Data or Valuable Metrics

FM's Harness The Power

Dr. Dhaval Gajjar, Ph. D., FMP, SFP

SIMPLAR INSTITUTE · ARIZONA STATE UNIVERSITY · KU KANSAS · UNC CHARLOTTE · TEXAS A&M UNIVERSITY · CLEMSON UNIVERSITY · THE UNIVERSITY OF OKLAHOMA · BRIGHAM YOUNG UNIVERSITY · WESTERN ILLINOIS UNIVERSITY

Credit(s) earned on completion of this course will be reported to American Institute of Architects (AIA) Continuing Education Session (CES) for AIA members.

Certificates of Completion for both AIA members and non-AIA members are available upon request.

This course is registered with AIA CES for continuing professional education. As such, it does not include content that may be deemed or construed to be an approval or endorsement by the AIA of any material of construction or any method or manner of handling, using, distributing, or dealing in any material or product.

Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.

CONTINUING EDUCATION AIA

Course Description

Low Performing Vendors/People are costing you more than you think! How much time do you spend managing vendors/people that take up most of your time and still do not get the performance you desire? We all collect data, but how many of us have metrics? Performance metrics is more than a buzz word, it is a cultural shift that can help us understand the overall performance of our organizations, the value of contracted services, and other key areas that can lead to improving efficiencies. This session will focus on how to track performance metrics beyond the data.

CONTINUING EDUCATION AIA

Learning Objectives

- Use of metric documentation for vendor management.
- Use of optimal RFP methodologies that lead to a better team and contract.
- Develop simple measurement strategies that attract and drive performance and accountability.
- How to simplify and understand the various metrics in the organization?

Simplar Institute

- Group of **researchers** and **educators**
- Integrated within the **parties** (clients/buyers, FM's and vendors)
- Developed **tools, methods, & *training*** to enhance:
  - Organizational Transformation
  - Procurement & Sourcing
  - Project & Risk Management
  - Performance Measurements
- We integrate with organizations and provide hands-on education and support to develop organizational mastery and XPD

Simplar Institute

- Become a **client of choice**
  - Vendors want to send their best people
  - Identify expertise
  - Leverage expertise
  - Know how to work with experts
  - Positive accountability
- Become a **vendor of choice**
  - Use performance information to drive behaviors
  - Win more work with expertise
  - Work like an expert for higher profit
  - Positive accountability
- Benchmarking, exploratory, talent development, education and training, policy & regulations, standards & templates

Research Partners

Other Current Partners

20+ Years | 100+ Owners

2,500+ Projects | $11+ Billion Procured

Have You Encountered These…

- **Performance Issues**
  - Completed late
  - Cost increases
  - High volume of change orders (over 50+)
  - Projects don't meet the expectations of the user
  - Lack of accountability (everyone blames a different party)
  - Skilled craftspeople decreasing
- **Cost Issues**
  - Costing more money to complete projects/services

SIMPLAR INSTITUTE

ASU KU OU WSU BYU TAMU

What People Have Tried

Again…And Again…And Again…

- Different delivery methods
- Better contracts / terms & conditions
- Strengthening partnerships
- Longer-term relationships
- Profit sharing
- Incentives / penalties
- Fast tracking

SIMPLAR INSTITUTE

ASU KU OU WSU BYU TAMU

Problems?

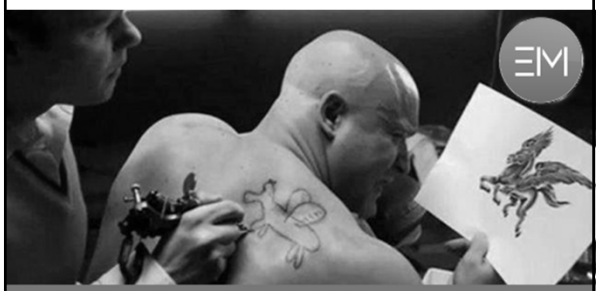
SIMPLAR INSTITUTE

ASU KU OU WSU BYU TAMU

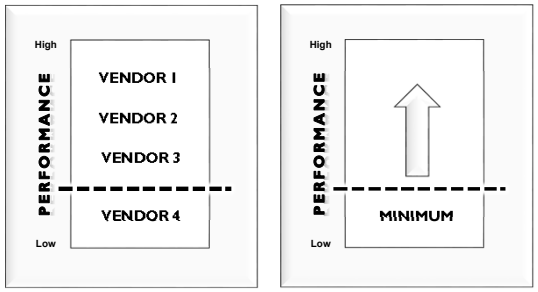
There Is A Fundamental Problem With Our

Traditional Approach

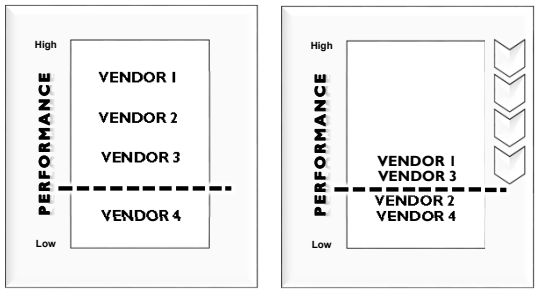
To Business



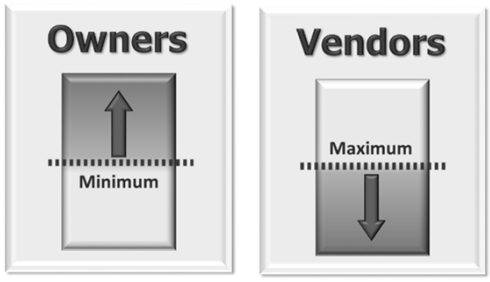
Objective of Minimum Standards



Who Will Be Selected?



Perception on Standards



Just because something is written in a contract does not make it so

What Percent of Solicitations / RFP's Are 100% Accurate?

Who Should Know More About Performing/Delivering the Services Required?

It Is More Important For The Vendor To Know What To Do Than It Is For Client To Know What The Vendor Should Do

SIMPLAR INSTITUTE

Proven Solution To Increase Odds of Success On ANY Project:

Hire Experts

(High Performing Individuals & Teams That Actually Know How To Create Value & Mitigate Risk)

SIMPLAR INSTITUTE

This Is Not As Simple As It Sounds

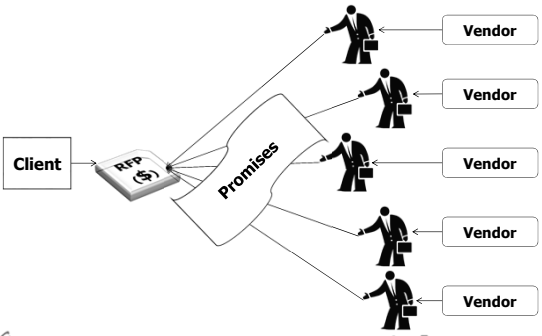
SIMPLAR INSTITUTE

Starts With The Client

1. Create an environment that **attracts expertise**
   - A structure that allows your vendors to use their expertise
   - A structure that allows them to maximize profit
   - A structure that gives experts the advantage in the procurement
   - A structure that encourages vendor's to partner with the best subs
   - A structure where the vendor can pre-plan and identify their risk
2. People make the difference…Hire the **right people**
   - Does not mean getting a vendor with a big name
   - We want the best 'people' from the best vendor and sub-vendors

You Can't Trick Vendors Into Believing That You Are A "Good" Client!

What we have seen…



Which would you purchase?

SIMPLAR INSTITUTE

Which would you purchase?

SIMPLAR INSTITUTE

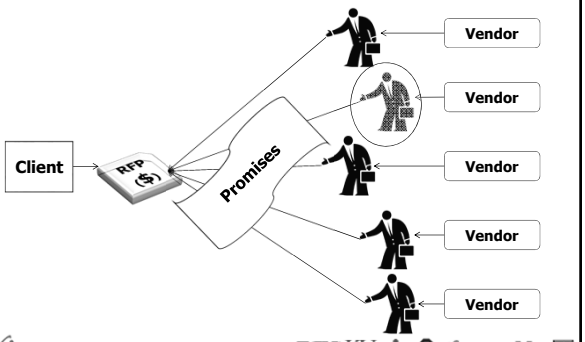
What Is Dominant Information?

SCENARIO 1

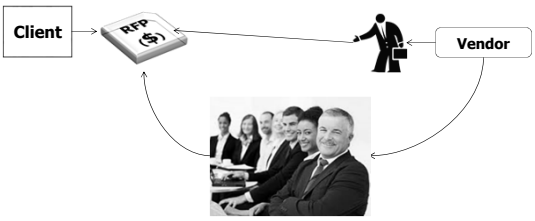
SCENARIO 2

SIMPLAR INSTITUTE

What we have seen…



What we have seen…



What we have seen…

"The Greatest Risk we always face is how to accomplish all the things that our sales team promised we could do."

How do we attract, select, and leverage "Experts"?

Two Step Process

- **Step 1: Better RFPs [Metric-Based]**
- **Step 2: Environment of Metric-Based Throughout Project Life-Cycle**

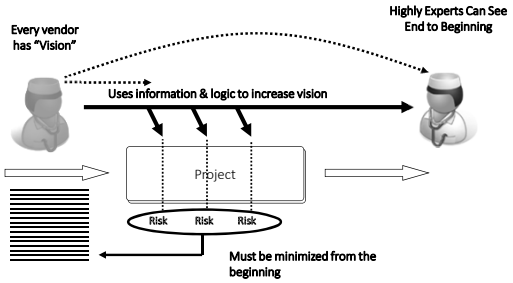
Two Step Process

- **Step 1: Better RFPs [Metric Based]**
- **Step 2: Environment of Metric-Based Approach Throughout Project Life-Cycle**

Why is the RFP so Important

Where do innovation, risk minimization, value creation, cost reduction (commission) begin?

Vision and Expertise



What does this mean?

1. **Compete Expertise: Risk and Value**
2. **Blind Evaluations – Make it Fair**
3. **Focus on the People**
4. **Keep it Short (Proposal Page Limits)**
5. **Plan Before you Sign**

1. Compete Expertise: Risk & Value

- **Focus on what shows differences**

- **Who does this favor?**

Recommendation:
Risk & Value as the Primary Written Submittals

Risk Assessment Example

Controllable Risk

- **RISK:** Noise from our demolition may result in student/staff complaints (since we will be doing demo in an in-operational library during finals week).
- **VENDOR 1 Solution**

  Partnering is a key to success on any project. We will work with the user to develop the best strategies that can be implemented to minimize the impact of noise from demolition.
- **VENDOR 2 Solution**

  To minimize this risk, we have planned to demolition during off hours and weekends. We will also install rubber sheets on the floors and foam pads around the wall to diminish noise and vibrations.

SIMPLAR INSTITUTE

ASU KU OU WSU BYU TAMU

Risk Assessment Example

Controllable Risk

RISK: A poor roofing system can result in roof leaks, which may inconvenience building occupants, and increase complaints, maintenance, damage, etc.

Vendor A Solution:

- Use our extensive roofing history to install the best system for your needs.

Vendor B Solution:

- To minimize this risk, our proposed roofing system has been installed on over 400 roofs and has had an average roof age of 18 years, in which 99% of the roofs don't leak and 100% of the end clients are satisfied.

Vendor C Solution:

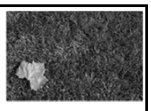
- To minimize this risk, we are proposing a thermally-welded roofing system that has a tensile strength of 2,130 PSI, elongation of 300%, tear strength of 312lbs, has been tested for 10,000, and has a cold brittleness of -30°C.

SIMPLAR INSTITUTE

ASU KU OU WSU BYU TAMU

Risk Assessment Example

Non-Controllable Risk



- **VENDOR 1**
  - RISK: The local water company must have the water turned on by June in order for us to water the newly installed recreational fields (or the grass will die).
  - SOLUTION: We will coordinate and plan our schedule with the water company as soon as the award is made to make sure that we get water to the site to irrigate the fields.
- **VENDOR 2**
  - RISK: The local water company must have the water turned on by June in order for us to water the newly installed fields (or the grass will die).
  - SOLUTION: On past projects, the water company has failed to meet the schedule 90% of the time. To minimize this risk, we will coordinate our schedule with the water company as soon as we are awarded the project. If they fail to meet our schedule, we can connect temporary waterlines to the nearby fire hydrants, or we can also rent water trucks to irrigate the fields.

SIMPLAR INSTITUTE

ASU KU OU WSU BYU TAMU

Example of Solutions
Risk: *Owner's Budget (DB Residence Hall)*
Type: Non-Controllable Risk

- [redacted]

Generic Marketing Information NOT a Plan

- Team 2's Plan

Will say whatever they think the client wants to hear in order to get the job

Example of Solutions
Risk: *Owner's Budget (DB Residence Hall)*
Type: Non-Controllable Risk

- Team 3's Plan
  - The Owner's budget cannot accommodate the building program per the requirements. See the Value Added Plan for cost saving options.

  From the Value Plan
  - We have identified multiple Value Added options that enable us to meet the budget and still deliver the required number of beds (in order to maximize owner revenue streams):
    - Removal of underground parkade – $2,054,717 savings
    - Reduction in certain finishes (wall panels vs. dry wall) – $67,000 savings
    - Design efficiency opportunities: Adjust net-to-gross ratios in targeted areas of building program (hallways, common spaces). Reduction in building footprint results in significant material savings – net savings $1,686,149

Uncontrollable Risk Food Services

- RISK: The University has stated that the new construction to the cafeteria can be completed on-time. Any construction delays to the main cafeteria will impact our ability to generate food/dining revenue.
- SOLUTION: From our experience, 30% of all major campus renovations are delayed by a minimum of three months.
  - To mitigate the loss in revenue, we will bring in sophisticated mobile trailers. These trailers can provide high-end meals, along with fast food options for students on-the-go.
  - We will place these trailers around high traffic areas, and we will install signage around campus to generate awareness.
  - At a similar University that had experienced construction delays, we were able to use these trailers to generate 5% revenue during the 4 month delay.

Value Added Example
IT Services

- The State may want to consider an alternate licensing structure. The current requirements are to purchase a license for every user. If the user is in meetings, on vacation, or not using the system, the license is not being utilized.
- In a concurrent licensing structure, we can provide a number of licenses that can alternate between users. This will allow the State to better utilize the system (and not overpay for licenses that are not being used).
- This alternate structure can result in approximately 25% savings in cost. We have done this on 5 similar accounts with 100% customer satisfaction.

SIMPLAR INSTITUTE

Value-Added Examples
Gym Equipment

- Since the University is installing overhead televisions on the third floor of the Student Rec Center, the University may want to consider deleting all of the equipment mounted televisions on the cardio equipment on that floor. This can result in significant savings, or we can use these savings to potentially provide 5 additional machines in lieu of the TV screens.

SIMPLAR INSTITUTE

Example: Value Added Items

- Reroofing this building will not stop all water leaks. The majority of the leaks are caused by cracks in the parapet walls, broken/missing glass, and poor caulking. For an additional $10K and 3 weeks in schedule we can replace and repair all of these items.

SIMPLAR INSTITUTE

2. Blind Evaluation – Make it Fair

- The evaluated proposal documents

MUST NOT

contain any names that can be used to identify who the Proposer is.

- Including: company names, personnel names, project names, or product names.

3. Focus on the People

1. Get Team Members Up Front (ID in Proposal)
2. 15-25min Interview
3. Interview is One-on-One, No Notes
4. Key Question:

On the whiteboard: Quickly layout the project/service (from start to end) with the following:

- Identify the major activities with approximate durations
- Identify the greatest risks and where they are on the timeline
- Identify what you need from the client & when you need it

Key Personnel Interviews

- The Client may interview the following individuals:
  - Project Manager
  - Site Superintendent
- No substitutes or proxies
- Not a group interview

- Goals:
  - Meet the critical personnel that will actually run the service
  - Identify if they have thought about this project
  - Identify if they can think ahead and minimize potential risks

Interview Comments (Goal is to Minimize Risk)

"I have no idea why I am here today"…"My boss called me last night and told me to show up for this interview" - $10 Million Project

"I did not participate at all in preparing our proposal" - $3 Million Project

"I am not currently employed by this company, but if we win this project, they will then hire me" - $25 Million Service Project

"I have never managed a project of this size/scope" - $30 Million Project

"There is no risk on this project" - $5 Million IT Project

"The greatest risk that I always face, is how to accomplish all of the things that our sales team promised we could do" – $5 Million Cleanroom Design

SIMPLAR INSTITUTE

ASU KU OU WSU BYU TAMU

Case Study - Roofing

- Scope: Remove and replace various roofing systems on 3 different buildings
- Estimated Budget: $1 Million

SIMPLAR INSTITUTE

ASU KU OU WSU BYU TAMU

Key Personnel

- All superintendents had significant experience (over 20 years in industry)
- Some individuals did not 'look' professional
- Some individuals did not 'speak' very professionally

SIMPLAR INSTITUTE

ASU KU OU WSU BYU TAMU

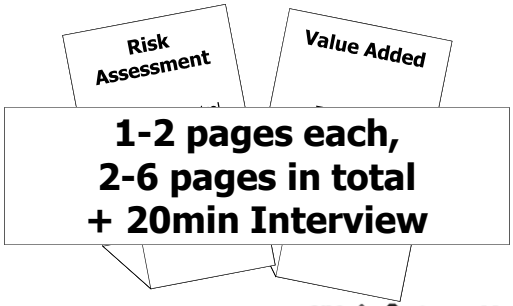
Interview Comments (Goal is to Minimize Risk)

- **Superintendent 2**
  - *"I got a call yesterday to be here today. I haven't walked the roof yet."*
  - *"I can determine the risks once we are awarded the project and after I walk the roof."*
- **Superintendent 3**
  - *"I just found out 2 days ago that I was assigned to this project."*
  - *"I haven't had time to investigate the roof since I just flew into State."*
  - *"I haven't walked the roof. I tried to take a look at it this morning."*
- **Superintendent 4**
  - *"I haven't walked the roof, but I've seen pictures. I don't think there should be any ponding issues.*
  - *"I was not involved with preparing the proposal at all."*

SIMPLAR INSTITUTE

4. Keep it Short

Blind Evaluations: standard templates, no modifications, and no names.



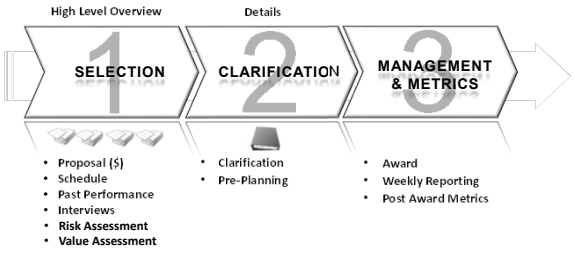
SIMPLAR INSTITUTE

Final Prioritization

			RAW DATA			PRIORITIZED DATA		
No	Criteria	Weights	Firm A	Firm B	Firm C	Firm A	Firm B	Firm C
1	Total Cost	300	$ 1,000,000	$ 1,025,000	$ 1,300,000	300	293	231
2	Interviews	300	5.0	8.5	4.2	176	300	148
3	Risk Assessment Plan	200	4.2	8.0	5.0	105	200	125
4	Value Assessment Plan	100	5.0	8.0	5.2	63	100	65
5	PPI – Firm (1-10 Scores)	25	9.6	9.4	9.1	25	25	24
6	PPI – Firm (# of Surveys)	25	5	5	5	25	25	25
7	PPI – Project Manager (1-10 Scores)	25	9.0	10.0	9.8	23	25	25
8	PPI – Project Manager (# of Surveys)	25	5	3	5	25	15	25
		1000				742	982	667

SIMPLAR INSTITUTE

5. Plan before you Sign



Two Step Process

- **Step 1: Better RFPs [Metric Based]**
- **Step 2: Environment of Metric-Based Approach Throughout Project Life-Cycle**

Clarification / Pre-planning

1. **Cost Verification**
   - Provide a detailed cost breakdown
   - Identify why the cost proposal may be significantly different from competitors
   - Review big-ticket items
   - Review value added options
   - Identify how payments will be made and all expectations regarding finances
2. **Preplan in Detail**
   - Coordinate the project/service with all critical parties
   - Revisit the sites to do any additional investigating
   - Prepare a high level project schedule
   - Prepare a schedule of client activities
   - Prepare a detailed project work plan (transitioning, training, safety, security, staffing, etc)

Clarification / Pre-planning

3. **Align expectations**
   - Review and address all assumptions
   - Clearly identify the client's roles and responsibilities
   - Technical review of product/system & demonstrations if necessary
   - Potential deal breakers
   - What is included and excluded in the proposal
   - Review any unique requirements with the client
   - Review and approve all contract terms and conditions
4. **Identify and mitigate all uncontrollable risks**
   - Identify all risks or activities not controlled by the Offeror
   - Identify the impact of the risks
   - Identify what the client can do to mitigate the risks
   - Address how unforeseen risks will be managed

SIMPLAR INSTITUTE

Impact of Clarification/Pre-Award

No	CRITERIA	Traditional RFP	Expertise Based RFP
1	Number of projects analyzed	11	10
2	Total awarded cost	$14,244,385	$9,994,887
3	Total awarded schedule	1,822	1,373
4	Percent awarded cost below budget	4.4%	6.0%
5	Average Pre-Award duration (days)	0	7
6	Average Overall Change Order Rate	**50% Decrease**	
7	Average Overall Project Delay Rate	**38% Decrease**	
8	Client Satisfaction Rating of Contractor/Job	**34% Increase**	

For within XP projects, also tested "<1 week" PA vs ">1 week" PA
- **Longer PA had 33% lower change order rate (*73% reduced overall*)**
- **Longer PA had 69% lower delay rate (*73% reduced overall*)**

SIMPLAR INSTITUTE 65

Particle Accelerator / Cyclotron Facility (University of Alberta)

- **SCOPE: Renovate an existing curling-rink facility into a specialized radiopharmaceuticals research facility that houses a 24MeV cyclotron. The cyclotron will be housed in a specialized vault that will house the particle accelerator. The facility will produce and provide a steady supply of isotopes (including clinical-quality technetium-99m - isotope used for 80% of nuclear medicine diagnostic procedures) used to help patients with cancer, cardiac, neurological and other diseases.**
- **BUDGET: $30 Million**

SIMPLAR INSTITUTE

Specialized Equipment and Vault





SIMPLAR INSTITUTE

ASU KU OU WIU BYU TAMU

Proposals

- 4 contractors proposed
- Best-valued contractor was not the lowest or highest bid, but was 5.3% below average cost
- Best-valued contractor had a technical proposal that was rated 81% higher than the competitors

SIMPLAR INSTITUTE

ASU KU OU WIU BYU TAMU

Impact of Clarification / Pre-Award

- The contractor caught and identified the issue prior to award
- This allowed the owner to address and resolve the issues prior to awarding the contract
- In the traditional procurement approach, auditors determined that these issues would not have been caught until 5 months into the project (and would have resulted in significant delays and cost increases)

SIMPLAR INSTITUTE

ASU KU OU WIU BYU TAMU

Project Results

- **Performance:**
  - **0% project delays**
  - **0% cost increases**
  - **10 out of 10 customer satisfaction rating**

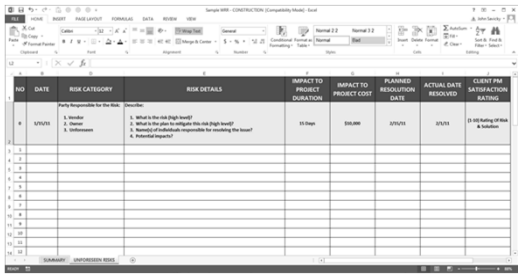
"Through this approach, the contractor was able to save
14-18 months in schedule and
$8-12 Million in cost
(when compared with the traditional approach)"

- Hugh Warren | Executive Director Operations & Maintenance at University of Alberta – as measured by the governmental Auditors Office.

SIMPLAR INSTITUTE

ASU KU OU WIU BYU TAMU

Metrics Report – Analysis of Risks



NO	DATE	RISK CATEGORY	RISK DETAILS	IMPACT TO PROJECT DURATION	IMPACT TO PROJECT COST	PLANNED RESOLUTION DATE	ACTUAL DATE RESOLVED	CLIENT PM SATISFACTION RATING
		Party Responsible for the Risk:	Describe:					
0	1/15/11	1. Vendor 2. Owner 3. Unforeseen	1. What is the risk (high level)? 2. What is the plan to mitigate this risk (high level)? 3. Name(s) of individuals responsible for resolving the issue? 4. Potential impacts?	15 Days	$10,000	2/15/11	2/1/11	(1-10) Rating Of Risk & Solution
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								

SIMPLAR INSTITUTE

ASU KU OU WIU BYU TAMU

Metrics Report – Analysis of Risks

Risk Category	Number of Risks	Impact to Cost	Impact to Schedule	Percent Impact to Cost	Percent Impact to Schedule
1) Client Impacts	**114**	**$660,369**	**1,200**	**59%**	**46%**
Client Scope Change / Decision	111	$ 660,369	976	59%	37%
Client Requested Delay	3	$ -	224	0%	9%
2) CPPM Impacts	**135**	**$329,425**	**885**	**30%**	**34%**
Design Issue	48	$ 189,876	230	17%	9%
CPPM Issue (Codes / Permits)	36	$ 46,140	170	4%	7%
CPPM Issue (Energy Mgmt)	2	$ 47,533	30	4%	1%
CPPM Issue (Hazardous / Health & Safety)	8	$ 35,407	118	3%	5%
CPPM Issue (NTS)	8	$ 10,018	64	1%	2%
CPPM Issue (Contract / Payment)	11	$ -	132	0%	5%
CPPM Issue (Other)	22	$ 451	141	0%	5%
3) Contractor Impacts	**43**	**$21,005**	**411**	**2%**	**16%**
Contractor Issue	11	$ -	101	0%	4%
Contractor Oversight of Design	9	$ 21,005	38	2%	1%
Contractor Issue with Supplier / Sub	23	$ -	272	0%	10%
4) Unforeseen Impacts	**19**	**$102,544**	**111**	**9%**	**4%**
	311	$ 1,113,343	2,607		

SIMPLAR INSTITUTE

ASU KU OU WIU BYU TAMU

Janitorial Services Contract

Service Provided: Janitorial | Evaluation Period: Year 1 | Customer: XYZ Corporation
Contractor Name: | Evaluator: George Mansor | Location: Scottsdale Site

Category	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Score	Average Score
Quality														
Productivity														
Reliability														
Availability														
Supervison														
Safety														
Visitor Lobbies														
Executive Offices														
General Offices														
Conference Rooms														
Lab & Manufacturing														
Restrooms & Showers														
Health Services OHR														
Break Areas														
Elevators														
Corridors														
Stairwells														
Windows														
Janitor Closets														
Cafe Kitchen														
Cafe Dishwasher Rooms														
Cafe Serving Areas														
Outside Patios														
Receiving Guard Shacks														
Shipping/Receiving Docks														
Compound/Yard														
Monthly Total Score	0													0.0
Monthly Avg Score														
Performance Metric	182.0	182.0	182.0	182.0	182.0	182.0	182.0	182.0	182.0	182.0	182.0	182.0	2184	182.0

Rating Identification
1-2 = Unsatisfactory
3-4 = Improvement Needed
5-6 = Good
7-8 = Very Good
9-10 = Excellent

Comments:
Any rating of 1 to 4 will require an improvement action plan.

SIMPLAR INSTITUTE

Metric-Based Environment

- Must be simple and dominant
- Must be for the purposes of positive accountability
- Transparency and openness
- Measuring against a plan (or expectation created by the individual/team doing the work)

SIMPLAR INSTITUTE

Becoming a Client of Choice

- Vendors want to send their best people to compete on your projects
- Open, Honest, Fair, Transparent
- Allow Clarification, Planning, and Coordination Before the Contract is Signed
- Drive Accountability through Performance measurement

SIMPLAR INSTITUTE

QUESTIONS

Contact Information:
Dr. Dhaval Gajjar
480-332-6674
dgajjar@clemson.edu

SIMPLAR INSTITUTE

ASU KU

This concludes The American Institute of Architects Continuing Education Systems Course