

**Section B: US Project Performance and Characteristics**

The following questions will ask you to compare your experience and outcomes on a **typical project** to those on your **best performing project**, both of which meet these criteria:

- In North America
- Completed at least one year, but no more than five years ago
- Construction cost of \$10 million or more
- New construction or major renovation (not including smaller projects that focused on general wear and tear replacement such as flooring/carpeting replacement, painting, or seasonal damage control, such as repairing leaking roofs)
- Take a moment to decide which projects you will use to represent your **typical** and **best performing**. You will be providing responses for both projects to each of the questions in the following section. From this point forward, references to your typical and best performing projects refer to the specific projects you have selected.

<b>B1</b>	Considering a specific project which you would describe as <b>typical</b> and the one that you would describe as <b>best performing</b> , how would you best describe the variance between the final cost of construction and the <u>original allocated capital budget</u> for construction on the project?			
	<i>Select one response per row.</i>			
		<b>1</b>	<b>2</b>	<b>3</b>
		No variance – final construction cost matched original allocated budget	Final construction <b>cost was higher</b> than original allocated budget	Final construction <b>cost was lower</b> than original allocated budget
<b>1</b>	Typical			
<b>2</b>	Best Performing			

<b>B2</b>	What variance (either positive or negative, depending on the project) from the original allocated budget did you experience?					
	<i>Select one response per row.</i>					
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
		Less than 3%	3% to 6%	7% to 10%	11% to 20%	More than 20%
<b>1</b>	Typical					
<b>2</b>	Best Performing					

<b>B3</b>	Considering these same specific projects, how would you best describe the variance between the final cost of construction and the <u>estimated cost at the start of construction</u> ?			
	<i>Select one response per row.</i>			
		<b>1</b>	<b>2</b>	<b>3</b>
		No variance-final construction cost matched estimated cost at the start of construction	Final construction cost was higher than the estimated cost at the start of construction	Final construction cost was lower than the estimated cost at the start of construction
<b>1</b>	Typical			
<b>2</b>	Best Performing			

<b>B4</b>	What variance (either positive or negative, depending on the project) from the estimated cost at the start of construction did you experience?					
	<i>Select one response per row.</i>					
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
		Less than 3%	3% to 6%	7% to 10%	11% to 20%	More than 20%
<b>1</b>	Typical					
<b>2</b>	Best Performing					

<b>B5</b>				
Considering these same specific projects, how did the final schedule compare to the <u>original schedule expected when the budget was originally allocated?</u> (Note – any variance of one full day or more should be noted.)				
<i>Select one response per row.</i>				
		<b>1</b>	<b>2</b>	<b>3</b>
		No variance – final construction schedule matched the original schedule	Final <b>schedule was longer</b> than the original schedule	Final <b>schedule was shorter</b> than the original schedule
<b>1</b>	Typical			
<b>2</b>	Best Performing			

<b>B6</b>						
What variance (either positive or negative, depending on the project) between the original schedule and the final schedule did you experience?						
<i>Select one response per row.</i>						
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
		1% to 10% of schedule	11% to 25% of the schedule	26% to 35% of the schedule	36% to 50% of the schedule	More than 50% of the schedule
<b>1</b>	Typical					
<b>2</b>	Best Performing					

<b>B7</b>				
For these same specific projects, how did the final schedule compare to the <u>planned schedule at the start of construction?</u> (Note – any variance of one full day or more should be noted.)				
<i>Select one response per row.</i>				
		<b>1</b>	<b>2</b>	<b>3</b>
		No variance—final construction schedule matched the planned schedule	Final <b>schedule was longer</b> than the planned schedule at construction start	Final <b>schedule was shorter</b> than the planned schedule at construction start
<b>1</b>	Typical			
<b>2</b>	Best Performing			

<b>B8</b>	What variance (either positive or negative, depending on the project) between the planned schedule and the final schedule did you experience?					
	<i>Select one response per row.</i>					
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
		1% to 10% of schedule	11% to 25% of the schedule	26% to 35% of the schedule	36% to 50% of the schedule	More than 50% of the schedule
<b>1</b>	Typical					
<b>2</b>	Best Performing					

<b>B9</b>	Considering these specific projects, what was the quality of the final building compared to overall expectations? Evaluate based on three components of building quality: (1) how well the building design incorporated features/functionality compared to initial goals, (2) how well the building construction was executed/workmanship, and (3) how well the building performed after occupancy?				
	<i>Select one response per row.</i>				
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
		Significantly below initial expectations/failure (i.e. disappointing features, significant rework prior to punch list, ongoing warranty issues)	Few/Some expectations met, but not all (i.e., minimum features, remaining punch list items, remaining warranty call-backs)	More/Most expectations met (i.e. necessary features, punch list completed in 90 days, no ongoing warranty call-backs)	Breakthrough performance/industry leading (i.e. exceeded features, zero punch list items, no warranty call-backs)
<b>1</b>	Typical				
<b>2</b>	Best Performing				

<b>B10</b>	Considering these same projects, where would you rank the project on a scale of 1 to 4 in terms of <b>safety during construction</b> ?				
	<i>Select one response per row.</i>				
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
		1-Project incurred fatalities	2-No fatalities but lost time accidents occurred	3-No fatalities or lost time accidents	4-Industry leading safety culture and no fatalities/lost time accidents or recordables
<b>1</b>	Typical				

<b>2</b>	Best Performing				
<b>B11</b>	<p>Considering these same projects, where would you rank the project on a scale of 1 to 4 in terms of <b>the building's safety for maintenance activities?</b></p> <p><i>Select one response per row.</i></p>				
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
		1-Significant challenges for building maintenance exposing workers to falls	2-Moderate challenges for building maintenance	3-Some building maintenance requires hoists/lifts	4-No extraordinary means necessary to perform building maintenance (e.g., no lifts, scaffolding)
<b>1</b>	Typical				
<b>2</b>	Best Performing				

**B12**

In the next series of questions the term “key stakeholders” represents at a minimum the owner, architect, MEP and structural engineers, construction manager/general contractor, and key trade contractors.

Key trade contractors are those that represented the most risk for the project type (e.g., mechanical/electrical for healthcare; demolition contractor for renovation).

<b>B13</b>	<p>On a scale of 1 to 4, how would the majority of key stakeholders rate the team chemistry on these specific projects?</p> <p><i>Select one response per row.</i></p>				
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
		1-Poor	2-Fair	3-Good	4-Excellent
<b>1</b>	Typical				
<b>2</b>	Best Performing				

<b>B14</b>	<p>On a scale of 1 to 4, how would the majority of key stakeholders rate the timeliness of decision making related to issue resolution starting in design and through construction completion on these specific projects?</p> <p><i>Select one response per row.</i></p>				
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
		1-Never on time	2-Occasionally on time	3-Frequently on time	4-Always on time
<b>1</b>	Typical				

<b>2</b>	Best Performing				
<b>B15</b>	On a scale of 1 to 4, how would the majority of key stakeholders rate how committed all project team members were to the same project goals on these specific projects? <i>Select one response per row.</i>				
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
		1-No commitment shared by project team members on combined project goals/each team member had their own individual company goals	2-Minimal commitment to the same project goals	3-Overall commitment to the same project goals	4-Complete commitment to the same project goals
<b>1</b>	Typical				
<b>2</b>	Best Performing				

<b>B16</b>	On a scale of 1 to 4, how would the majority of key stakeholders describe the integration (relatedness) of project team members on these specific projects? <i>Select one response per row.</i>				
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
		1-Key stakeholders acted primarily/solely for their own benefit on project deliverables	2-Key stakeholders sometimes acted in the interest of the project to optimize the whole	3-Key stakeholders often acted in the interest of the project to optimize the whole	4-Key stakeholders worked cohesively together to optimize the whole, to create workflow, and to deliver value to the end user
<b>1</b>	Typical				
<b>2</b>	Best Performing				

<b>B17</b>	Thinking of the <b>typical project</b> , when were the majority of key stakeholders engaged on this specific project?	
<b>1</b>	Pre-business case	
<b>2</b>	Business case validation (pre-design)	
<b>3</b>	During conceptualization (0-15% design)	
<b>4</b>	During schematic design (15-30%)	
<b>5</b>	During design development (30-60%)	
<b>6</b>	During construction documents (60-90%)	
<b>7</b>	End of construction documents or later (100% CD)	

<b>B18</b>	Thinking of the <b>best performing project</b> , when were the majority of key stakeholders engaged on this specific project?	
1	Pre-business case	
2	Business case validation (pre-design)	
3	During conceptualization (0-15% design)	
4	During schematic design (15-30%)	
5	During design development (30-60%)	
6	During construction documents (60-90%)	
7	End of construction documents or later (100% CD)	

<b>B19</b>	Thinking of the <b>typical project</b> , how were key stakeholders selected for this specific project (proposals solicited vs. evaluation factors)?	
1	Open bid	
2	Pre-Qualified open bid	
3	Best value (price + proposal)	
4	Fee & GCs	
5	Negotiated	
6	Self-selected team	
7	Sole source	
8	Other (Specify):	

<b>B20</b>	Thinking of the <b>best performing project</b> , how were key stakeholders selected for this specific project (proposals solicited vs. evaluation factors)?	
1	Open bid	
2	Pre-Qualified open bid	
3	Best value (price + proposal)	
4	Fee & GCs	
5	Negotiated	
6	Self-selected team	
7	Sole source	
8	Other (Specify):	

<b>B21</b>	Thinking of the <b>typical project</b> , what was the delivery method for this specific project?	
1	Design-bid-build	
2	Construction Management at Risk	
3	Design-build based on initial design	
4	Design-build/EPC/Turnkey based on program/requirements	
5	Integrated project delivery (multi-party agreement)	
6	Other (Specify):	

<b>B22</b>	Thinking of the <b>best performing project</b> , what was the delivery method for this specific project?	
<b>1</b>	Design-bid-build	
<b>2</b>	Construction Management at Risk	
<b>3</b>	Design-build based on initial design	
<b>4</b>	Design-build/EPC/Turnkey based on program/requirements	
<b>5</b>	Integrated project delivery (multi-party agreement)	
<b>6</b>	Other (Specify):	

<b>B23</b>	Thinking of the <b>typical project</b> , what was the contract type/compensation method for key stakeholders contracted to the owner for this specific project?	
<b>1</b>	Lump Sum	
<b>2</b>	Guaranteed Maximum Price converted to Lump Sum	
<b>3</b>	Guaranteed Maximum Price (with or without shared savings)	
<b>4</b>	Unit Price	
<b>5</b>	Cost Reimbursable (Fixed or % Fee)	
<b>6</b>	Cost Reimbursable with target and shared risk and reward	

<b>B24</b>	Thinking of the <b>best performing project</b> , what was the contract type/compensation method for key stakeholders contracted to the owner for this specific project?	
<b>1</b>	Lump Sum	
<b>2</b>	Guaranteed Maximum Price converted to Lump Sum	
<b>3</b>	Guaranteed Maximum Price (with or without shared savings)	
<b>4</b>	Unit Price	
<b>5</b>	Cost Reimbursable (Fixed or % Fee)	
<b>6</b>	Cost Reimbursable with target and shared risk and reward	



<b>B25</b>	Thinking of the <b>typical project</b> , which of these project management and operating methods would the majority of key stakeholders say were effectively implemented on this specific project?  <i>Select all that apply.</i>	
<b>1</b>	Production System Modeling	
<b>2</b>	PDCA	
<b>3</b>	Full-team On-boarding	
<b>4</b>	Co-location Big Room	
<b>5</b>	Value Stream Mapping	
<b>6</b>	Target Value Design	
<b>7</b>	Last Planner System	
<b>8</b>	Set Based Design	
<b>9</b>	OAC Report-out Mtgs	
<b>10</b>	CBA Decision Making	
<b>11</b>	Electronic information exchange (paperless project)	
<b>12</b>	BIM Design authoring	
<b>13</b>	BIM 3D coordination	
<b>14</b>	BIM 4D & site logistic planning	
<b>15</b>	BIM model based estimating	
<b>16</b>	BIM Execution Plan	
<b>17</b>	Prefab/Modularization	
<b>18</b>	Design to Budget	
<b>19</b>	CPM Scheduling	
<b>20</b>	Conceptual/Continuous Estimating	
<b>21</b>	Value Engineering	
<b>22</b>	A3 Thinking	
<b>23</b>	5 Whys	
<b>24</b>	5 S's	
<b>25</b>	Visual Management	
<b>26</b>	Root cause analysis	
<b>27</b>	Kaizen	
<b>28</b>	None of the above	

<b>B26</b>	Thinking of the <b>best performing project</b> , which of these project management and operating methods would the majority of key stakeholders say were effectively implemented on this specific project?	
	Select all that apply.	
<b>1</b>	Production System Modeling	
<b>2</b>	PDCA	
<b>3</b>	Full-team On-boarding	
<b>4</b>	Co-location Big Room	
<b>5</b>	Value Stream Mapping	
<b>6</b>	Target Value Design	
<b>7</b>	Last Planner System	
<b>8</b>	Set Based Design	
<b>9</b>	OAC Report-out Mtgs	
<b>10</b>	CBA Decision Making	
<b>11</b>	Electronic information exchange (paperless project)	
<b>12</b>	BIM Design authoring	
<b>13</b>	BIM 3D coordination	
<b>14</b>	BIM 4D & site logistic planning	
<b>15</b>	BIM model based estimating	
<b>16</b>	BIM Execution Plan	
<b>17</b>	Prefab/Modularization	
<b>18</b>	Design to Budget	
<b>19</b>	CPM Scheduling	
<b>20</b>	Conceptual/Continuous Estimating	
<b>21</b>	Value Engineering	
<b>22</b>	A3 Thinking	
<b>23</b>	5 Whys	
<b>24</b>	5 S's	
<b>25</b>	Visual Management	
<b>26</b>	Root cause analysis	
<b>27</b>	Kaizen	
<b>28</b>	None of the above	

**Section C: Open Questions**

<b>C1</b>	Comparing the <b>typical</b> and <b>best performing</b> projects you chose, what do you consider to be the most important factor(s) that made the <b>best performing</b> project better?	
1		

<b>C2</b>	As a project owner, how do you define value, as it relates to schedule, cost, quality, and safety?	
1		