



**INNOVATIVE PROCUREMENT STRATEGIES FOR EFFECTIVE  
INFRASTRUCTURE DEVELOPMENT**

**BY**

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# **TOPIC: INNOVATIVE PROCUREMENT STRATEGIES FOR EFFECTIVE INFRASTRUCTURE DEVELOPMENT**

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# INTRODUCTION

The development of infrastructures plays a critical role in the socioeconomic growth and development of any nation. The construction industry contributes about 10.16 percent to the GDP of our country. Currently there is estimated infrastructure deficit about \$2.3trillion requiring an investment between \$100billion and \$150billion annually over the next 30 years to close the gap in Nigeria.

The construction industry is a vibrant and ever-changing sector, constantly in search of innovative solutions to meet the demands of modern infrastructure development.

Within this dynamic environment, procurement plays a pivotal role in ensuring the timely acquisition of the resources necessary and providing the framework for the utilization of the resources for cost effective delivery of infrastructure development projects.

The world is witnessing a season of global economic meltdown and soaring prices of construction resources, it has become imperative that available fund for projects must be used in manner to achieve the best value.

# OVERVIEW OF CONSTRUCTION PROCUREMENT STRATEGY

Procurement strategy is about the choices made in determining what is to be delivered through a particular contract, the procurement and contracting arrangements (Watermeyer, 2012).

The British Standard on Construction Procurement defines a Construction procurement strategy is a “plan of action for funding, organization, management, selection and payment of supply chains for the design, fabrication and which may include the operation of constructed facilities to achieve a desired objective” (BS8534: 2011). It should include potential sources of supply, terms and types of contract / procurement, conditions of contract, type of pricing, and method of supplier selection’ (APM, 2006).

A procurement strategy identifies the best way of achieving the objectives of the project and value for money, taking account of the risks and constraints, leading to decisions about the funding mechanism and asset ownership for the project. The aim is to achieve the optimum balance of risk, control and funding for a particular project.

# OVERVIEW OF CONSTRUCTION PROCUREMENT STRATEGY (Cont'd)

A procurement strategy is developed early during the planning phase of the procurement lifecycle. One of the key objectives of a procurement strategy is to assess a range of delivery options and identify a recommended delivery model. By assessing a range of options, you can maximise value and optimise project outcomes. Procurement strategies based on strategic choices ensure infrastructure delivery in a way that maximises the value generated for society as a whole.

Therefore, this paper seeks to develop a better understanding of the procurement, to examine the procurement innovations and project organization techniques adopted to deliver cost effective infrastructure projects successfully.

# KEY ELEMENTS OF CONSTRUCTION PROCUREMENT STRATEGIES

BS 8534 (2011) identifies six variables of construction procurement to include:

- Source of funding
- Selection method
- Price basis
- Responsibility for design
- Responsibility for management
- Extent of supply chain integration.

## **FACTORS INFLUENCING PROCUREMENT STRATEGY**

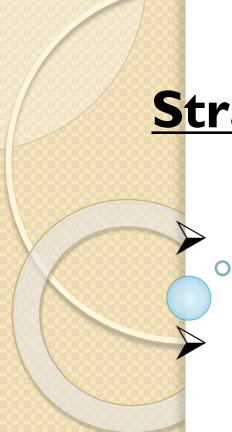
- External Factors
  - Client
- Project
- Ability to Make
- Cost Issues
- Timing

# Current Challenges in Construction Procurement

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- Supply Chain Disruptions
  - Rising Material Costs
  - Labour Shortages
  - Regulatory Compliance
  - Technological Advancements



## Strategies to Overcome Procurement Challenges

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- Diversifying Supply Chains
  - Long-term Contracts
  - Leveraging Technology
  - Enhancing Collaboration

# PROCUREMENT METHODS

Construction procurement methods are broadly drawn into two categories as: conventional procurement methods, and non-conventional procurement methods.

## ***Conventional Procurement Methods***

- Design, bid and build method (Traditional).
- Design and build method.
- Management contracting method.
- Construction management method.

## PROCUREMENT METHODS (Cont'd)

### Non Conventional Procurement Methods

Some non conventional strategies focus on client–contractor collaboration while others emphasize supply chain collaboration and integration by performance-based delivery models that may also comprise maintenance and financing.

#### Public Private Partnership (PPP)

The public private partnership is a synergy between the public and private organisation in the provision of basic social and infrastructural amenities that fundamental government responsibility. Private finance initiatives (PFIs) are ways of financing public-sector projects in a public-private partnership (PPP).

PPP program involved private companies in designing, financing, constructing and managing new public assets often called **greenfield** projects or upgrading and managing of existing facilities, **brownfield** projects. In return the private firms recover their investment and profit through long-term repayments from the government or revenue generated from the project .

However, different combinations of the construction, operation, and finance responsibilities appear in the various options and there are also often different patterns of ownership.

## PROCUREMENT METHODS (Cont'd)

### Advantages of Public-Private Partnership (PPP)

- The management abilities and financial savvy of private enterprises are employed resulting in better value for money for taxpayers.
- Relieves the government of the capital or financial burden associated with the execution and completion of public projects.
- Give room for more capital investment and greater value for money as paucity of funds cannot stop the provision of basic infrastructures.
- These partnerships also allow the government to transfer the risks associated with the infrastructure projects to private firms.
- In a situation when there are budgetary constraints, it can raise additional funding and supplement the limited public sector capacities.
- When governments are constrained in their ability to borrow money for significant projects, the PPP approach serves as an alternative.
- It enables private sector innovations and better procurement control removing bureaucracy and corruption.
- There is usually certainty about cost and enables the risks to be better managed.

## PROCUREMENT METHODS (Cont'd)

### Criticism of Public-Private Partnership (PPP)

- One major criticism of PFI is that it creates more burden for the government and the taxpayers than it ordinarily would have incurred if the project was executed by the government (repayments + interests).
- Critics of this partnership also argue that while private firms benefit more from this partnership, the government and taxpayers eventually end up in a loss.
- It is also argued that some projects do not worth the amount eventually paid for them by the government.
- Higher cost of capital is paid as government can borrow at reduced interest rates than the private organisation.

## Public-Private Partnership (PPP/PFI) Models

Public-private partnerships (PPPs) come in a variety of shapes and sizes, depending on the private party's level of investment, ownership, control, risk sharing, technical collaboration, duration, financing, etc. involvement and risk tolerance.

- BOT (Build–Operate–Transfer)
- BOO (Build–Own–Operate)
- BOOT (Build–Own–Operate–Transfer)
- BOOST (Build, Own, Operate, Subsidize, and Transfer)
- BLT (Build- Lease -Transfer)
- BRT (Build, Rent, and Transfer)
- BOLT (Build–Own–Lease–Transfer)
- DBFO (Design–Build–Finance–Operate)
- DBFT (Design, Build, Finance and Transfer)
- LDO (Lease–Develop–Operate)

## Public-Private Partnership (PPP/PFI) Models (Cont'd)

- ° DBOT (Design-Build-Operate-Transfer):
- DCMF (Design-Construct-Manage-Finance):
- ROT (Renovate Operate and Transfer):
- OMT (Operate-Maintain-Transfer):
- MCM (Management Contract Model)
- IM/IS (Investment Management and Investment Services):

## **NEW MODELS OF CONSTRUCTION PROCUREMENT (NMCP)**

One of the major criticism of the PPPs is the inability to delivery cost effective projects to public hence the need for procurement strategies that will delivery cost effective infrastructure developments.

The UK Government Construction Strategy (2011) set out to achieve savings in construction procurement of up to 20%. Reforming procurement practices to effect behavioural and cultural change underpins this effort. To this end, three new models of construction procurement (NMCP) have been trialled.

- Cost Led Procurement (CLP)
- Two Stage Open Book (2SOP)
- Integrated Project Insurance (IPI)



## **COST LED PROCUREMENT (CLP)**

- In CLP model the client organisation clearly defines the outcomes and requirements of a project in a strategic brief and Industry responds by proposing solutions and committing to **a price and a set of rules under which that price can be achieved as the final account sum**. The cost ceiling, will be seen favourably against **historical reference costs and benchmarks**. Commitment to beating the cost ceiling from the supply side is a key feature of this method.

## **TWO STAGE OPEN BOOK (2SOP)**

- The Two Stage Open Book (2SOB) model sees a number of contractors and consultant teams compete for the contract in a first stage based on an outline brief and **cost benchmark** with bidders being chosen based on their **capacity, capability, stability, experience, strength of their supply chain, and cost aspects such as overheads and profit**. The second stage commences with the successful consultant and main contractor working collaboratively alongside subcontractors and suppliers to develop detailed proposals and execution on **the basis of an open book cost** (no hidden cost) that satisfies the client's stated outcomes and cost benchmark (Mosey, 2014).

## INTEGRATED PROJECT INSURANCE (IPI)

- Within IPI model, the client appoints a project team under the guise of an 'alliance', based on aspects such as track record and capability. The alliance then operates within an environment of unrestricted collaboration to develop a project solution with savings against cost benchmarks. Such a proposal is then covered under a single insurance product, amalgamating all insurance policies held by the entire supply chain (Udom, 2012). Such insurance covers any cost overruns beyond a '**pain/gain share**' threshold split transparently within the contracted parties, removing any potential for a blame culture (Integrated Project Initiatives, 2014).

## SUPPLY CHAIN COLLABORATION

- Supply Chain Collaboration is another system of client-led improvement processes that examine specific work/supply packages in order to ensure that existing frameworks, alliances and long-term contracts achieve savings and improved value in the delivery of public sector projects and programmes of work. It does not require a new procurement and can be implemented at any time under any framework, alliance or long-term contract.

## NEW MODELS OF CONSTRUCTION PROCUREMENT (NMCP)

Some trial projects carried by the Cabinet Office in the UK revealed different levels of cost savings using the NCMP on the following projects.

Project/Value	Infrastructure	Procurement Model	Cost savings
Dudley College £11.685m	New building educational facility	Integrated Project Insurance	6.5%
Anchor Property £3.4m	General property improvement	Cost Led	9%
Project Horizon Update £100m	Highway repairs & improvement	Two Stage Open Book	12-15%
New Prison North Wales	New building Prison	Two Stage Open Book	26%
Connect Plus Sustainable Culture Model £350m	Highway asset management	Two Stage Open Book	8%
RM Lympstone £8m	New building & specialist training wing	Integrated Project Insurance	15-20%
Cookham Wood £20m	New building - Young offender institution	Two Stage Open Book	20%
Property Services Cluster – IESE	New building & refurbishment – primary school	Two Stage Open Book	14%
Supply Chain Management Group (SCMG) £202.1m	Capital housing refurbishment program	Two Stage Open Book	14%
Rye Harbour	Flood defence – replacement of failing structure /steel sheet pile retaining wall providing navigable harbour entrance channel	Cost Led	6%
Circle Housing £1.2b	Social housing repairs, maintenance & improvement	Two Stage Open Book	15%
Upper Mole £5.4m	Replacement of & extension of existing reservoir structure	Cost Led	15%

## CONCLUSION

Construction projects are often complex and uncertain endeavours that require creative problem-solving and explorative learning to manage innovation and adaptation challenges.

Furthermore, the nature of innovations and technology development in construction entails that numerous interdependent components and subsystems must be coordinated. Hence, project actors need to collaborate in joint development processes for innovations to be accepted and implemented successfully.

Procurement in construction faces various challenges in recent times, including supply chain disruptions, rising material costs, labour shortages, regulatory compliance, and technological advancements. However, by implementing effective strategies, leveraging technology, and fostering collaboration, construction industry can navigate these challenges and optimize their procurement processes.

The NMCP strategies which have shown considerable savings in the cost of project execution should be considered for adoption and integrated into the Nigerian public procurement system. The NIQS should be in the forefront of showcasing these abilities, reforms in the procurement systems and providing acceptable **historical cost data for benchmarking** which serves as the basis for **cost target savings**.



**THANK YOU**



# REFERENCES