

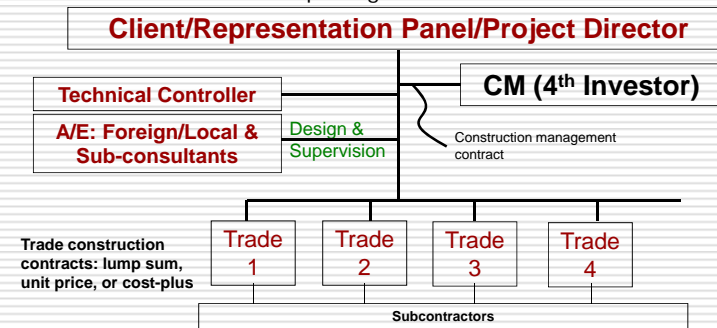
Case Study (Questions 1-4)

- The design phase for a mid-rise building has recently being launched by a group of four investors (the client). The building will be around forty floors, six of which will form the substructure while the remaining 34 floors extend above the ground level forming the superstructure. Only one of the investors has construction knowledge and, in fact, owns a general contracting company. This same investor (referred to below as the fourth investor) happens to be holding the lowest percent shares in the project. A client-representation panel has been formed by four individual representatives delegated by each of the four investors.
- The client did not hire a development manager during the planning phase. The project concept is the result of a collaborative study by two architectural offices, local and foreign ones, selected on a competition basis by the Client. The envisioned design team is comprised of the same two architectural offices, a foreign engineering design firm, a local engineering design office, and a number of specialty consultants. A technical controller will also be appointed.
- The client did consider the engagement of a project management firm whose first role would have been to administer and monitor the design phase, but they ended up not hiring one. Instead, they employed an individual to act more like a project director, whose role is to act on behalf of the client-representation panel and to be the contact person throughout the project implementation cycle. The fourth investor is expecting to be given a construction management role during the construction phase. The supervision of construction quality will be assigned to the two local architectural and engineering offices.

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Organizational Structure

1. Draw the project's organizational structure and state the form(s) of contracts that could potentially be applicable for the construction packages?



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Fourth Investor's Involvement

2. What roles do you envision for the fourth investor when acting as the construction manager during the construction phase?
 - a) Facilitate the launching of all trade contracts in harmony with design progress.
 - b) Provide common logistics and support to all trade contractors and manage the site.
 - c) Coordinate the works of all trade contractors.

Development Manager

3. The appointment of a development manager in the pre-project planning phase would have helped the Owner in better:
 - a) Understanding the market needs
 - b) Formulating the facility's program
 - c) Strategizing for the implementation of the development

Construction Phasing

4. By opting for the phased approach as implied by the case description,
- a) One can conclude that the investors are keen on delivering the project the fast-track way.
 - b) The fourth investor's construction know-how will inform (be of benefit to) the design process, an advantage also expected under the design-build approach.
 - c) The possibility of having one (or more) of the packages being let out (awarded) on the basis of "design-build" shall not be completely eliminated.

Pre-Project Planning (PPP) - 1

5. It is correct to say that:
- a) The outcome of the PPP phase may be a "No-Go" decision.
 - b) A "No-Go" decision would not result in some wasted investment by the Client.
 - c) A "No-Go" decision could be the result of technical constraints having to do with needing to upgrade the existing infrastructure serving the proposed project site location and the neighboring area.

Pre-Project Planning (PPP) - 2

6. It is correct to say that:
- a) For the public type project, both the financial and economic feasibility evaluations are needed.
 - b) The outcomes of the traffic and environmental impact assessments could influence the financial feasibility evaluation.
 - c) The outcomes of the development manager's market study feed into the financial feasibility evaluation.

Banking Sector

7. It is correct to say that:
- a) The strengths of the banking sector in a certain country are of interest to the project owner.
 - b) The strengths of the banking sector in a certain country are of interest to the project prospective contractor.
 - c) The same banking institution should not end up providing financing to both the owner and contractor of the same project.

Project Manager

8. The project manager (PM) can be entrusted by the owner :
- a) To review and interpret the value engineering studies presented by the A/E design firm during the pre-project planning phase.
 - b) To lead, on behalf of the Owner, the bid analysis and negotiation process under the design-build approach.
 - c) To act as the "Engineer" for the construction contract.

Contracts/Sub-Contracts/ Trade Contracts

9. It is correct to say that the owner may appoint a:
- a) Project Manager (PM) to administrate the design-build (DB) contract.
 - b) Construction Manager (CM) to administrate the subcontracts under a DB contract.
 - c) CM to administrate the trade contracts under the professional construction management delivery approach.

Quality Assurance/Quality Control (QA/QC)

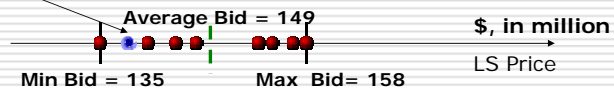
10. It is correct to say that:
- a) When subcontracting firms are engaged in projects as trade contractors, a layer of QA/QC ends up being at least partially compromised on.
 - b) The engagement of a technical controller introduces a new layer of QA/QC in judging the acceptability of the deliverables of the A/E design consultant.
 - c) QA/QC is not of concern to the public owner under the build-operate-transfer (BOT) delivery approach.

Defects Notification Period (DNP)

11. It is correct to say that:
- a) The DNP is the period beyond the substantial completion date, during which the contractor remains fully liable for all defects surfacing during the said period.
 - b) Acceptance of such liability towards this period by the contractor comes free of charge to the Owner.
 - c) The professional construction management approach does not pose any difficulty in setting the DNPs for various trade packages.

Bidding

Engineer's Estimate (EE)



12. It is correct to say that:

- The above distribution of received bid prices **could be interpreted** as being reflective of a boom in the construction market.
- The difference between the highest and lowest bids could be interpreted to indicate that the design drawings **and not** the specifications may be ambiguous.
- The client **should definitely** consider that the bidding results are inconclusive, particularly when the location of the EE is taken into consideration.

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Quantity Surveying

13. It is correct to say that:

- The bill of quantities (BOQ) is of significance to the participating bidders in terms of being a quantitative representation of the design drawings.
- The bill of quantities (BOQ) is of significance to the Project Manager in terms of facilitating the analysis of received bid prices.
- The bill of quantities (BOQ) is of significance to the "Engineer" in terms of facilitating the certification of payments due to the contractor under a lump sum contract.

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Contract Forms

14. It is correct to say that:
- a) The cost-plus contract can be applicable for the general construction contract if phased construction is desired by the owner under the traditional project delivery approach.
 - b) The unit-price contract cannot be applicable for the multiple general construction contracts under the multiple-prime project delivery approach.
 - c) The lump sum contract cannot be applicable for the trade construction contracts under the professional construction management delivery approach.

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Design-Build

15. It is correct to say that under the DB approach:
- a) The re-measured contract form is most suited for the design-build contract.
 - b) The Client normally needs the assistance of an A/E consultant to help prepare the Employer's Requirements (including the design criteria and guidelines).
 - c) The contractor could take the lead role as the design-builder, while the design firm is engaged through a subcontract with (under) the contractor.

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Acceptance of Executed Works

16. It is correct to say that:

- a) The provisional acceptance of accomplished works by the A/E is ***not necessary*** a prerequisite to the certification of payment by the Project Manager acting as the Engineer of the construction contract.
- b) The issuance of the Taking-Over Certificate by the Engineer based on the Engineer's determination that the Works have been ***substantially completed*** is a prerequisite to the start of occupancy of the built facility by the end-users.
- c) Upon the expiry of ***the Defect Notification Period***, the contractor gets permanently relieved, under the concerned Lebanese Laws, from all his liabilities towards the integrity of the built facility.