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Contracting for Success: A Critical Analysis of Governance, Risk, and Delivery in Modern Project Management

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Introduction

Project management has become a global discipline essential for delivering complex and large-scale initiatives. The Project Management Institute defines a project as “a temporary endeavour undertaken to create a unique product, service, or result” (PMI, 2021), emphasising that projects are temporary, unique, and constrained by scope, time, cost, and quality. Their delivery requires structured approaches capable of managing uncertainty and complex stakeholder demands (Heagney, 2022). Flyvbjerg and Gardner (2023) note that global projects continue to grow in scale and complexity, increasing the need for rigorous project governance. In the UK alone, the project management sector contributed an estimated £186.8 billion GVA in 2024 (APM & PwC, 2024), underscoring its economic importance. As modern projects span sectors such as construction, energy, and digital transformation, selecting an appropriate contracting strategy has become a critical determinant of success (Winch, 2010).

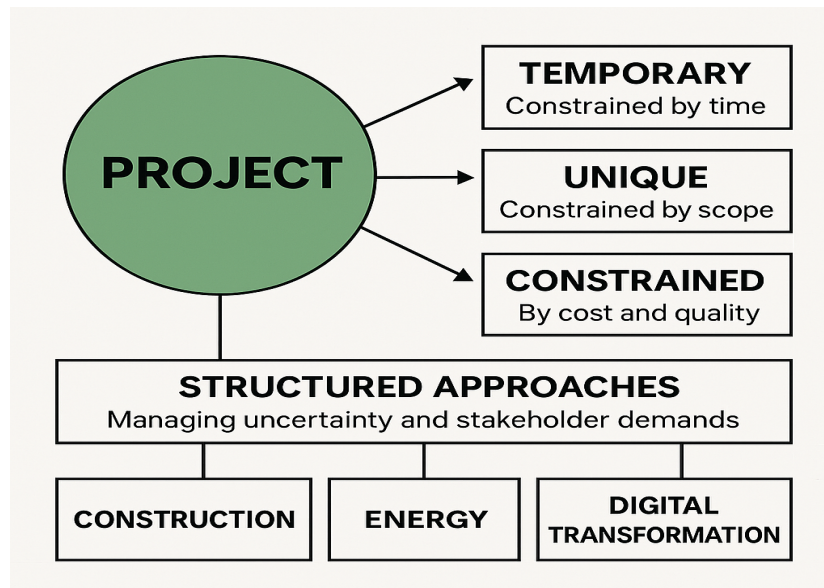


Figure 1: Comparison of contracting strategies and risk allocation in project management (Source: Author's own work)

Figure 1 provides a comparative overview of how risk exposure and managerial control vary across different contracting strategies. Contracting allocates responsibilities, risks, and decision-making authority between owners and contractors, shaping performance and stakeholder relationships. Examples such as the Denver International Airport baggage

system failure and the successful London 2012 Olympics illustrate how contracting choices can drive either major failures or world-class outcomes (Clegg et al., 2002; NAO, 2012). This essay examines four contracting approaches—turnkey, multicontract, do-it-yourself (DIY), and hybrid—and critically evaluates their suitability across different project environments, with particular emphasis on governance capability and risk complexity as determinants of project success.

Contracting Strategies in Project Management: Governance, Risk, and Delivery Models

Contracting in project management is rooted in theoretical principles relating to governance, coordination, and risk management. Turner (2009) argues that contracts shape the “temporary organisation” of projects by defining the roles, responsibilities, and expectations of participants. From this perspective, contracts operate not only as legal instruments but as organisational mechanisms that shape coordination, authority, and accountability across complex project supply chains (Winch, 2010). Within this context, contracting-in—defined as the practice of bringing external specialists into the organisation to work internally on project tasks rather than outsourcing them (Johnson, Scholes and Whittington, 2020)—enhances internal control while supplementing capability. Transaction cost theory, as developed by Williamson (1985), provides further insight into contracting choices, suggesting that organisations adopt governance structures—such as turnkey, multicontract, DIY, or hybrid arrangements—to minimise exposure to uncertainty, complexity, and opportunistic behaviour. Within this theoretical context, the four contracting approaches examined here represent distinct governance strategies for allocating responsibility, controlling risk, and ensuring project delivery across varied project settings. Taken together, these perspectives suggest that contracting choices should be understood less as legal decisions and more as governance mechanisms that shape coordination, accountability, and risk exposure throughout the project lifecycle.

Turnkey Contracting: Single-Point Accountability and Risk Transfer

Turnkey contracting represents one of the most integrated and commercially consolidated approaches to project delivery, with a single contractor assuming responsibility for design, engineering, procurement, construction, and commissioning. In its simplest form, a turnkey contract is one in which the contractor delivers a fully operational facility that is ready for immediate use upon completion, effectively providing the client with a “ready-to-operate” asset (Nawaz, 2020). This structure closely aligns with Engineering, Procurement and Construction (EPC) models widely employed in technically demanding sectors such as petrochemicals, offshore energy, defence, and power generation, where coordination and precision are essential for operational success (Morrow, 2011). The core principle underpinning turnkey contracting—single-point accountability—has significant implications for risk allocation, governance, and investor confidence. By shifting technical and commercial responsibilities to one contractor, owners gain a degree of cost and schedule predictability that fragmented arrangements struggle to achieve. Fixed-price EPC contracts allow project sponsors to establish financial exposure early in the lifecycle, which is particularly important for capital-intensive investments requiring lender and regulatory assurance (H+M Industrial EPC, 2023).



Figure 2: Governance and delivery implications of turnkey, multicontract, DIY, and hybrid contracting models (Source: Author’s own work)

Figure 2 illustrates how governance intensity, coordination requirements, and risk ownership differ across turnkey, multicontract, DIY, and hybrid contracting models. A further advantage of turnkey contracting is its capacity to reduce interface risk, as a single

entity manages both design and delivery, reducing the likelihood of misalignment between engineering intent and construction execution. This integrated structure incentivises contractors to ensure compatibility across subsystems, particularly in industries where performance depends on seamless integration across safety, control, and process-critical systems (Kerzner, 2022), while allowing the deployment of standardised design packages and proven technologies that accelerate procurement and reduce the probability of costly redesign.

Despite these advantages, turnkey contracting imposes notable constraints on owners. Fixed-price structures, although valuable for establishing cost ceilings, limit the ability to modify project scope once execution begins. Changes become costly and procedurally complex because contractors must reassess risk exposure and renegotiate commercial terms (Turner & Simister, 2001). This rigidity is problematic when projects face evolving regulatory expectations, environmental considerations, or technological innovation. Information asymmetry represents a further limitation: contractors often possess deeper technical insight into design implications and may prioritise cost-minimisation strategies that compromise long-term asset performance. This dynamic reflects Williamson's (1985) concern that incomplete contracts create opportunities for opportunistic behaviour, particularly when one party holds essential technical knowledge. Additionally, in contexts of high uncertainty or immature technologies, contractors may embed substantial contingencies into fixed-price EPC bids, inflating upfront costs before work commences (Morrow, 2011). These limitations are most visible in megaprojects where uncertainty is endemic, design maturity evolving, and adaptive capacity essential for success.

The experience of Hinkley Point C (HPC) illustrates the risks that can emerge when turnkey contracting is applied to technologically ambitious infrastructure. Conceived as a highly integrated EPC project to reduce interface risk in one of Europe's most complex nuclear developments, HPC has instead become associated with escalating costs and prolonged delays. Initially estimated at £18 billion, the project's long-term financial commitments increased sharply when the National Audit Office reported that the present value of top-up payments under its financing model had risen from £6 billion to approximately £30 billion (NAO, 2017). Subsequent revisions indicated further

deterioration, with construction costs re-estimated at £41.6–£47.9 billion and the first reactor’s operational start date postponed to at least 2029 (Reuters, 2024). These outcomes highlight how turnkey structures, while intended to centralise accountability, can produce contractual rigidity that hampers response to engineering complications, supply-chain instability, and regulatory intervention. This suggests that turnkey contracting is poorly suited to projects characterised by high technological uncertainty, evolving regulatory requirements, and long development horizons.

By contrast, turnkey-style arrangements have been successful in modular healthcare construction, where project requirements are stable, designs repeatable, and technological uncertainty low. Evidence suggests that modular healthcare facilities can reduce construction time by 30–50% and cut overall costs by around 20%, while delivering consistent clinical quality through standardisation and factory-controlled production (Moduleco Healthcare, 2023). These outcomes demonstrate that turnkey contracting performs most effectively in environments characterised by predictability and design maturity, yet becomes vulnerable to cost escalation, inflexibility, and strategic misalignment when applied to novel, high-risk project contexts such as nuclear power. Turnkey contracting is therefore most effective where project scope is stable, designs are repeatable, and risk transfer is prioritised over flexibility.

Multicontracting: Flexibility, Coordination, and Governance Challenges

In contrast to turnkey delivery, multicontracting decentralises responsibility by requiring owners to procure, coordinate, and manage multiple specialist contractors. In simple terms, multicontracting refers to a procurement strategy in which the client enters into several separate contracts for different work packages rather than relying on a single main contractor (Walker, 2015). This approach offers flexibility by enabling owners to assemble specialist teams tailored to individual work packages. In sectors characterised by rapid technological evolution—such as aviation, transportation, and defence—this flexibility can stimulate innovation, enhance technical quality, and support the adoption of emerging solutions (Morris, 2013). Competitive tendering across multiple packages promotes cost optimisation and reduces dependence on a single contractor. Owners retain greater influence over design development and quality assurance, making multicontracting

attractive for organisations with strong internal project management capability and technical expertise.

However, the benefits of multicontracting are counterbalanced by significant coordination challenges. Owners must implement rigorous governance frameworks capable of managing information flows, sequencing, design interfaces, and risk allocation across multiple suppliers. Without mature programme-management systems, fragmented delivery structures can experience interface failures that result in delays, rework, claims, and disputes. Flyvbjerg and Gardner (2023) emphasise that coordination complexity is a leading driver of megaproject overruns globally. The Denver International Airport (DIA) automated baggage handling system is a classic example of multicontracting failure. Although technologically ambitious, the project suffered from inadequate integration between software developers, mechanical engineers, civil contractors, the airport authority, and managers. Bags were damaged, misrouted, and lost; repeated delays emerged due to incompatible systems and unclear accountability; and eventually the entire system was abandoned at enormous financial cost (Clegg et al., 2002). The case illustrates how projects involving high interdependencies require exceptional coordination—something multicontracting cannot deliver without strong governance and technical oversight.

Despite these risks, multicontracting can deliver outstanding results when supported by well-structured governance and disciplined programme management. The London 2012 Olympic Games provide a leading example. The Olympic Delivery Authority (ODA) adopted a multi-package strategy that divided the programme into numerous specialist contracts while retaining central control through robust monitoring, transparent reporting, and independent assurance mechanisms. Although the government revised the initial £4 billion bid estimate to a more realistic £9.298 billion funding package (Parliament, 2008), the ODA delivered venues and infrastructure—covering more than 30 venues, transport upgrades, and major regeneration works—on time and within the available budget, with final construction costs of around £6.7 billion (NAO, 2012). The retention of £476 million in unallocated contingency and over £1 billion in efficiency savings (GOV.UK, 2012) demonstrated strong cost discipline. While overall sports-related costs for the Games eventually reached approximately US\$14.8 billion (Flyvbjerg & Stewart, 2012), the core

construction phase remains a benchmark for effective multicontract governance. This contrast shows that multicontracting can outperform turnkey arrangements when clients possess the organisational capability, oversight mechanisms, and programme-management maturity necessary to coordinate multiple contractors in complex environments.

Do-It-Yourself (DIY) Contracting: Internal Capability and Strategic Control

DIY contracting offers an alternative model in which the owner undertakes most project functions internally. In essence, DIY—often referred to as force-account or in-house delivery—describes a governance approach where the client uses its own labour, resources, and management systems to execute project activities rather than outsourcing them to external contractors (Potts & Ankrah, 2014). This approach supports organisational capability development and long-term strategic autonomy (Davies and Brady, 2016). In highly confidential or innovation-driven sectors—such as technology, aerospace, and advanced manufacturing—DIY delivery helps protect intellectual property, proprietary processes, and critical systems. Companies such as Apple, Google, Tesla, and Amazon frequently adopt internal delivery for software and digital infrastructure, where external contracting could create confidentiality or competitive risks (Cusumano, 2010). DIY contracting also enhances organisational learning, enabling firms to build expertise, improve efficiency, and strengthen resilience (Brady and Davies, 2000).

However, DIY approaches demand substantial internal resources and robust governance. Many organisations lack the capacity to deliver major projects involving construction, engineering, or regulatory compliance. Without sufficient expertise, internal teams risk delays, cost escalation, and reduced quality, while owners assume full risk, making DIY contracting unsuitable for large-scale, highly regulated, or capital-intensive infrastructure projects. (Flyvbjerg & Gardner, 2023).

Hybrid Contracting Models: Balancing Control and Flexibility

Hybrid contracting models blend elements of internal delivery with external specialist packages and represent a middle ground between turnkey integration and multicontract flexibility. This model allows owners to retain control of strategic elements—such as

governance, systems integration, design leadership, or risk management—while outsourcing specialist tasks that require unique expertise or significant labour. Hybrid methods support adaptive governance, enabling organisations to adjust scope, sequencing, or contract relationships as projects evolve (Brady & Davies, 2014). This approach is increasingly prevalent in modern megaprojects, reflecting a shift toward collaborative delivery systems.

The success of hybrid contracting depends on effective interface management, as integration challenges arise when internal teams and external contractors operate according to different assumptions or organisational cultures. Turner (2009) emphasises that hybrid approaches must establish clear boundaries of responsibility to reduce ambiguity and conflict—a lesson reflected in the early stages of the London 2012 Olympic programme. Although multicontracting dominated venue delivery, strategic oversight, stakeholder engagement, and programme integration were retained internally by the ODA. This structure initially led to coordination issues, including delays in site preparation and utility diversions that resulted in almost a year of rescheduling between 2006 and 2007 (NAO, 2008). Additional cost pressures stemmed from design integration challenges, exemplified by the Aquatics Centre’s increase from an estimated £75 million to around £269 million (NAO, 2012). However, once governance was strengthened and integration roles clarified, the hybrid model stabilised the programme, enabling on-time delivery and over £1 billion in savings within the £9.298 billion budget (GOV.UK, 2012). This demonstrates that hybrid contracting is most effective when internal strategic control is paired with disciplined coordination across external partners. This reinforces the view that hybrid contracting succeeds not through contractual balance alone, but through the deliberate design of integration and oversight roles.

Conclusion and Recommendations

In reviewing turnkey, multicontract, DIY, and hybrid contracting models, it is evident that each approach carries distinct advantages and limitations shaped by organisational capability, project complexity, and risk appetite. Turnkey contracts provide predictability but limited flexibility in evolving environments. Multicontracting promotes innovation and

specialist input yet requires mature governance to manage interfaces effectively. DIY delivery enhances strategic control and organisational learning but exposes owners to significant delivery risks. Hybrid models offer a balanced solution, though their success depends on clear responsibility boundaries and disciplined coordination. Ultimately, organisations should align contracting decisions with strategic maturity, strengthen governance frameworks, build internal project management capability, and draw lessons from past megaprojects to improve delivery outcomes. Overall, the analysis demonstrates that contracting strategy is fundamentally a governance decision, with project outcomes shaped more by organisational capability than by contract form alone.

From these insights, several recommendations emerge: contracting strategies should align with organisational maturity and project characteristics, supported by strong governance systems—particularly in multicontract and hybrid arrangements—to ensure effective coordination and interface management. Organisations should continue building internal project management capability to better integrate contractors and embed systematic learning from past megaproject successes and failures to strengthen future project performance.

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