NIGERIAN INSTITUTE OF QUANTITY SURVEYORS
The professional construction cost managers.

NIQS NATIONAL CONFERENCE & AGM (EKO 2022)
Theme: INFRASTRUCTURE COST MANAGEMENT: CONTEMPORARY ISSUES AND EMERGING TRENDS

Venue: The Podium Lekki, 124 T. F. Kuboye Road,
By Oniru Market, Lekki Phase 1
via 2nd Roundabout,
Lekki-Epe Expressway, Lagos.
Tuesday 22nd to Saturday 26th November, 2022

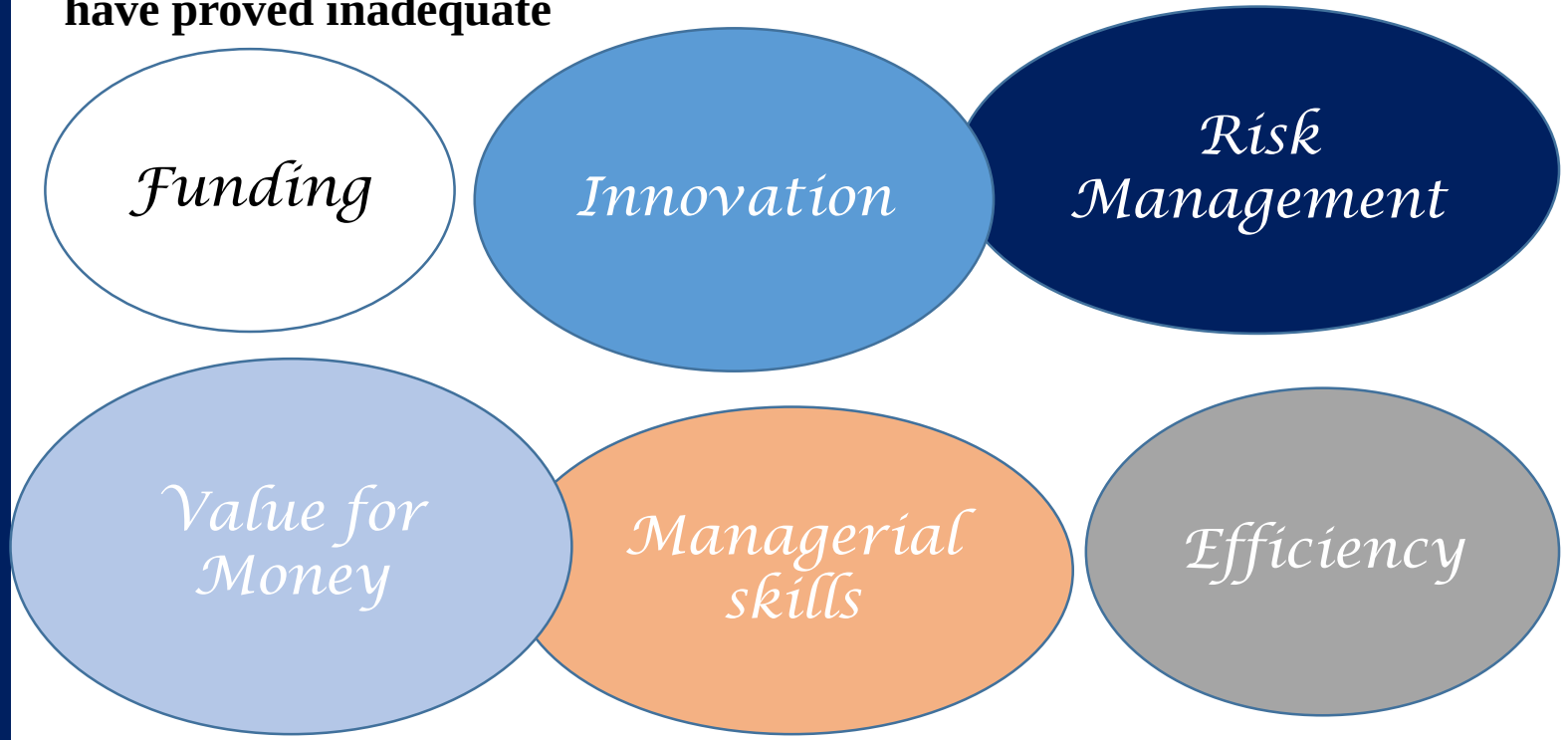
Sub-theme: Alternative Methods Of Infrastructure Delivery: A Quantity Surveyor's Pragmatic Perspectives

Abstract

The Traditional Methods of Procurement for 'Development Projects' have proved inadequate in terms of funding, innovation, risk management, efficiency, managerial skills and value for money. As a global challenge, resources constraints have necessitated the policy change to encourage Private Sector participation in the delivery of economic and social infrastructure and other public services hitherto provided by the public sector. Nigeria finally took a major step towards accessing the benefits of PPPs in 2005. The topic centered on **Alternative Methods of Infrastructure delivery: A Quantity Surveyor's Pragmatic Perspectives.**

Abstract

The Traditional Methods of Procurement for 'Development Projects' have proved inadequate



As a global challenge, resources constraints have necessitated the policy change to encourage private sector participation in the delivery of economic and social infrastructure as **Alternative Methods of Infrastructure Delivery from a Quantity Surveyor's Pragmatic Perspectives**

OUTLINE

- *Introduction*
- *Emerging Trends*
- *Stakeholders in the PPP Structures*
- *Contemporary Issues*
- *Taxonomy and Structures of Contemporary Procurement Methodologies*
- *PPP: Development and Structures*
- *Procedures For PPP Procurement*
- *Other PPP Procurement Issues*
- *Contract Management (Construction & Operation Stages)*
- *Cost Management as a Sub-set of Contract Management*
- *Claims Management*
- *Templates & Case Studies*
- *Recommendations & Conclusion*

References

Introduction

Physical Infrastructure is the Backbone for the Development of any Nation and the status of its:

- Power generation plants
- Airports
- Seaports
- Railways
- Road & Bridges
- Water and sanitation networks
- Power transmission & Distribution Networks

Introduction

Infrastructure projects are extremely capital-intensive in nature and exert pressure on public finances

Limited Resources at Government Disposal to Finance Infrastructure

CONTEMPORARY ISSUES AND EMERGING TRENDS

Due to Resources Constraints :

- Source for Efficient Alternative Sources of Funds
- Deploying Appropriate Cost Management Techniques
- Guarantees Value For Money
- Competitive and Transparent Procurement Methodology.
- Risk Management/ Transfer
- Policy Change to encourage Private Sector Participation

Public Private Partnerships

Introduction

Delivery of Economic and Social Infrastructure and other Public Services hitherto provided by the Public Sector via:

PPP

using efficient cost management techniques

Transparency
Competition
Accountability
Probity
Value for Money

TYPES OF PPPS ARE CLASSIFIED ACCORDING TO

Funding
- The Amount of Capital Investment coming from either Partner.

Ownership
- Could be the State, Private Or Joint

Control
- the Partner in Charge of the O & M Activities of the PPP

Introduction

- PPP Bidding Process
- Payment Mechanisms
- Revenue Regimes
- Contingency Planning
- Variation Management

Discussion Points

Cost Management Structure of Capital Expenditure (CAPEX) and Operation Expenditure (OPEX)
(in Construction & Operation Phases).

Contract Management as Concept of Cost Management at Construction & Operation Phases of PPP

TEMPLATES for:
Request for Proposal; Concession Agreement; Preliminary Project Assessment Form; Options Analysis for PPP Projects; Outline Business Case; Feasibility Study, Concession Agreement, Commercial Case, and Risk Management Checklists. To demonstrate effective PPP framework; identification, screening, and appraisal of the PPP Projects,

CASE STUDIES
of PPP Projects in:
Nigeria, Africa-wide, and World-wide

EMERGING TRENDS ?

- Governments Think and Behave in New Ways
- New Skills Required From Professionals in Construction, Financial And Legal Sub-Sectors of Economies Worldwide.

- ❖ Private-Sector Financing through Public-Private Partnerships has become increasingly popular
- ❖ As a Way Of Procuring And Maintaining Public-sector Economic Infrastructure

STAKEHOLDERS IN THE PPP STRUCTURES

- The Public Sector
- The Private Sector
- The Users of the Facility
- External Stakeholders

Contemporary Issues

Project Finance Payment Mechanism

PPP allows the Capital Costs (CAPEX) of a Public-Sector Facility to be Spread Out Over Its Life

This **cost** is either paid for by:

- Users ('**Users Pay'** for the Concession Model) instead of paying taxes

OR

- The Public-Sector Budget ("**Government Pay**" for the PFI Model) over the life of the PPP Contract

In either case Service Fees is charged

Through Project Finance mechanism under PPP principles.

It afford governments opportunities of:

- efficient and management skills of the Private Sector in managing resources.
- risks and rewards sharing associated with the provision of infrastructure

Contemporary Issues

Value for Money

Comparison of Option Or Bid, that Provides the Highest Ratio of **Net Benefits to Overall Cost.**

Comparison of different Means of delivering the Project Objectives and their **Expected Economic** and **Social Impacts** alongside their **Expected Costs.**

different **Options** or **Bids** may result in **Higher** or **Lower Risks**, or **Better Quality Outcomes**.

VS

Traditional Procurement usually selects bids on the basis of **Lowest Cost** and assumes that the **Outcomes** are the same for all bids.

Contemporary Issues

Decision of whether to procure Services by means of PPP or Traditional Procurement

- An Assessment of which option is likely to result in the Best Value for Money.
- The Best Value for Money Solution or Bid is also **Affordable** at key stages in the project **Appraisal** and Procurement Process.

How the Public Authority decides to Invest in new Public Infrastructure called Investment Decision

i. Value for Money (VfM)
ii. Affordability and
iii. Balance-Sheet Treatment.

Contemporary Issues

Infinite Infrastructure Demand Vs Limited Resources in Investment Decision

Beside the **financial measures,** to carry out **Economic Justification** when deciding if an investment is economically justifiable, a **public authority** must

- **Identifies the Benefits & Costs Of The Project, Including Its Indirect Effects.**
- **Prepares a Cost–Benefit Analysis (a key element of which is the discount rate to be applied to future benefits and costs)**
- **Calculates the Economic Return of the project.**

Contemporary Issues

Key Notes from Financial Justification

- **The Discounted Net Present Values derived from the Public Sector Comparator and Shadow Bid Models (adjusted for tax) are compared at the Public Sector Test Discount Rate to demonstrate the preferred procurement methodology – PPP or conventional procurement**

- **The expected annual payments for Viability Gap Funding or any Availability Payments are compared to the Expected Future Budgets.**

- **Payments for the Service by Users are assessed against Willingness to Pay Survey Data to ensure that the project Revenues are Realistic and Affordable.**

Contemporary Issues

SENSITIVITY ANALYSIS is conducted to gauge the financial robustness of the project (i.e. to see how changes in key assumptions impact the financials of the project). Some variables to consider are:

- Changes in construction period, phasing and project duration
- Changes in inflation rate, interest rates
- Changes in construction costs
- Changes in operating costs
- Changes in market demand
- Changes in the discount rate used in the Value for Money Analysis

Contemporary Issues

NONVIABLE PROJECTS OR RISKY PROJECTS

THE PROJECT'S RETURNS ARE NOT FOUND TO BE SUFFICIENT

THE SENSITIVITY SHOWS THE PROJECT TO BE TOO RISKY

REMEDIES

the possibility of re-balancing the net cash flows (increasing revenues or decreasing costs)

obtaining government financial support

Subsidies, Guarantees, Viability Gap Funding, etc.

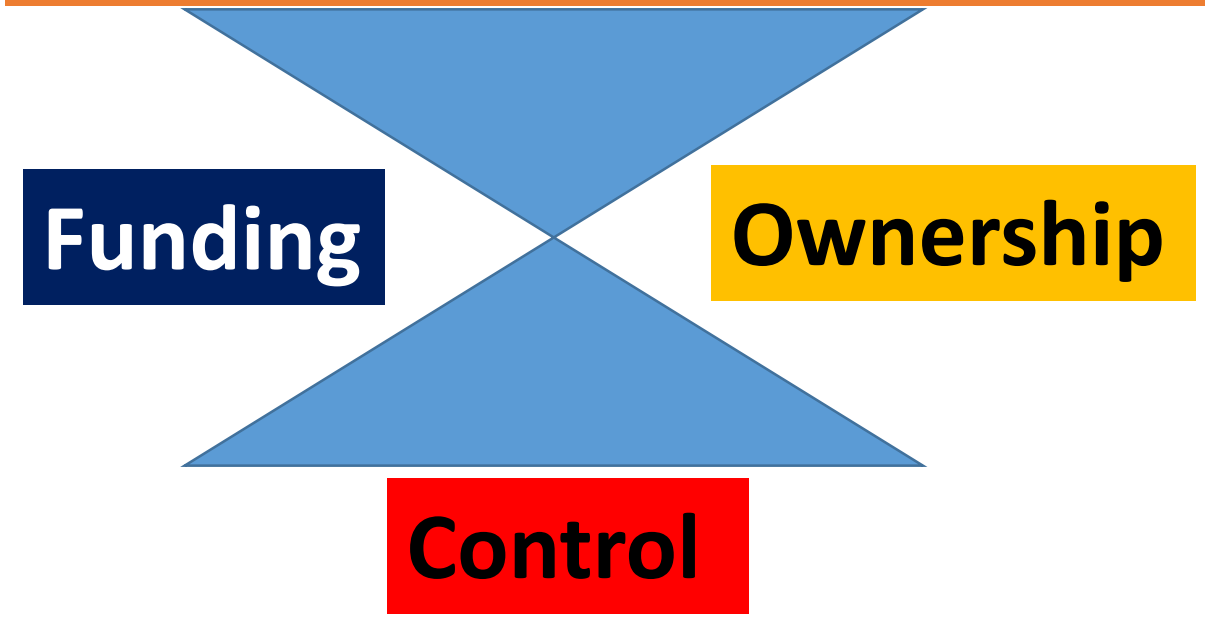
Contemporary Issues

Other Contemporary Issues

- COMPETITION
- AFFORDABILITY
- RISKS TRANSFER OR SHARING
- TRANSPARENCY
- INTERNET OF THINGS
- BIG DATA/MINING
- E-PROCUREMENT

TAXONOMY AND STRUCTURES OF CONTEMPORARY PROCUREMENT METHODOLOGIES

Classifications & Structure of PPP Arrangements



The general characteristics of the PPPs, their "Financial Models" and the "Deal Structures" are normally developed on case by case basis through the financing technique known as 'Project Finance',

Project Finance – "is a method of raising Long-Term Debt Financing for major projects. It is a form of 'Financial Engineering', based on lending against the cash flow generated by the project, and depends on a detailed evaluation of a project's construction, operating and revenue risks and their allocation between investors, lenders, and other parties through contractual and other arrangements".

Taxonomy And Structures Of Contemporary Procurement Methodologies Cont'd.

Types of Public-Private Partnerships

- **Design-Build (DB):**
- **Design-Build-Maintain (DBM**
- **Design-Build-Operate (DBO**
- **Design-Build-Operate-Maintain (DBOM**
- **Build-Own-Operate-Transfer (BOOT**
- **Build-Own-Operate (BOO**
- **Design-Build-Finance-Operate/Maintain/Transfer (DBFO, DBFM or DBFO/M**

PPPs can also be used for existing services and facilities in addition to new ones **(Brown Field or Green Field Projects)**. Some of these models are

- **Service Contract**
- **Management Contract**
- **Lease**
- **Concession**
- **Divestiture/Privatisation**

Taxonomy And Structures Of Contemporary Procurement Methodologies Cont'd.

Overview of Public and Private Provision of Infrastructure

	PUBLIC ← Public- Private Partnership → PRIVATE					
CONTRACT TYPE	**Public-Sector Procurement**	**Franchise (Affermage)**	**Design-Build-Finance-Operate (DBFO)***	**Build-Transfer-Operate (BTO)****	**Build-Operate-Transfer (BOT)*****	**Build-Own-Operate (BOO)**
CONSTRUCTION	Public-Sector (2)	Public Sector (2)	Private-Sector	Private-Sector	Private-Sector	Private-Sector
OPERATION	Public-Sector (3)	Private-Sector	Private-Sector	Private-Sector	Private-Sector	Private-Sector
OWNERSHIP (1)	Public-Sector (4)	Public-Sector	Public-Sector	Private-Sector during construction, then Public-Sector	Private-Sector during Contract, then Public-Sector	Private-Sector
WHO PAYS?	**Public-Sector**	**Users**	**Public-Sector or Users**	**Public-Sector or Users**	**Public-Sector Or Users**	**Private-Sector Offtakers, Public-Sector (5), or Users**
WHO IS PAID?	**N/A**	**Private-sector**	**Private-sector**	**Private-sector**	**Private-sector**	**Private-sector**

Notes * Also known as Design-Construct-Manage-Finance (DCMF) or Design-Build-Finance-Maintain (DBFM).

** Also known as Build-Transfer-Lease (BTL); Build-Lease-Operate-Transfer (BLOT) or Build-Lease-Transfer (BLT).

*** Also known as Build-Own-Operate-Transfer (BOOT).

(1) In all cases, ownership may be in the form of a Joint Venture between the public and private sectors

(2) Public sector normally designs the Facility and engages private-sector contractor to carry out construction on its behalf (design-bid-build).

(3) Public sector may enter into service (outsourcing) contracts (for operation and maintenance) with private-sector contractors

(4) Ownership may be through an independent publicly-owned Project Company, i.e. Public-Public Partnership

(5) The BOO Contract Form applies to PPPs in the minority of cases where ownership of the Facility does not revert to the Public Authority at the end of the PPP Contract.

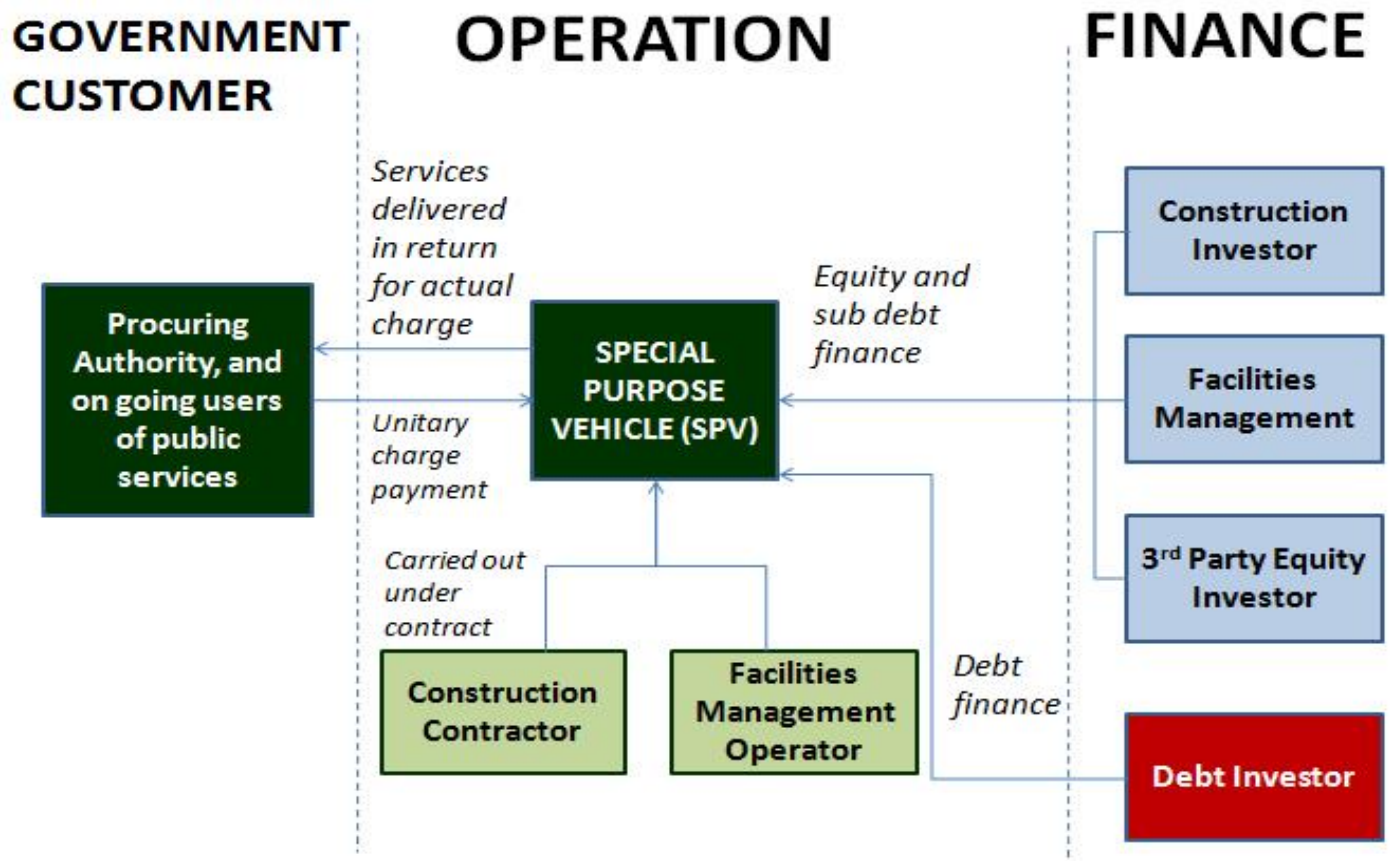
Taxonomy And Structures Of Contemporary Procurement Methodologies Cont'd.

Independent PPP Company: Special Purpose Vehicle (SPV) Structure

In a **classically pure Concessions**, private sector parties often pool skills and finances in a Consortium that will form the Project Company known as 'Special Purpose Vehicle' (SPV).

The rationale for SPVs is that the risks associated with a project are unique to that project and therefore should be limited to that project. The SPV also allows the private sector consortium to raise **Limited Recourse Funding restricted to the SPV**, thus, protecting the parent companies from the risks of project failure.

Figure 1: Independent PPP Company (SPV) Structure



Taxonomy And Structures Of Contemporary Procurement Methodologies Cont'd.

Notes:
The **capital-intensive nature of PPP infrastructure projects and the associated risks** necessitate formation of a separate independent PPP Company, called Special Purpose Vehicle (SPV). However, other simple forms of contracts between public and private sectors that are not candidates for Project Finance not considered here as PPPs are as follows:

- **In some cases, a PPP Contract may involve major upgrading of existing infrastructure rather than a 'greenfield' construction, such as acquisition or management of existing public infrastructure without any major new capital investment or upgrading is not considered to be a PPP as defined here.**

- **Similarly, private-sector provision of soft infrastructure (services), which involves significant investment in fixed assets (and hence no need for private-sector financing), falls into the category of 'Outsourcing' rather than PPPs.**

- **A simple Joint-Venture (JV) Investment between the public and private sectors is not a PPP unless linked to a PPP Contract.**

Taxonomy And Structures Of Contemporary Procurement Methodologies Cont'd.

PPPs/Concessions generally, have the following **Key Elements**

- A Long-term Contract
- Private Financing through Equity and/or Debt Finance
- Involves Construction of New Assets (Greenfield Project)
- Payments Over the Life of the PPP Contract to the Private Sector Party (Public-Sector Party (PFI Model) (Users of the Facility)
- The Facility reverts to the Public-Sector at the end of the PPP Contract (except in BOO model).
- Private Sector Party is normally a Special Purpose Company
- Public Sector monitors performance – performance-based Payment Mechanism.
- Allocation of Risks (real risk transfer to Private Sector)
- Concession Term linked to Economic Life of Asset (i.e. the tenure of the contract is such that it typically covers the entire economic life of the asset).
- Output Standards and Specifications) stated by the Public Sector

Taxonomy And Structures Of Contemporary Procurement Methodologies Cont'd.

PPPs/Concessions generally, have the following **Key Elements** Cont'd.

Viability Gap Funding / Availability Payment

Availability payments but not VGF, are also used in PPP Social Infrastructure or Soft Infrastructure Projects

The Public Sector to describe in general details in the RFP

Service Performance Standards (full set of minimum performance standards for the requested services)

Taxonomy And Structures Of Contemporary Procurement Methodologies Cont'd.

Public-Private Partnership Projects Life-Cycle

Four (4) Stages in PPP Project Life-Cycle

1. **Initial Feasibility (Development Phase)**
2. **Procurement Phase**
3. **Construction or Implementation Phase**
4. **Operation Phase or Contract Maturity**

1. Initial Feasibility (Development Phase)

It is a process that involves bringing together the following information gathered during project preparation:

- Strategic Needs Assessment
- Analysis of the Service Delivery Options
- Technical analysis of options and outline design
- Preparation of a Risk Matrix which identifies all of the project risks and allocates them to the party best able to manage them
- Financial modelling of the risk-adjusted project costs and revenues, including sensitivity and value for money analysis for government, in the form of a Public Sector Comparator
- Project viability assessment for private investors using a shadow bid model incorporating financing costs and debt service cover ratios
- Economic cost benefit analysis
- Project Implementation Plan
- Compilation of the Outline Business Case Report

Taxonomy And Structures Of Contemporary Procurement Methodologies Cont'd.

2. Procurement Phase

Pre-qualification of Bidders:

- Preparation of Bid Documents: full Request for Proposals is issued to pre-qualified bidders,
- A Special Purpose Vehicle (SPV) of Project Company is formed,
- The Public Authority's Due-diligence process is completed.
- The Investors' Equity Investment and the Lenders' funding are put in place.
- Preparation of Full Business Case (FBC) and Contract Award: OBC updated, OBC is used prior to commercial close and formal award of a contract, government via FEC gives formal approval for the contract award, conditions precedent (e.g. obtaining permits, finalization of the financing documents with time limits) are included in the Concession Agreement (CA),
- The end of the Public-Procurement Phase is known as 'Financial Close' (or the 'Effective Date'), i.e. the point at which all the inter-linked Conditions Precedent (CP) for the Project Contracts and the funding are met and construction of the Facility can begin.

3. Construction or Implementation Phase

- Once a project has reached Financial Close, the Public Authority's relationship with the Project Company is one of Contract Management
- During the Construction Phase, the Project's Debt and Equity investment are drawn down, and these funds are used to build the Facility -Service Availability Date or Service Commencement Date.

Taxonomy And Structures Of Contemporary Procurement Methodologies Cont'd.

4. Operation Phase or Contract Maturity

The period during which the Facility provides:

i. The Services required by the PPP Contract
ii. Produces Cash-flow to pay the Lenders' Debt Service, and the Investors' Equity Return.
iii. The Public Authority's contract management role continues.
iv. Exit and Transfer: completion of the contract period that leads to the natural termination of the concession agreement.
v. Transfer of land and assets back to the MDA, decision by the MDA on appropriate next steps including re-tendering the project to the private sector or in some cases extend the project term.

KEY NOTE

Throughout the above mentioned four (4) Phases, the Public Authority (MDAs) uses the Services of Specialized External Advisers. Such Transaction Advisory Services are the EMERGING SERVICE OFFERINGS WHICH QUANTITY SURVEYORS (QS) NEED TO BE RE-TRAINED TO OFFER.

BUILDING BLOCK TEMPLATES FOR STRUCTURE AND DEVELOPMENT OF PUBLIC PRIVATE PARTNERSHIPS

Project Finance for Power Purchase Agreement (PPA)

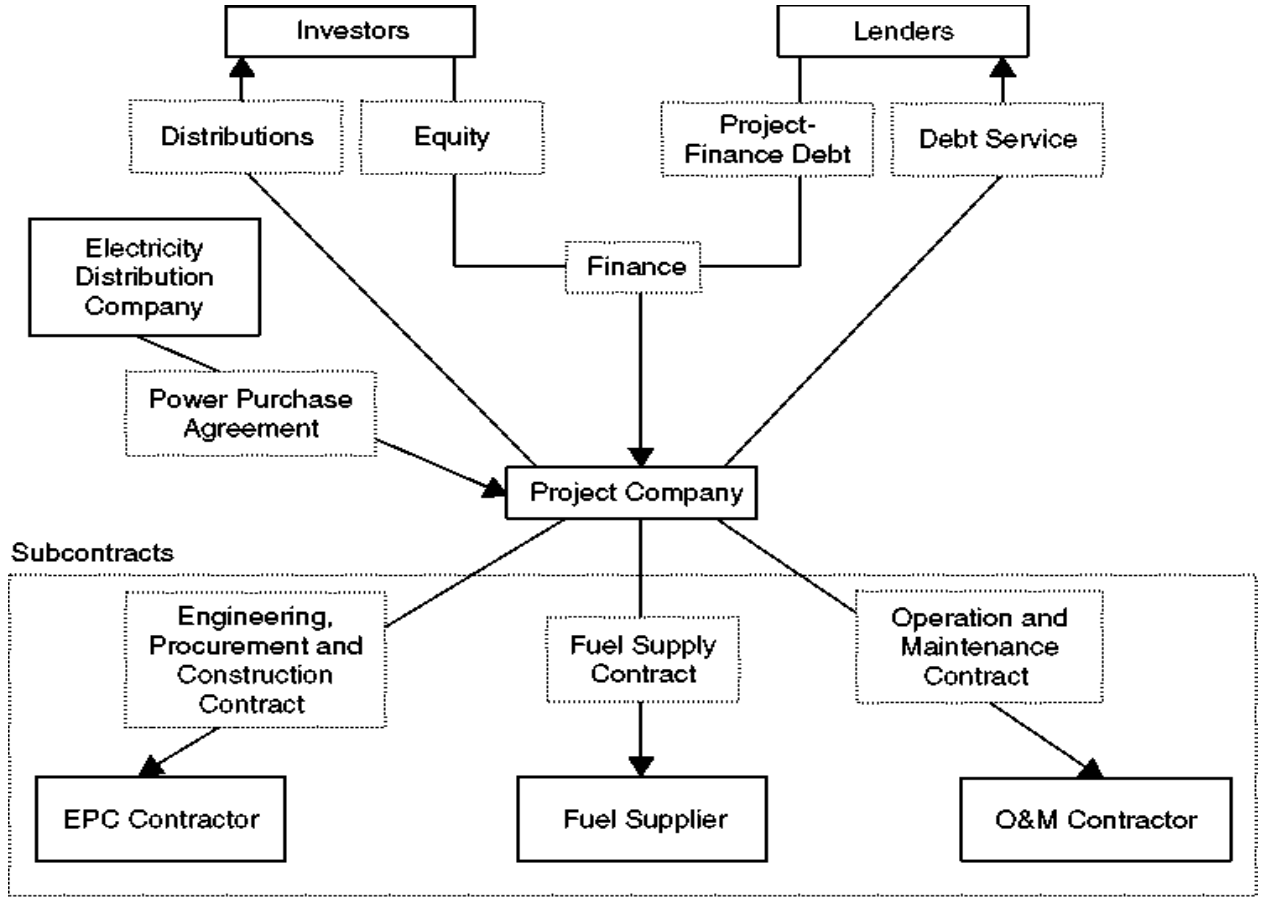
The Power Purchase Agreement (PPA), developed in the United States in the 1980s, provided the template for modern PPP Contracts. Under a PPA, the Investors are paid a 'Tariff' split between:

- **An Availability Charge** (also known as a Capacity Charge) for making their power station available to provide power to the utility - this covers the Capital Expenditure (CAPEX) involved in building the power station and its fixed Operating Expenditure (OPEX).

- **A Usage Charge** (also known as a Variable Charge) for the marginal cost of generating power as and when required by the electricity utility - this mainly covers the cost of the fuel used to generate the electricity (e.g. coal or natural gas).

Project Finance for Power Purchase Agreement (PPA) is well-suited to financing PPP projects. The project-finance structures used to fund Power Purchase Agreement (PPA) have provided the basis for funding all types of PPPs.

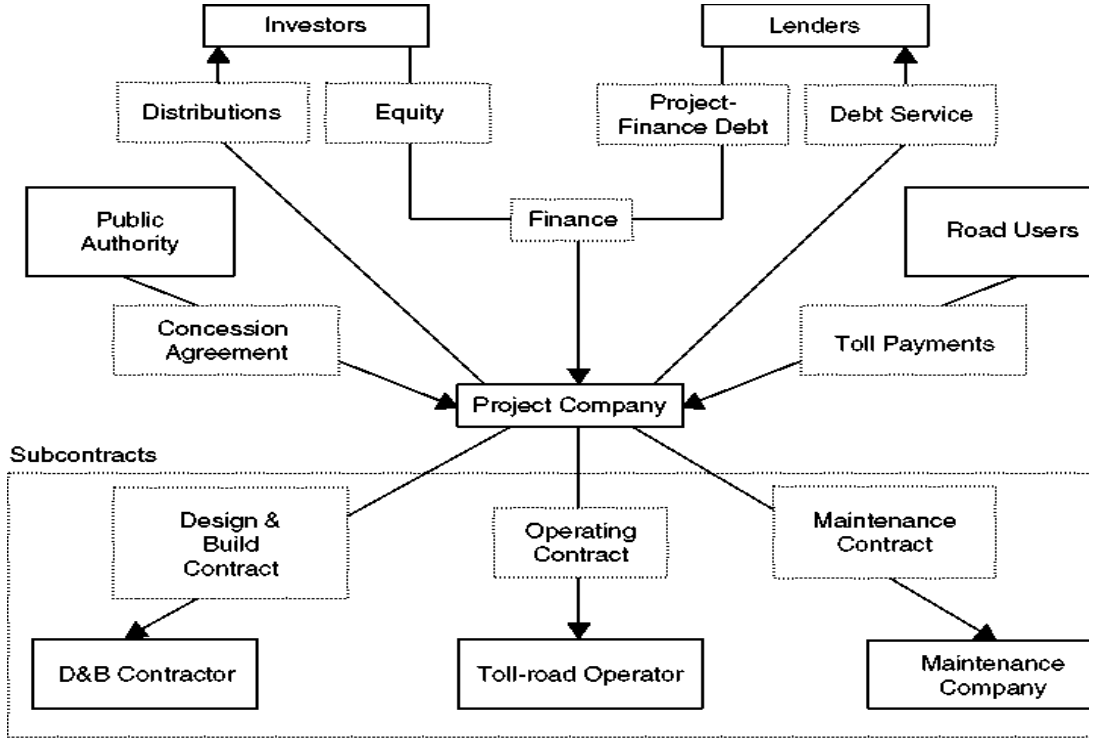
An important aspect of Project Finance is the passing of the risks mentioned above from the Project Company to Subcontractors.

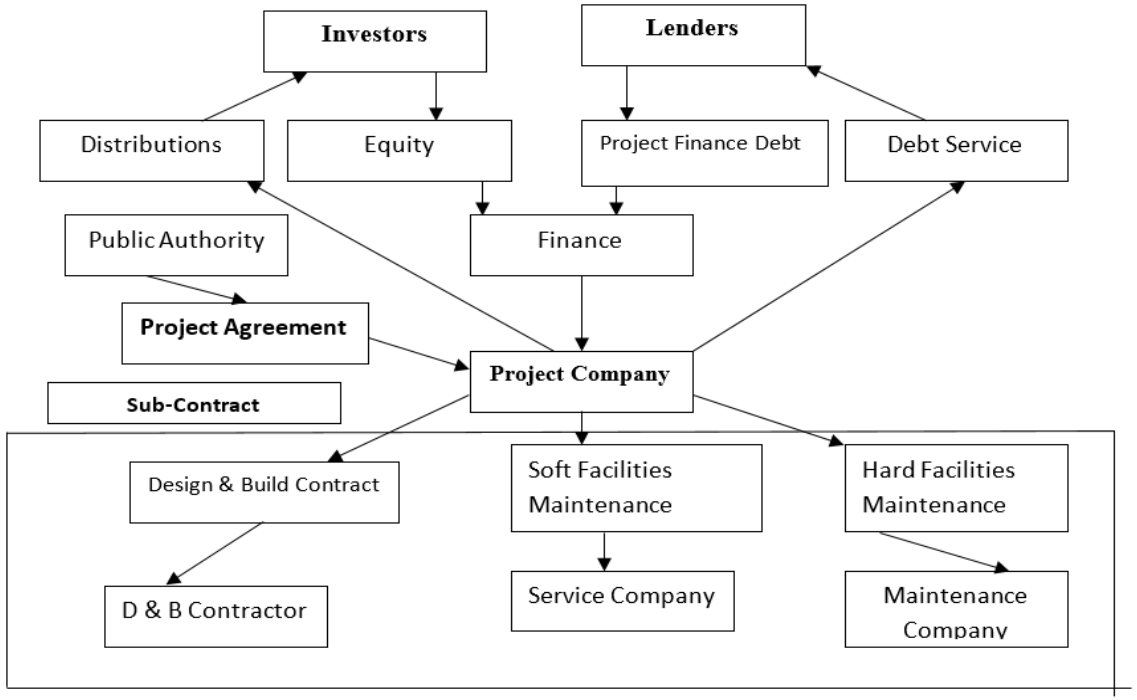


Project Finance for a Power Purchase Agreement (PPA)

BUILDING BLOCK TEMPLATES FOR STRUCTURE AND DEVELOPMENT OF PUBLIC PRIVATE PARTNERSHIPS

Project Finance for a Road Concession





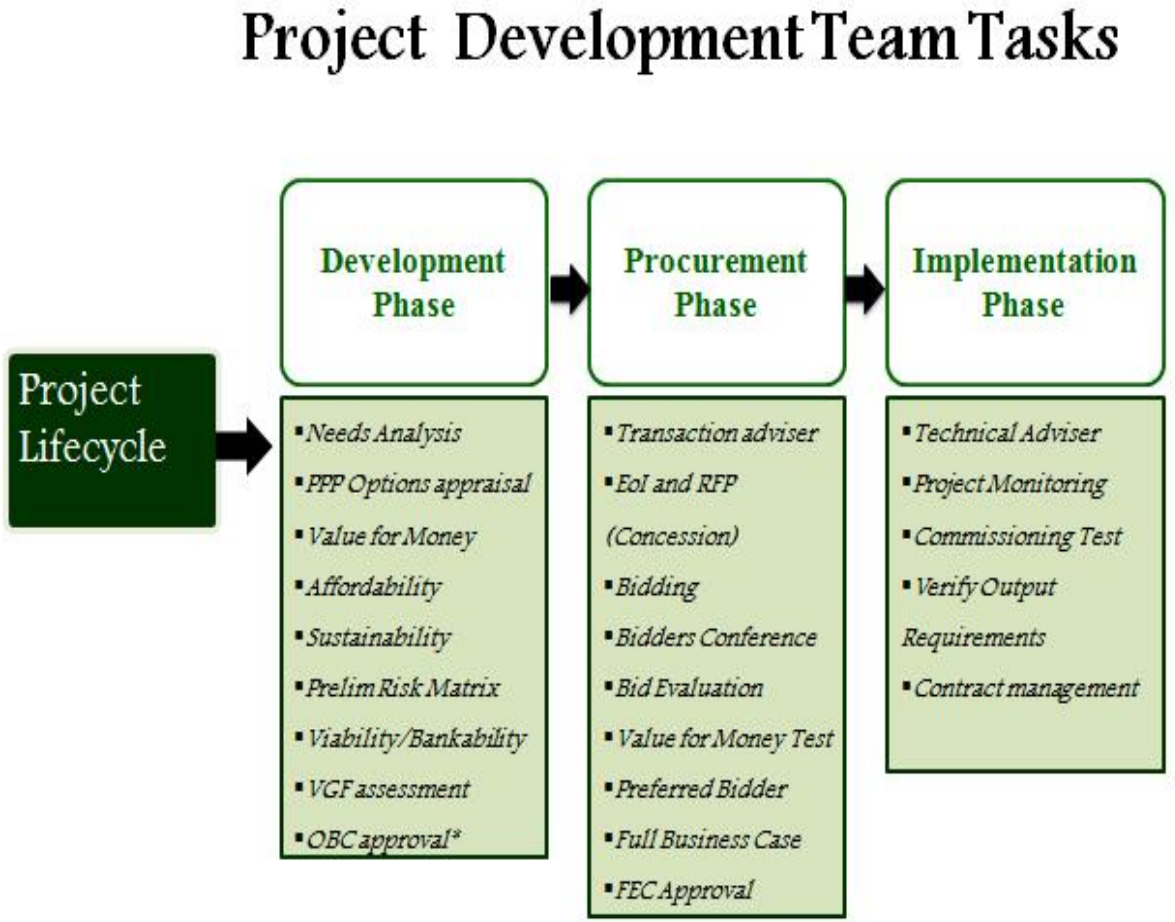
Project Finance for a PFI School Project

The 3 templates show how **"risk transfer"** fits within the main **Building Blocks** for typical

- Power-Generation Project - **Power Purchase Agreement (PPA)**
- Project Finance for a Road Concession - **Concession Agreement**, and
- Project Finance for a PFI School Project **- Project Agreement**.

(Note: The Arrows show the direction of Cash-flows.)

PPP Project Development Team Tasks



How Prepared are the Quantity Surveyors in the Project Development Team Tasks ???

Source: ICRC "PPP Manual for Nigeria" 2012

PROCEDURES FOR PPP PROCUREMENT

Notes :

- Only ***effective competition*** i.e. an efficient procurement procedure can generate VfM for the Public Authority.
- Competitive public-procurement process is a legal requirement in most countries where services are being provided to the public (as in a Concession), or a public contract is involved (as in the PFI Model).
- It is generally also required **if funding or guarantees are being provided by Multilateral Banks, such as IFC, World Bank etc.**

THE BIDDING PROCESS

Open procedure	**Market Soundings**
Restricted Procedure	Pre-Qualification
Negotiated Procedure	**Bidding Procedure & Tender Documents**
Competitive Dialogue	

THE BIDDING PROCESS Cont'd.

Market Soundings

Whatever the formal Procurement Procedure, the Public Authority needs to take some initial steps to confirm that its own view of the basic viability of its PPP project is shared by major Private-Sector Participants in the market. This is normally undertaken by making Preliminary Market Soundings, explaining the concept behind the project. Clearly the Public Authority needs to ensure that no party is given an advantage through having been involved in these soundings, and in some cases the best way to do this may be to hold an Open Public Meeting. In parallel with this, Stakeholders need to be kept fully involved.

Bidding Procedure

There are a variety of names for the Tender Document package, depending on the nature of the bidding procedure:

i. ***Restricted Procedure*** - Invitation to Tender (ITT), Invitation to Bid (ITB) or Request for Proposals (RFP)

ii. ***Negotiated Procedure*** - Invitation to Negotiate (ITN), or Project Brief

iii. ***Competitive Dialogue***—Invitation to Competitive Dialogue (ICD)

THE BIDDING PROCESS Cont'd.

Tender Documents

The Tender Documents are accompanied with an information package which sets out, e.g.:

i. General Legislative and Policy Background
ii. Project raison d'être (the most important reason for the project e.g. project objectives).
iii. Service Requirements
iv. Support to be provided by the Public Authority, either financial or through building a connecting road
v. Data on the Market e.g. Traffic Flows for PPPs where Usage Risk is being transferred to the Private Sector
vi. Draft PPP Contract i.e. (Concession Agreement (CA)), including risk-transfer provisions (Risk Register), Performance Specifications and Proposed Pricing Formula
vii. Programme for Site Visits, Bid Meetings, and Procedure for Clarifications
viii. The Form of Bid required (ix) Bid deadline (x). Bid-Evaluation Criteria (xi). Overall Project Timetable.

Bidder's Response

The Bidder's response to the Tender is likely to be required to cover issues (each response carries Weighted Scoring Percentage) such as:

i. **Technology and Design**
ii. **Construction Programme**
iii. **Service Standards and Delivery**
iv. **Details of Subcontracts and Subcontractors**
v. **Management Structures for both the Construction and Service Delivery/Operation Phases**
vi. **Quality and Safety-Assurance Procedures**
vii. **Commercial Viability (e.g. traffic or demand projections for a Concession)**
viii. **Insurance Coverage**
ix. **Project Costs (x). Financing Strategy and Structure (x) Qualifications or Proposed Amendments to the Proposed Draft PPP Contract i.e. CA (xi). Proposals for the Service Fees.**

Communication with Bidders

The same information should be made available to all bidders, e.g. by:

i. Holding Bidders Conference and site visits which all attend,

ii. Copying written answers to questions or issues raised by one bidder to all of them, without indicating who asked the original question.

iii. Bidders should be given a specific point of contact

iv. Where discussions with Bidders during the Bidders Conference lead to modifications in the Bid Requirements - in such cases, the Bid Schedule may have to be delayed to give Bidders enough time to deal with these modifications. On the other hand, Bidder Confidentiality (Confidentiality Agreement) has to be respected, e.g. where there may be several different solutions to executing the project.

Bid Evaluation

A method is needed to compare the Bids with each other, and Bidders need to understand clearly what they have to do to produce the Best Bid. There are various approaches for comparing the Bids:

Price Comparison

If the bids can be submitted on virtually identical bases then the final decision may be a question of simply comparing the ***Service Fees***, although it may be necessary to discount the amounts payable in future to an NPV to compare like with like.

The choice of a Discount Rate for this purpose will obviously affect the result. Though adjustments have to be made to address the price comparison, proposed Terms of the PPP Contract, Risk Transfer or bids that are considered to be over-ambitious in their projections of Performance or Financing Plans.

Bid Evaluation

Contract Term

An alternative approach, especially for Concessions, is to fix the Service Fees and then ask Bidders to bid for whatever "Term of PPP Contract" they require - obviously the shortest Bid wins. Variants on this approach are to leave the Term open-ended, and terminate the PPP Contract when:

a. The **rate of return** (IRR) required by Bidders is achieved - here the ***lowest required rate of return*** wins the Bid; or
b. The NPV of Revenues required by Bidders has been reached - here the Bidder ***with the lowest required NPV of Revenues*** wins the Bid.

But all these approaches raise similar issues to a simple price comparison.

Bid Evaluation

Level of Subsidy

Some Tenders are not based on the basis of the price to be charged for the service, but the ***level of subsidy*** to be provided by the Public-Sector. This approach is relevant if the Bid relates to a Concession where it is known that Service Fees will not produce sufficient revenue to cover the funding required for the project. Conversely, bids may include payments by the Bidders instead of to the Bidders.

Commercial Viability

When evaluating Bids, it is always worth stepping back and considering whether the Bidders' Proposals make Commercial sense i.e. if the Bid is accepted, ***"would the Facility be provided on viable terms for all parties" - Investors, Subcontractors, the Public Authority and End-Users?*** Contracts that give a disproportionate advantage to one side are vulnerable as an aggrieved party will obviously make use of any flaw in the contract to get out of an unduly onerous obligation.

Post-Bid Negotiation

Post-Bid Negotiations (*i.e.* after the Public Authority has appointed a Preferred Bidder) should not happen in the Restricted Bid procedure, and are undesirable, even if permitted, in the Negotiated procedure. Such negotiations can sometimes drag on for long periods of time.

Early Warning: Any significant delay between appointment of a Preferred Bidder and Financial Close almost inevitably leads to rises in project costs, and hence in the Service Fees.

Bid Award

Fairness and Transparency in the Bidding Process are essential. If Bidders do not understand or trust the process, or do not believe there is a genuine competition in which they have a good prospect of winning, it is evident that the best results will not be achieved. Thus, a full and detailed record should be kept of the Bid comparisons and why a particular Bidder was chosen (indeed, this is often a legal requirement). *It is a common procedure for the losing Bidder to be given a briefing on why the winner was chosen in preference.*

OTHER PPP PROCUREMENT ISSUES:

The following are other PPP Procurement issues of importance to be addressed in the PPP Project Life-Cycle Process

- Funding Commitments
- Lenders' Due Diligence
- Bid Consortium Changes
- Bonding
- Payment of Bid Costs
- Legal Challenges
- Unsolicited Proposals

- Public Authority's Due Diligences
- Project Design
- Subcontracts
- Financing
- Financial Close
- **Contract Management**
- Project Design

- Subcontractors
- Construction Supervision
- Acceptance
- Operation Phase
- Final Maturity, Residual-Value Risk and Hand-Back

CONTRACT MANAGEMENT

CONTRACT MANAGEMENT of the Construction and Operations Phase are structured to achieve COST **MANAGEMENT** of Capital Expenditure and Operation Expenditure (in Construction and Operation Phases;

Concept of Contract Management

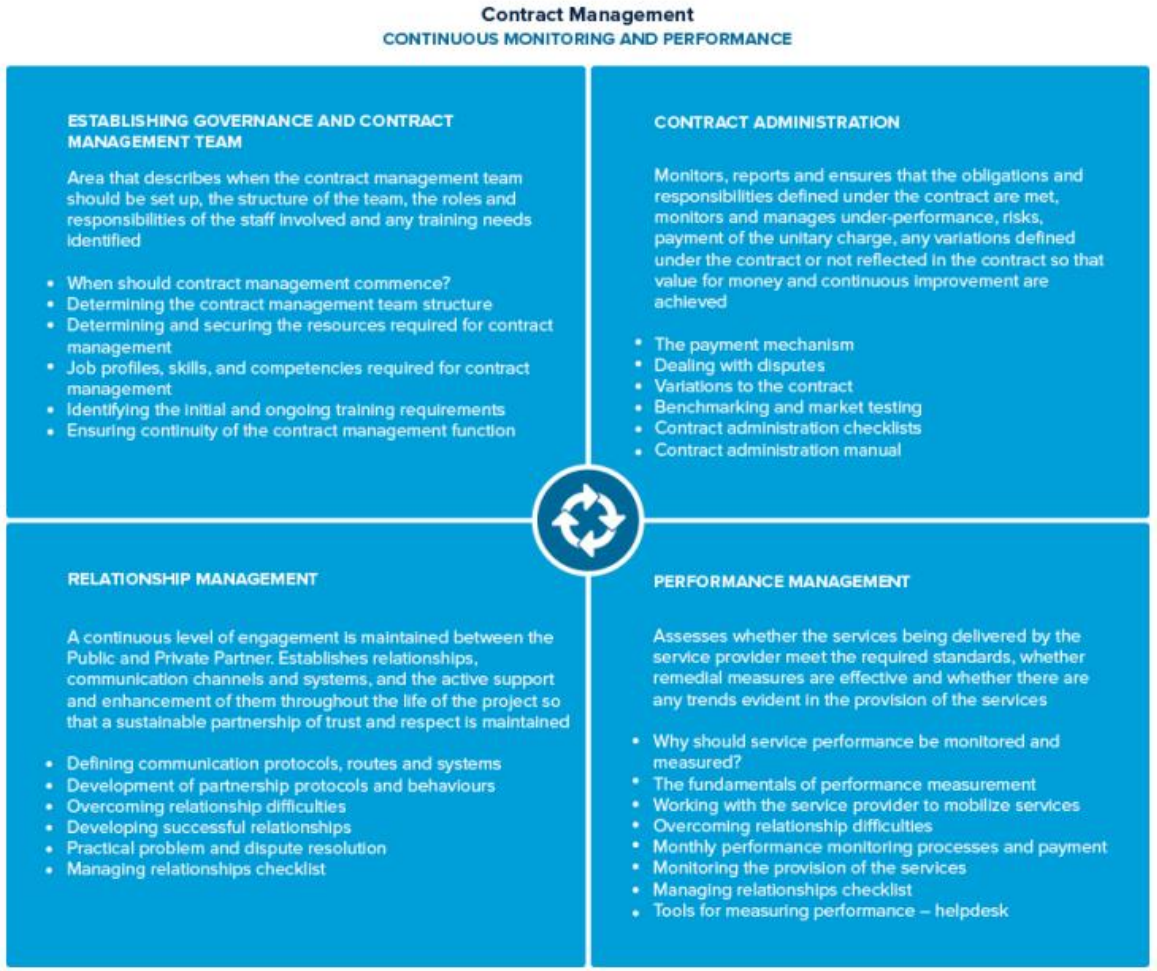
The objective of PPP CONTRACT MANAGEMENT is to obtain the Services specified in the Output Specifications and ensure enduring Affordability, Value for Money (VfM) and appropriate Management of Risk Transfer. From a private partner management perspective, good practice in PPP **Contract Management** requires the balancing of the competing project constraints which include **Scope, Quality, Schedule, Budget, Resources, and Risks**

Payment Mechanisms & Revenue Regimes; Contingency Planning and Variation Management.

Contract Management Cont'd.

Contract management is a complex function, which consists of multiple activities. However, the primary activities can be divided into four main components:-

- Establishing governance and the contract management team
- Planning, establishing, and executing contract administration
- Relationship management
- Performance management



Source: 4Ps, 2007[5]

Four Components of Contract Management

Contract Management Cont'd.

Governance and Contract Management Team Establishment

- Value for Money generated through a PPP depends on the quality of the private partner and the government's contract management systems and teams

- risk retention on the part of the government

- minimum revenue guarantee or some other form of contractual undertaking

- it is common for the procuring authority to assume that the PPP contract will be self-regulating and self-reporting.

- The establishment of a contract management team will be influence by:

  ✓ Scale of a project or program of projects

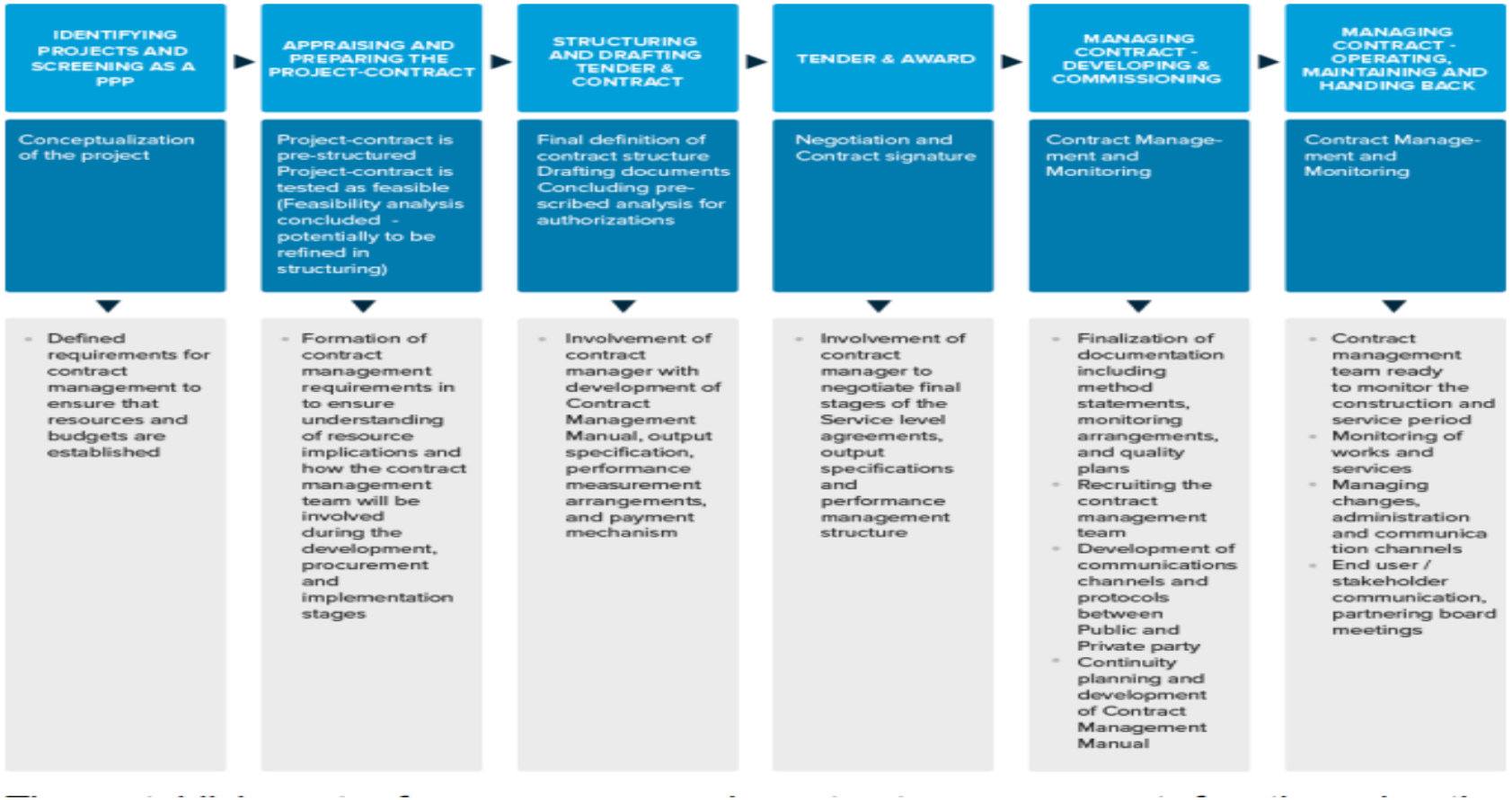
  ✓ Administrative complexity of the projects

  ✓ Extent of risk retained by the government in terms of the PPP agreement

These factors must be taken into account when designing the contract management team prior to the contract award and signing stage, as the contract management team should be involved in the stages that follow (financial close and construction).

Contract Management Cont'd.

Stages of Contract Management Activities throughout the PPP Life Cycle



KEY NOTES:

*In the Project Identification and Screening Phase, the contract management requirements should be defined and operational, and budgetary requirements should be discussed and agreed.

*During the Appraisal Phase, the contract management function should be described in detail.

*During the Structuring Phase and the Tender Phase, representatives of the future contract management team should be involved

Contract Management Cont'd.

KEY NOTES:

*to assist and be introduced to the operational requirements and outputs of the project to provide the **monitoring tools and manuals** for later stages of constructing, commissioning, and operating the asset.

- **At the end of the Tender Phase**, the contract management team should be in place, and the final documentation (including method statements, monitoring arrangements, and quality plans) should be completed and finalized

KEY NOTES:

*It is common in PPP projects for the **majority of the project team for the Tender and Award Stage to leave the project following the award or financial close.**

*Putting the contract management team in place **prior to the end of the Tender Phase** can therefore be an important means of preventing a loss of knowledge about the project

*

KEY NOTES:

*The private partner often faces similar issues, **as its bidding team will move on to prepare bids for other projects** and can use a similar approach to prevent a loss of project knowledge.

Ref. to Text:

- The Importance of Contract Management during the Construction Phase
- Main Stages of the Construction Phase
- Approach to Performance Monitoring
- Roles and Responsibilities of the Government during the Construction Phase

Contract Management at Construction Phase

The Role and Responsibilities of the Private Partner within Contract Management

- the reporting system of the private partner complies with the government's requirements
- information management systems are compliant with the needs of the government
- the private partner should set up a Quality Management System (QMS) through which the process and procedure of documentation issuing, and monitoring of service and performance is recorded.
- the government not get involved in the actual decision-making and execution, as the risk transfer will be affected

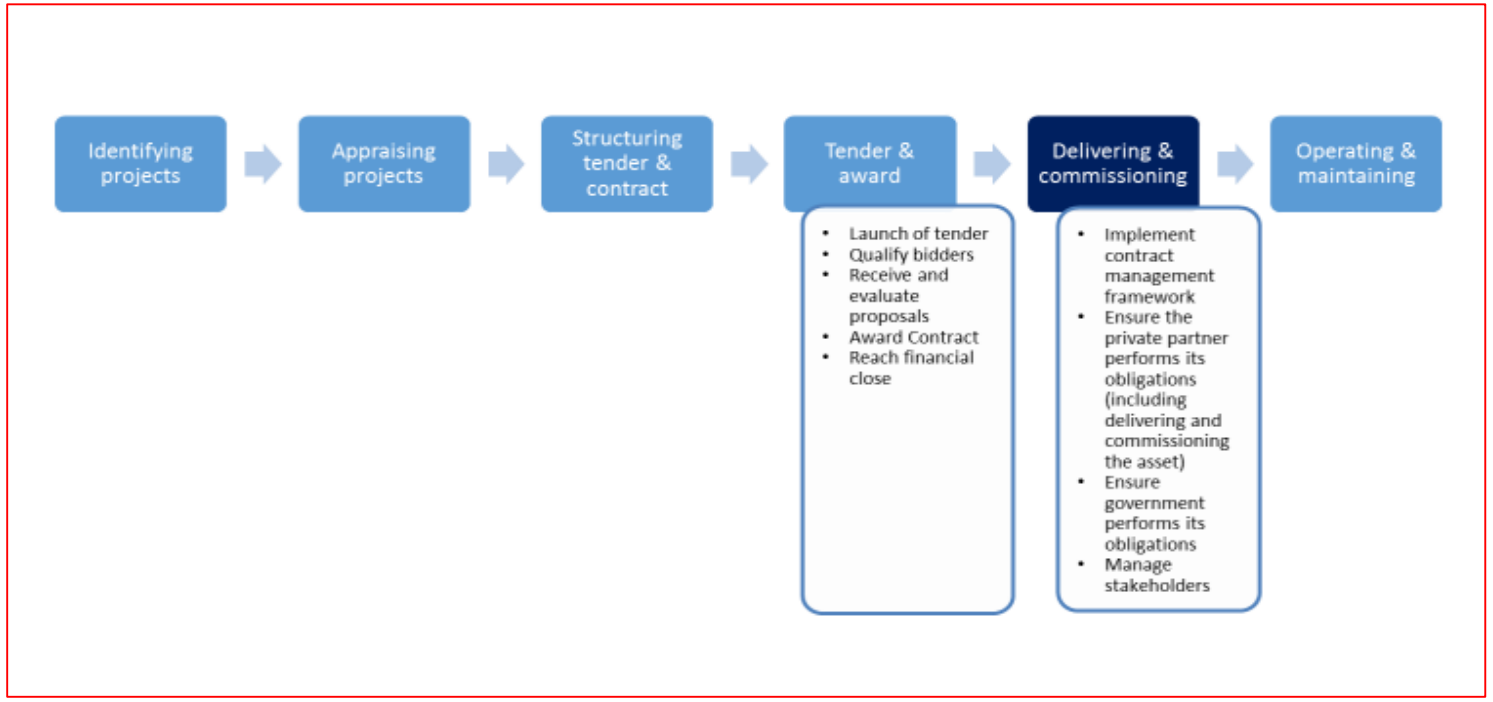
Areas in which the government should be prescriptive

- Changes in shareholding
- The ability of the private partner to perform its obligations with suitable experienced and qualified personnel
- Changes in the financial structure of the private partner, such as distributions made by the private partner and refinancing
- Reporting requirements in terms of timing and contents of such reports.

Contract Management at Construction Phase

Where We are in the PPP Process Cycle

Once the PPP contract is signed and financial close has been achieved, the Construction Phase commences.



Contract Management at Construction Phase

The Contract Management Team must undertake a range of regular monitoring tasks during the Construction Phase

- Monitoring against the schedule.
- Monitoring against the scope (and any agreed variations)
- Monitoring performance and compliance with applicable laws and regulations
- Quality control and materials monitoring
- Daily relationship monitoring with the private partner.
- Stakeholder reporting and management.

Roles and Responsibilities of the Government during the Construction Phase

The government should carefully consider the resources that it will require following contract signature, but prior to the asset becoming operational. In addition to the contract management resources, the team is likely to include the expertise outlined

Contract Management at Construction Phase

Resources and Skills from the Government Side Required during the Construction Phase

Role	Responsibilities	Time Input
Project manager	Manage and coordinate the Construction Phase.	Full-time role depending upon the size and scale of the project.
Quantity surveyor / commercial manager	Control cost and manage contractual interface issues with the contractor.	These skills could be combined with the project manager role.
Facilities Management (FM) specialists	Establish the effect of any changes on operating period regime (including costs) and aid the transition to operations.	Part-time role, but the input will be more intensive over the last few months of construction. These skills could be combined with the project manager role.
Architect	Monitor the building progress/quality of work and manage the fit-out process from the governmental perspective.	Full-time role depending upon the size and scale of the project.
Specialist practitioner in the field of development (for example, a health/education advisor)	Liaise with stakeholder groups, manage the change and, if applicable, ensure that the specialist aspects of the work are moving forward in line with the project and stakeholders' objectives.	Part-time role depending upon the size and scale of the project.
Information and communications technology (ICT) resources	Manage the interface between project and government systems, and assist during commissioning.	Part-time role with the most intensive input required towards the end of the construction period.
Legal support	Monitor any developments that may impact on the agreed contract and assist in cases of dispute.	Ad hoc support as required.
Administrative support	Provide support to the project manager and wider team.	Full-time role depending upon the size and scale of the project.

Roles and Responsibilities of the Independent Certifier

In many countries (and most of the common law jurisdictions), the PPP contract provides for the hiring of an independent certifier (sometimes called the Independent Engineer) who is an expert in terms of the type of the project.

This person will be responsible for certifying that, in his/her professional opinion, the Construction Phase and the Commissioning Phase have been satisfactorily completed in compliance with the PPP contract.

A Certifier is also responsible for issuing a certificate that starts the Operations Phase and the right of the private partner to collect or receive revenue from users or the government.

Ref. to Text for other roles in different juridisctions

COST MANAGEMENT AT CONSTRUCTION PHASE

Cost **Implication** Oversight

- As the Construction Phase progresses, the private partner are paid
- Where the government makes a capital contribution, payment must match the progress made by the construction contractor in completing the construction works.
- Payments are typically made against Milestones that are pre-agreed and part of the PPP contract

At each Milestone, it is necessary for evidence to be provided that the work has advanced to the required stage and is of adequate quality to meet the Output Specification

The Independent Certifier often plays this role if the government is making milestone payments, otherwise the Lender's technical agent will certify that the Milestone has been achieved and permit the drawdown of more debt by the private partner.

The monitoring of costs at each Milestone is also a factor in the provision of security by the construction contractors as well as in the calculation of termination payments in cases of early termination of the PPP contract.

COST MANAGEMENT AT CONSTRUCTION PHASE

Importance of Cost Oversight during the Construction Phase

If the government is making a capital contribution to the project during or at the end of the Construction Phase, then it will have a strong interest in the costs incurred at each milestone achieved.

The risk it must manage is that its grant portion is applied correctly and in the sequence determined in the PPP contract (or grant agreement).

Government Capital Contributions during the Construction Phase are normally made after equity has been drawn down and at the same rate with debt draw downs

COST MANAGEMENT AT CONSTRUCTION PHASE

Where Cost Oversight is Needed

Interest of the government and the lenders is not so much linked to the correct recording of the costs, but is more about ensuring that the sequence of financing sources is correctly followed

The risk of cost overruns is typically passed on to the construction contractor and to the private partner in cases where the overruns arise from factors outside of the construction contractor's control.

Cost overruns must be funded by the private party or the construction contractor.

The government should avoid being drawn into any disputes that may arise between these two parties about such overruns. Cost monitoring should therefore be only for informational purposes for the government.

COST MANAGEMENT AT CONSTRUCTION PHASE

Explanation on Different Cost Structure Mechanisms when Constructing an Asset

The most common cost structure that arises from project finance principles being applied is that the private party is responsible for, and bears the risk of, raising all the financing required for the project.

- It then applies the financing during the Construction Phase by making payments to its sub-contractors.
- The financing sources are applied in the sequence of equity followed by quasi-equity or mezzanine debt and finally by senior debt
- Senior debt is subject to restrictions on its drawdown, including the requirement that the specified milestones have been met.
- This is to ensure that the risk that the asset is not correctly constructed is assigned primarily to the equity and quasi-equity providers
- The government grants can be applied, in the form of assets constructed by the government, as a single payment at the end of the Commissioning Phase or at milestones during the Construction Phase.

For each, the risk profile differs and care should be taken not to disturb the risk allocation or incentives that apply in the straight-forward project finance structure.

COST MANAGEMENT AT CONSTRUCTION PHASE

Ref. to Text for other issues in Cost Management at Construction Phase

- Approval Processes
- Design Development Process
- Certifying, Inspecting, and Obtaining Approvals
- Performance Tests and Verifying Asset Suitability
- Private Party Obligations when Delivering an Asset
- Change Management in the Construction Phase

COST MANAGEMENT AT CONSTRUCTION PHASE

CLAIMS MANAGEMENT IN THE CONSTRUCTION PHASE

Notes

Well-structured PPP contracts allow for specific consequences for specific failures by one party to meet its obligations to the other party.

These failures normally give rise to a compensation event or to a breach of the PPP contract, not to a general claim for damages.

Therefore, it is possible for a party to implement a form of claim on the grounds that the other party has caused it such harm or loss that it would be impossible to obtain relief without instituting a claim for damages.

It is beyond the scope of this paper to examine the legal merits of such an argument, and this section will focus on how to deal with the various forms of claims that may arise.

COST MANAGEMENT AT CONSTRUCTION PHASE

Potential Claims that might arise

Upon receipt of any claim or notice of breach, relief, or compensation event, the contract management team should follow the steps set out below

CLAIMS MANAGEMENT IN THE CONSTRUCTION PHASE

- General Claims
- Missing Scope
- Breach of Contract
- Mismanagement
- Over billing
- Improper Labor Charges
- Improper Material Charges
- Design Errors or Omissions
- Architect/Engineer Error
- Architect/Engineer Omission
- Improper Specification by Owner
- Delay Claims
- Delay Due to Owner or Contractor action or inaction
- Delay due to Improper Allocation of Resources
- Improper Acceleration Charges
- Impact Claim
- Disruption of Owner Facilities
- Interference by Owner with Contractor Means and Methods
- Disruption of Contractor Productivity (Sequencing of work and trades)
- Differing Site Conditions
- Hidden Conditions
- Differing Site Conditions than those shown on Plans and Specifications
- Abnormal. Weather Conditions

Process	Description
Identification	Determine the source of potential claim. For example, design error/omission, scope gap, documentation conflict, hidden/differing site conditions, abnormal weather, and so on.
Legal compliance check	Determine whether or not the claim has any basis in the PPP contract or in law. Consult legal resources on the matter.
Evaluate merit	Determine potential success of claims based on established legal precedent and contract documentation.
Evaluate magnitude	Determine worst case and best case magnitude from each party's perspective.
Strategy development	This may range from a settlement agreement to following the dispute resolution process

Types of Claims and Possible Preventative Solutions

Type and Cause of Claim	Claim Key Control	Preventive Solution
GENERAL CLAIMS		
Missing Scope, Breach of Contract	Contract	Provide appropriate change order and change directive procedures in a contract, and incorporate flow down of procedures to trade sub-contracts.
Mismanagement	Project Governance	Clear well-defined policies and procedures. Proper compliance with change directive and change order procedures pursuant to contract documents.
Improper Labor Charges, Improper Material Charges	Procurement	Well defined RFPs.
Over Billing	Financial	Transparent Financial Reporting.
DESIGN ERRORS OR OMISSIONS		
Architect/Engineer Error	Quality Control	Proper review and acceptance procedures for design review and work sign off.
Architect/Engineer Omission	Project Management	Integrated design management and scope change processes. Proper compliance with change directive and change order procedures pursuant to contract documents.
Improper Specification by Government	Procurement	Well defined RFPs and thorough proposal review/clarification.
DELAY CLAIMS		
Delay due to Government or Private Partner action or inaction	Scheduling	Thorough and integrated scheduling processes that utilize proper scheduling tools and techniques.
Delay due to Improper Allocation of Resources	Planning	Utilization of resource loading and manpower optimization tools for optimal staffing.
IMPACT CLAIM		
Disruption of Government Facilities	Risk Assessment	Perform Analysis and Contingency Plans in relation to high-risk scenarios.
Interference by Government with Private Party Means and Methods	Risk Assessment	
Disruption of Private Party Productivity (Sequencing of work and trades)		Develop and maintain an all-inclusive project execution plan for each phase of the project.
Differing Site Conditions		
Hidden Conditions	Contract Management	Provide proper contract language allocating risk of unforeseen conditions, differing conditions, weather, and schedule delays.
Differing Site Conditions than those shown on Plans and Specifications	Planning	During planning, conduct a thorough analysis of site conditions and engage adequate third party verification.

COST MANAGEMENT AT CONSTRUCTION PHASE

Ref. to Text for other issues in Claims Management at Construction Phase

- Dealing with Extension of Time in the Construction Phase
- Relief Events (time only)
- Compensation Events (time and money)
- Dealing with Force Majeure Events
- Process of Approvals of Claims by Private Party

CONTRACT MANAGEMENT AT OPERATION PHASE

The Contract Management Mechanisms that need to be put in place to monitor the private party's performance, legal, and financial changes that might happen over the Operations Phase. The Operations Phase in this context is taken to be the contract duration from the time that the asset has been constructed and commissioned, right through to the project exit and hand-over of the asset back to the government.

Thus, the Contract Management activities required by both parties during the Operations Phase are as follows:

- Monitoring of non-compliance and under-performance of the private partner against the output specification under the contract.
- Changes in ownership and/or transfer shares.
- Refinancing and how Refinancing Gains are shared.
- Oversight of the renewal plan, renewal investments, and renewal fund management.
- The exit and hand-over strategy.

CONTRACT MANAGEMENT AT OPERATION PHASE

GENERAL OVERVIEW

- In the previous phase, the private partner delivered and commissioned the different components of the project.
- The government implemented its contract management framework, ensured that both the private partner and the government performed their obligations, and managed stakeholder interfaces.

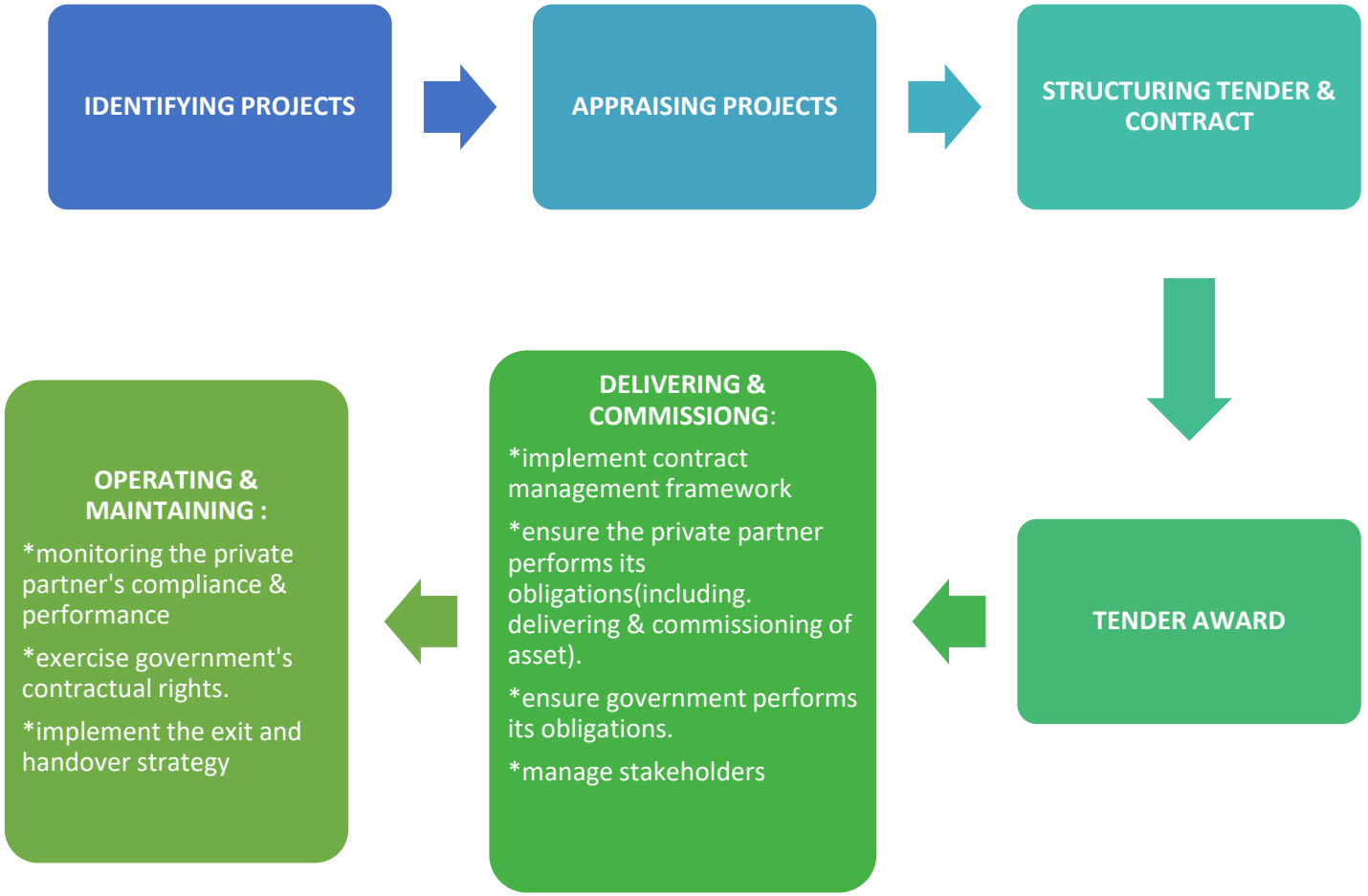
In this phase, the private partner delivers services in accordance with the output specification in the PPP contract and maintains the project assets.

- The government monitors the private partner's compliance and performance against the contract, and also exercises its contractual rights in relation to such matters as changes in the project and services, changes in ownership and/or transfer of shares in the private partner, refinancing, and infrastructure renewals.
- In the lead up to termination or expiry of the contract, the government implements its exit and handover strategy.

At the end of this phase, the PPP reaches the end of the PPP process cycle as shown

CONTRACT MANAGEMENT AT OPERATION PHASE

Where We are in the Process Cycle



CONTRACT MANAGEMENT AT OPERATION PHASE

Ref. to Text for other issues in Contract Management at Opration Phase

- ✓ Reasons behind Unsuccessful PPP Projects during the Operations Phase
- ✓ Contract Management and Administrative Process
- ✓ Payment Mechanisms
- ✓ Features of Revenue Regimes and Payment Mechanisms
- ✓ Managing the Budget during the Operations Phase
- ✓ Managing Contractual Payments
- ✓ Contingency Planning
- ✓ Force Majeure
- ✓ Termination
- ✓ Managing Renewal Funds
- ✓ Variation Management
- ✓ Changes in Ownership
- ✓ Refinancing

RECOMMENDATIONS

The Nigerian Institute of Quantity Surveyors should sustain the capacity building of its Members in Public Private Partnerships Procurement Methodology as **EMERGING SERVICE OFFERINGS WHICH QUANTITY SURVEYORS NEED TO BE RE-TRAINED TO OFFER.** via QS Academy

In view of the **RESOURCES CONSTRAINTS** , (due to global economic meltdown) the Nigerian Institute of Quantity Surveyors needs to liaison with all the **3-Tiers of Governments** in Nigeria to embrace PPP Procurement Methodology as a **Veritable** Alternative Methods of Infrastructure Delivery, by way of **POLITICAL WILL** and further encourage relevant MDAs for Institutional, Legal and Financial Framework Reforms to drive the implementation of PPP Procurement in Nigeria.

CONCLUSION

The paper focused on the **Alternative Methods of Infrastructure Delivery from A Quantity Surveyor's Pragmatic Perspectives.** Emphases were on principles of public-private partnerships (PPPs) as broad taxonomy for all forms of contemporary procurement methods, issues and emerging trends for infrastructure delivery adopting cost management techniques as a sub-set of Contract Management of PPP Procurement Methodology at **Construction and Operational Phases**.

All the contemporary issues and emerging trends raised in the paper regarding alternative **methods of infrastructure delivery should be handled differently on case by case basis,** depending on the different ways of providing public infrastructure as shown in Table 3. Appendices are veritable reference materials for practice.

Thank you for the Audience
Questions & Answers