

# PROJECT PERFORMANCE QUESTIONNAIRE



**Purpose:** The University of Colorado at Boulder and Pennsylvania State University are conducting a survey to investigate the role of project delivery methods, contracting terms, procurement, team behavior and technology in project success. Please help us by completing the survey for at least one project you have completed in the last 5 years in the United States. The questionnaire should take between 20-30 minutes to complete. If needed, any follow-up interviews with the respondent will take approximately 15-20 minutes to conduct.

**Confidentiality:** The project information you provide will be kept in strict confidentiality, within a password protected database. Only the primary investigators and their research assistants will see and have access to your information. In the event of a publication or presentation based on the results of this study, no personal or company identifiable information will be shared.

**Participation:** Your decision to participate in this research is voluntary and you may withdraw at any time. There is no direct compensation; however, participants may request a copy of the final reports. If you have any questions, complaints or concerns regarding this research, you may contact Dr. Robert Leicht at (814) 863-2080.

Completed questionnaires may be returned by mail or email to:  
Dr. Robert Leicht, Dept. of Architectural Engineering, Penn State University  
104 Engineering Unit A, University Park, PA 16802  
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## SECTION 1: PROJECT CHARACTERISTICS

Project name: \_\_\_\_\_

Project location: \_\_\_\_\_

Your name: \_\_\_\_\_

Your company name: \_\_\_\_\_

Phone #: \_\_\_\_\_ Email: \_\_\_\_\_

Specify your role on the project:

- Owner  Construction Manager (CM)/General Contractor (GC)  
 Architect/Designer  Design-Builder  Other: \_\_\_\_\_

Owner type:  Public  Private

Specify the project type (e.g. Office, Hospital) or describe the intended use of the project: \_\_\_\_\_

Relative to your experience with similar project types, rate the level of complexity for this project (1=Low, 6=High):

Low  1  2  3  4  5  6 High

Building gross square footage: \_\_\_\_\_ ft<sup>2</sup>

No. of floors above grade: \_\_\_\_\_ No. of floors below grade: \_\_\_\_\_

Percentage (by cost or area): Renovation \_\_\_\_\_ % New construction \_\_\_\_\_ %

Select the closest foundation type:

- Slab on grade with spread footings  Caissons, piles or slurry walls  
 Mat foundation  Other: \_\_\_\_\_

## SECTION 2: PROJECT ORGANIZATION

Select the project delivery system best matching the delivery of your project:

- Design-Bid-Build  Design-Build (DB)  
 Construction Manager at Risk (CM/GC)  Integrated Project Delivery

Denote when each project participant was **contracted** for the project (timing as based on percent of overall design completion):

	Pre-Design	Concept Design (0-15%)	SD (15-30%)	DD (30-60%)	CD (60-90%)	Bidding (Full CD)
Architect/Designer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
GC, CM/GC or DB	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MEP Contractors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Structural Contractors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Were specialty contractors involved before being contracted?  Yes  No

Relative to your expectations, evaluate the administrative burden you experienced (1=Low, 6=High):

Low  1  2  3  4  5  6 High

## SECTION 3: PROJECT COST

What were the following project costs?

Provide separate Construction Costs if known; otherwise, enter Total Project Costs only, indicating whether the cost data provided is estimated (E) or actual (A). Please deduct all property costs, owner costs, costs of installed process or manufacturing equipment, furnishings, fittings and equipment, or items not a cost of the base building.

	Construction Costs	Total Project Costs
Contract award	<input type="radio"/> E <input type="radio"/> A	<input type="radio"/> E <input type="radio"/> A
Final cost	<input type="radio"/> E <input type="radio"/> A	<input type="radio"/> E <input type="radio"/> A

Estimate the cost of site work (work performed outside the building footprint) included in the project costs listed above: \$ \_\_\_\_\_

Are there any unresolved costs or change orders?  Yes  No

Has the project ever been in litigation?

Yes, resolved  Yes, unresolved  No

If applicable, are the costs of litigation and/or claims included in the project costs listed above?  N/A  Yes  No

## SECTION 4: PROJECT SCHEDULE

Please provide the following schedule information:

	Planned (mm/dd/yy)	Actual (mm/dd/yy)
Design start date (Notice to proceed)		
Construction start date (Notice to proceed)		
Construction end date (Substantial completion)		

## SECTION 5: PROJECT QUALITY

If you are the owner, please complete this section. If not, please provide the owner's name or point of contact: \_\_\_\_\_, phone number or email address: \_\_\_\_\_.

Relative to your expectations, evaluate the facility turnover and operation (1=Low, 6=High):

Low 1 2 3 4 5 6 High

Difficulty of facility start-up  1  2  3  4  5  6

Number and magnitude of call backs  1  2  3  4  5  6

Operation and maintenance costs  1  2  3  4  5  6

Relative to your expectations, evaluate the quality of the facility and systems (1=Low, 6=High):

Low 1 2 3 4 5 6 High

Envelope, roof, structure, foundation  1  2  3  4  5  6

Interior finishes  1  2  3  4  5  6

Environmental systems (lights, HVAC)  1  2  3  4  5  6

Exterior aesthetic (style, proportions)  1  2  3  4  5  6

Interior environment (mood, feel, image)  1  2  3  4  5  6

Rate your overall satisfaction with the design and construction process (1=Not satisfied, 6=Exceeded expectations):

Not satisfied  1  2  3  4  5  6 Exceeded

## SECTION 6: PROJECT SAFETY

If you are the builder, please complete this section. If not, please provide the builder's name or point of contact: \_\_\_\_\_, phone number or email address: \_\_\_\_\_.

Number of recordable injuries: \_\_\_\_\_ Number of lost time injuries: \_\_\_\_\_

Work-hours for all onsite construction activities (indicate (E) for estimated or (A) for actual): \_\_\_\_\_ E A

## SECTION 7: SUSTAINABILITY

Specify any green or sustainable rating system used on this project: \_\_\_\_\_

What level of certification was planned and awarded?

Planned: \_\_\_\_\_ Number of points/credits: \_\_\_\_\_

Awarded: \_\_\_\_\_ Number of points/credits: \_\_\_\_\_

## SECTION 8: TEAM PROCUREMENT & CONTRACTS

Indicate how proposals were solicited from each project participant:

	Open Bid	Pre-Qualified Bid	1-Stage RFP	2-Stage RFP	Sole Source
Architect/Designer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
GC, CM/GC or DB	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MEP Contractors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Structural Contractors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Which of the following factors were considered in the selection of each project participant (check all that apply)?

	Price (Fee)	Price (Work)	Tech. Proposal	Design Concept	Similar Project Experience	Interview Performance
Architect/Designer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GC, CM/GC or DB	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MEP Contractors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Structural Contractors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Select the commercial terms used for the following project participants:

	Lump Sum	GMP	Unit Price	Cost Plus
Architect/Designer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/> Fixed Fee / <input type="radio"/> % Fee
GC, CM/GC or DB	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/> Fixed Fee / <input type="radio"/> % Fee
MEP Contractors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/> Fixed Fee / <input type="radio"/> % Fee
Structural Contractors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/> Fixed Fee / <input type="radio"/> % Fee

Were performance-based incentives used in any contracts?  Yes  No

Was the operation and maintenance of the facility included in the contract scope of any team member or members  Yes  No

Did the project team use a formal partnering agreement?  Yes  No

If Yes, please explain:

## SECTION 9: TEAM CHARACTERISTICS & BEHAVIOR

Indicate the owner's type of relationship with the project team:

Architect/Designer  First Time  Repeat

GC, CM/GC or DB  First Time  Repeat

Evaluate each of the following attributes of your project team:

Team's prior experience as a unit (1=Low, 6=High):

Low  1  2  3  4  5  6 High

Team chemistry (1=Poor, 6=Excellent):

Poor  1  2  3  4  5  6 Excellent

Relative to your expectations, denote the frequency of staff turnover within the project team (1=Low, 6=High):

Low  1  2  3  4  5  6 High

When was end-user feedback provided to the project (check all that apply)?

Inception  Conceptual  DD  Construction

Programming  SD  CD  Operation

Specify when each project participant was **co-located** or sharing a workspace with other team members (check all that apply):

	Owner	Architect/Designer	CM/GC	MEP Contractors	Structural Contractors
Design Phase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Construction Phase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Evaluate the communication among the project team:

Formality of communication (1=Informal, 6=Formal):

Informal  1  2  3  4  5  6 Formal

Timeliness of communication (1=Never on time, 6=Always on time):

Never  1  2  3  4  5  6 Always

How often did the project team compromise on project issues (1=Never, 6=Frequently)?

Never  1  2  3  4  5  6 Frequently

Did the project team manage a shared, internal contingency usable by both design and construction team members?  Yes  No

Who participated in setting goals for the project (check all that apply)?

Owner  Architect/Designer  GC, CM/GC or DB

MEP Contractors  Structural Contractors  Other: \_\_\_\_\_

To what extent were **all** project team members committed to the same project goals (1=Very Weakly, 6=Very Strongly):

Weakly  1  2  3  4  5  6 Strongly

## SECTION 10: PROCESS AND TECHNOLOGY

Number of design charrettes held by the project team: \_\_\_\_\_

Who was involved with the design charrettes (check all that apply)?

Owner  GC, CM/GC or DB  Structural Contractors

Architect/Designer  MEP Contractors  Other: \_\_\_\_\_

How was Building Information Modeling (BIM) used (check all that apply)?

BIM was not used  MEP Coordination/Clash Detection

Architectural Design  4D Scheduling

Engineered Systems Design  Facility Management

Who was involved in developing a BIM execution plan (check all that apply)?

No BIM execution plan was developed for this project

Owner  GC, CM/GC or DB  Structural Contractors

Architect/Designer  MEP Contractors  Other: \_\_\_\_\_

To what extent was electronic file and information sharing used by the project team (1=Primarily paper-based, 6=All electronic)?

Paper-based  1  2  3  4  5  6 Electronic

List any lean tools or approaches consistently used by the project team:

Evaluate the level of offsite fabrication and modularization used on the project (1=Entirely built onsite, 6=Entirely built offsite):

Onsite  1  2  3  4  5  6 Offsite

Did any prefabricated or modularized system on the project involve multiple trades?  Yes  No

## SECTION 11: LESSONS LEARNED

Rate the overall success of this project (1=Poor, 6=Excellent):

Poor  1  2  3  4  5  6 Excellent

How could this project have been delivered more successfully?

Describe any unique features of this project that may have influenced its cost, schedule, quality or sustainability: