Moving Toward a Comprehensive Project Delivery Toolbox

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Outline and References

Topics
- The status of project delivery in the US
- Major models for delivering projects and trend of adoption
- Final Remarks

References
- More info on CERC: www.cerc.be.uw.edu
Project Delivery

- Built environment projects
  - Similar lifecycle
  - Same types of participants
- Phases may overlap and participants may interact differently depending on the owner’s approach to deliver a project.
- Main features of project delivery
  - Project delivery method (PDM)
  - Procurement (e.g., Low Bid, Best Value, etc.)
  - Contracting (e.g. Lump sum, Cost plus w/wo GMP, etc.)
Delivery vs. Procurement vs. Contracting

- **Delivery Method**
  - Define framework geometry and timing of relationships

- **Procurement**
  - Define how the owner will decide which entity will assume duties

- **Contracting**
  - Define what the selected entity will be doing, how will be paid, etc.
The Status of Project Delivery in the US

- Approaches used for delivering capital projects have significantly proliferated worldwide.
- Both private organizations and public agencies have added several project delivery methods to their project delivery toolbox, such as:
  - Construction Management at Risk,
  - Design-Build, and
  - Integrated Project Delivery.
- Market share of each method widely varies geographically, by owner type and across industry sectors.
The Status of Project Delivery in the US

- There is **not a one-size-fits all method**
  - i.e. No single method exists that allows sophisticated owners to optimally achieve their project objectives

- **A comprehensive project delivery toolbox provides for options** necessary to match a project’s objectives and constraints to the right delivery method
PDM Classification

- **Separated Contracting of Design and Construction Services**
  - Design-bid-build (DBB)
  - Construction Management at Risk (CMR)

- **Combined Contracting of Design and Construction Services**
  - Design-build (DB)
  - Integrated Project Delivery (IPD)

- **Beyond Design and Construction**
  - Design-build-maintain
  - Design-build-operate-transfer
  - Design-build-finance-operate
Separated Contracting of Design and Construction Services

**Design-Bid-Build**

- **PD** = Contract is usually awarded before any or much design is complete.
- **DC** = Contract is usually awarded after design is complete.

**Construction Management at Risk**

- **PD** = Contract is usually awarded before any or much design is complete.
- **(60–90) D** = Contract is usually awarded when 60% to 90% of design is complete.

Note: Sometimes, there are not two contracts, but an amendment to the initial contract to set price, and allocate other risks.
Combined Contracting of Design and Construction Services

Design-Build Initial Variations

- **Competitive DB**
  - **Owner**
  - (10–30)D
  - **Designer** + **Contractor**

- **Bridging DB**
  - **Owner**
  - (90–100)D
  - **Designer** + **Contractor**

Legend
- **PD** = Contract is usually awarded before any or much design is complete.
- (10–30) D = Contract is usually awarded when 10% to 30% of design is complete.
- (90–100) D = Contract is usually awarded when design is nearly complete.

Integrated Project Delivery

- **Owner**
- **PD**
- **Designer**
- **Contractor**

Legend
- **PD** = Contract is usually awarded before any or much design is complete.
Contractor’s Involvement by PDM
Comprehensive Project Delivery Toolbox

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<tr>
<th>Separated Contracting of Design and Construction</th>
<th>Combined Contracting of Design and Construction</th>
<th>Beyond Design and Construction</th>
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<tr>
<td>Design-Bid-Build</td>
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The PDM Family is growing.
Changing Project Delivery Strategy: Add to the Toolbox

Changing Project Delivery Strategy:
Add to the Toolbox

Final Remarks

- No single method can allow sophisticated owners to optimally achieve their project objectives for all their projects.
- A comprehensive project delivery toolbox is usually necessary to match a project’s objectives and constraints to the right delivery method.
- Adopting a new approach to delivery projects requires significant organizational changes:
  - Modifications to work processes
  - Revision of existing organizational structures.
- This process of adaptation encompass many different aspects of the organization’s interests and require significant efforts.
Final Remarks

- CMR/PDB/CDB/IPD mutate an organization’s delivery DNA by
  - Changing cultural setting toward collaboration
  - Educating parties to achieve flexibility
  - Encouraging and facilitating innovation
  - Acting as a necessary building block toward a level of maturity in project delivery
  - Opening the door to other approaches that rely on collaboration, flexibility and innovation
Questions?

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