

Strategies for Effective Procurement of Sustainable Public Building Infrastructure Projects

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ABSTRACT:

Procurement is an *organizational* process intended to ensure that the organization obtains goods, services, or works at the best possible price when aspects such as quality, quantity, time, and location are compared. Sustainable building projects seek to obtain a building infrastructure that is safe to use for the people of today and for generations to come. This work therefore studies certain strategies that shall be employed to realize effective procurement of sustainable building projects. The secondary data for the work were obtained from existing related literature, while structured questionnaire were used to obtain the primary data for this work. Key words: Building, infrastructure, Procurement, Sustainable Buildings.

INTRODUCTION:

Procurement refers to the steps necessary to acquire goods and services, inter alia, through identification and development of requirements, planning, budgeting, conducting solicitations, obtaining approvals, entering into contract negotiations, and carrying out contract fulfillment (United Nations, 2022). The increase in uncompleted and abandoned projects clustering the environment in the study area not only contradicts sustainable development but also calls to mind, the procurement methods employed to deliver such projects. Hence the need to identify strategies for effective procurement processes that would ensure sustainable building infrastructure development. Data obtained from the field study were analyzed using mean score, standard deviation and t-test.

Literature review

Sustainable buildings are basically the structures that are constructed in a manner that is environmentally and sustainable responsible (Nur, 2021). This is usually done by maximizing the use of available materials along with minimizing use of resources while making sure that the health and well-being of occupants is safeguarded.. The application of effective procurement methods helps the client engage with the market, determine optimum allocation of risk between the client organization and the supply chain, package the work to be procured and identify the most appropriate procurement model. Procurement is a dynamic process that sources the best value solution to a requirement through the sustainable allocation of risk between a client organization and its supply chain (Treasury 2021). Procurement exists to explore the market opportunities and to implement strategies that deliver the best possible outcome to the organization, its stakeholders, and its customers. A good procurement is important because it enhances the level of understanding of and contact with the supply industry at senior levels in the organization and the need to be able to explain why the relationship is strategically important to exist and future partners and suppliers that ensure the approach to incentivization and reward drives effective collaborative working to maximize productivity. This is especially relevant where behavioral and cultural alignment is critical to success. A good procurement always ensures compliance with procurement regulations and processes to avoid unnecessary challenges and wasted effort during the award process. The following are some attributes of a good procurement strategy;

- a. Fosters and supports strategic ongoing or early engagement to encourage market capability development;
- b. Enables a client and the supply chain to fully appreciate the risks related to the delivery of the requirements;
- c. Based on the understanding of the shared drivers. This will enable the client and the supply chain to work towards better alignment and thus engender a truly collaborative relationship;
- d. Recognizes that there is always likely to be shared reputation benefits, risk, and reward;
- e. Adopts and complies with a clear and transparent process; and,
- f. Supports the overall execution strategy and client model, (Armitt John, 2012).

In an era of economic uncertainty and tight government budgets, investments in transport infrastructure remain popular amongst policymakers and politicians because of the substantial benefits they can deliver to society.

Infrastructure investments provide short-term economic stimulus and job creation, and they create a building block for long-term economic competitiveness, growth, and productivity. Investments in sustainable transport such as urban public transit, cycling, and pedestrian facilities can reduce air pollution and lower fuel consumption.

There are six (6) key strategies to achieve effective procurement of public and private infrastructure projects (Flyvbjerg, 2017).

1. **Select the right project**

Evidence-based planning does not aim to remove politicians from decision-making: as a nation politicians are key in expressing the interests of their constituents and ensuring accountability. The very first step in procuring large infrastructure is developing strategies to use evidence effectively to select the most societal desirable projects. Importantly, evidence-based planning does not aim to remove politicians from decision-making, as politicians are key in expressing the interests of their constituents and ensuring accountability. Rather, in the ideal model of evidence-based infrastructure planning and delivery, politicians establish the overall priorities and goals that transportation projects should achieve. Independent technical assessments are then conducted to assess the infrastructure priorities and project delivery options to achieve the objectives set out by the politicians. Once the technical assessments are completed, they should then be made public and used to inform political deliberations and approvals (Flyvbjerg, 2017).

2. **Transparency and accountability**

Transparency is essential to effective procurement regardless of the model followed, as it enables broad scrutiny and accountability of the deals being signed and projects delivered. Transparency enables broad scrutiny and accountability of the deals being signed and projects delivered. To achieve sufficient transparency, all bid information and documents, project costs, government technical studies, and final contracts should be made available during the procurement process. Many government departments such as Infrastructure Ontario, Partnerships British Columbia, the New York Department of Public Works, and many others now post extensive project documentation online. Additionally, to ensure that transparency supports accountable decision-making, the procurement agency should identify the individuals and organizations answerable for each decision; debate and approve major infrastructure in public sessions; and provide the community with mechanisms to provide input into project planning and seek redress if they are negatively impacted by a decision (European Investment Bank, 2017).

3. **Data-driven procurement**

Governments should develop procurement information systems to learn about their procurement outcomes on past projects and use that information to drive better decision-making over time. Procurement processes create extensive amounts of data on the contractors, their bidding strategies, firm and government agency performance, and the outcomes of various infrastructure projects. Governments should develop procurement information systems to learn about their procurement outcomes on past projects and use that information to drive better decision-making over time, as is done in Singapore, Hong Kong, and by the Ministry of Transportation in Ontario. Another area where data-driven procurement is gaining interest is to identify signs of bid-rigging in infrastructure procurements. Transport contracts have been identified as a major area of corruption and bid-rigging. Endemic bid-rigging was uncovered in Montreal city paving contracts in the late 2000s, and systemic bribes and corruption were identified in projects carried out by the Brazilian contractor Odebrecht. According to some estimates, cartels overcharging in the infrastructure sector can increase procurement costs by up to 25% or more (World Bank, 2009).

4. **Cost of Private consultants/contractors**

The overall private financing costs on an infrastructure PPP when debt and equity rates are blended is often 2-3 percentage points higher than government borrowing. Private finance for infrastructure PPPs is not free; it comes with high borrowing costs and complex contractual arrangements. The typical PPP project involves a highly leveraged financial structure, with 90% debt and 10% equity. The overall private financing costs on an infrastructure PPP when debt and equity rates are blended is often 2-3 percentage points higher than government borrowing, which can add tens of millions of dollars to large projects financed privately over 35 years. Organizing private finance is also costly as it requires significant transaction costs for financial advisors, drafting legal contracts, and debt arrangers. And some private equity investors in PPPs, in particular, have often sought to quickly sell their stakes in infrastructure projects, generating significant returns that can be costly and embarrassing to the government (Engles, Fischer, Galetovic, Schargrodsy and Montero, 2003).

5. **Public-private partnership (PPP) risk allocation**

The common strategy for assigning risks in PPPs is to allocate risk to the partner best able to manage it. The value for money in PPPs is largely predicated on the transferring of key project risks from the government to the private sector. The three major risks on large infrastructure projects are construction risks leading to cost overruns and

delays; availability risk that the project is out of service and therefore not delivering public benefit or collecting revenue; and the risk of facility demand and revenues falling below predicted levels. The common strategy for assigning risks in PPPs is to allocate risk to the partner best able to manage it. In practice, many governments have sought to allocate as much construction, availability, and demand risk as possible to the private sector partner, believing that this would protect the government from costly and embarrassing procurement challenges that have plagued transport mega-projects worldwide. However, this has been a mistake for three key reasons. First, transferring risk to the private sector is not free, and concessionaires charge significant amounts to assume major project risk. Second, the misallocation of risk to the private sector can result in unstable concessions that require renegotiation when major risk events occur and in some cases firms enter bankruptcies (Engles *et al.*, 2003).

6. Dispute Resolution

Cheap, quick, independent dispute resolution protocols must be put in place to avoid lengthy legal proceedings that can delay construction or disrupt facility operation. Despite the intent of PPPs as long-term relationships between the public and private sectors, PPP deals in practice are particularly unpredictable and prone to conflict between the partners. As noted above, contract renegotiations are common, and bankruptcies do occur. Moreover, given the stakes associate with projects that can cost billions of dollars, lawsuits are common between the public and private sector partners, and between the various private sector partners that form the concession team. In this context, government capacity must be developed to effectively negotiate with private partners from the start, and that cheap, quick, independent dispute resolution protocols are put in place to avoid lengthy legal proceedings that can delay construction or disrupt facility operation. In the case of the \$5.3 billion Eglinton Crosstown light rail project in Toronto, for instance, legal wrangling between the government project sponsor and the contractor over who is to blame for costly construction delays moved through the dispute resolution process and into the preliminary stages of a court challenge; but because of the dispute resolution protocol construction on the project continued while the legal matter was resolved. More broadly, when multinational firms and state-owned enterprises are involved in financing and delivering international infrastructure projects outside their home jurisdiction, contractual disputes can become embroiled in international politics and diplomacy that require tough negotiations to resolve (Menzies and Mandri-Perrott, 2010).

Methods and discussions

Research Objective

To develop strategies for effective procurement of infrastructure projects in the study area

Table 1.1: Strategies for Effective Procurement of Infrastructure Projects in the Study Area

S/N	Features of Procurement Methods	SD (1)	D (2)	DN (3)	A (4)	SA (5)	$\bar{x} \pm s$	Rank
1	There should be a clear definition of government's intention for any infrastructure projects	4	8	-	52	52	4.21±1.000	6
2	Procurement cycle time should be reduced	-	20	28	60	8	3.48±.860	9
3	Automation of the process to streamline it	-	16	4	60	36	4.00±.951	7
4	Identify sources of funds for project execution	-	8	-	60	48	4.28±.787	4
5	Transparent process	-	-	12	60	44	4.28±.640	4
6	Uniqueness of every project must be explicitly defined	-	8	4	48	56	4.31±.838	3
7	Regular training of procurement staff/personnel	-	4	4	48	60	4.41±.723	1
8	There should not be negotiation after bidding	16	20	8	48	24	3.38±1.356	10
9	Risk management and mitigation	4	12	16	52	32	3.83±1.057	8
10	Post tender project monitoring and management	-	4	8	48	56	4.34±0.759	2
CLUSTER MEAN							4.05±0.897	

Note: DN = don't know; SD = strongly disagree, D = disagree; A=agree; SA= strongly agree.

Source: Field survey (2023)

Table 1.10 presents strategies for effective procurement of infrastructure projects in the study area, it reveals that Regular training of procurement staff/personnel was identified to be the first strategy to that effect followed by Post tender project monitoring and management and Uniqueness of every project must be explicitly defined. A look at

the cluster mean reveals that all the strategies presented would be effective in the procurement of infrastructure projects in the study area, ($4.05 > 3.00$ and $0.897 < 1.581$).

Conclusion

The study seeks to identify strategies that can be adopted to ensure effective procurement of infrastructure projects in the study area. Table 1.10 presents strategies for effective procurement of infrastructure projects in the study area, it reveals that Regular training of procurement staff/personnel was identified to be the first strategy to that effect followed by Post tender project monitoring and management and Uniqueness of every project must be explicitly defined. A look at the cluster mean reveals that all the strategies presented would be effective in the procurement of infrastructure projects in the study area, ($4.05 > 3.00$ and $0.897 < 1.581$).

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