

Essence And Benefits Of Contracting In Project Management

BA (Hons) Business Management

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Introduction

Project management (PM) involves planning, executing, and closing projects to achieve specific goals within constraints like scope, time, and budget. Contracts in PM determine how work is outsourced or managed, influencing risk, cost, and efficiency.

This essay examines four contracting methods Turnkey, Multicontract, DIY, and Multicontract + DIY, contextualizing their suitability for project types, merits, demerits, and real-world examples to guide selection in construction and engineering.

Project management is now a critical driver of business success and economic growth, with around 40 million project management professionals worldwide and a projected need for about 2.3 million new project-oriented roles each year through 2030, according to PMI's latest talent gap analysis (author, 2018).

Project management provides the structure, discipline, and accountability needed to turn strategy into results in a complex, fast-changing world. It ensures that projects are properly planned, risks are managed, resources are used efficiently, and stakeholders are aligned, which directly improves the chances of project success (Bordio, n.d.).

Organizations rely on project management to deliver digital transformations, infrastructure programs, regulatory compliance, and sustainability initiatives, making it a strategic function rather than just an operational one. Without effective project management, projects are far more likely to fail due to poor planning, unclear goals, and unmanaged risks.

As of 2025, the global project management profession includes nearly 40 million skilled professionals in project-oriented roles. This workforce is larger than the global population of software developers (about 25 million) and nurses (about 30 million), highlighting how central project management has become across industries (Pande, 2025).

In the United States alone, there are over 426,000 people working as project managers, according to recent labor market data. Globally, the number of people in project-oriented jobs is even higher and continues to grow rapidly.

PMI's 2025 Global Project Management Talent Gap Report estimates that:

- The current global project management workforce is about 39.6 million professionals in 2025.
- By 2035, organizations could require up to 65 million project professionals to keep pace with growth and change.
- In a conservative scenario, the workforce is expected to grow from 39.6 million in 2025 to about 58.5 million in 2035, representing roughly a 48% increase over ten years.

This implies an average annual growth rate of about 3.5–4% in the global project management workforce over the next decade, depending on the region and industry (Meller, 2025).

Projected annual growth and talent gap

PMI projects that the global economy will need to fill around 2.3 million new project-oriented roles every year through 2030 to meet demand. Without sufficient growth in the talent pipeline, the world could face a shortfall of up to 25 million project professionals by 2030, and up to 29.8 million by 2035.

Key drivers of this growth include:

- Massive digital transformation and IT modernization programs.
- Large-scale infrastructure investments, especially in fast-growing economies (South Asia, Sub-Saharan Africa, China).
- Regulatory changes, sustainability initiatives, and healthcare modernization.

Industry and regional demand

Demand for project management talent is rising in almost every sector, with the highest projected growth in:

- Construction (50–66% demand growth by 2035).
- Manufacturing (49–65% demand growth).
- IT services, healthcare, and energy/infrastructure sectors.

Regions with the largest projected talent gaps include China (up to 13.6 million shortfall by 2035) and other emerging economies where infrastructure and digital projects are scaling rapidly.

Putting it together, the impact of project management today can be summarized in key figures:

- 40 million project management professionals worldwide in 2025.
- 2.3 million new project-oriented roles to be filled each year through 2030.
- Projected workforce growth of 48% from 2025 to 2035 (from ~40M to ~58–65M).
- Potential talent gap of up to 29.8 million project professionals by 2035 if supply does not keep up.

These numbers show that project management is not just a support function, but a core engine of economic growth and organizational resilience in the 2020s and beyond (Davis, 2025).

Contracting Methods

Turnkey contracting delegates full responsibility to one contractor for design, procurement, construction, and handover of a ready-to-operate facility. Turnkey suits complex, time-sensitive projects like power plants where clients lack expertise, as one entity manages everything.

Multicontract splits work among multiple specialists, with the client coordinating. Multicontract fits customized projects needing specialist input, such as high-rises with unique architectural features.

DIY relies on the client's in-house team for execution. DIY works for straightforward, low-risk projects like internal office renovations where clients have capacity.

Multicontract + DIY combines external specialists for complex parts with internal handling of simpler tasks. Multicontract + DIY applies to resource-variable projects like mixed-use developments balancing cost and control (Group, 2025).

Project Type	Suitable Method	Rationale
Power Plants	Turnkey	Single-point accountability for tech integration
High-Rise Buildings	Multicontract	Specialist firms for structure, MEP
Office Fit-Outs	DIY	Internal teams handle familiar scopes
Mixed-Use Developments	Multicontract + DIY	Outsource facades, self-manage landscaping

Project Suitability

Project type dictates method choice based on complexity, client expertise, timeline, and risk tolerance. High-complexity projects like industrial facilities favor Turnkey for integrated delivery, reducing coordination errors. Customized or innovative builds, such as bespoke hospitals, suit Multicontract to leverage niche experts despite coordination challenges.

Simple, repetitive projects like warehouse expansions align with DIY, minimizing external costs for capable clients. Hybrid Multicontract + DIY fits phased projects like urban infrastructure, outsourcing engineering while internally managing site prep. In fast-track scenarios, Turnkey excels; budget-constrained ones prefer DIY. Client experience matters—novices choose Turnkey, experts opt for Multicontract or DIY.

Real-World Examples



Turnkey: HS2 Tunnels in UK

The United Kingdom's ambitious HS2 high-speed rail project strategically employed Turnkey contracts for its most challenging tunnel sections, allowing specialized contractors to assume comprehensive responsibility for critical infrastructure components.

Notable among these was the Align Joint Venture, a powerful consortium formed between Italian construction giant Webuild and Spanish infrastructure leader Ferrovial, which successfully managed the intricate design, boring, and lining operations under carefully negotiated fixed-price agreements.

Despite facing significant geological challenges and technical complexities inherent to large-scale underground construction, this 2025 project segment achieved a remarkable milestone by delivering fully operational tunnels precisely on schedule, demonstrating the effectiveness of the Turnkey approach in managing risk and ensuring accountability (BDC Magazine, 2025).

Advantages include timeline compression via overlapped phases and risk transfer, saving HS2 15% on overruns.

Disadvantages: Limited client tweaks led to scope disputes, inflating initial bids by 10-20% due to contingency.

Multicontract: Crossrail Elizabeth Line

Elizabeth line

Remaining opening stages



- 1 24 May ■ Paddington to Abbey Wood
- 2 Autumn 2022 ■ ■ Continuous East to West services
- 3 May 2023 Final timetable introduced

Source: Crossrail 2022
(Low, 2022)

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London's Crossrail employed Multicontract, splitting £15bn into 50+ packages, separate firms for stations (e.g., Laing O'Rourke), signaling (Siemens), and tracks. Completed 2022 but **delayed to 2025 full ops**, it allowed specialist optimization like Bombardier's custom trains.

Key challenges included navigating dense underground infrastructure and repeated delays. Tunnels had to weave through existing Tube lines, utilities, and building foundations, often within centimetres, demanding precise boring and ground stabilization.

Signalling systems failed to sync with new trains, causing years of postponements, alongside station fit-outs like Bond Street lagging badly. Constant design changes, poor access to work fronts, and safety incidents like fatal truck collisions compounded progress issues (Edwards, 2022).

Merits: Tailored quality, cost competition per package cut 5% overall.

Demerits: Coordination failures caused £2bn overruns from interface clashes.

DIY: Google's Internal Data Centers



(Mairura, 2025)

Google's Teesside Data Center Campus in the UK represents a major proposed expansion on the former Redcar steelworks site at Teesworks, potentially becoming Europe's largest digital infrastructure hub with nearly 500,000 square meters of development space.

Google typically employs a DIY modular strategy for data centers, leveraging in-house engineering teams for custom design and rapid assembly, as seen in prior European projects like those accelerating AI infrastructure.

In the Waltham Cross facility, opened in 2025 as part of a £5 billion investment, Google deployed modular cooling plants and global central utilities buildings designed in-house for efficient, carbon-free operations. Teesside discussions highlight similar DIY modular strategies, using custom silicon and self-managing tools to bypass vendor dependencies.

Proprietary tools for self-management minimize reliance on third-party vendors, avoiding markups while ensuring integration with Google Cloud's global network and sustainability goals like 24/7 carbon-free energy. The Teesside project aligns with Google's £5 billion UK investment over two years, to deliver AI services efficiently (Jackson, 2025).

Pros: Full control ensured IP protection, 30% cost savings.

Cons: Expertise gaps delayed non-core tasks like cabling by months, straining resources.

Multicontract + DIY: Pinnacle Consulting's Revit Projects



Pinnacle Consulting hybrid-managed UK projects, outsourcing 3D modeling (Multicontract) while DIY-ing clash detection via Bluebeam Revu (Bluebeam Construction Software, 2025).

Pinnacle faces contractual challenges in hybrid-managed UK projects by outsourcing 3D modeling under multicontract arrangements while handling clash detection internally with Bluebeam Revu. A 2025 hospital fit-out project highlights this mix of external BIM specialists and in-house coordination. These approaches aim to balance cost, expertise, and control but introduce complexities in liability and integration.

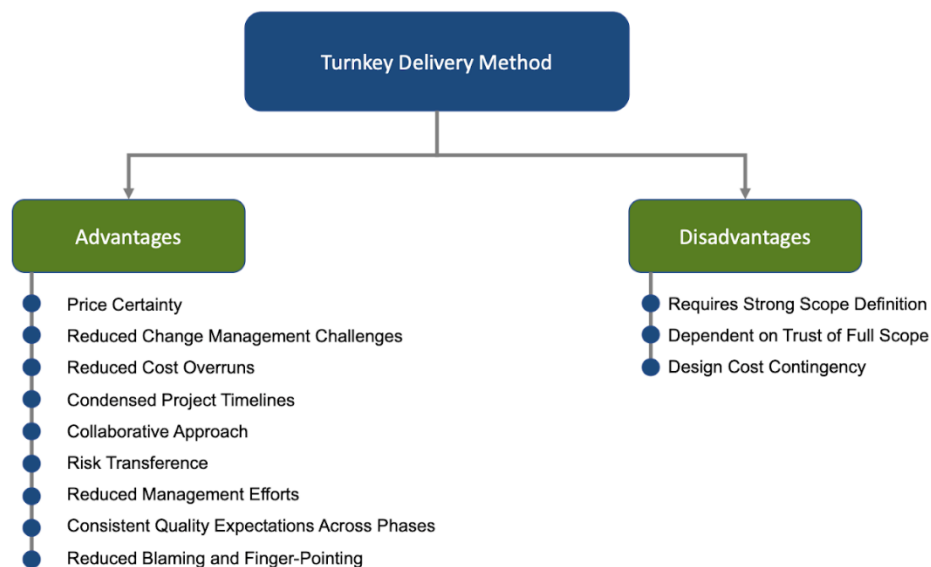
Outsourcing 3D modeling via multicontracts risks unaligned deliverables, disputes, and IP ownership issues between Pinnacle and external BIM providers. Internal DIY clash detection using Bluebeam Revu limits advanced BIM automation, potentially leading to overlooked clashes and accountability gaps during coordination. The Hospital fit-outs amplify these due to strict NHS regulations on timelines and safety.

Clear subcontract clauses define BIM model standards, clash detection handoffs, and liability sharing to protect Pinnacle's hybrid model. Bluebeam's markup tools enable real-time internal reviews, bridging outsourced models with site changes efficiently. Regular multidisciplinary sessions, as in the 2025 case, foster accountability across parties (Bluebeam, 2025).

This setup saved up to 30% in communication time for Pinnacle, boosting competitiveness in UK engineering consultancies. However, over-reliance on manual Bluebeam processes may hinder scalability for larger fits-outs. Blending external modelling with internal tools supports innovation amid 2025 BIM mandates.

Benefits: Flexibility cut clashes 40%, hybrid costs 15% below pure Multicontract.
Drawbacks: Internal-external misalignment risked 10% rework.

Advantages and Disadvantages



(www.hm-ec.com, 2023)

Turnkey advantages: Cost predictability (fixed-price mitigates overruns), faster delivery (20-30% timelines via integration), reduced client oversight.

Disadvantages: Higher upfront costs (10-25% premium for risk), inflexibility post-contract, contractor dependency. Ideal for novices on tech-heavy projects like refineries (RDash, 2024).

Multicontract pros: Specialist expertise boosts quality/innovation, competitive bidding lowers per-package costs, flexibility in changes.

Cons: Client coordination burden causes delays (up to 25%), interface risks inflate budgets 15-20%. Best for customized builds like stadiums.

DIY merits: Maximum control/customization, no profit margins (20-40% savings), speed on familiar scopes.

Demerits: Resource drain, skill gaps lead to errors/rewrites (30% rework risk), scalability limits. Suits simple projects for capable firms.

Multicontract + DIY advantages: Balances cost/control (10-20% savings), leverages strengths (external for complexity), adaptability.

Disadvantages: Hybrid coordination complexity, potential blame-shifting, moderate risks (10-15% overruns). Fits phased, mid-complexity ventures (Group, 2025).

Method	Key Advantage	Key Disadvantage	Example Project Fit
Turnkey	Risk transfer	Inflexibility	Industrial plants
Multicontract	Specialization	Coordination	Infrastructure
DIY	Cost control	Expertise needs	Renovations
Hybrid	Flexibility	Alignment issues	Developments

Conclusion

Project management has become essential for business success, with approximately 40 million professionals worldwide in 2025, outnumbering software developers and nurses.

The field requires 2.3 million new roles annually through 2030, with workforce demand projected to grow 48% by 2035 (reaching 58-65 million). However, inadequate talent pipelines could create a shortfall of nearly 30 million professionals by 2035.

Growth drivers include digital transformation, infrastructure investments, and sustainability initiatives. Construction and manufacturing sectors show highest demand (50-66% growth), particularly in emerging economies like China. This makes project management a strategic function critical for economic growth and organizational success.

Real examples like HS2 and Crossrail underscore contextual merits outweighing demerits when matched properly, optimizing PM outcomes.

Selecting Turnkey, Multicontract, DIY, or hybrid depends on project complexity, client capacity, and risk appetite: Turnkey for seamless delivery, Multicontract for expertise, DIY for control, hybrid for balance.

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