

## EXHIBIT 1

### VARIOUS PUBLIC PROCUREMENT & CONTRACT AWARD POLICIES IN VARIOUS COUNTRIES

Country	Policy & Amendment for Public Procurement/contract award
Canada	Federal Accountability Act, 2006 (Public works and govt services Canada Statutes & Regulation 2013)
UK	Public Contracts Regulations 2015, Part 3 of the Small Business, Enterprise and Employment Act 2015
EU	regulated and harmonized by community law since the 1970s
Spain	Spanish Law 30/2007 on public sector contracts (known as the "LCSP") was substantially amended by a new Law 2/2011 on Sustainable Economy ("LES")
USA	Federal procurement is governed by the Federal Acquisition Regulation. FedBizOpps and USASpending.gov are websites where federal contracts are shown.
Singapore	GeBIZ is a Government-to-business (G2B) Public eProcurement business centre where suppliers can conduct electronic commerce with the Singaporean Government.
Ghana	Public Procurement Act 2003 (Act 663) was amended by the Public Procurement (Amendment) Act 2016 (Act 914),

Australia	The legal and regulatory framework for public procurement in Australia is set by the Financial Management and Accountability Act (1997) One of the core principles of Australian government procurement is "value for money", which means that procurement practices and procedures are to be applied to achieving the best available value for money when procuring goods and services.
Japan	In <b>Japan</b> , the majority of government <b>procurement</b> is conducted via competitive tendering procedures, with the participation of qualified suppliers.
India	Public Procurement Bill 2012, Competitive bidding

**EXHIBIT 2**

**VARIOUS PARAMETERS EXTRACTED FROM  
LITERATURE FOR FIRST FILTERING FOR SURVEY ON  
SUCCESS OF PROJECT PERFORMANCE**

- Integration of Project
  - Integrated project charter
  - Project schedule/plan
  - Clear scope statement
  - Defined project management plan
  - Top management support process review planning
  - Client satisfaction
  - Arrangement of Change control
  
- Scope Management
  - Focused scope statement
  - Cost/Benefit analysis
  - Project constraints
  - Work breakdown structure
  - Responsibility breakdown structure
  - Scope change control
  
- Time Management
  - PERT and GANTT chart
  - Critical Path Method
  - Network model
  - Resource Loading
  - Reporting

- Cost Management
  - Financial Analysis
  - Cost Estimating
  - Forecasting
  - Cost Control
  - Cost reporting
- Quality Management
  - Quality Assurance
  - Quality Control
  - Cost of Quality
  - Quality Conformance
- Human Resource Management
  - Leadership skill development
  - Team Building
  - Motivation
  - Conflict management
  - Compensation
  - Organisation Structure
- Communication between Owner & Contractor
  - Communication Matrix
  - Communicating Vehicles
  - Listening and presenting skill
  - Facilities to remove barrier

- Risk Management
  - Risk Identification
  - Risk Analysis
  - Risk mitigation
  - Contingency Planning against external risks
- Procurement and subcontracting efficiency
  - Material selection
  - Vendor pre-qualification
  - Contract types
  - Contract Risk assessment
  - Contract Negotiation
  - Contract Change address
- Benefits to Stakeholders
  - Stakeholder satisfaction
  - Stakeholder profitability
  - Stakeholder retention
  - Market share
  - Shareholder use
- Benefits to Performing Organisation
  - Employee satisfaction
  - Employee motivation
  - Employee empowerment
  - Employee productivity
  - Organisation growth
  - IT development
- Lessons Learnt

## **Various Parameters extracted from Literature for first filtering for survey on Contract Award**

- Technical Capability
  - Use of Technology & Science
  - Engineering capability
  - Emphasis on research & Innovations
  - Accreditations with various bodies
  - development of Strategy
- Financial Capability
  - Return on Investment
  - Return on Capital Employed
  - Working capital
  - Financial Risk
  - Cost saving
  - P/E ratio
  - Earning per share
  - Financial stability
- HSE competency
  - Employee health care
  - Safety policy
  - Environmental Policy
  - Social responsibility
  - Ethical Value

- Risk Management capability
  - Capability to address Economic risk
  - Capability to address Political risk
  - Capability to address statutory requirement
  - Capability to address regulatory changes
  - Capability to handle unforeseen risk
- Human Resource competency
  - Number of Manpower
  - Quality of Manpower
  - Training & Development of Manpower
  - Empowerment of Manpower
  - Attrition rate
- Communication competency
  - Communication with Owner company
  - Communication within Bidder's Organisation
  - Top management support & involvement of Bidder's Organisation
  - Cross functional communication within Bidder's Organisation
  - Update on Regulatory & Statutory system
  - Update with National & International approval bodies
- Management competency
  - Past performance and quality
  - Quality control policy
  - Quality management system
  - Project management system
  - Experience of technical personnel
  - Management knowledge
- Company Reputation
  - Past failures in completed projects
  - Number of years in construction

- Past client relationships
- Cooperation with contactors
- Past failures in completed projects



**EXHIBIT 3**

**QUESTIONNAIRES FOR FEEDBACK ON NEED FOR  
ALTERNATE CONTRACT AWARD FRAMEWORK IN  
INDIA**



# Developing Contract Award Index and Project Performance Index for O&G Projects in India

## Section 1- Feedback on Contract Award Framework

### 1.1 Contract Award based on Lowest price bid - 'L1 basis' needs a change

1 2 3 4 5

Strongly Disagree      Strongly Agree

### 1.2 Contract Award Framework studied from International network needs to be checked for relevance to India

1 2 3 4 5

Strongly Disagree      Strongly Agree

### 1.3. Contract Award using appropriate weight to multiple parameters will improve Quality of Project in India

1 2 3 4 5

Strongly Disagree      Strongly Agree

### 1.4. Contract Award using holistic method will build trust among International players in Indian Contract Award process

1 2 3 4 5

Strongly Disagree      Strongly Agree

**1.5. Contract Award framework using comprehensive parameters can have better control on Cost over-run of a project**

1 2 3 4 5

Strongly Disagree      Strongly Agree

**1.6. Contract Award framework using comprehensive parameters can have better control on Time over-run of a project**

1 2 3 4 5

Strongly Disagree      Strongly Agree

**1.7. Holistic & Transparent Contract Award culture can help reduce corruption and unfair practices during Contract Award and Project Performance**

1 2 3 4 5

Strongly Disagree      Strongly Agree

« Back

Continue »



28% completed

**EXHIBIT 4**

**QUESTIONNAIRES FOR FEEDBACK ON NEED FOR  
PROJECT PERFORMANCE MEASURE IN INDIA**


[Edit this form](#)

# Developing Contract Award Index and Project Performance Index for O&G Projects in India

## Section 2- Feedback on Project Performance Measure

**2.1. Measure of Project Performance is needed to gauge success of a project**

1 2 3 4 5

Strongly Disagree      Strongly Agree

**2.2. Developing Project Performance Index for each project using various parameters will be an indicator of performance to Owners companies**

1 2 3 4 5

Strongly Disagree      Strongly Agree

**2.3. Awarding Project Performance Index to each bidder for the Project will make bidder more accountable**

1 2 3 4 5

Strongly Disagree      Strongly Agree

**2.5. Parameters derived from International project experience needs to be checked for relevance & importance to Indian scenario**

1 2 3 4 5

Strongly Disagree ○ ○ ○ ○ ○ Strongly Agree

« Back

Continue »



42% completed

Powered by  
 Google Forms

This content is neither created nor endorsed by Google.  
[Report Abuse](#) - [Terms of Service](#) - [Additional Terms](#)

**EXHIBIT 5**

**QUESTIONNAIRES FOR FEEDBACK ON BROAD  
FUNCTIONS TO INCLUDE FOR PROJECT  
PERFORMANCE MEASURE IN INDIA**

**AND**

**QUESTIONNAIRE FOR FEEDBACK ON VARIOUS  
PARAMETERS RESPONSIBLE FOR PROJECT  
PERFORMANCE SUCCESS IN INDIA**



# Developing Contract Award Index and Project Performance Index for O&G Projects in India

## Section 3- Feedback on Parameters to consider as Project Performance Measure

3.1. To start any project execution, 'Integration of Project' by Project Performer is required for success of a project.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

3.2 Scope management is required for successful project performance.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

3.3. Time management is required for success of project performance.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

3.4. Cost Management is required for success of a projec



	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

### 3.5. Quality Management is required for success of a project

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

### 3.6. 'Communication between Owner & Project Performer' is required for success of a project.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

### 3.7. Risk Management is required for success of a project.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

### 3.8. Effective Procurement & subcontracting is important for successful project performance.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

### 3.9.' Benefits to Stakeholders' is an indicator to measure success of a project

(Stakeholders can be Customers, Project sponsor, users, Associate Companies or Owner)

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Strongly Disagree

Strongly Agree

3.10. Benefits achieved by even 'Project Performing organisation' is an indicator to measure success of a project

1 2 3 4 5

Strongly Disagree

Strongly Agree

3.11. Record of 'Lessons learnt during project performance' can help achieve success for future project

1 2 3 4 5

Strongly Disagree

Strongly Agree

In your opinion, any other Parameter to measure Project Performance?

Your answer

---

BACK

NEXT



71% complete

Never submit passwords through Google Forms.

This content is neither created nor endorsed by Google. Report Abuse - Terms of Service - Additional Terms

Google Forms





# Developing Contract Award Index and Project Performance Index for O&G Projects in India

## Section 3- Feedback on Project Performance Parameters

3.1. To start any project execution, 'Integration of Project' by successful bidder is required for success of a project

1 2 3 4 5

Strongly Disagree      Strongly Agree

3.2. Select parameters as per importance to measure 'Integration of project' criteria :

	Least important	Less important	Can not decide	Important	Very Important
Integrated project charter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clear Project Scope Statement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Defined Project Management Plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Project Execution Plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Arrangement of Change Control Plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Any other criteria to measure 'Integration of Project'?

**3.3 Scope management is required for successful project performance**

1 2 3 4 5

Strongly Disagree      Strongly Agree

**3.4. Select parameters as per importance for effective Scope Management**

	Least Important	Less Important	Can not decide	Important	Very Important
Focused scope statement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost/Benefit analysis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Project constraints	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work breakdown structure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Responsibility breakdown structure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scope Change Control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Any other criteria to measure Scope management for success of a project?

**3.5. Time management is required for success of project performance**

1 2 3 4 5

Strongly Disagree      Strongly Agree

**3.6. Select Parameters as per importance to measure 'Time Management' in project performance**

Least Important      Less Important      Can not decide      Important      Very Important

PERT and Gantt Charts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Critical Path Method	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Network Model	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resource loading	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reporting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Any other criteria for effective Time management for successful project performance?

**3.7. Cost Management required for success of a project**

1 2 3 4 5

Strongly Disagree      Strongly Agree

**3.8. Select Parameters as per importance to measure 'Cost Management' in project performance**

	Least Important	Less Important	Can not decide	Important	Very Important
Financial analysis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost estimating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Forecasting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost Control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost Reporting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Any other criteria for effective Cost management?

**3.9. Quality Management is required for success of a project**

1 2 3 4 5

Strongly Disagree      Strongly Agree

### 3.10. Select Parameters as per importance to measure 'Quality Management' in project performance

	Least Important	Less Important	Can not decide	Important	Very Important
Quality assurance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality Control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost of quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality Conformance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Any other criteria for effective Quality management?

### 3.11. Human Resources Management is required for success of a project

1 2 3 4 5

Strongly disagree      Strongly agree

### 3.12. Select Parameters as per importance to measure 'Human Resource Management' in project performance

	Least Important	Less Important	Can not decide	Important	Very Important
Leadership Skill development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Team building	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Motivation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
compensation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organisational Structure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>


Any other criteria for effective Human Resource management?

« Back

Continue »



57% completed

Powered by  
 Google Forms

This content is neither created nor endorsed by Google.  
[Report Abuse](#) - [Terms of Service](#) - [Additional Terms](#)



# Developing Contract Award Index and Project Performance Index for O&G Projects in India

## Section 3 continued...

**3.13. 'Communication between Owner & Contractor' is required for success of a project**

1 2 3 4 5

Strongly Disagree      Strongly Agree

**3.14. Select Parameters as per importance to measure 'Communications between Owner & Contractor' in project performance**

	Least Important	Less Important	Can not decide	Important	Very Important
Communication Matrix	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communication Vehicles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Listening & presenting skill	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facilities to remove barrier	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Any other criteria for establishing communication between Owner company & Contractor company



**3.15. Risk Management is required for success of a project**

1 2 3 4 5

Strongly Disagree      Strongly Agree

**3.16. Select Parameters as per importance to measure 'Risk Management' in project performance**

	Least Important	Less Important	Can not decide	Important	Very Important
Risk identification	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Risk analysis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Risk mitigations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contingency Planning against (External Risk - Political, Economic, Social etc.) and (Internal Risk - Process, Management, Operational etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Any other criteria for risk Management in Project Performance?

**3.17. Procurement & subcontract effectiveness is important for successful project performance**

1 2 3 4 5

Strongly Disagree      Strongly agree

**3.18. Select Parameters as per importance to measure 'Procurement & subcontractive efficieny' in project performance**

Least Less Can not Very

	Important	Important	decide	Important	Important
Material Selection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vendor pre-qualification	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contract types	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contract Risk Assessment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contract negotiation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contract Change address	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Any other criteria important in procurement & subcontracting for successful project performance?

**3.19. Benefits to Stakeholders will be an indicator for success of a project**

(Stakeholders can be Customers, Project sponsor, users, Associate Companies or Owner)

1 2 3 4 5

Strongly Disagree      Strongly Agree

**3.20. Select Parameters as per importance to measure 'Benefits to stakeholders' in project performance**

	Least Important	Less Important	Can not decide	Important	Very Important
Stakeholder Satisfaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stakeholder profitability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stakeholder retention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Market Share	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stakeholder use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Any other criteria important in 'Benefits to Stakeholders' for successful project performance?

**3.21. Benefits to Project Performing organisation (Bidder) is an indicator for success of a project**

1 2 3 4 5

Strongly Disagree      Strongly Agree

**3.22. Select Parameters as per importance to measure 'Benefits to Performing organisation' in project performance**

	Least Important	Less Important	Can not decide	Important	Very Important
Employee satisfaction of performing organisation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employee motivation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employee empowerment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employee productivity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organisation growth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
IT system development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Any other criteria to indicate 'Benefit to performing organisation' as a success of a project?

**3.23. Lessons learnt from project performance is required to be recorded from Owner Company & Performing Organisation**

1 2 3 4 5

Strongly Disagree      Strongly Agree

« Back

Continue »



71% complete



This content is neither created nor endorsed by Google.  
[Report Abuse](#) - [Terms of Service](#) - [Additional Terms](#)

**EXHIBIT 6**

**QUESTIONNAIRES FOR FEEDBACK ON BROAD  
FUNCTIONS TO INCLUDE FOR CONTRACT AWARD  
FRAMEWORK IN INDIA**

**AND**

**QUESTIONNAIRE FOR FEEDBACK ON VARIOUS  
PARAMETERS TO BE INCLUDED FOR CONTRACT  
AWARD FRAMEOWRK IN INDIA**



Edit this form

# Developing Contract Award Index and Project Performance Index for O&G Projects in India

## Section 4- Feedback on Contract Award Parameters

**4.1 Various Parameters responsible for success of a project when included during Contract Award help in reducing troubles in Project Execution**

1 2 3 4 5

Least Important      Most Important

**4.2. Select Parameters as per importance to measure 'Financial competency of bidder' during Contract Award**

	Least Important	Less Important	Can not decide	Important	Very Important
Return on Investment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Return on Capital employed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working Capital	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial Risk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost savings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
P/E Ratio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Earning per	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

share

Any other criteria to indicate 'Financial Competency of Bidder' during Contract Award?

#### 4.3. Select Parameters as per importance to measure 'Technical competency of bidder' during Contract Award

	Least Important	Less Important	Can not decide	Important	Very Important
Use of Technology & Science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engineering capability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emphasis on research and Innovations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accreditation with various bodies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Development of strategy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Any other criteria to indicate 'Technical Competency of Bidder' during Contract Award?

#### 4.4. Select Parameters as per importance to measure 'HSE competency of bidder' during Contract Award

	Least Important	Less Important	Can not decide	Important	Very Important
Employee Health Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Safety Policy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Environmental Policy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social responsibility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ethical values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Any other criteria to indicate 'HSE Competency of Bidder' during Contract Award?

#### 4.5. Select Parameters as per importance to measure 'Risk Management competency of bidder' during Contract Award

	Least Important	Less Important	Can not decide	Important	Very Important
Capability to address Economic risk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Capability to address Political risk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Capability to address Regulatory Changes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Capability to address Legal & Statutory requirments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Capability to handle unforeseen contigency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Any other criteria to indicate 'Risk Management Competency of Bidder' during Contract Award?

#### 4.6. Select Parameters as per importance to measure 'Human Resources Management competency of bidder' during Contract Award

	Least Important	Less Important	Can not decide	Important	Very Important
Number of Manpower	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of Manpower	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traning & development to Manpower Empowerment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



of Manpower

Attrition Rate

Any other criteria to indicate 'Human Resources Management Competency of Bidder' during Contract Award?

**4.7. Select Parameters as per importance to measure ' Communication efficiency of bidder' during Contract Award**

	Least Important	Less Important	Can not decide	Important	Very Important
Communication with Client/Owner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communication within Bidder organisation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Top Management support and involvement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cross Functional communication within bidder organisation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Update on Regulatory and Statutory system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Update with National/International approval bodies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Any other criteria to indicate 'Communication Efficiency of Bidder' during Contract Award?

**4.8 Lessons Learnt noted in previous cases needs to be transferred while award of contract to successful Bidder**


1 2 3 4 5

Strongly Disagree      Strongly Agree

« Back

Continue »

 85% completed

Powered by  
 Google Forms

This content is neither created nor endorsed by Google.  
[Report Abuse](#) - [Terms of Service](#) - [Additional Terms](#)



 [Edit this form](#)

# Developing Contract Award Index and Project Performance Index for O&G Projects in India

**\*\*\*END OF QUESTIONNAIRE\*\*\* Thank you for you Feedback.**


[« Back](#)

[Submit](#)



100%: You made it.

*Never submit passwords through Google Forms.*

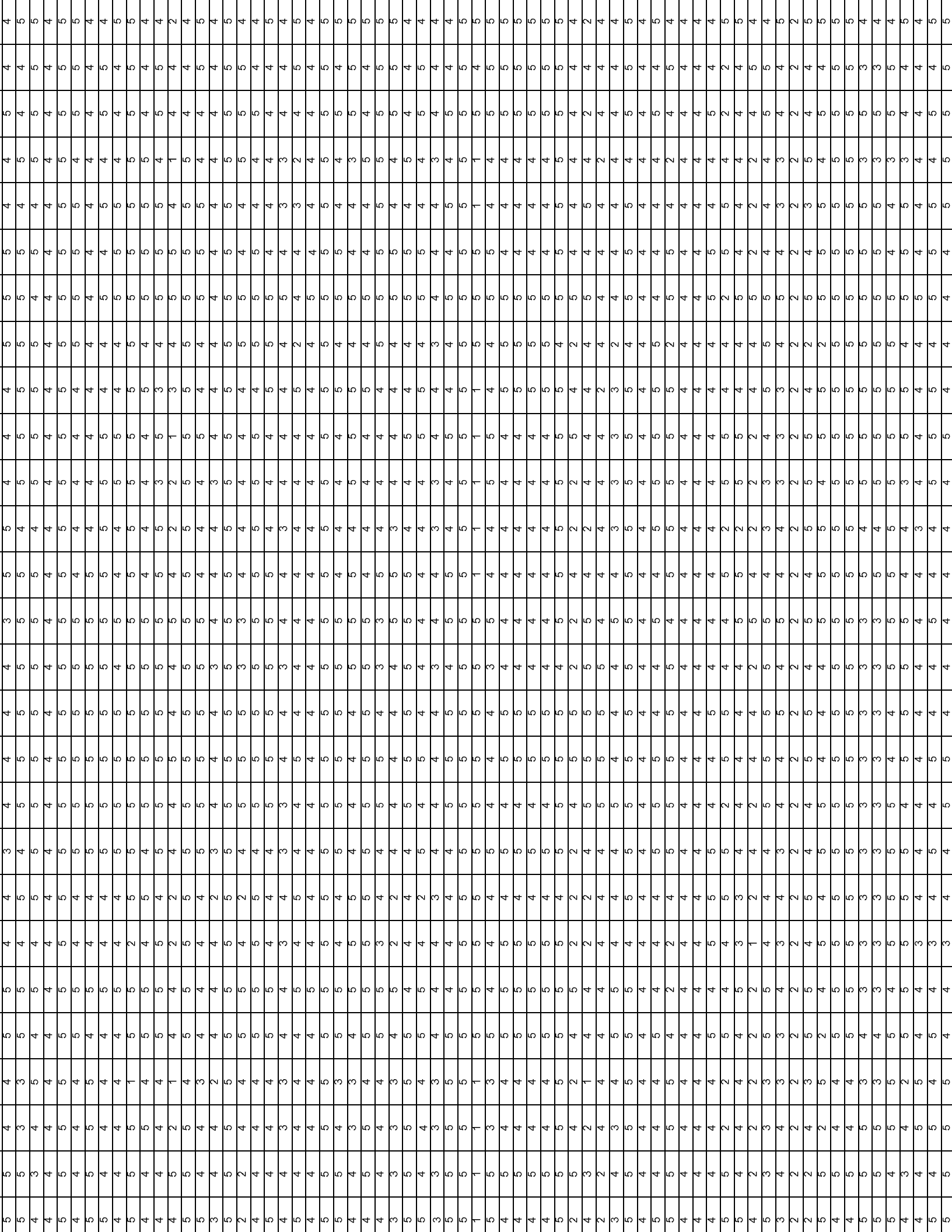
Powered by  **Google Forms**

This content is neither created nor endorsed by Google.  
[Report Abuse](#) - [Terms of Service](#) - [Additional Terms](#)

**EXHIBIT 7**  
**CONTRACT AWARD RESPONSES**















**EXHIBIT 8**  
**PROJECT PERFORMANCE RESPONSES**



















## EXHIBIT 9

### RELIABILITY STATISTICS- CRONBACK ALPHA OUTPUT

Scale: ALL VARIABLES

Case Processing Summary		
	N	%
Valid	79	88.8
Cases Excluded <sup>a</sup>	10	11.2
Total	89	100.0

Listwise deletion based on all variables in the procedure.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.942	.945	46

**EXHIBIT 10**  
**CORRELATION MATRIX- CONTRACT AWARD PARAMETERS**



4.3. Select	.336	.323	145	314	.370	.067	.355	.369	.071	1000	.183	.402	.209	-.019	.342	.367	.409	126	.381	.361	.260	.363	.152	-.039	.499	.386	.304	.311	.007	.168	.250	.385	.553	.041	
Parameters as per importance to measure Technical competency of bidder during 4.3. Select																																			
Parameters as per importance to measure Technical competency of bidder during 4.3. Select	-.103	.338	.224	.430	.328	.386	.428	.150	.219	.183	1000	.489	.323	.344	.656	.630	.279	.299	.496	.436	.276	.275	.090	.326	.532	.417	.498	.279	.263	.569	.217	.566	.358	.097	
Parameters as per importance to measure Technical competency of bidder during 4.4. Select	-.170	.401	.287	.371	.369	.419	.548	.462	.219	.402	.489	1000	.451	.473	.705	.634	.469	.331	.656	.510	.429	.424	.349	.300	.516	.651	.489	.456	.242	.571	.264	.700	.547	.151	
Parameters as per importance to measure HSE competency of bidder during 4.3. Select	-.029	.362	.354	.305	.066	.195	.253	.333	.199	.340	.209	.323	.451	1000	.377	.417	.107	.414	.413	.361	.304	.067	.267	.263	.305	.426	.211	.367	.370	.308	.123	.331	.251	.187	
Parameters as per importance to measure HSE competency of bidder during 4.4. Select	-.009	.140	.044	.334	.182	.182	.265	.276	.305	.462	-.019	.344	.473	.377	1000	.497	.318	.011	.158	.372	.100	.238	.293	.243	.403	.162	.364	.118	.144	.471	.407	.054	.333	.127	.041
Parameters as per importance to measure HSE competency of bidder during 4.3. Select	-.216	.469	.366	.553	.299	.279	.266	.462	.354	.227	.342	.656	.705	.417	.497	1000	.760	.302	.556	.369	.144	.566	.349	.161	.646	.602	.468	.312	.357	.552	.232	.621	.506	.127	
Parameters as per importance to measure HSE competency of bidder during 4.4. Select	-.132	.295	.296	.440	.509	.309	.417	.553	.469	.320	.367	.630	.634	.255	.318	.760	.482	.382	.566	.383	.212	.521	.380	.167	.532	.622	.562	.234	.351	.430	.465	.504	.581	.155	
Parameters as per importance to measure HSE competency of bidder during 4.3. Select	-.002	.103	.141	.071	.394	.309	.358	.419	.338	.138	.409	.279	.469	.107	.011	.219	.482	1000	.254	.345	.330	.219	.026	.280	.277	.386	.567	.259	-.061	.273	.283	.412	.462	.200	
Parameters as per importance to measure HSE competency of bidder during 4.4. Select	-.001	.195	.442	.191	.357	.360	.331	.464	.357	.330	.126	.299	.331	.414	.158	.302	.347	1000	.456	.295	.238	.146	.457	.386	.072	.446	.367	.386	.316	.273	.437	.339	.284	.107	
Parameters as per importance to measure Risk Management competency of bidder during 4.3. Select	-.041	.445	.447	.394	.366	.411	.394	.540	.449	.137	.381	.496	.656	.413	.372	.556	.254	.456	1000	.459	.239	.348	.320	.290	.526	.651	.347	.350	.325	.538	.291	.641	.484	.038	
Parameters as per importance to measure Risk Management competency of bidder during 4.4. Select	-.046	.330	.395	.349	.478	.422	.396	.336	.259	.203	.361	.436	.510	.361	.100	.369	.345	.295	.459	1000	.531	.360	.186	.115	.410	.475	.548	.332	.192	.277	.296	.577	.592	.134	
Parameters as per importance to measure Risk Management competency of bidder during Contract Award	.061	.222	.135	-.004	.440	.329	.477	.359	.245	.146	.260	.276	.429	.304	.238	.144	.212	.330	.239	.531	1000	.159	-.023	.263	.224	.404	.417	.151	.001	.248	.209	.519	.396	.144	
Parameters as per importance to measure Risk Management competency of bidder during Contract Award																																			

4.0. Bidder Parameters as per importance to measure Risk Management competency of bidder during Contract Award:	-064	349	266	388	583	449	204	313	437	208	383	275	424	067	293	566	521	219	146	348	380	159	1000	189	001	399	485	524	114	285	308	261	452	630	089
Parameters as per importance to measure Human Resources Management competency of bidder during Contract Award:	-029	033	279	227	290	131	234	275	427	472	152	090	349	267	243	349	380	028	457	320	186	-023	189	1000	179	-021	212	165	348	453	035	482	125	178	-028
Parameters as per importance to measure Human Resources Management competency of bidder during Contract Award:	-029	-065	025	026	255	405	305	302	221	387	-039	326	300	283	403	161	167	280	388	290	115	263	001	179	1000	066	136	166	288	400	213	278	260	057	165
Parameters as per importance to measure Human Resources Management competency of bidder during Contract Award:	-075	412	318	550	240	249	160	350	195	-115	499	532	516	305	162	646	532	277	072	526	410	224	399	-021	066	1000	558	316	256	081	488	-033	648	570	124
Parameters as per importance to measure Human Resources Management competency of bidder during Contract Award:	-096	490	369	422	448	402	447	614	452	088	386	417	651	426	364	602	622	386	446	651	475	404	485	212	136	558	1000	461	162	208	534	252	645	675	186
Parameters as per importance to measure Human Resources Management competency of bidder during Contract Award:	-087	394	351	183	460	446	535	513	351	323	304	498	489	211	118	468	562	567	367	347	548	417	524	165	166	316	461	1000	312	082	377	360	582	558	196
Parameters as per importance to measure Communication efficiency of bidder during Contract Award:	-072	252	256	232	190	340	185	225	112	359	311	279	456	367	144	312	234	259	388	350	332	151	114	348	288	256	162	312	1000	351	126	257	295	166	-036
Parameters as per importance to measure Communication efficiency of bidder during Contract Award:	-116	067	283	324	282	284	114	187	262	571	007	263	242	370	471	357	351	-061	316	325	192	001	285	453	400	081	208	082	351	1000	077	363	045	158	-050
Parameters as per importance to measure Communication efficiency of bidder during Contract Award:	-142	401	286	446	121	107	280	438	334	001	168	569	571	308	407	552	430	273	273	538	271	248	308	035	213	488	534	377	126	077	1000	018	616	281	133
Parameters as per importance to measure Communication efficiency of bidder during Contract Award:	-101	146	204	-073	472	390	370	365	275	387	250	217	264	123	054	232	465	283	437	291	286	209	281	492	-033	278	252	360	257	363	018	1000	117	292	041



4.7. Select Parameters as per importance to measure Communication efficiency of bidder during Contract Award. Parameters as per importance to measure.	-135	492	364	356	383	394	458	591	339	065	385	566	700	331	333	621	504	412	339	641	571	519	452	125	290	648	645	582	295	045	616	.117	1 000	602	1 000	197
Contract Award: 4.3 Lessons Learned noted in previous cases needs to be transferred while 3.23. Lessons learned from project performance is required to be recorded from 4.2. Select Parameters as per importance to measure.	-066	344	390	361	561	411	402	548	463	078	553	358	547	251	127	506	581	462	284	484	592	396	630	178	057	570	675	558	166	158	281	292	602	1 000	179	
Contract Award: 4.3 Lessons Learned noted in previous cases needs to be transferred while 3.23. Lessons learned from project performance is required to be recorded from 4.2. Select Parameters as per importance to measure.	433	127	-043	-020	113	068	155	182	074	022	041	097	151	187	041	127	155	200	107	039	134	144	089	-026	165	124	186	196	-036	-050	133	041	197	179	1 000	
Contract Award: 4.3 Lessons Learned noted in previous cases needs to be transferred while 3.23. Lessons learned from project performance is required to be recorded from 4.2. Select Parameters as per importance to measure.	005	000	000	035	195	442	033	001	113	254	029	018	000	275	429	000	003	488	489	201	174	108	098	000	279	063	025	039	072	009	002	020	003	089	000	
Contract Award: 4.3 Lessons Learned noted in previous cases needs to be transferred while 3.23. Lessons learned from project performance is required to be recorded from 4.2. Select Parameters as per importance to measure.	005	000	000	000	000	000	000	000	127	029	000	000	000	000	002	000	000	018	000	000	000	000	254	092	000	000	000	000	000	000	000	001	000	000	005	
Contract Award: 4.3 Lessons Learned noted in previous cases needs to be transferred while 3.23. Lessons learned from project performance is required to be recorded from 4.2. Select Parameters as per importance to measure.	000	000	000	000	000	000	000	000	000	004	000	000	000	000	184	000	000	002	000	000	000	003	000	000	309	000	000	000	000	000	000	000	000	000	189	
Contract Award: 4.3 Lessons Learned noted in previous cases needs to be transferred while 3.23. Lessons learned from project performance is required to be recorded from 4.2. Select Parameters as per importance to measure.	035	000	000	000	000	397	094	002	000	008	002	000	000	000	000	000	000	075	000	000	000	469	000	000	295	000	000	000	000	000	000	068	000	000	340	
Contract Award: 4.3 Lessons Learned noted in previous cases needs to be transferred while 3.23. Lessons learned from project performance is required to be recorded from 4.2. Select Parameters as per importance to measure.	195	000	000	000	000	000	000	000	000	000	000	000	000	089	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	007	000	000	011		
Contract Award: 4.3 Lessons Learned noted in previous cases needs to be transferred while 3.23. Lessons learned from project performance is required to be recorded from 4.2. Select Parameters as per importance to measure.	442	000	000	397	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	004	000	000	000	000	000	000	000	015	000	000	082		
Contract Award: 4.3 Lessons Learned noted in previous cases needs to be transferred while 3.23. Lessons learned from project performance is required to be recorded from 4.2. Select Parameters as per importance to measure.	033	000	000	094	000	000	000	000	000	000	038	000	000	000	000	000	000	000	000	000	000	000	000	000	000	001	000	000	000	010	000	000	000	001		
Contract Award: 4.3 Lessons Learned noted in previous cases needs to be transferred while 3.23. Lessons learned from project performance is required to be recorded from 4.2. Select Parameters as per importance to measure.	001	000	000	002	000	000	000	000	000	004	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	
Contract Award: 4.3 Lessons Learned noted in previous cases needs to be transferred while 3.23. Lessons learned from project performance is required to be recorded from 4.2. Select Parameters as per importance to measure.	113	127	000	000	000	000	000	000	000	000	000	001	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	066	







## EXHIBIT 11

### FACTOR ANALYSIS- INITIAL FACTOR SOLUTION FOR CONTRACT AWARD FACTORS

**Output of KMO & Bartlett's test, Commuality, estimated factors.**

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.702
	Approx. Chi-Square	34397.696
Bartlett's Test of Sphericity	df	2278
	Sig.	.000

Communalities		
	Initial	Extraction
VAR00001	1.000	.521
VAR00002	1.000	.686
VAR00003	1.000	.787
VAR00004	1.000	.737
VAR00005	1.000	.829
VAR00006	1.000	.809
VAR00007	1.000	.513
VAR00008	1.000	.787
VAR00009	1.000	.752
VAR00010	1.000	.869

VAR00011	1.000	.843
VAR00012	1.000	.813
VAR00013	1.000	.738
VAR00014	1.000	.819
VAR00015	1.000	.798
VAR00016	1.000	.867
VAR00017	1.000	.810
VAR00018	1.000	.817
VAR00019	1.000	.768
VAR00020	1.000	.722
VAR00021	1.000	.883
VAR00022	1.000	.813
VAR00023	1.000	.745
VAR00024	1.000	.768
VAR00025	1.000	.730
VAR00026	1.000	.831
VAR00027	1.000	.709
VAR00028	1.000	.793
VAR00029	1.000	.763
VAR00030	1.000	.742
VAR00031	1.000	.756
VAR00032	1.000	.784
VAR00033	1.000	.826
VAR00034	1.000	.801
VAR00035	1.000	.779

Communalities		
	Initial	Extraction
VAR00036	1.000	.793
VAR00037	1.000	.831
VAR00038	1.000	.779
VAR00039	1.000	.767
VAR00040	1.000	.732
VAR00041	1.000	.805
VAR00042	1.000	.816
VAR00043	1.000	.729
VAR00044	1.000	.816
VAR00045	1.000	.732
VAR00046	1.000	.812
VAR00047	1.000	.751
VAR00048	1.000	.763
VAR00049	1.000	.806
VAR00050	1.000	.775
VAR00051	1.000	.900
VAR00052	1.000	.849
VAR00053	1.000	.810
VAR00054	1.000	.853
VAR00055	1.000	.470
VAR00056	1.000	.879
VAR00057	1.000	.877
VAR00058	1.000	.844
VAR00059	1.000	.858
VAR00060	1.000	.815
VAR00061	1.000	.639

VAR00062	1.000	.846
VAR00063	1.000	.860
VAR00064	1.000	.874
VAR00065	1.000	.837
VAR00066	1.000	.748
VAR00067	1.000	.892
VAR00068	1.000	.729



**FACTOR ANALYSIS- ROTATED FACTOR SOLUTION  
FOR CONTRACT AWARD FACTORS**

**Extraction Method- Principle Component Analysis- Scree Plot,  
Rotated Factor solution (Rotation by Verimax), Total Variance  
explained by factors, Component Matrix**

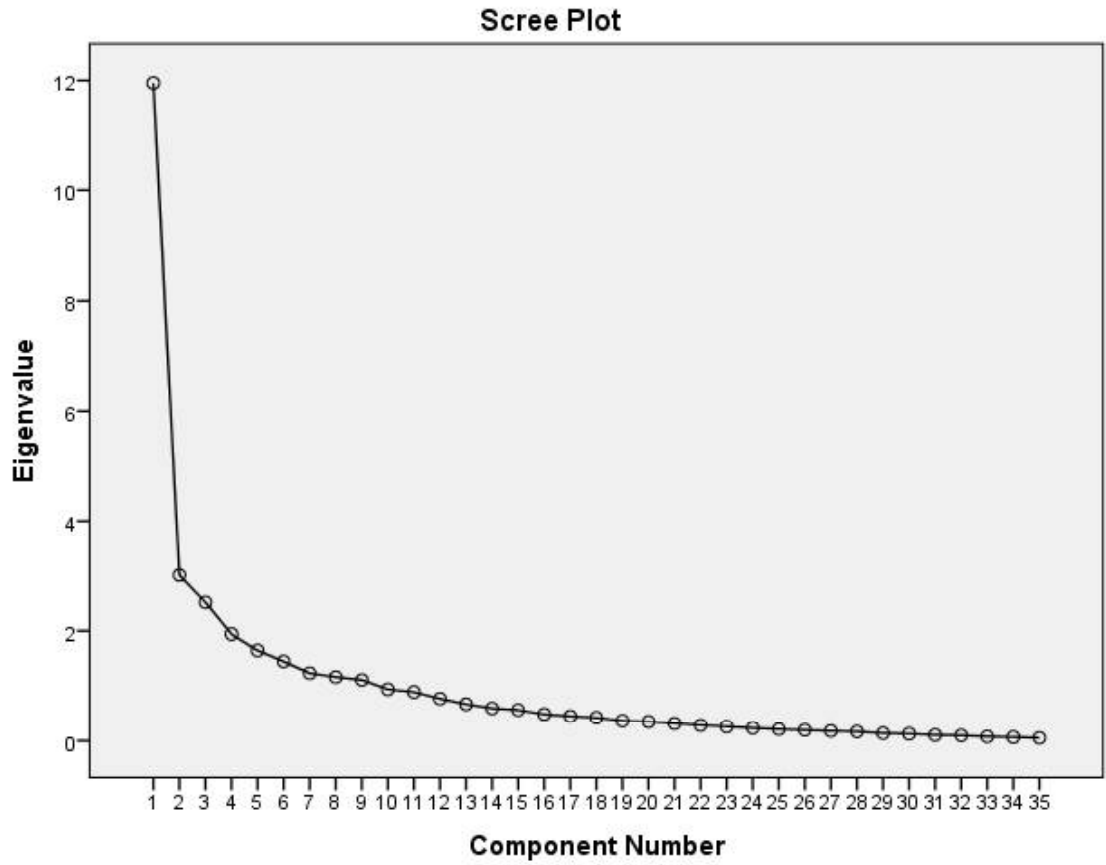
Component	Total Variance Explained		
	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	11.953	34.152	34.152
2	3.009	8.597	42.748
3	2.516	7.188	49.936
4	1.940	5.543	55.479
5	1.645	4.699	60.178
6	1.445	4.128	64.306
7	1.232	3.519	67.825
8	1.162	3.320	71.144
9	1.110	3.171	74.315
10	.939	2.683	76.999
11	.890	2.542	79.541
12	.769	2.196	81.736
13	.669	1.911	83.647
14	.593	1.694	85.341
15	.563	1.608	86.949
16	.485	1.386	88.334
17	.449	1.284	89.618
18	.423	1.207	90.825
19	.365	1.044	91.869
20	.349	.996	92.866

21	.316	.902	93.767
22	.283	.808	94.575
23	.259	.740	95.315
24	.231	.660	95.975
25	.210	.601	96.576
26	.196	.559	97.135
27	.178	.510	97.644
28	.166	.475	98.119
29	.136	.390	98.509
30	.127	.363	98.872
31	.105	.300	99.172
32	.096	.276	99.448
33	.075	.214	99.662
34	.066	.188	99.850
35	.053	.150	100.000

Extraction Method: Principal Component Analysis.

**Component  
Matrix<sup>a</sup>**

a. 9 components  
extracted.



Total Variance Explained			
Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	6.010	17.171	17.171
2	3.756	10.732	27.903
3	3.490	9.973	37.876
4	3.098	8.853	46.729
5	2.431	6.947	53.676
6	2.036	5.817	59.493
7	1.755	5.014	64.506
8	1.750	4.999	69.505
9	1.683	4.810	74.315

Extraction Method: Principal Component Analysis.

**Component Transformation Matrix**

Component	1	2	3	4	5	6	7
1	.617	.436	.271	.368	.285	.216	.105
2	-.336	-.088	.886	.125	-.159	.063	-.215
3	-.599	.421	-.218	.472	-.150	.175	.316
4	.128	-.545	.018	.216	-.063	.633	.369
5	.254	.292	.071	-.206	-.780	.032	.264
6	-.095	.186	.264	-.571	.235	-.029	.571
7	-.034	-.237	.116	.271	.214	-.517	.541
8	.129	-.388	-.041	.040	-.344	-.194	.129
9	-.199	-.042	-.067	-.368	.195	.459	.032

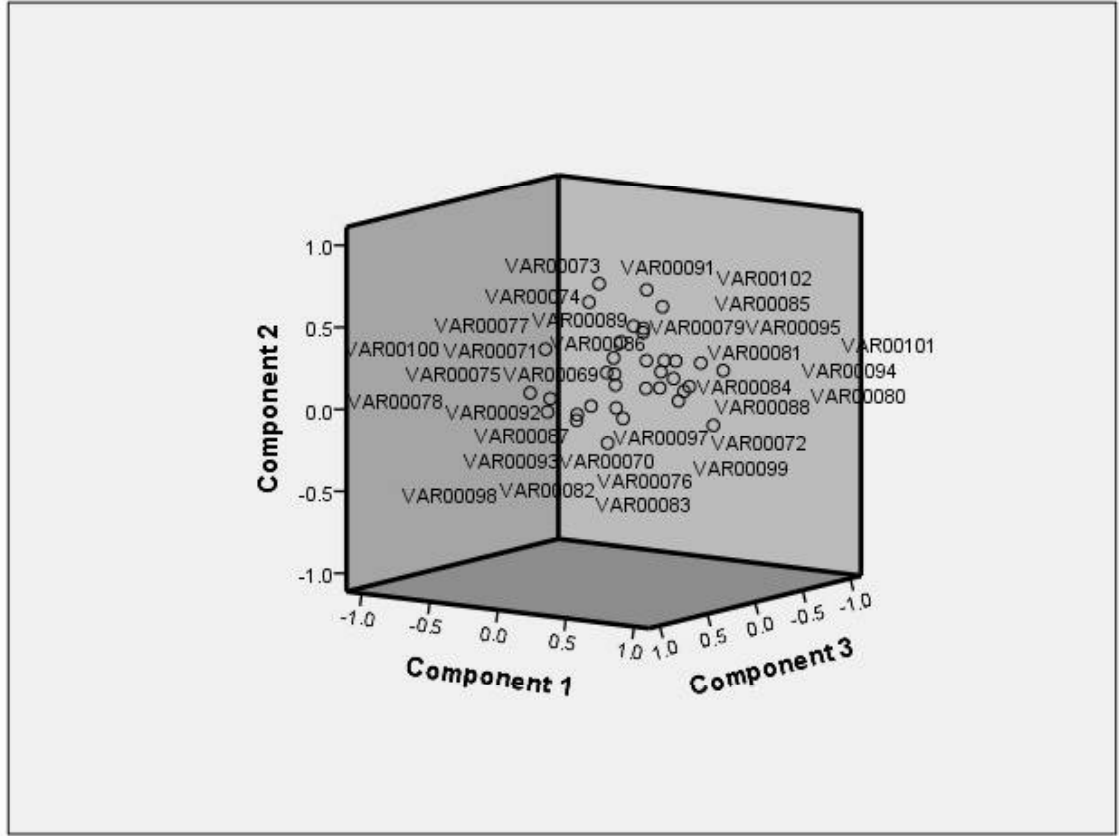
**Component Transformation Matrix**

Component	8	9
1	.216	.185
2	.060	.005
3	.031	.197
4	-.297	-.101
5	.103	-.335
6	-.287	.309
7	.288	-.408
8	.365	.724
9	.743	-.134

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

**Component Plot in Rotated Space**



**Component Score Coefficient Matrix**

	Component						
	1	2	3	4	5	6	7
VAR00069	-.042	.037	.046	-.088	.024	-.027	.522
VAR00070	-.019	.034	-.061	.024	.379	.001	-.039
VAR00071	-.073	-.022	.031	.026	.398	-.116	-.022

VAR00072	.202	-.006	.081	-.206	-.033	-.132	.049
VAR00073	-.073	.302	.032	-.046	-.082	.043	-.035
VAR00074	-.111	.271	.028	-.069	.047	.194	-.101
VAR00075	-.056	-.015	-.031	.317	.073	.087	-.016
VAR00076	-.001	-.107	-.051	.281	.093	-.018	-.009
VAR00077	-.025	.026	.007	-.048	-.120	.052	-.032
VAR00078	-.035	.045	.268	-.034	-.088	.005	.079
VAR00079	-.044	.078	-.086	-.149	.044	-.025	.003
VAR00080	.210	-.011	.030	.118	-.128	-.050	-.024
VAR00081	.094	-.050	-.026	-.016	-.068	.115	-.056
VAR00082	-.017	-.187	.119	-.143	.226	.161	.172
VAR00083	.100	-.010	.129	-.115	-.067	.262	-.035
VAR00084	.196	-.016	.055	.007	-.025	-.149	-.004
VAR00085	.148	.014	.051	.159	-.152	-.265	.052
VAR00086	.042	-.046	-.107	.187	-.265	-.037	.009
VAR00087	-.065	-.156	.095	.165	.097	-.039	.022
VAR00088	.050	-.059	-.006	-.011	.100	.077	-.082
VAR00089	-.039	.149	-.004	-.101	.097	.090	.045
VAR00090	-.100	.105	-.081	-.055	.027	.388	.030
VAR00091	.033	.318	.022	-.095	-.012	-.107	-.024
VAR00092	-.056	-.087	.196	.063	.063	-.188	.002
VAR00093	.012	-.077	.109	.044	-.182	.287	-.031
VAR00094	.181	.009	-.090	-.138	-.017	-.029	.020
VAR00095	.036	.000	-.054	.010	.092	.046	.027
VAR00096	.027	.110	-.019	.192	-.054	-.108	.043
VAR00097	.007	-.070	.105	-.081	.020	.039	-.075
VAR00098	-.005	.064	.278	-.123	.061	-.010	-.005
VAR00099	.200	-.154	-.083	.083	-.051	.067	-.060

VAR00100	-.110	.089	.121	.222	.004	-.171	-.031
VAR00101	.093	.000	-.108	.015	.008	.148	-.042
VAR00102	-.008	.161	-.066	-.038	.033	-.056	.061
VAR00103	.002	-.107	.046	.043	-.026	-.087	.532

**Component Score Coefficient Matrix**

	Component	
	8	9
VAR00069	-.069	.003
VAR00070	-.159	-.112
VAR00071	-.027	-.002
VAR00072	-.016	.044
VAR00073	.020	-.068
VAR00074	-.163	.032
VAR00075	-.098	-.193
VAR00076	.075	-.110
VAR00077	.479	-.059
VAR00078	-.083	.028
VAR00079	.240	.297
VAR00080	-.375	.055
VAR00081	.139	.083
VAR00082	.111	.077
VAR00083	.038	-.296
VAR00084	-.081	-.052
VAR00085	-.031	-.012
VAR00086	.089	.331
VAR00087	.122	.114
VAR00088	.121	.009

VAR00089		-.097	.116
VAR00090		.045	-.025
VAR00091		-.035	-.229
VAR00092		.232	.010
VAR00093		-.061	.094
VAR00094		-.039	.156
VAR00095		.193	-.141
VAR00096		-.209	.044
VAR00097		-.134	.477
VAR00098		-.088	-.095
VAR00099		.025	-.074
VAR00100		-.055	.017
VAR00101		-.006	.020
VAR00102		.138	-.023
VAR00103		.084	-.076

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Component Scores.



**EXHIBIT 12**

**CORRELATION MATRIX FOR PROJECT  
PERFORMANCE PARAMETERS**













## EXHIBIT 13

### FACTOR ANALYSIS- INITIAL FACTOR SOLUTION FOR PROJECT PERFORMANCE FACTORS

**Initial factor solution, KMO, Bartlett's test, Communality,  
estimated factors.**

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.809
Bartlett's Test of Sphericity	Approx. Chi-Square	11510.470
	df	595
	Sig.	.000

Communalities		
	Initial	Extraction
VAR00001	1.000	.521
VAR00002	1.000	.686
VAR00003	1.000	.787
VAR00004	1.000	.737
VAR00005	1.000	.829
VAR00006	1.000	.809
VAR00007	1.000	.513
VAR00008	1.000	.787
VAR00009	1.000	.752
VAR00010	1.000	.869
VAR00011	1.000	.843



VAR00012	1.000	.813
VAR00013	1.000	.738
VAR00014	1.000	.819
VAR00015	1.000	.798
VAR00016	1.000	.867
VAR00017	1.000	.810
VAR00018	1.000	.817
VAR00019	1.000	.768
VAR00020	1.000	.722
VAR00021	1.000	.883
VAR00022	1.000	.813
VAR00023	1.000	.745
VAR00024	1.000	.768
VAR00025	1.000	.730
VAR00026	1.000	.831
VAR00027	1.000	.709
VAR00028	1.000	.793
VAR00029	1.000	.763
VAR00030	1.000	.742
VAR00031	1.000	.756
VAR00032	1.000	.784
VAR00033	1.000	.826
VAR00034	1.000	.801
VAR00035	1.000	.779

**Communalities**

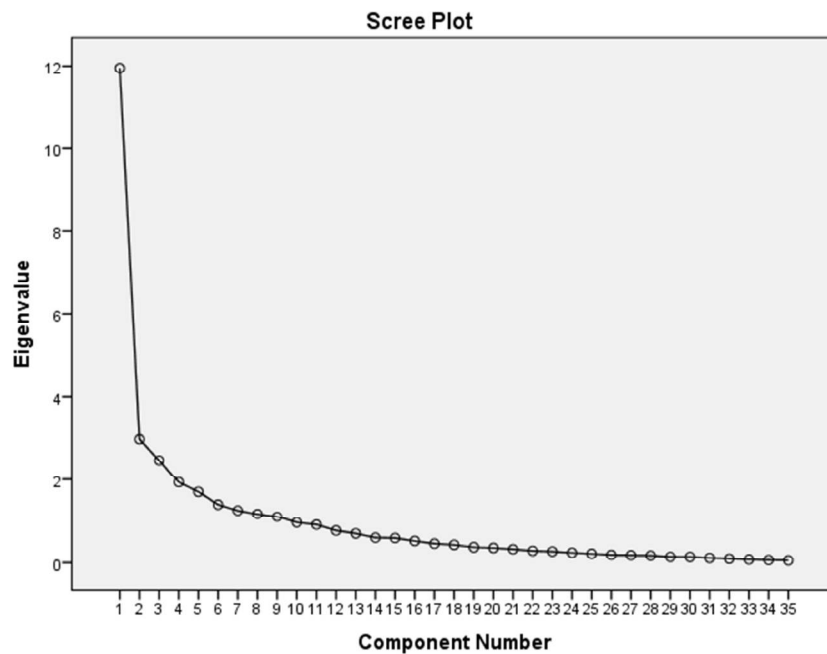
	Initial	Extraction
VAR00036	1.000	.793
VAR00037	1.000	.831
VAR00038	1.000	.779
VAR00039	1.000	.767
VAR00040	1.000	.732
VAR00041	1.000	.805
VAR00042	1.000	.816
VAR00043	1.000	.729
VAR00044	1.000	.816
VAR00045	1.000	.732
VAR00046	1.000	.812
VAR00047	1.000	.751
VAR00048	1.000	.763
VAR00049	1.000	.806
VAR00050	1.000	.775
VAR00051	1.000	.900
VAR00052	1.000	.849
VAR00053	1.000	.810
VAR00054	1.000	.853
VAR00055	1.000	.470
VAR00056	1.000	.879
VAR00057	1.000	.877
VAR00058	1.000	.844
VAR00059	1.000	.858
VAR00060	1.000	.815
VAR00061	1.000	.639
VAR00062	1.000	.846

VAR00063	1.000	.860
VAR00064	1.000	.874
VAR00065	1.000	.837
VAR00066	1.000	.748
VAR00067	1.000	.892
VAR00068	1.000	.729

Extraction Method: Principal  
Component Analysis.

## ROTATED FACTOR SOLUTION FOR PROJECT PERFORMANCE FACTORS AND PARAMETERS

### Scree Plot – Project Performance Components



### Total Variance explained

<b>Total Variance Explained</b>						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	18.720	27.529	27.529	18.720	27.529	27.529
2	7.708	11.335	38.864	7.708	11.335	38.864
3	4.246	6.245	45.109	4.246	6.245	45.109
4	3.665	5.390	50.499	3.665	5.390	50.499
5	2.862	4.209	54.708	2.862	4.209	54.708
6	2.435	3.582	58.290	2.435	3.582	58.290
7	2.365	3.478	61.767	2.365	3.478	61.767

8	1.790	2.632	64.399	1.790	2.632	64.399
9	1.698	2.497	66.896	1.698	2.497	66.896
10	1.565	2.301	69.198	1.565	2.301	69.198
11	1.380	2.030	71.227	1.380	2.030	71.227
12	1.297	1.907	73.134	1.297	1.907	73.134
13	1.124	1.653	74.787	1.124	1.653	74.787
14	1.084	1.594	76.381	1.084	1.594	76.381
15	1.074	1.579	77.960	1.074	1.579	77.960
16	.962	1.414	79.374			
17	.892	1.312	80.686			
18	.865	1.272	81.958			
19	.784	1.153	83.111			
20	.754	1.108	84.219			
21	.717	1.055	85.274			
22	.674	.991	86.266			
23	.626	.920	87.185			
24	.579	.851	88.036			
25	.567	.834	88.871			
26	.552	.812	89.682			
27	.492	.723	90.405			
28	.460	.676	91.081			
29	.429	.630	91.712			
30	.405	.596	92.307			
31	.370	.544	92.852			
32	.336	.493	93.345			
33	.316	.465	93.810			
34	.306	.450	94.260			
35	.292	.430	94.690			
36	.279	.411	95.101			
37	.264	.389	95.490			
38	.236	.347	95.837			
39	.235	.345	96.182			
40	.222	.326	96.508			
41	.205	.301	96.810			
42	.194	.285	97.095			
43	.180	.264	97.359			
44	.171	.252	97.611			
45	.161	.237	97.848			
46	.144	.212	98.060			
47	.133	.195	98.255			
48	.125	.184	98.439			
49	.113	.166	98.605			
50	.102	.150	98.754			

51	.100	.147	98.901		
52	.092	.135	99.036		
53	.091	.133	99.169		
54	.085	.125	99.295		
55	.077	.113	99.407		
56	.066	.097	99.504		
57	.060	.089	99.593		
58	.052	.077	99.670		
59	.044	.065	99.735		
60	.037	.055	99.790		
61	.036	.053	99.843		
62	.025	.037	99.880		
63	.021	.031	99.911		
64	.018	.027	99.938		
65	.014	.020	99.958		
66	.011	.016	99.975		
67	.010	.015	99.990		
68	.007	.010	100.000		

Rotated Component Matrix

**EXHIBIT 14**  
**CONTRACT AWARD FACTORS AND COMPONENTS**





**EXHIBIT 15**  
**PROJECT PERFORMANCE FACTORS AND**  
**COMPONENTS**



**EXHIBIT 16**

**FRAMING CONTRACT AWARD INDEX**







A large grid table with multiple rows and columns containing numerical values. The grid is densely packed and covers the entire page area.

**EXHIBIT 17**

**FRAMING PROJECT PERFORMANCE INDEX**

















The image displays a large grid of data, likely a table with 100 columns and 100 rows. Each cell in the grid contains a numerical value. The values are organized in a pattern that suggests a grid of 100 columns and 100 rows. The numbers are small and densely packed, with some rows appearing to be identical or very similar. The data is presented in a standard tabular format with vertical and horizontal lines separating the cells.





5	5	5	5	5	5	2.68	2.68	5	4	4	4	1.68	4	4	1.47	5	5	5	2.43
3	5	4	4	5	5	2.34	2.34	5	5	2	2	1.86	2	5	0.89	3	3	3	1.21
2	4	4	4	2	5	1.82	1.82	5	4	3	3	1.68	5	1	1.09	1	1	1	0.40
4	5	5	5	2	4	2.04	2.04	4	5	2	2	1.67	2	4	0.76	4	5	4	1.72
2	4	4	4	2	5	1.82	1.82	5	4	3	1	1.68	5	3	1.09	1	1	1	0.53
4	3	4	4	5	4	1.99	1.99	4	5	5	4	1.79	5	4	1.83	5	4	3	1.99
5	5	5	4	4	5	2.51	2.51	5	5	5	4	1.86	5	4	1.83	3	4	4	1.78
5	5	4	4	5	4	2.36	2.36	4	4	3	5	1.49	3	5	1.45	4	4	5	2.09
4	5	5	5	5	5	2.68	2.68	5	5	5	4	1.99	5	4	1.83	4	4	4	1.69

## EXHIBIT 18

### Regression Analysis output

Dependent Variable- PPI

Independent Variables- CA Factors

Contract Award Index CAI affecting Project  
Performance Index PPI

### Regression Output

VAR00001- CAI (Predictor)

VAR00002- PPI (Dependent Variable)

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.477 <sup>a</sup>	.228	.226	.37635	1.641
a. Predictors: (Constant), VAR00001					
b. Dependent Variable: VAR00002					

ANOVA <sup>a</sup>						
Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	17.219	1	17.219	121.568	.000 <sup>b</sup>
	Residual	58.355	412	.142		
	Total	75.574	413			
a. Dependent Variable: VAR00002						
b. Predictors: (Constant), VAR00001						

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	
					B
1	(Constant)	2.007	.056	35.817	.000

VAR00001	.486	.044	.477	11.026	.000
a. Dependent Variable: VAR00002					

Residuals Statistics <sup>a</sup>					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.8966	3.0249	2.5900	.23040	414
Residual	-1.89658	.77203	.00000	.36042	414
Std. Predicted Value	-3.010	1.888	.000	1.000	414
Std. Residual	-5.211	2.121	.000	.990	414

Each Contract Award Factor FC1....FC8  
affecting Project Performance Index PPI

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.539 <sup>a</sup>	.290	.276	.36396	1.620
a. Predictors: (Constant), VAR00020, VAR00018, VAR00019, VAR00017, VAR00015, VAR00016, VAR00013, VAR00014					
b. Dependent Variable: VAR00002					

VAR 00002-PPI (Dependable Variable)

VAR00013....VAR00020- Factors of Contract Award (Constants)

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.924	8	2.741	20.688	.000 <sup>b</sup>
	Residual	53.650	405	.132		
	Total	75.574	413			

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.646	.127		12.921	.000
	VAR00013	-.040	.016	-.159	-2.544	.011
	VAR00014	.214	.033	.407	6.385	.000
	VAR00015	.096	.048	.098	1.995	.047
	VAR00016	.021	.034	.037	.616	.539

VAR00017	.254	.063	.208	4.033	.000
VAR00018	.206	.102	.087	2.019	.044
VAR00019	-.085	.145	-.029	-.589	.556
VAR00020	.091	.070	.069	1.291	.197

Residuals Statistics <sup>a</sup>					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.8966	3.0249	2.5900	.23040	414
Residual	-1.89658	.77203	.00000	.36042	414
Std. Predicted Value	-3.010	1.888	.000	1.000	414
Std. Residual	-5.211	2.121	.000	.990	414

Each Project Performing Factor FP1....FP10 affecting future Contract Award Index CAI

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.551 <sup>a</sup>	.304	.286	.35509	1.477

VAR 00001-CAI (Dependable Variable)

VAR00004....VAR00012- Factors of Project Performance (Constants)

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.146	10	2.215	17.563	.000 <sup>b</sup>
	Residual	50.815	403	.126		
	Total	72.960	413			

Coefficients <sup>a</sup>					
---------------------------	--	--	--	--	--

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.215	.169		1.270	.205
	VAR00003	-.141	.036	-.256	-3.918	.000
	VAR00004	.167	.033	.359	5.133	.000
	VAR00005	-.109	.053	-.139	-2.046	.041
	VAR00006	.136	.049	.164	2.752	.006
	VAR00007	.053	.068	.049	.781	.435
	VAR00008	-.098	.086	-.079	-1.143	.254
	VAR00009	.104	.091	.064	1.145	.253
	VAR00010	-.169	.070	-.145	-2.420	.016
	VAR00011	.383	.055	.437	7.023	.000
	VAR00012	.194	.061	.158	3.198	.001

Residuals Statistics <sup>a</sup>					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.5304	1.6847	1.2004	.23156	414
Residual	-1.25035	.74901	.00000	.35077	414
Std. Predicted Value	-2.893	2.091	.000	1.000	414
Std. Residual	-3.521	2.109	.000	.988	414

**EXHIBIT 19**  
**CASE STUDY**

**CASE STUDY VERIFICATION OF CAI AND PREDICTED PPI. (THE ORGANISATION DO NOT WANT TO DISCLOSE ITS NAME HENCE IT IS TAKEN AS Company X has floated RFQ for one of Deepwater Exploration block of India to Certify design for Engineering consultant project allotted worth INR 200 Crore. Budget for this design certification work was 12 crore. Three bidder's A, B, C were pre-qualified for the work. Two Bidders A,B were qualified for technical evaluation of the bid. (Bidder C did not qualified due to non-fulfillment of RFQ response within due time.) Evaluation of bidder A & B as per CAI calculated Maximum points -10, Minimum points to be scored -4 as decided by stakeholder**

**Calculation of Contract Award Index**

Each Parameter score for bidder is calculated,  $Z = W \cdot X$ . Each Factor composite Score FC is calculated  $= (\sum Z_n / n)$  where n = number of parameters under a Factor

Parameters	Criteria: Points 10,8,6,4	Component score from Study W	Actual Points scored by bidder A	Score, X of A	Actual Points scored by bidder B	Score, X of B	Parameters	Criteria: Points 10,8,6,4	Component score from Study W	Actual Points scored by bidder A	Score, X of A	Actual Points scored by bidder B	Score, X of B
FC1	HSE competency of bidder: [Environmental Policy]	.787	8.000	.525	6.000	.262	FC2	Technical competency: [Engineering capability]	.740	6.000	.247	8.000	.493
2	Human Resources Management : [Training & development to Manpower]	.773	8.000	.515	6.000	.258		Human Resources Management : [Number of Manpower]	.739	8.000	.493	6.000	.246
3	Top Management support and involvement	.743	8.000	.495	6.000	.248		Communication efficiency : [Communication within Bidder organisation]	.734	8.000	.489	6.000	.245
4	Financial competency: [Working Capital]	.728	10.000	.728	8.000	.485		Human Resources Management : [Quality of Manpower]	.543	6.000	.181	8.000	.362
5	Technical competency: [Development of strategy]	.659	8.000	.440	10.000	.659		[Capability to address Economic risk]	.538	8.000	.358	6.000	.179
6	Update on Regulatory and Statutory system	.648	8.000	.432	8.000	.432		<b>Score for FC2 Competency of Bidder's Organisation</b>			<b>1.768</b>		<b>1.525</b>
7	Accreditation with various bodies	.641	6.000	.214	10.000	.641	FC3	Financial competency of bidder : [P/E Ratio]	.829	10.000	.829	8.000	.553
8	Capability to address Political risk	.632	8.000	.422	6.000	.211		Financial competency: [Earning per share]	.794	10.000	.794	6.000	.265
9	Empowerment of Manpower	.607	8.000	.405	6.000	.202		<b>Score for FC3 Financial Standing of Bidder</b>			<b>1.623</b>		<b>0.818</b>



10	HSE competency Social responsibility	Sponsorship, scholarship, CSR activities, upliftment to weak society project	.581	6.000	.194	8.000	.388	FC4	Risk Management : [Capability to handle unforeseen contingency]		.869	8.000	.579	6.000	.290
	<b>Score for FC1, Market reputation &amp; brand value</b>				4.369		<b>3.786</b>	2	Financial competency: [Financial Risk]		.626	8.000	.417	6.000	.209
FC5	Financial competency : [Cost savings]		.653	8	.435	6	0.218	3	Communication efficiency : [Update with National/International approval bodies]		.602	6.000	.201	6.000	.201
2	Risk Management : [Capability to address Legal & Statutory requirements]		.577	8	.385	6	0.192		<b>Score for FC4 Contingency Planning of Bidder</b>				<b>1.197</b>		<b>0.699</b>
3	Risk Management : [Capability to address Regulatory Changes]	Technical knowhow, stable top management, quality policy,	.556	8	.371	8	0.371	FC6	[Ethical values]	market reputation, no of unfair cases against company, no of unlawful cases against employees	.82	10.00	.82	10.00	.82
	<b>Score for FC5 Risk &amp; Cost Control Capability of Bidder</b>				1.191		<b>0.781</b>		Technical competency: [Emphasis on research and innovations]	Inhouse R&D centre, Research sponsorship to employee, to research centres	.55	6.00	.18	10.00	.55
FC7	Financial competency: [Return on Capital employed]	Project Performance Index	.549	6	0.183	6	0.183		<b>Score for FC6 Ethics &amp; Innovation within Bidder's organisation</b>				<b>1.009</b>		<b>1.379</b>
2	Relevant experience & past performance	Relevant projects performed, opinion from past performing companies, repeat orders from same company for similar project	.480	6	2.882	8	3.843	FC8	Human Resources Management : [Attrition Rate]	no. of employees on company payroll for last 10 years, 5 years, current employee list, PF	.432	8	0.288	8	0.288
	<b>Score for FC7 Past experience &amp; Performance</b>				3.065		<b>4.026</b>		<b>Score for FC6 Bidder's Reputation as an employer</b>				<b>0.288</b>		<b>0.288</b>

CAI, Contract Award Index = 8V(FC1 x FC2 x FC3 x FC4 x FC5 x FC6 x FC7 x FC8)

CAI for A 1.413

CAI for B 1.194

Hence Technical Bid is won by Bidder A

During performance of the project, Contractor A will be evaluated as per PPI factors and will be given PPI score at the end of the project completion. This PPI will be used for next CAI under Factor 7 (Past experience & performance). In consecutive bids, past performance will have cumulative score for each bidder. So bidder completing more contracts in the same category will have higher score in F7.

Project Performance (predicted) = 1.763 - 0.064\*FC2 + 0.089\*FC4 + 0.342\*FC5 - 0.359\*FC7

PPI improvement predicted 1.063169548