Where engineering revisions are made before procurement commitments, alternative specifications or sequencing adjustments may reduce the expense of change. After fabrication or site installation, the same decision may require cancellation fees, rework, expedited delivery, and additional supervision. Change control should therefore involve technical, planning, procurement, and commercial personnel jointly. A contract advisor provides value by translating project events into timely, traceable determinations rather than merely compiling claims retrospectively.

3.4 Notices, Correspondence, and Evidentiary Integrity

Project correspondence is often treated as routine administration, yet it becomes critical evidence when responsibility is contested. Notices can establish when an event was recognized, the provision invoked, its immediate effects, and the actions requested. Daily reports, meeting records, transmittals, inspection releases, schedule updates, and procurement logs give necessary context. A defensible record is contemporaneous, dated, attributable, consistent with other records, and accessible to authorized users. Large collections of documents alone do not ensure evidentiary quality.

Studies of delay and disruption claims highlight information gaps across delay analysis, contract administration, and dispute resolution (Closing the Information Gaps, 2023). Accordingly, document control should connect the chronology of an event to contractual clauses and the cost or schedule model. Each significant issue should have a unique identifier and version history. Missing records should be escalated early instead of reconstructed when memories have faded. This also improves auditability and protects both parties from inaccurate allegations.

3.5 Human Relationships and Negotiated Resolution

Contracts operate through people whose incentives, authority, and interpretations can differ. Technical teams may prioritize immediate progress; commercial teams may prioritize entitlement; and senior management may seek certainty over budget and reputation. When these priorities are not openly reconciled, routine disagreements become personal or institutional conflicts. Collaborative problem-solving does not require waiving rights. It requires separating factual questions from commercial positions and escalating unresolved issues while the evidence remains current.

Effective negotiation depends on preparation, credible evidence, alternative options, and clearly defined decision authority. Project teams can hold regular issue-resolution meetings where each open item has an owner, next action, required information, and closure date. Senior representatives should intervene when the working team lacks authority rather than allowing unresolved items to accumulate. Research on claim process optimization emphasizes balanced contracts, robust documentation, communication, and negotiation capability (Optimizing Claim Management Process Groups, 2025).

4. REVIEW METHODOLOGY

4.1 Research Design

This paper uses a structured integrative literature review. The design is suitable because research on contractual disputes spans empirical surveys, case studies, systematic reviews, governance analysis, and technology assessment. The purpose is to compare mechanisms and develop a conceptual framework, not to claim pooled causal effect sizes. No primary interviews, confidential project files, experiments, or proprietary commercial data were used in preparing this review.

4.2 Sources and Search Approach

Relevant literature was identified through targeted searches of scholarly journal platforms and bibliographic discovery resources, prioritizing material dated 2020–2025. Search concepts included construction disputes, oil and gas EPC contracts, contract administration, variation orders, change management, claim prevention, project correspondence, delay claims, collaborative contracting, blockchain contracting, and Saudi infrastructure. Official Vision 2030 materials were used solely to describe national policy priorities. The reference list contains sources identifiable from their publisher records; the present review does not claim

an exhaustive database export or a reproducible pooled screening count.

4.3 Eligibility and Appraisal

Included research needed a direct relationship with construction or infrastructure contract risk, identifiable scholarly publication details, and interpretable findings or conceptual contributions. Sector-adjacent construction studies were accepted when their mechanisms were transferable to energy infrastructure, and those transfer limits are stated. Purely promotional technology claims, inaccessible source details, unsupported numerical outcomes, and sources that could not be meaningfully connected to the research questions were not treated as evidence. Appraisal emphasized research design, transparency of methods, institutional setting, and practical plausibility.

4.4 Synthesis and Limitations

Findings were arranged by contractual lifecycle and management mechanism: pre-award design, change control, document integrity, collaboration, digital tools, performance monitoring, and closeout. Contradictions were considered instead of assuming that every innovation improves results. The resulting framework is an analytical proposal, not proof of effectiveness. The literature includes heterogeneous project types and jurisdictions, and published case studies may underrepresent unsuccessful approaches. Future field research must test the model using real, lawfully accessible project data.

5. RESULTS AND DISCUSSION

5.1 Prevention is a Lifecycle Capability

The central synthesis is that dispute avoidance depends on continuity across the project lifecycle. A pre-award ambiguity can become a field instruction problem; a poorly documented instruction can become a valuation disagreement; and a valuation disagreement can become a schedule or payment claim. Fragmented ownership obscures this chain. Strategic contract management instead uses a common baseline, shared issue registers, and agreed decision rules from award through completion. Preventive efforts should be reviewed at stage gates, especially before equipment purchase, construction release, and commissioning handover.

5.2 Cost Efficiency beyond Negotiated Savings

Traditional procurement metrics often highlight discounts obtained during tender evaluation. Those savings matter, but total project cost also includes rework, standby resources, financing impacts, expedited logistics, claim preparation, and management distraction. A low initial contract price may be poor value if scope boundaries and escalation mechanisms are weak. Contract performance assessment should therefore examine both commitment price and cost predictability. Risk-based contingency should reflect the actual ability to manage uncertainty rather than rely on optimistic assumptions.

A useful distinction is between legitimate compensation and avoidable dispute cost. Some changes are economically justified and should be paid through contractually agreed processes. Preventing every claim is neither realistic nor desirable; the objective is preventing uncertainty and disagreement over entitlement, proof, or valuation. This distinction protects sound commercial relationships. Reliable early decisions can permit construction to continue without treating a justified adjustment as a failure of management.

5.3 Early Warning and Escalation

An early-warning protocol identifies events likely to affect scope, cost, schedule, safety interfaces, or performance. Its value arises from the action that follows the warning. A standard issue register should include event date, triggering condition, contractual clause, affected packages, preliminary exposure, responsible owner, decision deadline, and latest status. Alerts should be categorized according to potential consequence and urgency, with a clear threshold for management attention. A register that merely catalogs historical problems offers limited prevention benefit.

Escalation should be proportionate. Minor clarifications may be resolved between field engineers; unresolved commercial assumptions may require contract and project managers; strategic schedule or settlement questions may need executive review. The levels should be agreed before a dispute arises. A time-limited escalation ladder discourages avoidance while preserving informal negotiation opportunities. The commercial team must communicate without displacing the contractual notice procedures, because collaboration cannot cure missed formal requirements in every contract.

5.4 Variation Governance and Schedule Analysis

Change events often have interdependent technical and temporal effects. Removing a work item may reduce direct cost while increasing interface coordination; adding a new package may require revised inspection arrangements or site access. Accordingly, variation evaluation should combine quantity, rates, productivity assumptions, procurement commitments, schedule logic, and operational risk. Decisions should document accepted and disputed elements separately. This prevents disagreement over one item from concealing progress on others.

Schedule assessments require particular care with concurrency, baseline quality, float assumptions, and retrospective updates. Any claim about critical delay should be supported by a defensible method appropriate to available records and the contract. Forecasts should be revised promptly when a significant instruction changes sequencing. Researchers consistently identify information and analytical quality as limiting factors in delay claims (Closing the Information Gaps, 2023). A process that links schedule updates to contract events can make both commercial negotiations and operational decisions more reliable.

5.5 Digital Tools as Governance Support

Electronic document management, shared registers, workflow automation, and searchable correspondence can support timely administration. Their value lies in traceability, consistent access permissions, and reliable version control rather than novelty. Zeberga, Haaskjold, and Hussein (2024) examine digital technologies for reducing contractual disagreements in construction. Kalogeraki and Antoniou (2024) similarly identify growing research interest in technology-supported claims handling. The evidence supports serious evaluation of digitization but does not justify assuming that software independently resolves contractual interpretation or power imbalances.

Blockchain-enabled contracting has been proposed as a way to strengthen transparency and shared records (Integration of Blockchain in Contract Management, 2024). Nevertheless, a permanent record cannot guarantee that an original instruction was authorized, fair, or technically accurate. Smart workflows may execute incorrect assumptions more consistently. Project owners should test data ownership, access rights, cyber resilience, dispute correction procedures, and integration with established systems before implementing advanced technology. Human decision-making remains essential whenever facts or entitlement are contested.

5.6 Performance Indicators and Learning

A prevention-oriented dashboard should track trends rather than reward the absence of reported issues. Appropriate indicators include time from event identification to notice, proportion of changes with agreed valuation before execution, overdue decision count, percentage of correspondence correctly categorized, unresolved claims exposure, approval cycle time, and closure of audit findings. A project reporting zero potential claims may be concealing risk rather than managing it. Indicators should therefore be assessed alongside independent record sampling and stakeholder feedback.

Lessons learned should not be confined to project closeout. A repeated design-interface problem may justify immediate revision of templates or responsibility matrices on active projects. Procurement teams should capture recurring supplier access constraints and unrealistic delivery assumptions. Legal and commercial staff should examine provisions that repeatedly create conflicting interpretations. An organizational feedback loop turns the experience of one project into better risk allocation and clearer administration on the next.

Table 1: Preventive Contract Management Measures

Risk area	Preventive mechanism	Suggested evidence
Scope ambiguity	Pre-award interface review	Clarification register
Uncontrolled change	Authority and valuation workflow	Approved change log
Delay disagreement	Event-linked schedule updates	Baseline and progress records
Unclear notices	Contractual correspondence protocol	Notices and transmittals
Payment conflict	Milestone verification	Certified payment trail
Unresolved issues	Time-bound escalation ladder	Issue closure register

6. Proposed Integrated Contract Governance Framework

6.1 Framework Architecture

The proposed framework organizes prevention into six linked controls. First, contract readiness confirms that scope, hierarchy, interfaces, and risk ownership are understood before mobilization. Second, event detection captures field conditions and emerging commercial issues promptly. Third, impact assessment combines technical, schedule, procurement, and financial evidence. Fourth, authorization ensures that directions and decisions come from empowered representatives. Fifth, closure confirms that the agreed adjustment enters the approved budget and project baseline. Sixth, assurance independently checks unresolved exposure and trends across the portfolio.

The framework deliberately separates the decision process from the evidence trail. An event may be logged immediately even though entitlement remains undecided. The responsible team should state what is known, what remains disputed, and which documents are still required. This prevents incomplete evidence from becoming an excuse for

administrative silence. It also creates a transparent record of reasonable conduct by both parties, which is valuable if negotiation ultimately fails.

6.2 Role Ownership and Accountability

Owners need an identifiable contract decision-maker who works with engineering, planning, procurement, finance, legal, and operations. Technical personnel can validate changed work, but they should not inadvertently issue financially binding directions beyond delegated authority. Contract specialists should maintain the governing document hierarchy, key notice dates, and risk register. Planners should assess changes against credible progress information. Finance teams should reconcile approved commitments with forecasts. Disputes become less likely when these functions share the same event identifiers and decisions.

For contractors, clear internal authority is equally important. Subcontractor claims must be reconciled with the main contract, particularly where notice periods or payment triggers differ. Joint review sessions should address emerging issues at their source, not simply pass documents between organizations. An impartial audit function can test whether decisions followed the agreed workflow without substituting its judgment for the designated contract authority. Independence matters because teams under schedule pressure may normalize undocumented instructions.

6.3 Implementation Stages

A practical pilot should begin with a diagnostic assessment of existing contract procedures and unresolved change backlogs. Next, the project should map decision rights, standardize event and notice templates, and establish controlled registers. Training should use realistic examples of scope changes, delays, supplier interfaces, and disagreement handling. The team can then trial weekly issue reviews and monthly governance dashboards. After an agreed evaluation period, management should review implementation burden, detection rates, decision time, and dispute outcomes before extending the system.

Success must be evaluated against a reasonable baseline. A reduction in formal claims may reflect genuine prevention, but it may also follow underreporting or unusual project conditions. A valid pilot should inspect the completeness of records, stakeholder confidence, and final-account outcomes. Comparative testing across projects with similar complexity would provide stronger evidence than a single favorable case. Project-specific security requirements must be respected, and no confidential contracts or correspondence should be published without permission.

Contract Readiness → Early Event Detection → Evidence and Impact Review → Authorized Decision → Baseline Update → Assurance and Learning → Contract Readiness

Figure 1: Preventive Contract Governance Cycle

Project Event → Formal Notice and Record Capture → Joint Technical Review → Commercial Negotiation → Management Escalation → Agreed Settlement or Contractual Resolution

Figure 2: Early Dispute Prevention and Escalation Pathway

Table 2: Proposed Contract Governance Indicators

Indicator	Measurement	Management use
Notice timeliness	Days from identification to notice	Identify procedural delay
Variation decision cycle	Median days to disposition	Reduce backlog
Change predictability	Approved versus forecast change value	Improve forecasting
Unresolved exposure	Value and age of open issues	Prioritize negotiation
Record completeness	Audited events with supporting evidence	Strengthen defensibility
Closeout maturity	Issues remaining after acceptance	Improve final accounts

7. Recommendations

7.1 Strengthen Pre-Award Contract Readiness

Project owners should require multidisciplinary review of scope boundaries, document precedence, design maturity, milestone assumptions, site access, and change authority before contract execution. Review outputs should be captured in an auditable clarification schedule. Tender-stage commercial savings should be assessed against exposure created by unrealistic interfaces or unbalanced risk transfer. A structured contract-readiness review is especially important when multiple EPC packages must connect to operating oil and gas facilities.

7.2 Standardize Contemporary Records

All significant instructions, variations, delay events, and decision requests should be connected to a common event register with controlled document identifiers. Teams should receive training that distinguishes technical discussion from contractual notices and authorized change. Correspondence should specify requested action and response dates. Periodic quality audits should sample whether

records accurately reflect field conditions rather than measure only how many documents were archived.

7.3 Establish Collaborative Escalation Routines

Weekly issue-resolution sessions should assign action owners and separate factual matters from disputed valuation. Management escalation should follow an agreed timetable and preserve formal contractual rights. Negotiation training should emphasize evidence-based positions, listening, option development, and written settlement records. Senior representatives should intervene early on material matters so that unresolved claims do not dominate the final stages of construction and handover.

7.4 Link Cost, Schedule, and Contract Systems

Variation decisions should update the budget, procurement commitments, and approved project schedule consistently. Digital tools should support this connection with audit trails, role-based permissions, retention policies, and cybersecurity controls. Organizations should avoid deploying predictive claims algorithms until underlying records are sufficiently reliable. Data governance and human oversight are prerequisites for trustworthy analytics, particularly for commercially sensitive infrastructure information.

7.5 Align Governance with National Efficiency Objectives

Saudi Vision 2030 places emphasis on value creation in energy and stronger domestic industrial capability. Predictable contract governance can support these objectives indirectly by lowering avoidable administrative friction, protecting delivery milestones, and improving supplier participation. The National Industrial Development and Logistics Program also emphasizes local procurement and industrial SMEs (Saudi Vision 2030, 2021). Localization provisions should therefore use measurable obligations, realistic supplier capability assessments, and transparent remedies so that policy aims do not create preventable scope and performance disputes.

8. Future Research

Future research should test the framework using multiple Saudi energy projects that differ in procurement method, contractor composition, and asset type. Longitudinal designs could compare the incidence and cost of unresolved variations before and after standardized issue-management interventions. Researchers should distinguish legitimate contractual adjustments from disputes attributable to procedural failure. This distinction would permit a more meaningful analysis of whether intervention changes behavior or merely suppresses formal claims.

Further inquiry is needed into the optimal timing of commercial decisions. Studies could examine whether early valuation, provisional authorization, or structured joint review is most effective for different change categories. Another priority is assessing human behavior: contract teams need evidence on how leadership incentives, trust, delegated authority, and negotiation practices interact with formal contract terms. The effect of local supplier participation on interface risk warrants careful study without presuming that localization itself increases or reduces disputes.

Digital research should progress from demonstrations toward controlled evaluation. Potential applications include automated clause retrieval, document linkage, schedule-event traceability, and identification of overdue decisions. Outcomes should measure accuracy, false alerts, management workload, security, and the quality of resulting decisions. Explainable systems may assist contract specialists, but no automated assessment should be treated as legal determination without contextual human review. Ethical and confidentiality safeguards will remain essential to credible evidence generation.

Infrastructure interfaces are frequent sources of contractual uncertainty because work completion by one package is often a prerequisite for another. A piping contractor may depend on civil foundations, access platforms, inspection acceptance, or energization performed by different parties. Simply assigning each deliverable to an individual contract does not resolve the sequence of obligations. Projects should maintain an interface register with named parties, required handover evidence, agreed dates, and contingencies for slippage. Contract managers can connect interface warnings with notice requirements while project controls assess whether the event affects the critical path. This coordination prevents an operational dependency from emerging unexpectedly as a late-stage damages demand.

8.2 Payment Administration and Commercial Confidence

Payment disputes can destabilize otherwise technically successful projects. Confusion may arise over measurement rules, certification deadlines, disputed variations, retention, or incomplete supporting documents. Transparent payment administration requires a predictable submission calendar, clear review ownership, prompt identification of deficiencies, and documented approval or rejection reasons. Where contracts permit, undisputed amounts should be distinguished from disputed adjustments so that one contested item does not obscure the status of other work. Reliable certification also improves supplier

confidence and cash-flow visibility. These principles do not override agreed contract conditions; they provide a disciplined way to apply them consistently and fairly.

8.3 Audit, Ethics, and Impartial Commercial Decisions

Commercial pressure can weaken governance when project staff are encouraged to defer recognition of cost exposure or close issues without adequate examination. Internal assurance should therefore test not only formal compliance but whether authorized decisions match underlying records. Useful audit questions include whether notices were raised on time, delegated authority was respected, changes were supported by technical evidence, and financial forecasts captured likely obligations. An impartial reviewer should not create new entitlement, but can identify procedural inconsistency before it becomes a dispute. Ethical procurement practices, conflict-of-interest safeguards, and controlled access to bid or claims data reinforce this institutional trust.

8.4 Practical Examples of Risk-Tiered Response

Risk-tiered review can be illustrated using three hypothetical situations. An approved drawing clarification that does not change quantities may require only a documented technical response. A proposed equipment substitution affecting vendor delivery and commissioning may require a joint engineering, procurement, planning, and contract impact assessment before authorization. A site condition causing prolonged standby resources may trigger immediate notice, daily contemporaneous records, mitigation planning, and senior commercial review. The appropriate path depends on the relevant contract, evidence, and degree of urgency. These illustrations are not representations of any particular Saudi Aramco project or actual contractual event.

Recent evidence on Saudi change orders, disputes and payment delays (Alzara, 2022; Alkhalifah *et al*., 2023; Alsulami, 2025; Bageis, 2024), alongside international reviews of claims and digital governance (Ali *et al*., 2024; Zeberga *et al*., 2024; Wong *et al*., 2024), supports early documentation and accountable contract administration.

9. CONCLUSION

Strategic contract management is a delivery capability rather than a narrow administrative activity. In Saudi oil and gas infrastructure projects, technical complexity, major procurement commitments, distributed responsibilities, and time-sensitive interfaces make poorly governed change particularly costly. The reviewed literature indicates that clearer pre-award scope, timely notices, reliable contemporaneous evidence, authorized decision-making, and collaborative escalation can reduce circumstances in which routine commercial issues harden into disputes. Digital platforms can reinforce these mechanisms when data quality, authority, and professional judgment are maintained.

This paper proposes a lifecycle contract governance framework linking readiness, early detection, impact assessment, authorization, baseline updates, and independent assurance. Its principal contribution is the integration of prevention mechanisms with measurable operational indicators that can be evaluated in future Saudi energy projects. The model does not promise that every claim can or should be eliminated. Rather, it seeks to preserve legitimate entitlement while reducing ambiguity, unnecessary delay, avoidable transaction costs, and adversarial escalation.

The long-term opportunity is to make contractual performance as visible and actively managed as technical progress and safety performance. Organizations that invest in contract competencies, cross-functional records, fair risk allocation, and disciplined learning may improve project predictability and commercial relationships. These outcomes are consistent with Saudi Vision 2030's focus on effective energy-sector development and industrial competitiveness. Empirical validation is now required to determine the framework's practical impact across project settings.

REFERENCES

- Alsulami, B. T. (2025). Change orders and their domino effect: Insights from public construction projects in the Kingdom of Saudi Arabia. Buildings, 15(1), 87. https://doi.org/10.3390/buildings15010087
- Kalogeraki, M., & Antoniou, F. (2024). Claim management and dispute resolution in the construction industry: Current research trends using novel technologies. Buildings, 14(4), 967. https://doi.org/10.3390/buildings14040967
- Zeberga, M. S., Haaskjold, H., & Hussein, B. (2024). Digital technologies for preventing, mitigating, and resolving contractual disagreements in the AEC industry: A systematic literature review. Journal of Construction Engineering and Management, 150(6). https://doi.org/10.1061/JCEMD4.COENG-14032
- Ali, B., Aibinu, A. A., & Paton-Cole, V. (2024). Closing the information gaps: A systematic review of research on delay and disruption claims. Construction Innovation, 24(3), 790–810. https://doi.org/10.1108/CI-04-2022-0080
- A proposed model for variation order management in construction projects. (2024).

Buildings, 14(3), 726. https://doi.org/10.3390/buildings14030726

- Integration of blockchain in contract management for prevention of construction disputes: A systematic literature review and conceptual framework. (2024). International Journal of Construction Management. https://doi.org/10.1080/15623599.2023.2274720
- Silva, P. M., Domingo, N., & Ali, N. A. N. (2024). Causes of disputes in the construction industry: A systematic literature review. Journal of Financial Management of Property and Construction, 29(2), 193–210. https://doi.org/10.1108/JFMPC-03-2023-0012
- Alzara, M. (2022). Exploring the impacts of change orders on performance of construction projects in Saudi Arabia. Advances in Civil Engineering, 2022, 5775926. https://doi.org/10.1155/2022/5775926
- Effects of change orders on the budget of the public sector construction projects in the Kingdom of Saudi Arabia. (2023). Results in Engineering. https://doi.org/10.1016/j.rineng.2023.101628
- Alkhalifah, S. J., Tuffaha, F. M., Al Hadidi, L. A., & Ghaithan, A. (2023). Factors influencing change orders in oil and gas construction projects in Saudi Arabia. Built Environment Project and Asset Management, 13(3), 430–452. https://doi.org/10.1108/BEPAM-06-2022-0081
- Application of lean for early identification and avoidance of disputes in construction projects. (2024). Construction Innovation. https://doi.org/10.1108/CI-04-2023-0073
- Liao, L., Yang, C., & Quan, L. (2023). Construction supply chain management: A systematic literature review and future development. Journal of Cleaner Production, 382, 135230. https://doi.org/10.1016/j.jclepro.2022.135230
- Shishehgarkhaneh, M. B., Moehler, R. C., Fang, Y., Aboutorab, H., & Hijazi, A. A. (2024). Construction supply chain risk management. Automation in Construction, 162, 105396. https://doi.org/10.1016/j.autcon.2024.105396
- Blockchain-based automatic tracking and extracting construction document for claim and dispute support. (2022). KSCE Journal of Civil Engineering, 26(9), 3707–3724. https://doi.org/10.1007/s12205-022-2181-z
- A BIM package with a NEC4 contract option to mitigate construction disputes in the Kingdom of Saudi Arabia. (2024). Buildings, 14(7), 2009. https://doi.org/10.3390/buildings14072009
- Awed, J., & Fini, A. A. F. (2024). Governmentality in construction claim management: Role of smart data initiatives. Project Leadership and Society, 5, 100158. https://doi.org/10.1016/j.plas.2024.100158
- Zhou, H., Zhou, L., Gao, B., Huang, W., Huang, W., Zuo, J., & Zhao, X. (2024). Intelligent identification of risks in construction contract clauses based on semantic reasoning. Engineering, Construction and Architectural Management. https://doi.org/10.1108/ECAM-05-2023-0527
- Bageis, A. S. (2024). An investigation into the causes of payment delays and deliberate delay tactics in public construction projects in Saudi Arabia. Buildings, 14(6), 1792. https://doi.org/10.3390/buildings14061792
- Wong, S., Zheng, C., Su, X., & Tang, Y. (2024). Construction contract risk identification based on knowledge-augmented language models. Computers in Industry, 157–158, 104082. https://doi.org/10.1016/j.compind.2024.104082
- Investigating the source of claims with the importance of BIM application on reducing construction disputable claims in KSA. (2023). Buildings, 13(9), 2219. https://doi.org/10.3390/buildings13092219
- Amoah, C., & Nkosazana, H. (2023). Effective management strategies for construction contract disputes. International Journal of Building Pathology and Adaptation. https://doi.org/10.1108/IJBPA-01-2022-0004
- Financial risk management in the construction projects. (2024). Journal of King Saud University – Engineering Sciences, 36(8), 552–561. https://doi.org/10.1016/j.jksues.2022.05.001
- Saudi Vision 2030. (n.d.). Vision 2030 overview. https://www.vision2030.gov.sa/en/overview
- Saudi Vision 2030. (2021). National Industrial Development and Logistics Program: Delivery plan 2021–2025. https://www.vision2030.gov.sa/
- Project Management Institute. (2021). A guide to the project management body of knowledge (PMBOK guide) (7th ed.). Project Management Institute.