Our services and solutions for capital projects

Construction projects have become highly complex and involve several inherent risks and challenges. Managing these projects requires a wide range of skills and competencies for different functional areas including engineering, finance, planning, procurement, construction, contract administration, information technology (IT), quality, and environment, health and safety (EHS), in addition to sectoral knowledge. The challenge lies in making these multidisciplinary functional areas work together seamlessly for the efficient delivery of projects.
PwC assists its clients in managing their capital projects through a wide variety of solutions and services.

<table>
<thead>
<tr>
<th>Service Area</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project location strategy</td>
<td>Location assessment and financial modelling for project investments</td>
</tr>
<tr>
<td>Stage-gate management</td>
<td>Assessing organisational readiness for project implementation</td>
</tr>
<tr>
<td>Stressed assets confidence</td>
<td>Evaluating assets and investments for protecting and enhancing value</td>
</tr>
<tr>
<td>Digital projects</td>
<td>Leveraging digital solutions and enhancing them for efficient execution of projects</td>
</tr>
<tr>
<td>Project delivery through intelligent controls</td>
<td>Building and sustaining an environment that puts client in control of their projects</td>
</tr>
<tr>
<td>Independent project review (IPR)</td>
<td>Providing independent and objective insights on project status and health</td>
</tr>
<tr>
<td>Procurement and contract lifecycle management</td>
<td>Managing procurement process and contracts with stakeholders</td>
</tr>
<tr>
<td>Construction equipment management</td>
<td>Improving efficiency of plant and machinery (P&amp;M) assets across projects</td>
</tr>
<tr>
<td>Project recovery solution</td>
<td>Step by step recovery approach for devising &amp; implantation of recovery plan</td>
</tr>
<tr>
<td>Dynamic Project Modelling Tool</td>
<td>Establish a dynamic project model to “maintain” or “reduce negative variance” in project viability during the project lifecycle till the Project gets commissioned</td>
</tr>
</tbody>
</table>

Our team is equipped to deliver value to stakeholders – government officials, developers and operators, contractors, fund managers, investors and corporate development executives.
Managing capital projects

Project location strategy

PwC assists its clients in identification and selection of an optimal location for greenfield investments, according to their requirements. We also study regulatory and policy aspects to assess various incentives provided by the Central and state governments and associated statutory rules and regulations.
PwC recommends a holistic assessment of the value chain and related elements that affect the techno-economic viability of a project. The key parameters that need to be examined before taking any investment decision are:

- Adequate market
- Product pricing
- Connectivity
- Future demand
- Government regulations
- Reasonable budget and time

How do project owners evaluate the attractiveness of a location for the project and translate the vision for expansion into action in line with the market scenario?

**Our proposed value addition**

### Location assessment

1. Understand project specifications and make a list of alternate project locations
2. Analyse alternate project locations and identify and shortlist them
3. Evaluate shortlisted locations based on our assessment model
4. Conduct due diligence (evaluating incentives and favourable regulations, labour availability, utility cost and supply chain efficiency)
5. Conduct impact assessment (scenario analysis)

### Feasibility analysis

1. Market assessment: Assess the basic health of this industry and future opportunities and challenges.
2. Technical assessment: Work with technical partners to seek/validate all critical technical input parameters.
3. Block cost estimates: Prepare a preliminary project cost.
4. Financial modelling: Assess the economic feasibility of a project, structuring of project finance and conduct sensitivity analysis.

**Impact**

- Improve the probability of success in projects
- Assist in taking a go/no-go decision
- Cost savings potential during the set-up and development phase

**Case studies**

PwC has provided project location assessment and feasibility analysis for leading manufacturing firms:

- Location selection and feasibility for a new export-oriented formulations manufacturing plant
- Location identification and feasibility for a pharmaceutical manufacturing facility
- Location feasibility for a manufacturing plant in Jordan
- India entry strategy for a South American pump manufacturer
- Market assessment and block-cost estimates for the construction of a heavy engineering plant
Managing capital projects

Springboard

Springboard helps organisations ensure they get the most from their capital projects by establishing the capability, frameworks and processes to provide the roadmap for achieving project outcomes.
### Typical challenges

The early stages of a major project are critical to its successful completion. Organisations need to take control, which becomes a real challenge when embarking on a project for the first time, or taking on a project of unfamiliar complexity.

### Our proposed value addition

<table>
<thead>
<tr>
<th>Springboard helps organisations that are:</th>
<th>How Springboard can assist organisations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. embarking on a complex and challenging project</td>
<td>1. Defining the project: Bringing clarity to the objectives and benefits, developing robust requirements, scope, costs and timelines.</td>
</tr>
<tr>
<td>2. unsure of how to bring their vision to reality or struggling to define a clear path ahead</td>
<td>2. Building the organisation: Shaping and embedding an organisational operating model that is capable of seeing the project through delivery and into operation.</td>
</tr>
<tr>
<td>3. in need of clarity on whether they have the right people, processes, systems and governance to deliver a project successfully</td>
<td>3. Getting in control: Establishing the short-term capability, governance and monitoring frameworks needed for the project to evolve from the development to delivery phase.</td>
</tr>
<tr>
<td>4. seeking to relaunch or reinvigorate a project that has lost direction, momentum or focus.</td>
<td>4. Holistic assessment of risk: Conducting quantitative analysis of internal and external risks associated with the initiative and assisting in developing a mitigation strategy.</td>
</tr>
<tr>
<td>5.</td>
<td>5. Developing contracting strategy: Aligning with project objectives, scope and risk to minimise claims.</td>
</tr>
</tbody>
</table>

### Impact

- Clear path to success
- Building capability and frameworks to deliver
- Risks flagged early and confidence in readiness

### Case studies

PwC is assisting a leading original equipment manufacturer (OEM) engaged in the manufacturing of track machines for periodic maintenance of railway tracks in assessing potential opportunities in a new line of service.

How we helped:

- Provided Market Overview of the sector in terms of potential opportunities, implementation challenges, regulatory overview, collaboration options for bidding.
- Developed a risk mitigation plan based on a thorough analysis of internal and external risks associated with the project.
- Established a revised operating model and capabilities required to cater to new services in terms of resources, monitoring frameworks and contracting strategy.
Managing capital projects

Stage-gate management

PwC assists businesses/project owners and engineering and construction (E&C) firms in developing and implementing a stage-gate strategy through incorporation of decision points and controlling the progress of projects/investments.
Typical challenges

Managing a vast portfolio of projects can be challenging and firms need to have a streamlined approach in managing these portfolios and have a forward-looking plan to allocate resources in an effective manner. Usual challenges include:

- Lack of insights for prioritisation of projects
- Inadequacy of forward planning
- Ineffective resource allocation in projects

Our proposed value addition

Identifying key risks at each stage and mitigation measures for those risks and providing structured, systematic and progressive action points for undertaking implementation of capital projects. The typical stages in a project are:

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
<th>Stage 5</th>
<th>Stage 6</th>
<th>Stage 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiation</td>
<td>Justification and scope refinement</td>
<td>Detailed design and engineering</td>
<td>Project procurement</td>
<td>Construction</td>
<td>Operation</td>
<td>Benefit realisation and close out</td>
</tr>
</tbody>
</table>

PwC’s tested and proven 3D (design, develop and drive) methodology will enable our clients to proactively drive the project towards achieving business objectives.

Design

Define stage-gate process by identifying various stages, preparing a responsibility matrix and finalising the timelines for stage-gate reviews.

Develop

Develop stage-gate review methodology, which includes review framework and assessment mechanism.

Drive

Collate, review and analyse data, conduct in-person discussions with various stakeholders and prepare a report of findings with recommendation and action points.

Impact

- Transparent assessment to provide project status and future readiness
- Empowered senior management to take timely action in targeted areas for performance improvement
- Improved front-end planning, resource mobilisation and risk-mitigation plan
- Dynamic monitoring and management response at each stage

Case study

PwC is currently conducting stage-gate review for a leading airport developer for projects across India.

- **3 projects**
  - 1 greenfield, 2 brownfield projects
- ~ **INR 16,500 crore** (USD 2 billion)
- Total value of projects
- **15 stages**
  - Each project has 5 stages

How we helped:

- Systematic interface management between different functions, reducing timelines for engineering review & handover/ takeover with operations
- Progressive updation/ reduction in contingency budgeting based on Risk workshops
- Adoption of Value Engineering ideas for cost reduction
Managing capital projects

Independent project review (IPR)

PwC assists by providing an independent point of view on project statuses, providing a definite view on key problem areas and identifying improvement opportunities with a recommendation on course correction, thereby enhancing the overall capital project performance.
Typical challenges

In India, approximately 30% of the capital projects experience cost and schedule overruns during their course of implementation, as per data published by the Ministry of Statistics and Programme Implementation. Key reasons for these delays include:

- Scope creep
- Inaccurate baseline
- Procurement delays
- Low labour output
- Underestimation of budget
- Regulatory challenges

How do project owners and E&C firms ascertain whether the projects are on track for timely completion and overcome these issues to deliver the intended objectives?

Our proposed value addition

Assessment parameters and analysis shall vary depending upon the size, complexity and stage of the project.

<table>
<thead>
<tr>
<th>Planning</th>
<th>Implementation</th>
<th>Closure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key activities during the planning stage:</td>
<td>Key activities during the implementation stage:</td>
<td>Key activities during closure stage:</td>
</tr>
<tr>
<td>• In-depth review of project schedule regarding dependencies, float, critical path and hard constraints</td>
<td>• Review of the schedule, critical path, resources and milestones</td>
<td>• Assist in delay analysis for extension of time (if applicable)</td>
</tr>
<tr>
<td>• Review of project budget and recommendations on contingency planning</td>
<td>• Develop revised schedules and resource plan as per prevailing site conditions</td>
<td>• Review of operation and maintenance (O&amp;M) manual (if applicable)</td>
</tr>
<tr>
<td>• Assessment of incumbent project monitoring and reporting frameworks</td>
<td>• Review of actual cost incurred and develop estimate at completion (EAC) and variance analysis</td>
<td>• Review of full and final invoices of sub-contractors/vendors</td>
</tr>
<tr>
<td>• Evaluation of project risks and a risk management plan</td>
<td>• Review of project risk and updation of the risk register based on revised scores</td>
<td>• Review of bulk material reconciliation, financial instruments and payment compliance, i.e. collection of all outstanding and change orders</td>
</tr>
</tbody>
</table>

Impact

- Improved margins through identification of cost reduction, avoidance or recovery opportunities
- Adherence to the project schedule and timely completion of projects
- Contractual compliance by sub-contractors, vendors and suppliers

Case study

PwC is assisting a Central Government ministry in conducting an independent review of export oriented infrastructure projects being funded by them.

PwC assisted a PPP concessionaire in ascertaining the accurate cost of construction for their under construction four-lane highway project.

Number of periodic reviews of projects: > 65
Estimated value of projects reviewed: > INR 1,500 crore (USD 214 million)
20% of cost variance – proactive identification
Combined value of projects being reviewed:
Managing capital projects

Stressed asset management

PwC’s Stressed Asset Confidence provides insights into the correct value of the asset, identifies drivers that can help protect and enhance asset value through providing insights on potential risks and helps in developing a preservation/enhancement plan.
Typical challenges

On their path towards growth and expansion, entities may end up being financially stressed and may find it difficult to successfully deliver projects and manage assets in hand, thus posing a risk to their sustainability. The reasons for this could be internal and external and can be addressed through interventions for capturing value.

Our proposed value addition

Stressed Asset Confidence service helps organisations or financial institutions where:

- projects/ portfolios are under financial distress and are unable to meet their financial commitments, and the board is keen to understand how their value could be enhanced
- lenders find that the value of the asset is rapidly deteriorating and are keen to address low-hanging fruits to arrest the downslide
- investors/ lenders are facing the dilemma of cost for completion vs further risks to capital in case of assets that are under construction.

Our approach

- **Diagnostic**: Conduct as-is assessments, create a baseline for value, diagnostics of markets, operational and financial parameters
- **Protect**: Provide expertise to evaluate the asset at both operational and strategic levels, identify potential risks and create a mitigation plan, strengthen communication channel from ground to the board to facilitate decisions.
- **Enhance**: Create a plan for value enhancement to prevent further deterioration and put in place controls and a management information system (MIS) for monitoring.

This can assist the clients in:

- increasing utilisation and contribution margin per asset
- reduction in maintenance cost over a period of time
- identification of assets that could be discarded as cost of running is higher than the replacement value.

Impact

Correct asset value and cost at completion

Protection and value enhancement

Direct line of sight of ground realities

Case study

- Advise on resolution plan of a ~1400 MW coal based power plant in the state of Chhattisgarh
- Advise on preparation of resolution plan and due-diligence for a 600 MW coal based power plant under the NCLT
- Advise on possible policy level interventions for thermal power plants for EGOM
- Advise to acquire a large portfolio of distressed renewable assets
- Due-diligence support to one of the largest IPP in India to acquire distressed renewable assets.
- Options for monetization of assets, value analysis and structuring considerations.
Managing capital projects

Procurement and contract lifecycle management

PwC assists project owners and E&C firms in assessing and improving procurement and contracts functions in a holistic manner by streamlining processes, identifying savings opportunities and using digital tools.
Typical challenges
Delays in procurement have a cascading effect on the overall project schedule and costs. Weak procurement methodology, ineffective safeguards in contracts and a lack of documentation can result in unnecessary claims and adversely impact profitability. Key issues in procurement and contract include:

- Poor communication
- Inordinate delay in approvals
- Long procurement cycles
- Lack of documentation
- Uncontrolled scope changes
- Absence of vendor scorecard

Our proposed value addition

### Procurement management support

- Analysing procurement diagnostics and analysis by assessing spend analysis, possibilities and obstacles (PO) analysis to identify wastage and deliver savings and efficiencies
- Implementing intelligent controls through process framework, standardised processes and key performance indicators (KPIs) for procurement processes
- Developing contracting strategy with aim for maximising value for money (VFM)
- Developing customised digital tools (eProcurement tools) to automate procurement processes
- Developing a vendor performance measurement system

### Contract management support

- Ensuring robust vendor compliance through development of contract execution plan
- Supporting in managing scope changes and claims management and assessing the reasonableness of claims from third parties
- Ensuring successful contract closure and handover to operations
- Managing a contract creation workflow repository and developing a clause library

Impact

- Reduced turnaround time in procurement activities
- Reduced contractual claims and effective mitigation of risk
- Robust vendor/supplier database with performance assessment for future projects

Case studies

PwC assisted a Government agency engaged in the development and management of inland waterways in India:

- 160+ Nos. Tenders and expressions of interest prepared from concept till issuance of work orders
- ~ 30% Reduction in average procurement cycle time

PwC assisted a leading EPC player in a power plant project.

- INR 6.8 crore (USD 1 million) in savings
- Assessment of claims filed by the contractor regarding schedule and terms and conditions (T&C) of the contract
Managing capital projects

Digital projects

PwC provides a range of innovative solutions and customised digital platforms that are designed to address most pressing organisational challenges. These digital platforms enhance project performance through targeted interventions aimed at reducing the process time, facilitating stakeholder coordination and improving productivity at sites.
Typical challenges

Capital projects have been struggling with similar challenges on time and have been slow to adopt digital processes and technology innovations. Digital solutions address the following typical challenges:

- Data integrity
- Delayed decision making
- Low productivity
- Manual processes
- Stakeholder communication
- Duplication of efforts

Our proposed value addition

<table>
<thead>
<tr>
<th>Project monitoring</th>
<th>Digital dashboard</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Scheduling and tracking</td>
<td>• Real-time tracking of KPIs for enabling proactive decision making</td>
</tr>
<tr>
<td>• Cost control</td>
<td>• Reduces effort on repetitive activities</td>
</tr>
<tr>
<td>• Issue/risk management</td>
<td>• Detailed package-wise analysis</td>
</tr>
<tr>
<td>• Sub-contractor performance</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>On-field execution</th>
<th>Emerging technology (Internet of things, drones and handheld devices)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Construction progress</td>
<td>• Near real-time reporting of progress</td>
</tr>
<tr>
<td>• Workfront planning</td>
<td>• Performance improvement for equipment and manpower</td>
</tr>
<tr>
<td>• Productivity mapping</td>
<td>• Reduction in material wastage</td>
</tr>
<tr>
<td>• Resource deployment</td>
<td>• Predictive planning and early warnings</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Workflow management</th>
<th>Automated workflow tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Procurement</td>
<td>• Reduced turnaround time</td>
</tr>
<tr>
<td>• Work orders and billing</td>
<td>• Reduced human errors</td>
</tr>
<tr>
<td>• Contract management</td>
<td>• Easier collaborations</td>
</tr>
<tr>
<td>• Communication</td>
<td>• Better accountability and transparency</td>
</tr>
</tbody>
</table>

PwC has developed the Quality and Inspection Solution (QIS), a web-based workflow-enabled tool that can track end-to-end quality management processes.

Impact

- Single version of truth – accurate reports across KPIs
- Reduced turnaround time and manual errors on processes
- A holistic view as well as detailed drilldown information across work packages

Case study

PwC has provided digital solutions to various leading project owners and E&C firms in India.

<table>
<thead>
<tr>
<th>Leading EPC player in India</th>
<th>A leading airport developer in India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drone for progress monitoring</td>
<td>Near real-time digital project reporter tool</td>
</tr>
<tr>
<td>Projects worth &gt; INR 2,000 crore (USD 371 million)</td>
<td>Projects worth &gt;INR 17,000 crore (USD 2 billion)</td>
</tr>
<tr>
<td>12–15% effort saved in monitoring</td>
<td>5–7% effort saved in monitoring</td>
</tr>
</tbody>
</table>
Managing capital projects

Construction equipment management

PwC assists in improving P&M productivity across construction sites by undertaking a rapid assessment to identify the root causes for low productivity of P&M assets. We further design targeted interventions such as better work-front planning, monitoring KPIs and preventive maintenance schedules aimed at improving productivity of assets and proactive monitoring of utilisation.
Typical challenges

Delay in deployment, low P&M productivity and its idling can have multiple, cascading impact on the overall project schedule and budget. Key reasons for low productivity include:

- Improper planning
- Ineffective monitoring
- Unscheduled maintenance
- Work-front unavailability
- Equipment age and condition
- Lack of skilled operators

Our proposed value addition

We undertake a streamlined approach to measure, analyse and improve P&M productivity across different categories.

**Approach**

- Collection of data through IoT sensors/devices
- Collection of data sets and their analysis for performance assessment (through KPIs) and identification of assets which are performing below the benchmark
- Field visits and interviews with project teams to assess the root causes for low-asset productivity
- Assist in preparation of a data-driven and condition-based preventive maintenance strategy
- Digital dashboards for monitoring of asset productivity and real-time information on vital statistics and KPIs
- Integration of a P&M deployment plan with the construction schedule in order to avoid idling

**P&M categories**

- Cranes and material handling
- Concreting equipment
- Construction equipment
- Project/sector-specific equipment
- Earth moving
- Production plants (concrete/bitumen, etc.)

**Sample data sets**

- Schedule shift hours
- Maintenance hours
- Breakdown hours
- Operator/fuel/lubrication cost
- Ownership period

Impact

- P&M cost savings and preventing cost overruns
- Productivity improvement resulting in optimum utilisation
- P&M performance database for future planning

Case study

PwC assisted a leading EPC player engaged in the electricity transmission and distribution (T&D), railways and oil and gas business in India and Africa in assessing its P&M productivity across project sites.

INR 15 crore (USD 2 million) savings

Identified P&M savings potential across oil and gas, railways and T&D verticals.
Managing capital projects

Project delivery through intelligent control

PwC assists in improving the project delivery through intelligent control aimed at enhancing project success parameters. We further provide handholding to drive the changes at project sites and help clients realise the intended benefits of their projects.
Typical challenges
In our experience, most capital projects run into delivery problems for reasons that are remarkably consistent and predictable. Project owners and E&C firms need to focus on the following areas to improve delivery of projects:

- **Scope management**
- **Stakeholder and communications**
- **Schedule and cost management**
- **Supply chain management**
- **Risk and opportunity management**
- **Contract, quality and HSE**

Our proposed value addition
Model implementation framework

<table>
<thead>
<tr>
<th>Process</th>
<th>People</th>
<th>Technology</th>
<th>Our fast-track approach to streamline delivery models</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Principles of front-end planning for dynamic and iterative planning and monitoring framework</td>
<td>• Capability development of project teams through workshops and focused group discussions</td>
<td>• Monitoring project progress and productivity through emerging technologies</td>
<td>Planning, monitoring and reporting framework</td>
</tr>
<tr>
<td>• Intelligent controls through streamlining of processes, RASCI, KPIs and, integration</td>
<td>• Develop knowledge management and training modules for project teams</td>
<td>• Developing e-workflow tools for procurement, contracts, quality and safety inspection</td>
<td>Workshops to discuss suggested methodology</td>
</tr>
</tbody>
</table>

Impact

- Front-end planning and proactive resolution of issues
- Reduced turnaround time on account of optimised processes
- Tracking and result driven reporting

Case study
PwC has been supporting a nodal government agency engaged in the development of inland waterways over the past five years in various initiatives/projects across sectors.

| >INR 12,000 crore (USD 1.5 billion) | Managing the portfolios of projects across India |
| ~ INR 800 crore (USD 106 million) | Two inland waterway terminals inaugurated within the schedule and budget |
| > 80 | Clients were assisted by us in their handling of contractors, consultants and suppliers |
Managing capital projects

Project recovery solution

PwC assists clients with a step-by-step recovery approach for devising new plans for projects post disruption. We assist clients with the resumption of projects without a recovery plan, as well as re-engineering and implementing plans for projects with an existing recovery plan.
Project disruptions

- Project disruption is an unforeseeable or unexpected event negatively impacting the KPI and objective of a project during its lifecycle.
- PwC can assist project owners and E&C firms by providing them with a project recovery solution that focuses on restarting a project immediately post disruption. Such a solution helps in the speedy recovery of lost time and project revenue, and ensures project continuity.
- Our solution will primarily capture major disruptions that fall under the low-probability and high-impact categories.

Key impact areas

- Increased cost
- Loss of time
- Loss of site productivity
- Workforce unavailability
- Supply chain interruption
- Contractual obligations
- Health and safety
- Abnormal weather conditions
- Pandemics
- Industrial/human accidents
- Bankruptcy/ non-performing assets (NPAs)
- Local disturbances

Our solution is based on organisational readiness to tackle a disruptive event:

- We recommend a step-by-step recovery approach for projects without a project recovery plan and re-engineering and implementing plans for projects with an existing project recovery plan.
- Our approach is based on the concepts of recover and sustain, with the aim of prioritising immediate and long-term responses.

### Scenario A – in the absence of a project recovery plan

1. **Project crisis identification**
   - Identify risk appetite and tolerance limit of stakeholders.
   - Assess details of disruption and high-level threats.
   - Prioritise threats and threat matrix (3x3 or 5x5).
   - Estimate cost and timeline for extended business disruptions.
   - Gather details of required critical resources.
   - Review of business case and DPR revaluation report.
   - Stratagem to minimise the impact of threats.
   - Make a revised supply chain management (SCM) plan and amend agreements to subdue the effects.

2. **Impact assessment**

3. **Recovery response**

### Scenario B – in the presence of a project recovery plan

1. **Re-engineering strategy**
   - Identify risk appetite and tolerance limit.
   - Assess details of existing recovery plan.
   - Re-engineer recovery plan for starting a project.
   - Prepare work performance reports.
   - Forecast time required and costs to be incurred.
   - Update schedule and cost inputs.
   - Analyse threat status.
   - Conduct vendor performance review and engage in decision making.

2. **Implementation of strategy**

3. **Testing, monitoring and improving**

Benefits envisaged

- Kick-start
- Project and operation continuity
- Minimise financial losses
- Long-term responses

Project dimensions

- Engineering
- Workforce
- Supply chain
- Procurement
- Cashflow
- Construction
Managing capital projects

Dynamic Project Modelling

PwC assist its clients in establishing a dynamic project model that maintains or reduces negative variance in project viability during the project lifecycle and until the project gets commissioned.
Premise

Large-scale capital investment projects are developed over a long duration and are often a part of an organisation’s long-term growth plans. The decision to invest in a project and make it operational could take anywhere between 2–4 years. The time period is a long one and there is a probability of variations occurring in the original premise of the investment. There is a need to maintain the validity of a project’s defined objectives till it is handed over to operations.

Objective

A dynamic project model needs to be established to maintain or reduce negative variance in project viability during the project lifecycle. Dynamic Project Modelling takes both external and internal factors into account and assesses their impact on the project. A stage-gate based approach is adopted to periodically monitor the project objectives with reference to the present status and allow the management to intervene for timely course correction.

Factors affecting project investment and decision taken during its implementation

External factors
- Market demand
- Funding
- Technology
- Sociopolitical situation

Internal factors
- Workforce
- Financial status
- Contracts

Implications

Validity of business cases
Project cost and time
Business valuation
Financial parameters
Project viability
Project completion

Outcomes of implementing Dynamic Project Modelling

Project cost and configuration optimisation based on scenario and sensitivity analysis

Optimal project execution
Resilient supply chain
Agile design and value engineering
Effective resource management
Responsive project configuration
Updated operational plan

Benefits for project owners

01 Responsive financial planning
02 Flexible growth strategy
03 Efficient risk management
04 Efficient resource utilisation
05 Validation of project objectives
06 Dynamic project planning
07 Improved decision making
08 Performance assurance

Our target is to allow the project objectives to align with and adapt to the organisation’s business growth objectives.
Our credentials

Client: Leading EPC player in India

Project description: Project management services for an 800 megawatt (MW) thermal power project in Andhra Pradesh, India

How PwC helped: Developed the project governance structure. Fast-tracked project schedules and an integrated project dashboard to facilitate decision making for the top management through exception/flash report.

Client: Leading downstream PSU

Project description: Owner’s management consultant (OMC) to be a strategic consultant for PRFCC, PP and SRU projects

How PwC helped: Conducted the technical review of front-end engineering and design (FEED) and basic design engineering packages (BDEP) for robust EPC tender packaging. Established a project management system for setting up the project and reviewed planning and technical documents.

Client: India’s largest EPC firm in terms of order book

Project description: Standardisation of a digital MIS system

How PwC helped: Defined key KPIs and drilldown features for strategic business unit (SBU) level evaluation. Developed a single source presentation for monthly review by the managing director (MD) at the group level.

Client: Leading real estate developer in South India

Project description: Business process rationalisation for project execution function.

How PwC helped: Developed roles and responsibilities based on value-added processes across project lifecycles to optimise complexities, streamline interfaces and reduce time cycle.

Client: Leading textile manufacturing firm

Project description: Project management office (PMO) advisory services for a brownfield visco-fibre expansion project

How PwC helped: Provided independent PMO planning and monitoring services. Scheduled optimisation of approximately 40 days by saving prioritisation of engineering drawings, resulting in saving of 26 days.

Client: Firm engaged in defence sector

Project description: Project management support for 3 largest defence network projects.

How PwC helped: Provided contract management support for change and claims management, and control. Set up early warning indicators — alignment of equipment delivery and construction milestone to expedite installation and commissioning.
Our credentials

Client: Prominent tyre manufacturing firm in India

**Project description:** Project management services for setting up a greenfield tyre plant

**How PwC helped:** Delayed avoidance in functional test requirement (FTR) by approximately 30 days by integrating process equipment requirements and infrastructure readiness. Flash reports and contractor’s performance evaluation enabled faster decision making.

Client: Leading chemicals firm in Gujarat

**Project description:** Monitoring of 7 ongoing projects and preparing reports for the MD and project committee/board

**How PwC helped:** Independently monitored the project and reported to the board on project KPIs of ongoing projects to optimise project performance.

Client: Special purpose vehicle (SPV) formed for execution of smart city project

**Project description:** Programme management office for smart cities in Madhya Pradesh and Chhattisgarh

**How PwC helped:** Worked on the development of a project management framework and an MIS system for tracking of area-based development (ABD) and pan city solutions (IT interventions).

Client: SPV formed by a state government

**Project description:** Programme support office for an SPV formed for development of mining affected districts

**How PwC helped:** Developed a project management framework and SOPs for approval and sanction of funds for implementing agencies. Monitored the framework to ensure that funds are being utilised in accordance with guidelines approved by the Supreme Court of India.

Client: Central Government ministry

**Project description:** Programme monitoring unit for review of export-oriented infrastructure projects in India

**How PwC helped:** Reviewed over 85 projects across India with respect to adherence towards approved project schedules, budgets, quality and safety compliance at sites.

Client: State transport department

**Project description:** Redevelopment and regulation of transportation infrastructure

**How PwC helped:** Set up project management units, turkey processes and monitoring for development and implementation of projects across the country, prioritising projects, procurements and overall facilitation for the sector.
At PwC, our purpose is to build trust in society and solve important problems. We’re a network of firms in 157 countries with over 276,000 people who are committed to delivering quality in advisory, assurance and tax services. PwC refers to the PwC network and/or one or more of its member firms, each of which is a separate legal entity. Please see www.pwc.com/structure for further details.

For more information about PwC India visit us at www.pwc.in

About PwC's Capital Projects and Infrastructure team

PwC’s Capital Projects and Infrastructure team is a specialist business unit focused on delivering projects and programmes within a stipulated time and budget. To date, we have assisted our clients from public and private sectors in delivering projects worth an aggregated value of over INR 1.6 lakh crore (USD 23 billion).

Our team includes qualified engineers, architects, urban planners and financial experts to serve the full asset lifecycle. The team has significant work experience in urban infrastructure, real estate, industrial manufacturing, oil and gas, power, ports and inland waterways, airports, roads and highways, metals and mining, railways and Government programmes.

Our aim is to assist our clients in maximising profitability and ensuring project delivery by adding value across each stage of a project lifecycle, i.e. from concept to commissioning.

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