MARCH 2023

VIEWPOINT

OFFICIAL QUARTERLY MAGAZINE OF CEAI

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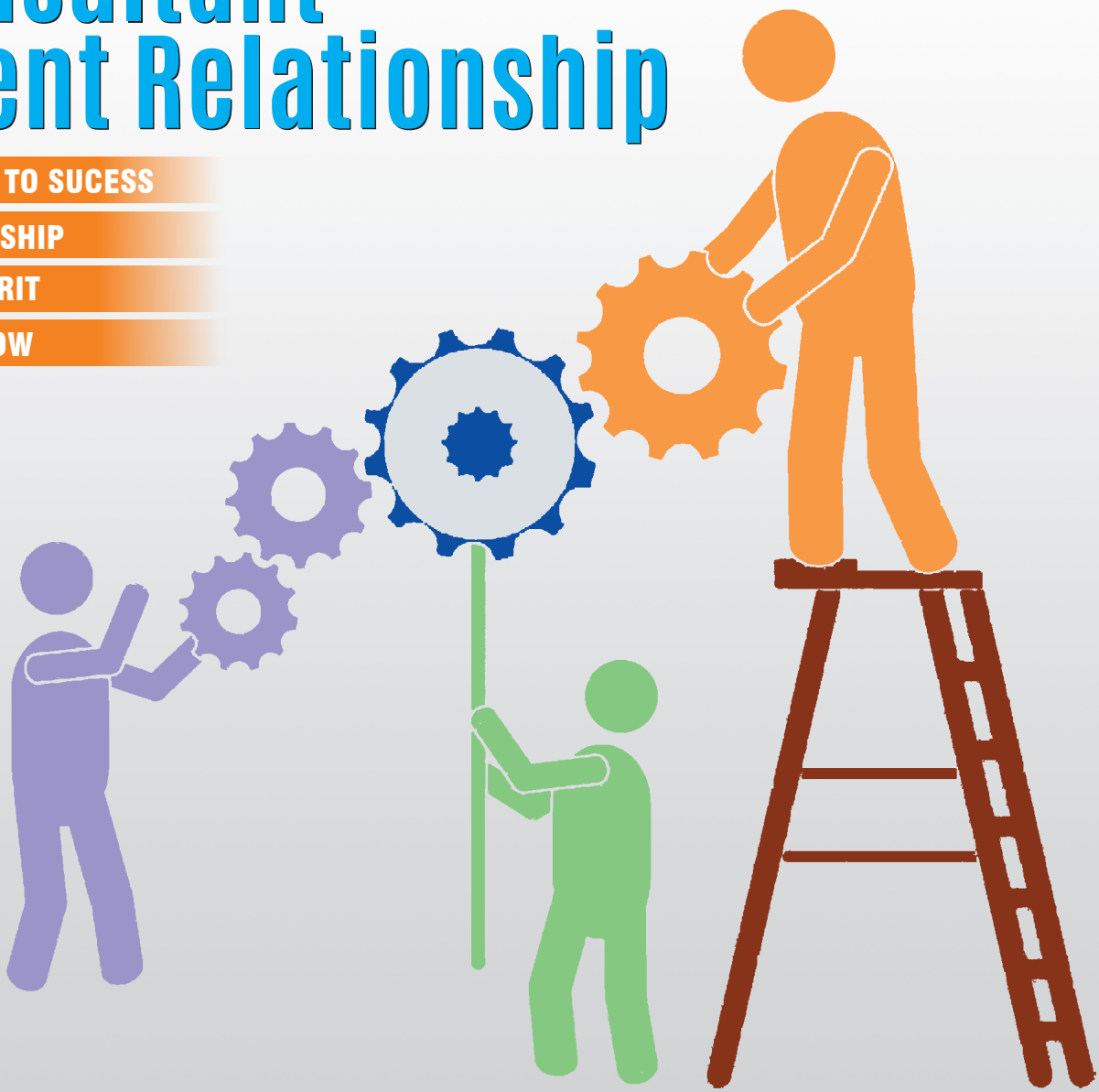
Consultant-Client Relationship

- THE WAY TO SUCESS
- PARTNERSHIP
- TEAM SPRIT
- WORKFLOW



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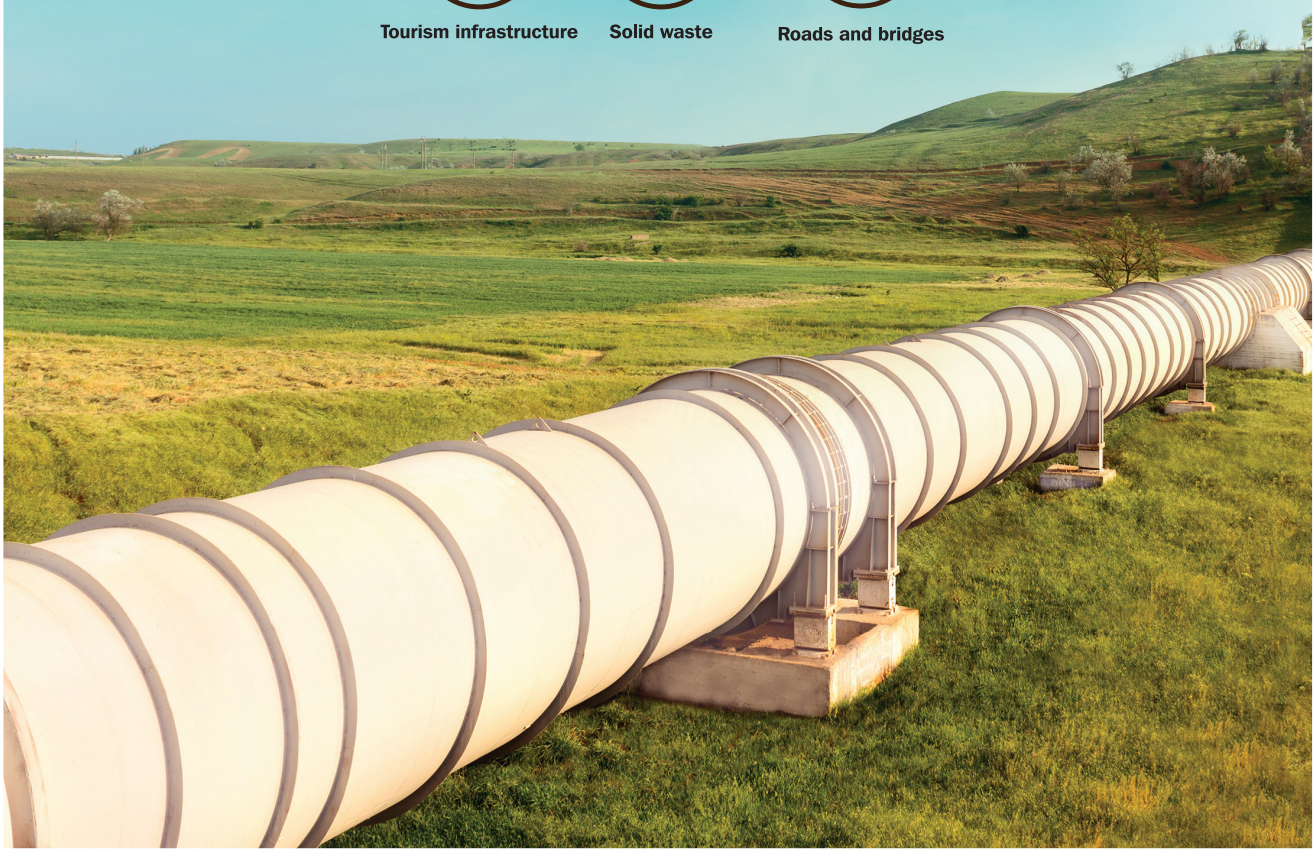

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Cover image is from *"Implementing Circular Economy Strategies in Buildings—From Theory to Practice"* by Kamel Mohamed Rahla, Ricardo Mateus and Luís Bragança

About CEAI

Consulting Engineers Association of India (CEAI) is the apex body of consulting engineers in India having membership of organisations as well as individuals. The membership represents large, medium and small consultancy companies/ organisations both in the private and public sector and eminent individual consultants. EPC organisations are also members of CEAI since they have planning and design engineers, apart from construction management consultants.

CEAI is the Member Association, of the International Federation of Consulting Engineers, commonly known as FIDIC, the acronym for Fédération Internationale Des Ingénieurs-Conseils, representing the Consulting Engineering Fraternity in India. FIDIC has membership of more than 100 Member Association of various countries and is headquartered in Geneva.

CEAI was incorporated in 1996, with the merger of two leading national associations Association of Consulting Engineers (India) {ACE(I)}, incorporated in 1960 and National Association of Consulting Engineers {NACE}, incorporated in 1976. Thus, CEAI has, behind it six decades of accumulated knowledge and experience.

- CEAI promotes the interest and works to enhance the status of the consulting engineering profession in India
- CEAI advocates global networking and co-operation
- CEAI's activities include:
  - Quality development of Consultants.
  - Productivity enhancement.
  - Promotion of ethical practices.
  - Facilitation and interaction with government and other authorities/ bodies to streamline and improve the system of engagement of consultants.
- Regional Centres in Jaipur, Bengaluru, Kolkata and Mumbai to broad base activities.

Aims & Objectives

- Promote the professional interest and establish the rights and privileges of the status of consulting engineering profession in India
- Represent the consulting engineering profession within India and abroad. Connect the members locally and globally.
- Disseminate among the members information on all matters pertaining to engineering, especially knowledge and information related to consulting engineering profession by way of holding Conferences, Seminars, Courses, Workshops, Field/ Site Visits, etc. and thus assist in Continuing Education for the Professional Development of Members.
- Act as the principal champion for consulting engineering profession through constantly informing and educating the public and lawmakers about key engineering issues and making it possible to have the voice of the profession heard by the policy makers.
- Promote adoption of equitable forms of contracts and other documents used in consulting engineering practice.

Vision

- To represent, promote and enhance the status of consulting engineers in India as an honoured and dignified profession for nation building and propagate Indian engineering consultancy globally.

Mission

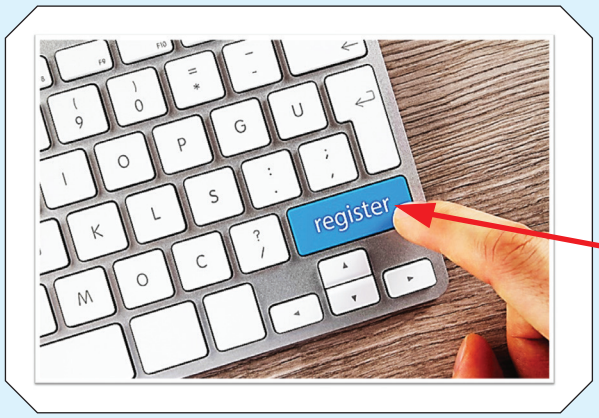
- Promote interests of the consulting engineering profession nationally and internationally.
- Promote sustainable, safe and sound engineering practices.
- Upgrade engineering knowledge and skill.
- Propagate code of professional ethics, safety, health and environment.

Values

- Commitment with tenacity to high ethical values, integrity, professionalism and achieving technical excellence and inclusive development.

Code OF Ethics

- CEAI has adopted a Code of Ethics, to which all members must abide. It is not just for the quality of the jobs they work on, but for the safety and well-being of the public at large.
- CEAI is the profession's most respected voice on the practice of ethical engineering.
- The code specifies the responsibilities of Consulting Engineers towards the society as well as the profession, to refrain from performing services unless competent to do so, to act in the legitimate interest of client, to be impartial, to maintain ethical relations with other consultants.



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Message from Chief Editor

Dear Fellow Consulting Engineers & Readers,

The new year created hopes of moving away from the tied-up situation of the recent years. Although many countries are still facing an uphill task, the condition in India is much better. Engineering Projects are moving fast and new ones are being announced for all round development, taking the country on a rapid path of growth. For all these projects to be successfully completed, it is necessary that all stakeholders involved fulfill their part. With society being a web of social inter-actions and inter-relations, this aspect of inter-dependance is of the utmost importance. That was the thought behind the theme for this issue of ViewPoint as ***"Consultant - Client Relationship"*** relating to engineering projects.

Relationship necessarily requires that there be at least two persons or parties. Once the two are identified, then onwards it dependents on how each of them views its role in the relationship. The roles could be transactional or collaborative. The same applies to projects. A lot of study has been done on relationship and **summum bonum** of all is that for a Project to succeed, it is necessary that the relationship be collaborative. It is only when each stakeholder is committed with a positive frame of mind and there is mutual trust and respect that a project moves as planned. Each stakeholder takes pride in being associated and becomes a true contributor to the Project. Each stakeholder, nay each person, takes pride in being associated with the Project - all the stakeholders consider themselves as a partner in the project. Needless to add that as the saying goes "Money makes the mare go" so also in any project it is essential to ensure that the financial commitments are adhered to within a timeframe that does not cause any undue hardship or places any extra burden on the other parties. Passing the buck of risks is also a bane that needs to be guarded against since it does not help the Project.

The authors of the papers in this issue of ViewPoint have looked at the Consultant – Client Relationship based on their experience and what international studies have reported. To those could be added the ones based on the practices, mostly contractual and transactional, prevailing in the country. However, research articles on those are not readily available, hence one has to be content with what is available.

All the same it is necessary that the persons involved on a Project keep sight of the tenets of ethics in all their dealings; be they at an individual level or organizational level. That would help establish Trust amongst all the professionals and other players on a Project and enthuse them to do their utmost.

Legislation for the profession of engineering would go a long way in creating a better, healthier and more conducive atmosphere for all concerned to work in and that would in turn pay rich dividends to the nation.

Let's Commit to Collaborative Working –

Each Party Fulling Its Obligations & Commitments

Happy Reading & Learning

A P Mull

Message from President

Dear Colleagues, Friends and Members,

The first issue of the View Point for this year focuses on a very important and pertinent theme – that of the relationship between the Customer and the Consultant. It is this relationship that forms the track on which a project moves. Hence, it needs to be kept clean and lubricated all the time. By clean, is implied that all dealings must be ethical and transparent. By lubricated, implies that the decisions, funding, and payments for the project must be regular and on time.

While interacting with its members, the CEAI has been emphasizing that the work done by them should be of quality and delivered on time, all as contracted. CEAI is also interfacing with Clients especially governmental Clients to resolve matters that have been cropping up on the quality of certain deliverables and delays in decisions and payments. Clapping is done by both hands hence those matters need to be looked at impartially and the process and procedures modified so that work, as specified, gets done.

CEAI Foundation has been active in contributing engineering inputs for works meant to help society, especially the needy.

CEAI, as per its Strategic Plan, has formed the CEAI Academy to chart out an action plan for more extensive Professional Training and Industry oriented research. It's in its nascent stage but will steadily make its impact.

I request that we all work in a concerted manner for the well-being of the engineering fraternity

Rama Shanker Sharma

01

Kaleidoscopic View of Consultant - Client Relationship

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Abstract

A relationship needs a solid foundation of Trust to flourish and achieve Common Objectives. The creation of such a foundation requires clear and well-articulated thoughts that can be translated into actions. Over the years, practitioners and researchers have identified, studied and analyzed many building blocks of relationship. Several theories have been proposed to explain various facets of relationship. As the subject of relationship is a complex one, no single theoretical model can explain it in a holistic manner. Engineering projects consist of several sequential and parallel activities that involve many stakeholders. The Client and the Consultant are two important actors in an engineering project's lifecycle. The relationship in such a case is not a simple relationship between two organizations but it is a web that gets woven down to different levels of each organization, starting from the apex level, down to functional groups and ultimately to individual levels. This paper discusses the Consultant Client relationship through various theoretical underpinning and proposes practical steps to help nurture a positive relationship in a collaborative manner for the ultimate success of the project.

Keywords: Client, Consultant, relationship, engineering project, engineering Consultant, engineering consulting, contractors, vendors.

Introduction

Given the wide applicability of this topic, it is important to state the boundary conditions of this article at the outset. For the purpose of this article, the discussions have been restricted to engineering consultancy services rendered for fixed asset creation in infrastructure and industrial space. It is often referred to as Engineering & Construction and the consulting is commonly referred to as EPCM (Engineering, Procurement & Construction Management) consulting. There are two fundamental types of EPCM consulting engagements that are considered in this article:

a. Fixed Term Projects – time bound activity linked to creation of new assets or expansion/ upgradation of existing assets.

b. Continuous Engagements – ongoing activity with no explicit end date and where expectation is that work would continue unless there is a change that necessitates closure. Such engagements are also often referred to as 'annuity' business.

It is important to appreciate that in both forms, the content of the work in terms of activities involved and core deliverables (such as reports, drawings, documents) remain similar in nature.

Engineering projects come with large variations in terms of size, complexities, timelines, technologies and economics. Engineering in all of those encompasses

both product and services. The influence of engineering spans from concept to commissioning and on till plant decommissioning and even beyond to address the life cycle of the various materials involved. The relationship between Consultant and Client has been a topic of interest as it influences the project's lifecycle stages and their outcomes.

Since the terms Client, Consultant, and relationship are used in various contexts, they can convey different meanings. Hence, for the sake of clarity these three terms are defined in relation to the context of this paper. The Merriam-Webster dictionary defines a '*Consultant'* as *'one who gives practical advice or services'*. A *'Client'* is *'a person who buys a product or uses a service for the business'*. A careful observation reveals that the dictionary meaning of both the words are related to *'a person'* whereas the colloquial usage of these two words assumes the role played by an organization and not necessarily restricted to an individual person. *'Relationship'* means *'the fact or state of having something common'*.

This paper describes the Consultant - Client relationship from the perspective of an engineering project's lifecycle. The second section provides the context of an engineering project from the perspectives of various stakeholders. The section also articulates positioning of Consultant and Client within the stakeholder eco-system. The third section describes the roles of the Consultant and the Client during the three major stages of an engineering project's lifecycle. The section describes various relationship layers that exist between a Consultant's and a Client's organization. The fourth section advices on steps to be taken to help the Consultant - Client relationship to strengthen and help sustain it for the good of the project. The last section summarizes the paper.

I. Eco-system of Stakeholders in the Field of Engineering Projects

The Client is at the core of the ecosystem for engineering projects. The Client's key expertise lies in understanding the emerging customer/ market needs and creating solutions to service such needs and investing in necessary fixed assets (plant/ infrastructure). Large scale asset creation requires large projects which are usually multi-disciplinary in nature and demand experience and expertise across a wide range of engineering and project management domains. The project goes through various stages such as feasibility study, conceptual design, detailed design, procurement, construction, commissioning/ handing over and operationalization. The breadth and depth of technical expertise needed at different stages of converting ideas into reality is usually not available within a Client organization. The Client needs the expertise of Consultants to help convert ideas into realities. The Consultant too needs a Client to convert knowledge and expertise into business opportunity for himself. Thus, both the Client and the Consultant have a mutual need to work together.

In a real-world scenario, the two entities do not work in isolation; they need to work with other stakeholders throughout a project's journey as depicted in Figure-1.

Figure-1

The stakeholders have varied expectations and at times those are mutually exclusive. In such a case there is a need of a single entity that can objectively look at the relative merits and demerits of the concerns or expectations and provide evidence based scientific advice to stakeholders to keep the project on track. Table-1 lists down some of the expectations of the stakeholders from an engineering project's activities.

Table-1

Sr. No.	Stakeholder	Expectations
1	Government Agencies	• Project Activities adhere to rule of law • Enhancement of tax revenues • Generation of employment • Economic growth with minimal/ no environmental impact
2	Trade and Professional Bodies	• Activities adhere to necessary codes and standards • Expansion of overall trade activities in the region including ancillary units • Creation of positive business environment for all participants
3	Contractor	• Revenue growth with profitability • Build references, scale knowledge and experience to climb up the value chain • Timely implementation of project and receipt of necessary engineering inputs and decisions required to execute the project
4	Supplier	• Revenue growth with profitability • Build up references for future business • Introduce new technologies and features/ concepts • Gather field experience and generate ideas for new product / system
5	End User	• Value for money • Meeting intended needs (both explicit and implied) • Pride of ownership/ association with product or services
6	Competition	• Help expand overall market • My market share is not affected • Bring in more suppliers to help stay competitive
7	Consultant	• Revenue growth with profitability • Improve Knowledge and experience to stay competitive and enhance standing in profession • Build references on larger projects and in new sectors for future growth • Aid implementation of new technologies in industry for improved outcomes • Value engineering to create innovative solutions to optimize cost, accelerate timelines, reduce environmental impact, etc.
8	Client	• Project life cycles are completed with minimal variance to planned cost, time and efforts • Right technology selection and quality implementation to ensure asset meets desired objectives for its planned lifetime • No frequent changes in design or implementation philosophy to keep costs under control

A quick glance at the list of expectations reveals the inherent contradictions in the stakeholder's expectations. These are fertile grounds for creating stress and conflicts in the relationships, if not addressed methodically.

II. Role of Consultant and Client during Various Phases of an Engineering Project's Lifecycle

There is no single and uniformly accepted definition of an engineering project life cycle. The literature and industry practices define engineering project life cycles quite differently. For the discussion in this paper, the product life cycle is considered through 3 stages of broadly defined sub activities.

- Phase I – Pre-Feasibility, Feasibility.
- Phase II – Engineering Design, Procurement, Construction, Installation and, commissioning
- Phase III – Production/ Operation of assets, Decommissioning.

In each of the phases mentioned, various stakeholders have interest. As far as the Consultant-Client relationship is concerned, it is mainly during Phase I and Phase II, which influence and set the course for Phase III.

At the cost of generalization, it can be stated that the Client and Consultant need each other. The Client has industry and business knowledge and prior experience in designing and operating assets. The Client also has good working relationships with various suppliers and contractors. Despite these, most of the time, the Client organization is ill equipped to carry on Phase I and Phase II on its own due to lack of necessary manpower and in-depth expertise in various facets of a project that are necessary to make the Phase I and Phase II a success.

The Consultant possess a large knowledge base and experience. The Consultant is also well versed with the industry codes and standards, understands necessary regulations related to various government approving agencies, and has access to latest developments and improvements that various suppliers are making to their products and services. The Consultant also is uniquely positioned to bring in inter and intra industry best practices that can lead to value engineering opportunities helping projects further. The inhouse engineering design teams of consulting firms have close relations with engineering design tool vendors and can get specific enhancements done through those vendors to help project delivery further. Their industry standing and connections with various stakeholders act as a catalyst for the engineering project.

In each of the activities the Consultant and Client keep taking lead and supporting roles in a round robin fashion. As the success of a project life cycle has primary impact on a Client's business, the Client naturally likes to maintain the control on the progress and takes the pole position in driving the life cycle but the role of a Consultant is not secondary. Armed with knowledge and experience, the Consultant exerts an almost equal influence. The roles and responsibilities stay interwoven and closely coupled.

Thus, both Client and Consultant need each other and there is never a second thought on the same. Now the question is despite the need, why do Client – Consultant relationships go through challenges and a project's lifecycle experiences gaps between plan and actual?

III. The Conundrum of Consultant - Client Relationship

No relationship is free from conflicts and contradictions. Despite the fact that both the Client and the Consultant need each other to achieve individual and collective goals, relationship challenges keep cropping up. What is necessary is to understand the areas of agreement and areas of disagreements and plan methodically to maximize positives and minimize challenges. Like most of the relationships, the Client - Consultant relationship is not monolithic. It has several layers as explained below.

Layers of Client-Consultant Relationship

The Client-Consultant relationship effectively exists at multiple levels.

- **Organizational Level** – This can often be the initial level of relationship (especially in new engagements); most explicit arrangements including contract, scope of work, compensation are decided at this level. Typically, organizations appoint senior leaders as a Single Point of Contact (SPoC) to anchor this level with connections at

CXO and higher levels also being common. This is usually the most formal layer.

- **Functional/ Team Level** – During the engagement, relevant teams within the Client and Consultant organizations develop relationships. These are often exerted through the team leaders on both sides and is typically the layer at which key work exchanges and review mechanisms operate.

- **Individual Level** – Effective work is accomplished at the individual level and it is natural for relationships to be formed during the course of work. This is where the human aspect of the relationship is the strongest and while relationships are professional, personality traits and behavioural aspects play a vital role.

Factors Affecting Client – Consultant Relationship

The informal and unstructured interviews with over a dozen subject matter experts, having collective experience of more than 300 years, provided visibility about major conflict areas as summarised in Table-2.

Table-2

Sr. No.	Area of conflict/concern	Potential Root Cause
1	Lack of proper inputs	Lack of documented 'operating procedures' agreed between the parties with clearly defined formats and procedures for providing/ receiving inputs.
2	Frequent Changes	Lack of documented 'operating procedures' agreed between the parties to address 'change management' issues.
3	Scope Creep	This is another aspect of frequent changes. It happens due to lack of a well defined 'scope document' with clearly defined inclusions (and exclusions)
4	Improper output/ deliverables are not in 'desired formats'	This area is again due to lack of upfront agreement and documented procedure.
5	Inadequate design details	Lack of scope document
6	Rework	Lack of definition of scope and well-defined stage gate processes
7	Improper BOQs – resulting into over or under quantity purchase	The BOQ release happens at ad-hoc stages and without completing defined design stages. This again is due to the lack of stage gate process. It usually occurs where manual quantity take-off is done.
8	Lack of Value addition	Major value addition opportunities are at the early stages of a project's lifecycle. If adequate and quality efforts are not invested in at the feasibility and the concept design stages, the major avenues of Value Addition are lost
9	Rushing through model reviews thus piling up changes/ modification during later stages	Lack of adherence to the stage gate process with due diligence.
10	Constant escalations	Lack of 'co-ownership' and trust.
11	Time overruns	This is majorly a project management and multi stakeholder coordination issue. Each party must abide to an agreed time schedule that is reasonably workable.
12	Cost Overruns	A result of sum total of all of the above plus rushing through feasibility and FEED stages.

Though these issues arise due to inadequacy of well-defined and documented procedures, the aspect of 'human relationship' plays its part. If both Consultant and Client act as a cohesive team then they would have 'personal stake' to do everything and beyond to honour the commitments and keep the project on track. The lack of such 'cohesiveness' is a major reason behind frequent conflicts.

While there are umpteen factors affecting Client-Consultant relationship, some are more structural in nature and their influence can be studied. Some such factors are:

1. **Criticality of Engagement to Client Organisation**

   Clients engage Consultants for many types of requirements having differing levels of criticality. While some may be extremely strategic to the organization, others may be more routine in nature. Different criticality levels will need differentiated engagement approaches; the same has been discussed in more detail subsequently.

2. **Engagement Model**

   Includes multiple aspects such as value of engagement, whether one-time (project) or continuous engagement (annuity), contractual model (whether lump-sum or time & material) which has impact on Client Consultant relationship.

3. **Nature of Client Organization**

   Depending on whether the Client organization is a government entity, multilateral agency or a private company there may be varying requirements and expectations driven by organizational objectives and interests. For instance, a Client organization may be either more 'process oriented' or 'outcome oriented' which will need different approaches to the relationship. Size of Client organization and its organizational culture also plays a significant role.

Engagement Criticality

Engagement criticality can be classified into 4 categories as depicted in Figure-2

a. **Transformational** – as the word suggests, these engagements are related to a key transformational agenda of the Client organization. These are typically large projects with a longer time horizon with a direct and active involvement of top leadership in both the organizations.

b. **Strategic** – while not as critical as transformational, these engagements are still key and are closely monitored by top management.

c. **Operational** – these engagements are directed towards better management and enhancement of operation of the asset. As the name suggests these are typically managed by operational teams with only key updates being presented from time to time to senior management.

d. **Tactical** – these are the lowest level of criticality and include mostly commoditised engineering services which are managed by specific units within the Client's organization.

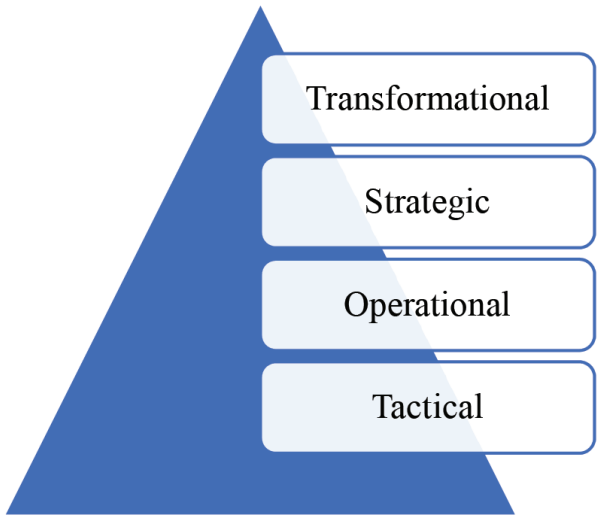

Figure-2

The differences in engagement criticality are captured in Table-3.

Table-3

	Periodicity	Client Anchor	Pricing (fee per hour)	Typical Example
Transformational	Once in a while. Not frequent	CXO, Board	Very high	Setting up of new plant for substantial capacity enhancement (>30%)
Strategic	Once or twice in a decade	Business/ Department Head	High	Debottlenecking, retrofit or brownfield expansion leading significant capacity augmentation (10-30%)
Operational	Ongoing	Plant/ Operations Head	Medium	Efficiency improvement projects
Tactical	Ongoing	Business/ Operations Managers	Low	Surveys, Minor updates, changes

Nature of Consulting Engagement

There are various roles that Consultants are expected to play as part of engagements with Clients. Kubr (1996,p58) has suggested 2 main roles for Consultants – "resource role" (providing their experience and knowledge to solve problems/ perform tasks for the Client organization) and "process role" helping Client "to solve its problems by making it aware of organizational process". Schein (Personnel & Guidance Journal, 1978) also talks about two key roles. First one being of "content expert" which can either be in terms of "purchase of specific information or expertise" or of "doctor-patient" nature performing diagnosis and offering remedies from available body of knowledge. The second role is that of "process Consultant" who "facilitates through various interventions a better problem-solving process that permits Client to solve the problem themselves". That can also be of 2 types – "catalyst model where Consultant does not know the solution but has skills in helping the Client figure out their own solution" and "facilitator model where the Consultant may have possible solutions" but holds back and focusses on hand-holding the Client to arrive at the solution themselves".

While there are multiple roles that a Consultant can play, it can be summarised that there are two fundamental types of consulting engagements:

a. Co-creation

These are engagements where the requirements need Client and Consultant to work together as a single integrated team and solve the problem at hand.

b. Outsourcing

These engagements need the Consultant to provide knowledge and resources to complete a task on behalf of the Client.

IV. Proposals for Building A Healthy Consultant – Client Relationship

After describing various aspects of the Consultant - Client relationship, this section provides a broad framework to understand these relationships. The section also provides suggestions for building effective Client Consultant relationships.

Framework for Client - Consultant Relationship

Figure-3 maps the criticality and nature of consulting on a two-by-two matrix.

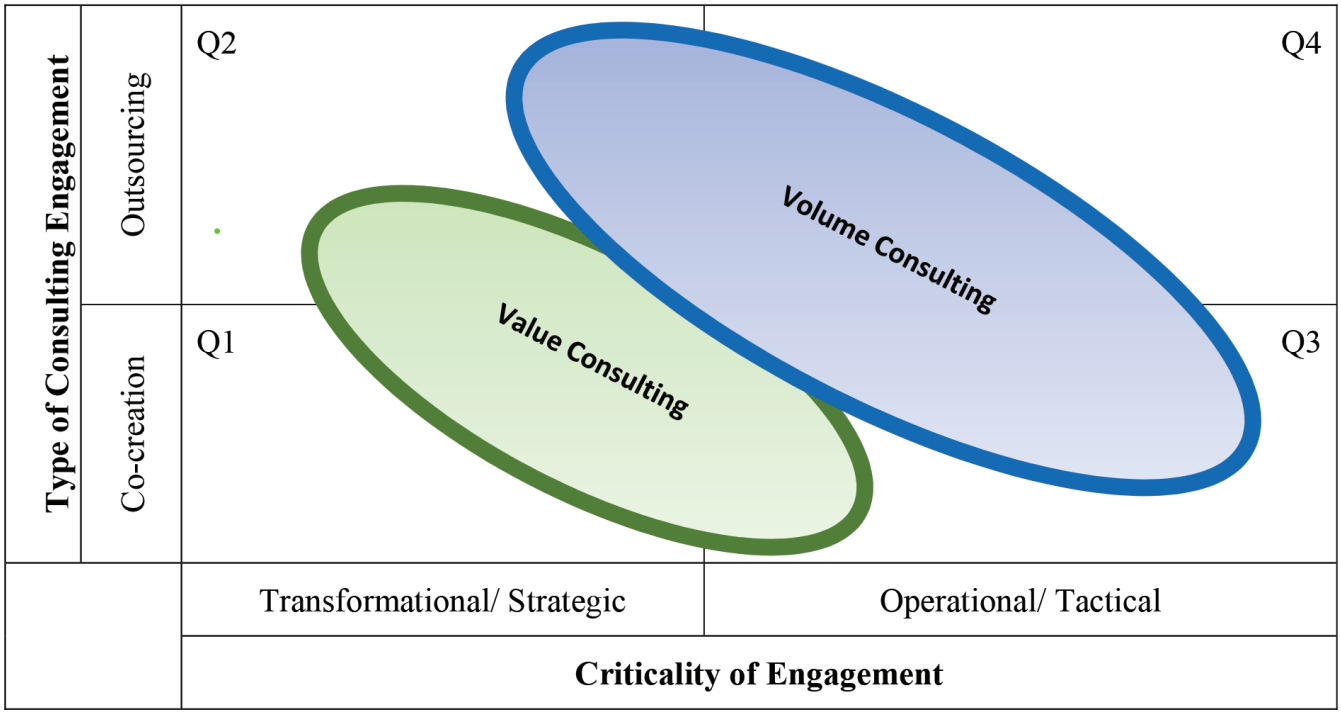

Figure-3

The 4 quadrants can be broadly described as below:

Quadrant 1 – High Criticality, Co-Creation

These are critical and complex problems that need close coordination between Client and Consultant for effective completion viz. EPCM consulting for large capex or for energy transition in the steel industry.

Quadrant 2 – High Criticality, Outsourcing

There are engagements where specific expertise is sought for a critical project. For example, Engineering outsourcing for modernization of an existing petrochemical plant.

Quadrant 3 – Low Criticality, Co-Creation

While part of ongoing operations, these engagements require Client and Consultant to work closely and iteratively to create successful outcomes. One such example is EPC contractor partnering with engineering firm for pre-bid engineering.

Quadrant 4 – Low Criticality, Outsourcing

Routine operational or tactical requirements that are not core to the Client and are mostly commoditized with many suppliers like outsourcing of routine requirements such as geotechnical surveys or environmental compliance.

On further observation, it can be deduced that consulting engagements can also be viewed as clustered into 2 groups viz. value consulting and volume consulting. These come with a unique set of requirements that are summarized in Table-4.

Table-4

Engagement Requirements	Value Consulting	Volume Consulting
Common	• Trust • Proven Competence • Organization's Brand	
Specific	• Effectiveness • Individual Expertise (SMEs) • Flexibility • Technology Leadership • Fair pricing	• Efficiency • Competitive Pricing • Scalability • Systemic Approach

Proposed Approach for Effective Client - Consultant Relationship

In view of the above framework the following approaches are suggested for building effective Client - Consultant relationships in the 2 categories of engagement.

Value Consulting

1 Human Centric Approach

Human centric approach to engagement assumes importance. Personal connect, mutual trust and respect between Client and Consultant representatives play a vital role in engagement success. This needs to exist at both engagement sponsor and team levels to make the engagement effective.

2. Common Understanding of Engagement Objectives and Flexible Outlook

Consultant and Client must be willing to put the necessary efforts to develop a shared understanding of the end objectives and their criticality of the engagement. It must also be understood that due to the typically complex nature of the engagement, changes are expected on an ongoing basis. Accordingly, a 'partner' mindset is required to be accommodative of reasonable mid-course changes.

3. Active Two-Way Communication

While communication is the key for any relationship, 'value consulting' engagements need to be more open and bilateral in terms of both sharing of information and involvement in decision making. Frequent and engaged interactions in person can go a long way in resolving apprehensions and building mutual trust.

4. Participative Governance

Strong participation at multiple levels from both Client and Consultant through the course of engagement can be key to better planning, speedy implementation and effective dispute resolution. All these are important to keep such engagements on the right track.

Volume Consulting

1. System/ Tool Centric Approach

In this case a large quantum of repetitive work is expected with a high throughput.

A systemic approach using pre-approved standard operating procedures and templates prove handy to ensure better efficiency. This case is ideal for digital interventions to reduce human elements and thus keep potential errors to the minimum.

2. Well defined contracts and Service Level Agreements

Contracts with detailed and clear SLAs, roles & responsibilities, change management, dispute

resolutions and other terms and conditions to manage potential engagement situations go a long way in creating a smooth working environment between the Client and the Consultant.

3. **Structured Communication Mechanisms**

   Setting up structured communication channels for sharing information, making decisions and progress reporting with relevant stakeholders in both Client and Consultant organizations can play a key role in managing 'volume consulting' engagements. Once again, leveraging digital channels can be extremely effective to manage the bulk of the communication requirement.

4. **Systemic Review and Governance**

   A structured approach with multiple forums with clarity on their agendas, participation and ownership by levels/ departments/ activities can be effective in providing adequate governance.

5. **Culture of Continuous Improvements**

   As these activities are usually not part of the fountain head of a project, the opportunities for value addition are less. However, there are always opportunities to keep the improvement engine running to achieve reduction in cost and improvements in quality, though both are incremental in nature. Given the volume of these engagements even minor gains in efficiency can be significant.

Conclusions

Client and Consultant are the two important constituents in complex engineering projects which seek to deliver on expectations. The relationship between these two is not monolithic but a layered one. The paper evaluated various influencing factors affecting such a relationship through various perspectives. As the complexities involved in the Transformational, Strategic, Operational and Tactical engagements are different, it makes sense to evaluate the relationship from the perspective of specifics rather than in general. Likewise, the nature of engagement, whether Co-creation or Outsourcing would exert its influence on the Client - Consultant relationship. The relationship paradigm also differs significantly based on the levels of relationship between two organizations. At a broad level, engagements can be either "Value" or "Volume" oriented with each having a unique set of requirements and needing differentiated approaches to effectively manage the relationships involved.

Although there is a definite merit in following project management practices including a stage gate process and mutually agreed operating procedures, there is no substitute for investing in building a positive team environment that gives rise to 'one team' rather than one pitting against the other.

The Consultant and Client relationship can be nurtured by keeping in sight the core objectives of the engineering projects rather than resorting to one upmanship. The efforts invested by both parties in ensuring the health of the relationship goes a long way in ensuring the success of the engineering projects.

This paper has provided an analysis and also practical tips in building a healthy relationship between the Client and the Consultant to improve the odds of success for engineering projects.

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02

Consultant – Client Relationship in Emerging Markets

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The Government of India has launched massive programmes on infrastructure development as well as business growth through the 'Make in India' Programme. The recent budget for FY 2023-24 has large allocations to boost such programmes to promote economic growth. The global business is passing through a severe turmoil causing volatility. The main cause currently is the Russia – Ukraine war and the polarity of various countries shifting their stands every now and then. That requires resilience in the growth pattern and the Consultants both the Management and the Engineering, have to play a significant role to ensure proper advice and handholding that the other industries who do not have skilled manpower to tackle the situation would require. The biggest challenge for Consultants would be commensurate remuneration since in view of larger volume of work, businesses would try to negotiate lower fees. The situation would be difficult and a new paradigm would emerge where consulting companies would have to reorient totally making use of Artificial Intelligence (AI) to develop their process that can operate at lower costs, although there will be substantial initial capital investment and also recurring expenditure for training and upgrading. Inspite of all that, Big Data and Analytics will be important tools that will evolve a new eco-system in which the Consultants will need to operate. It is thus, in the interest of the Consultants to forgo the legacy mode and means of working and prepare themselves for the future. It is necessary and essential for their survival. Resilience will have to be properly understood and exercised for survival. Resilience does not mean flexibility in operation only. The Consultants will have to take into consideration the transformative technologies to improve their cost-effectiveness for the present and create a new eco-system. It is seen that there are very few experts who can define resilience which must not be misunderstood for flexibility. Resilience is a journey which ensures improvement of the systems and their effectiveness for the present and ensures continuity and at the end of the tunnel attain higher cost-effectiveness and embed themselves into the business. Examples of the 2008 economic meltdown and consequent emergence of the business on strong footing was the first major example of resilience. The second example of resilience is available from the period of the Corona pandemic and how the businesses adopted and adapted to a new way of working and have emerged stronger by using AI and digital platforms and that norm is now here to stay.

Consultants have played an important role but they need to understand that they need to continue their effort and lead the industry for the change and be the leaders of the change. A large number of transformative technologies have impacted business and an overview of the same has been presented below so that there is a proper understanding as to what the technologies are, how they offer challenges and opportunities while embracing them.

Transformative Technologies Impacting Business

Transformative technologies are rapidly changing the way businesses operate. From Artificial Intelligence (AI) to Blockchain, the technologies are reshaping industries and creating new opportunities for growth and innovation. One of the most transformative technologies today is AI, which is the ability of machines to perform tasks that typically require human intelligence, such as learning, problem-solving, and decision-making. AI is already being used in a variety of industries, from healthcare to finance, to enhance productivity and efficiency. In business, AI can be used to automate repetitive tasks, such as data entry or customer service, freeing up employees to focus on more complex and creative tasks. AI can also be used to analyze data and identify patterns that humans may miss, providing valuable insights for decision-making.

Another transformative technology impacting businesses is the Internet of Things (IoT). The IoT is the network of physical devices, vehicles, home appliances, and other items embedded with electronics, software, sensors, and connectivity, enabling these objects to connect and exchange data. In business, IoT can be used to monitor and optimize supply chain operations, reduce energy consumption and maintenance costs, and improve customer service through real-time data insights.

Blockchain is another transformative technology that is disrupting businesses. Blockchain is a decentralized, digital ledger that allows for secure and transparent transactions without the need for intermediaries such as banks. In business, Blockchain can be used to streamline supply chain management, reduce fraud, and enhance data security. Blockchain can also be used to create decentralized marketplaces, reducing the power of intermediaries, and increasing competition.

Virtual Reality (VR), Augmented Reality (AR) and Mixed Reality (MR) technologies which are collectively referred to as Extended Reality (XR) are also transforming businesses. These technologies can be used to create immersive experiences that enhance customer engagement and improve employee training. For example, VR can be used to simulate real-world scenarios for employee training, while AR can be used to create interactive product demonstrations for customers. Mixed Reality (MR) helps to highlight the natural world as is and promotes a digital environment with visuals even through handheld devices.

5G technology is set to transform businesses in the coming years. 5G is the next generation of mobile networks, offering faster speeds, lower latency, and greater connectivity. This technology is already in use in many countries including Japan, United States, India and so on. In business, 5G can be used to enable faster and more reliable communication, support real-time data analytics, and facilitate the adoption of IoT and other transformative technologies. 6G and higher are also being used in some countries.

7D BIM comprises 3D + Time Schedule + Cost Intelligence + Sustainability, hence it is a great tool for the operation and maintenance of a project throughout its entire life cycle.

The rapid pace of technological change in recent years has led to significant advancements in the corporate world. Businesses are increasingly adopting transformative technologies such as artificial intelligence, machine learning, and the Internet of Things to improve their operations, increase efficiency, and drive growth. While these technologies offer many benefits, they also present a range of challenges and opportunities that businesses need to be aware of.

In conclusion, transformative technologies are having a significant impact on businesses across industries. From AI to Blockchain, these technologies are reshaping the way businesses operate, creating new opportunities for growth and innovation. As businesses adapt to these technologies, they will need to remain agile and open to change in order to stay competitive and thrive in the rapidly evolving business landscape.

Challenges & Opportunities in Embracing Technologies

One of the most significant challenges of transformative corporate technologies is the cost of implementation. These technologies often require significant investment in hardware, software, and talent - trained manpower, well versed with the new technologies, and the cost of acquiring and maintaining them can be prohibitively high for many businesses. Moreover, many of these technologies are complex and require specialized expertise to implement and use effectively, which can be a barrier for smaller organizations without the necessary resources or know-how.

Another challenge of transformative corporate technologies is the potential for disruption. As these technologies continue to advance, they are likely to have a profound impact on the nature of work and the labour market. Some jobs will become automated, while others will require new skills and knowledge to remain relevant. Businesses that fail to adapt to these changes risk falling behind their competitors and losing market share.

Despite these challenges, there are also many opportunities that transformative corporate technologies offer. One of the most significant is the potential for increased efficiency and productivity. By automating routine tasks and optimizing workflows, businesses can reduce costs and improve their bottom line. They can also gain new insights into their operations through data analytics and other tools, which can help them identify areas for improvement and make more informed decisions.

Role of Big Data Analytics

In this age of information as companies do their projects in far away places, the amount of data generated is tremendous and unless it is appropriately collected, stored and analyzed no company can really prosper. One of the significant impacts of Big Data Analytics on decision making is the ability to make data-driven decisions, where so required.

In the past, decision-making was based on intuition and past experiences. However, with Big Data Analytics, organizations can use data to make decisions that are based on facts rather than assumptions. The consultants can impress and help organisations to make more informed decisions, which in-turn can lead to better outcomes.

Ethical Consideration

While transformative technologies offer effective tools and collect vast amounts of data about individuals, it is also necessary to ensure that individuals' and companies' privacy is fully protected. At the same time bias, safety, autonomy, justice, responsibility, and sustainability must be fully taken into consideration while making proposals to the clients. Overall, it is essential that ethical considerations are taken into account when developing and implementing transformative technologies to ensure that they are safe, equitable and promote the common good.

Customer Experience Has To Be Value Based

Many customer experience transformation stall because leaders are unable to show how those efforts create value. Patiently building business can fund them, secure buy-in, and build momentum. Executives are quick to see the end-game benefits of a customer – centric strategy: more satisfied customers, increased loyalty, a lower cost to serve, and more engaged employees. But they often fail to understand clearly what superior customer experience is worth and exactly how it will generate value.

Companies begin their efforts to change the customer experience with the broad aspiration to transform it. Executives launch disruptive initiatives to delight customers with bold moves and innovations but they often fail to quantify the economic outcomes in differences in customer experience, so their effort ends-up having clear costs and unclear near-term results. Customer-experience transformation invariably raises questions about business policies, cross-functional

priorities, and how to invest in innovation. Without a quantified link to value and a sound business case such efforts cannot show early gains, build momentum among functional executives and earn a seat at the strategy table. Building an unambiguous link between the customer experience and value requires patience and discipline to invest early in an analytic approach, it is easy to skip that step for the sake of speed, but that is a mistake every time. When establishing a link, value is created and when done well, it provides a clear view of what matters to customers, where to focus, and how to keep the customer's experience high on the list of strategic priorities.

Conclusions

Members of the Consulting Engineers Association of India are eminent Engineers and have vast knowledge from their past experience. They have been recognized worldwide in the changed business scenario. They need to understand that their clients would be more affected by transformative technologies and will expect the consultants to present the case on data driven outcomes rather than intuitive or past experience. Getting the logic and math right for a successful programme requires a structured approach and sign ins of the three objectives: Building an explicit link to value; Directing investments to where they would do the most good; and Designing a detailed map based on early success to self-fund the transformation. The consultants must understand that they have to improve the customer experience and be clear about what it is worth and how the improvements would generate value to the client.

In this paper an attempt has been made to describe the challenges that should be fully addressed by consultants to get the maximum value from the opportunities that have been generated through the transformative technologies.

The Economic Times News
English Edition 03 March 2023

India's services activity grows at fastest pace in 12 years in February

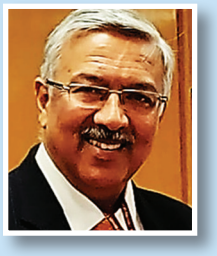
Synopsis

Activity in India's dominant services sector expanded at the fastest pace in 12 years in February on strong demand as price pressures eased further amid mild job rises & capacity pressures in the country, a survey showed. Although new business surged at its quickest rate in eight months, firms only increased hiring marginally and business confidence was the lowest in seven months.

Activity in **India's** dominant **services sector** expanded at the fastest pace in 12 years in February on strong demand as price pressures eased further amid mild job rises & capacity pressures in the country, a survey showed. The S&P Global India Services Purchasing Managers' Index rose from 57.2 in January to 59.4 in February, its highest since February 2011 and considerably above all forecasts in a Reuters poll which had predicted a fall to 56.2. It was above the 50-mark separating growth from contraction for a 19th straight month, its longest stretch of expansion since June 2013. Strong growth in services activity boosted the composite index to 59.0 in February from January's 57.5, despite manufacturing growth slowing to a four-month low. The seasonally adjusted S&P Global India Manufacturing Purchasing Managers' Index (PMI) was at 55.3 in February, little-changed from 55.4 in January.

03

Thoughts on Consultant - Client Relationship



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As a retired civil servant having managed districts, departments, large infrastructure project companies and an All-India Financial Institution, the importance of "Client - Consultant relationships" within the ambit of policies and procedures for hiring of consultancy services continues to be of paramount importance.

"Consultancy services" (Rule 177 of GFR 2017) means any subject matter of procurement (as distinguished from 'Non- Consultancy Services') involves primarily non-physical project-specific, intellectual and procedural processes where outcomes/ deliverables would vary from one consultant to another). Those Services typically involve providing expert or strategic advice e.g., management consultants, policy consultants, communications consultants, advisory and project related Consulting Services which include, feasibility studies, project management, engineering services, finance, accounting and taxation services, training, and development, etc.

In government manuals, *five fundamental principles of procurement* are specifically elucidated viz the principle of transparency, principle of professionalism, the broader obligations principle, extrinsic legal principles, and public accountability principle.

In the context of engineering consulting businesses, not only for government clients but also for private sector clients in Indian and internationally, *five key attributes* stand out viz transparency and trust, relationship management, clear communication, a good culture fit and above all, good consultants.

Transparency in Public Sector Procurement and Trust in Private Sector Procurement is Paramount

It is understood that a relationship as a consultant who is virtually a partner for a project - is a substantially different type of relationship than that for a commodity purchase. A strong Client-Consultant relationship enables a business leader to feel comfortable calling the Consultant when they are faced with an issue that may not be related to a current project—simply because the Client trust's the Consultant as a partner.

Value Engineering is about building that trust and relates closely to target costing as it is cost avoidance or cost reduction before production.

Value Analysis on the other hand is cost avoidance or cost reduction of a product already in production; both adopt the same approach i.e., a complete audit of the product or service by lowering costs and increasing benefits for the client.

Managing the Relationship is a Long-Term Commitment

Client Consultant relationships are also based on

transformation. When one is engaged in a transformational initiative, there would be natural conflicts. There would be times when the Consultant does not perform and times when the Client fails to meet expectations. Some of the most difficult conversations that I have had with clients concerned a lack of performance of their team.

That type of conversation, an honest dialogue is possible only when both the parties trust each other. Mutual trust allows both parties to bring their most effective selves in a range of situations—good or bad. Trust also helps one to navigate through any clashes in approach or philosophy, to ensure continued success. Government and Public sector clients may not hold their own lower operational teams accountable for delays caused by internal delays or indecision – and instead make consultants accountable. That needs to be deftly tackled as there are no easy answers.

Being a great Consultant is about helping clients achieve their business objectives. If a Consultant calls on a client only when they are seeking new business, it will not work. It is a pity that over the years, the tendency to quote extremely low rates just to secure contracts for detailed project reports has not been effectively curbed. It is for all concerned to review the L1/ and Quality and Cost Based Selection (QCBS) systems and move gradually to the Program for – Results Financing mode where outcomes and not outputs – would be put up for bids.

Program-for-Results (PforR) is a new instrument designed to enable Development Finance Institutions (DFI) to better respond to changing development needs, meet demand from client countries, and enhance development effectiveness. It links disbursements to achievement of results that are tangible, transparent, and verifiable. By directly supporting government programs, Program-for-Results will help countries strengthen institutions, build capacity, and enhance partnerships with stakeholders to achieve lasting impact. Designed to accommodate a broad range of countries, sectors, and programs, Program-for-Results will also enable the DFI to leverage its own financing and partner with other development organizations in supporting country programs. In India, this PforR bid was first invited in Tamil Nadu by The World Bank for a development project.

In the relationship between Consultant and Client, this shift from the traditional Investment Project Financing route to disbursement linked indicators of infrastructure as a service, there needs to be prior agreement on tangible, transparent, verifiable, indicators. As DFIs engage typically with governments, the influence of clients on verification agents for disbursements to consultants would be challenging. That would go a long way to strengthen the need for long term commitments in the relationship.

Repeat Orders are a Measure of an Evolving Strong Relationship

A strong Client -Customer relationship enables a business leader to feel comfortable calling the Consultant when faced with an issue that may not be related to a current project—simply because they trust the Consultant as a partner. That often leads to a repeat order.

What are Client's Expectations from a Consultant? What should be the Client's Obligations to a Consultant?

Clear communication leads to mutual success. The new FIDIC 2017 Contracts Guide 2nd Edition 2022 offers a comprehensive and practical overview of FIDIC's suite of contracts and outlines key, detailed clause-by-clause guidance on the use of these industry leading documents. In the Indian context, the 'Manual for Procurement of Consultancy & Other Services (updated June 2022) issued by Ministry of Finance, Department of Expenditure, and the General Financial Rules, 2017 provide detailed expectations and obligations of the Client and Consultant. Multilateral banks and other financing agencies also have their communications on procurement. The bottom line is that clear communication leads to mutual success.

Culture Fit is Critical

Who is the best consultant? The truth is that there is no one best consultant. Though the Hon'ble Railway Minister while addressing the Parliament recently

lauded the Indian engineers as the best in the world while sharing about the excellent progress of the High-Speed Railway Project, the key attribute of a successful Client-Consultant relationship is a culture fit. The first step is to understand the Clients' corporate culture. The Consultant must find team members that fit the Client's culture. For instance, if the Client's culture is based on collaboration and consensus, then the Consultant would find it conducive to identify team members, while deploying, who fit that style and will integrate easily into that environment. A command-and-control culture at the Client end will need a Consultant matching that culture. Encouraging Indian owned engineering consulting companies over foreign owned Indian subsidiaries is key to building up Atmanirbhar Bharat. On lines of the successful Production Linked Incentive Scheme for manufacturing, a similar initiative for scaling up project exports led by engineering consulting businesses needs to be launched by NITI Aayog.

What results in Customer Delight?

Ultimately the Consultant and Client (the as customer) are both seeking satisfaction by helping their organizations'. The Consultant, in addition, are looking for good references so they can continue to perform similarly satisfying work for other clients. These motivating desires are important. In fact, they are often a guarantee that the Consultant will engage appropriately with all Clients.

To build analytical capabilities and instil processes to improve Customer Relations Management (CRM) may need training to equip the learners with skills to build strong customer relationships and achieve higher customer retention by leveraging customer-centric service design and effective customer engagement lead.

According to reports, the global CRM market itself is expected to surpass around USD 170 billion by 2030, growing at a CAGR of 13.3 per cent from 2022 to 2030, which would lead to significant demand for highly skilled professionals with knowledge of the CRM domain.

It is suggested that CEAI at some point, may consider supporting its members by skilling them to design and implement strategies that improve the customer experience.

04

Building Client-Consultant relationship in Digital Age – Perspective of a Civil/ Structural Engineer

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Introduction

Engineering and construction industry is experiencing a period of radical change at an accelerated pace, bringing with it considerable challenges and opportunities. The world is in the midst of a fourth industrial revolution, with technological advancements rapidly developing in areas including 3D printing, robotics, artificial intelligence, and machine learning. For consulting engineering firms to remain in business and be successful, they must adapt to meet the changing desires of the market and the opportunities that are presented to them in this new scenario.

Delivering consulting services to Clients in the engineering sector is very different from delivering a manufactured product. Consulting engineering services are 'intangible products' and the problem with the intangible product is that the Client does not know at times as to what the deliverables would be until the Client realises that something has not been delivered.

One of the key elements for the success of any construction engineering project is the Client-Consultant relationship. The best probability of a successful consulting service delivery is one in which the Consultant is responsive to the Client's needs and the Client treats the Consultant as a trusted partner. If these two major elements are addressed in a project, the probability of success of the project radically increases. If either one is an issue, the chances of a difficult project dramatically increase and this has been seen to be happening in several projects all across the globe.

For any Consultant, building and maintaining effective and rewarding relationships with Clients has many benefits. Achieving such a relationship takes more than clear and regular communication. It requires investing time and effort into understanding the Client and the Client's business and situation. This paper highlights some of the areas on the important roles that Consultants and Clients play and the relationship which would be conducive to successful project delivery.

Future of Consulting Services in a fast-changing digital world

The way Consultants work has been changing radically in the recent years. Some of the digital tools now available to us were unthinkable even just a few years ago, and the pace of change is phenomenal. Three-dimensional (3D) computer modelling for visualisation, geometry definition, structural analysis, services integration, clash detection, construction planning, and ultimately delivery, operation, and maintenance in a seamless digital

workflow is now a reality. That is a rapidly developing field, and consulting engineers are using virtual and augmented reality, 3D printers, robotic construction in an increasingly digital brave new world. Looking forward to the next 10-15 years, one can see (based on current and developing trends) that the areas that have the greatest potential to impact are:

a) Building Information Modelling (BIM) (Figure-1)
b) Blockchain Technology (Figure- 2)
c) Digital Tools and Immersive Technology (Figure- 3)
d) 3D Printing and Robotic Technology (Figure- 4)
e) Innovation in material use

Figure-1: Application of BIM various fields of engineering

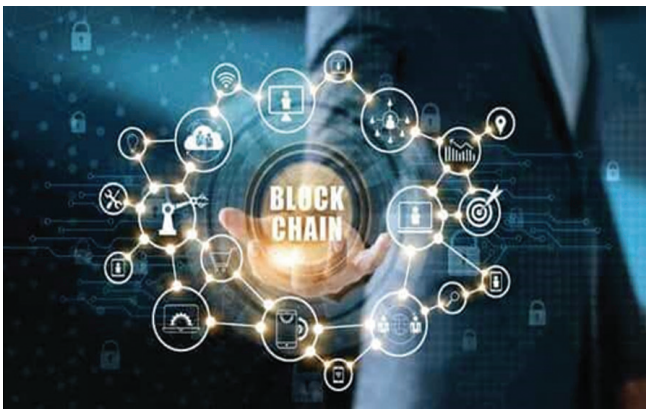

Figure-2: Blockchain technology (It has applications in many areas, such as real estate (digital land records that cannot be modified without consent), and intellectual property rights (authenticating ownership and the transfer of these rights), among others)

Figure-3: Application of VR in Civil Engineering

Figure- 4: 3D-Printing technology in Bridge Engineering

Figure- 5: Bamboo Crash Barrier in Indian Highways (used 1st time in the World)

The Vision for Consulting Engineers in the future would be along the following lines:

In the new era of digital world, Consultants are bound to cast a longer shadow with a higher degree of influence than any other discipline in the construction sector,

provided they are upto date with the latest trends and new technology. A new role is seen for consultancy, where the Consultant's function as a technical partner of the Client, where their expertise provides the evidence for how to deliver the national and local drivers of value and above all bring together three capabilities into one common thread.

a. **At A Strategic Policy Level**, enabling the right decisions to be made for communities.
b. **On Projects**, assuring the design integrity, collaborating with the team to build the digital assets first then assuring the delivery against that design.
c. **In Operation**, working at a system level understanding and analysing performance to target the most effective interventions across individual clients.
d. **Need for Improving the Capacity of Consultants and Clients on Contract Management, New Digital Technology**

Consulting Engineers, have a duty not only to make the structures safe and sustainable, but also to do so to the highest standards. With the advanced digital technology in hand, the expectation from the Consulting Engineer to deliver high quality work on a fast track would be routine in the near future. Today, it may be tempting to settle for making the structure simply good enough and reckon that nothing more is needed. But in times to come, good enough would not be good enough, and the Consulting Engineers would have to aim for the most elegant, economic, sustainable, constructible and maintainable solution, every time. It is the quality (or lack of it) that would define a project in the long term, and the Consultants would need to constantly strive to design and deliver to the best-quality standards achievable.

Looking at the future trends as explained above, the author is strongly of the view that there is need for Clients as well as Consultants to improve their skill level and build capacity to adapt themselves to the new and fast changing world. That is not just about digital design. There is also a need to embrace rapidly developing technologies which would fundamentally affect the way the Client and the Consultant communicate with each other, find and share information, manage operations and much more. There is an urgent need to continue to keep in step with the rapid pace of change all around. Collaborating through the use of common, seamless digital tools would be the way forward since they provide a much greater facility for efficient collaboration – an essential characteristic of every successful team – and unlock countless otherwise unimaginable possibilities.

There are numerous cases in which the Client and Consultant are totally unaware of the importance of a good contract administrator. Representatives from both the parties are often found to be incompetent to handle big size projects. They need to have project management skills, practical knowledge of Contract agreement and its interpretations, reasonable knowledge about the technical details and construction aspects. They should have managerial abilities (such as skills of decision making, negotiation skills, soft skills, communication skills). Knowledge of jurisprudence is also very essential. The Contract Manager from the Client should be in a position to Identify the Risks in the project and should be able to decide the contractual actions necessary to mitigate the risk, without diluting the Client's obligations. Besides, some legal knowledge is also essential for dispute resolution.

Knowhow of how to prepare a claim for any variation and how to assess a claim are lacking in the industry. Clients Engineers as well as Consultants in majority of the cases do not understand well the variation and the claims and that results in delay, resulting in time and cost overrun. Training of Designers, Project Managers, Contract Managers and their capacity building is essential to address the above issues.

Importance of Building Strong Relationship between Consultant & Client

For the success of any consulting service, the most important element is building relationships. The onus of building the relationship lies primarily with the Consultant. The team leader of the Consultant, is the contact person who co-ordinates with the Client on a project, hence that person must inter alia possess:

a. Real and practical knowledge of the job,
b. Capabilities for decision making & negotiating,
c. Inter-personal skills, and
d. Communication skill

The Team Leader must establish a good working relationship with the Client and the Client's designee.

The Team Leader may have to deal with individuals as clients, companies (firms) as clients, government authorities as clients or manufacturers/ contractors as clients. In each case the Team Leader should be capable of handling the client with confidence. Dealing with The Client's staff requires patience, sensitivity, diplomacy, maturity and at times a certain amount of salesmanship. The Team Leader should have the capability to handle unpleasant situations which might occur at times with the Client's staff or others.

Clients, who are experienced in engaging consultants, would appreciate that they need to help the Consultants to achieve the targets set by them. They have to be a part of the team. Many Clients are too busy and don't give enough time during the early stages of an assignment to clear the obstacles that come in the way of a Consultant's work. The early stages of any project, where the assignment is discussed and targets are set, are crucial to the development of trust.

Based on experience, it has been seen that there are numerous cases where the Client's representative is found wanting in contract administration skills. In big-size projects, the Client's representative often acts as the interface between many stakeholders; the Consultant on one side and politicians/ bureaucrats on the other side. Since the project value is huge and there are pressures from politicians, client, contractors as well as bankers, the position of employer's representative is a high pressure job.

Need for Good Communication

Good communication between the Client and the Consultant is an important aspect in developing a strong relationship. It's key at all stages of working, right from the initial introduction meeting to completing the project and even thereafter.

Effective communication from both sides can improve relationship, improve trust. That can make tricky situations easier to resolve. It is a good practice for the Consultant to be transparent and honest while communicating to Clients, providing regular project updates, progress, identifying bottlenecks that requires intervention by the Client and giving advance information about likely delays that may occur in some milestones. The Client should be made to feel at ease to contact the Consultant's representative when they need a quick response. It would help them to develop trust and respect in the Consultant.

It's important for both Client as well as Consultant to remain accessible to each other. If any one agency has to go through multiple levels of people just to get the concerned person at a senior level on the phone, that would not serve the project well. There should be demonstration of mutual respect between the Client and the Consultant. That would help to instil confidence in the Client and would also reinforce respect for the Consultant.

Communication skills can be learned. Unfortunately, soft skills are not taught in all the schools and engineering colleges. It is strongly recommended that individuals who see their role at the senior decision making level, requiring close interaction with many stakeholders, spend the time and effort to learn the important steps and skills of successful communication.

Closing Remarks

A successful project is the result of much more than just the technical competence of a Consultant. It is the combination of mutual respect and cooperation between the Consultant and the Client, including other associated professionals such as contractors, manufacturers, suppliers, etc. The most important of all is the fact that Client should be at the centre stage and be the focus of attention since it is the Client's project, the Client's financial targets for the project, and the Client's other pertinent needs that have to be met by the Consultant.

In a majority of the projects, the maximum discontentment of the Client occurs when the Consultant fails to meet the 'impossible triangle' demand of **Quality-Schedule-Budget**. Both the Client and the Consultant need to recognise the fact that no Consultant can deliver a project that is **cheap, fast and good**. If a Consultant does make irrational commitments, then that Consultant is either covering up basic economic realities or deluding one's own self and others. **The Client must understand and accept the fact that services delivered can be either fast and good (but not cheap), cheap and fast (but not good), or good and cheap (but not fast)**.

05

Evolution of Consulting Services and Client-Consultant Relations in the Highway Sector

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Till late 1990, the majority of the road projects in India were of widening from single lane to intermediate or two lanes, realignments, and construction of bypasses. All the State PWDs had their own dedicated survey investigation and design units. The Ministry of Road Transport and Highways also had very strong Bridge and Road standards Zones headed by Chief Engineers reporting to the Additional Director General Bridges/ Roads and further on to the Director General (Road Development). For small and medium-span bridges, the bridge standards had brought out standard drawings, which were used throughout the country.

The project reports and cost estimates for roads and bridges were prepared in-house by the respective State PWDs. The consultants were appointed only for major bridges and Rail-Road bridge (ROB/RUB) designs. There were a few consultants in the country for designing bridge structures. Most of the large bridges were let out on Lumpsum basis and the designs were prepared by the contractors through their in-house design team or through design consultants. Expertise available in some IITs and other engineering colleges were also used selectively. The projects were invariably supervised by the State PWD engineers.

The sections were identified for four laning based on the traffic and viability. Most of such projects were funded by multi-lateral funding agencies like The World Bank and Asian Development Bank. For such projects, consultants were appointed for survey investigation and preparation of a Detailed Project Report. The tenders were invited on item rate basis. The supervision Consultants were mostly from outside India with a joint venture/ association with Indian Consultants. Some of those projects were also supervised by the State PWD engineers.

The design consultants were acceptable by the then prevailing system of the Public Works Department, but there were a lot of apprehensions about supervision of projects through the Consultants. Whereas in the government system there was considerable accountability through audit, vigilance, etc., but the consultancy firms who were purely private had no accountability. Further, the employees of those firms were free to move from one consultant to another. Hence, the question was as to how the government could rely on them and fix responsibility.

A number of brainstorming sessions were held before the system of supervision through the consultants was accepted and adopted.

The major boom for the consulting engineers in the highway sector came when NHAI was formed and some ADB-funded projects were assigned to it for implementation, sometime in 1995-96. In those projects, the lead consultants were from outside India.

Subsequently, the Government of India decided to develop highways through a corridor approach and the Golden Quadrilateral project connecting the four metros was launched in 1998. It was followed by four laning of the East-West and North-South Corridors. It required a large number of consultants for the preparation of the DPRs and later for the supervision of those projects. The State Governments also had their own programs.

The Ministry of Rural Development launched at almost the same time the last village connectivity programme. They involved educational institutions and individual consultants as State and National Quality Monitors for supervision of the construction. The DPR was prepared through consultants or in-house by rural road agencies.

Thereafter, there was no looking back. At present, engineering consultants are performing multifarious roles, such as survey, investigation, feasibility study and detailed project report for roads and bridges for government departments, supervision of projects, road safety, proof checking, detailed engineering for contractor/concessionaire in EPC/HAM/PPP projects, lenders engineer, assisting in land acquisition, obtaining forest and environment clearances, etc.

The consultancy concept was created on mutual faith and mutual respect basis. In one of the discussions on the subject, the then Chairman National Highways Authority of India sometime in 2000-01 mentioned that in his opinion, the NHAI should have only one person, that is the Chairman. The rest of the functions should be performed by the specialist and consultants in the respective fields. The client should have complete faith in the Consultants and in return, the Consultants should assume full responsibility and ensure quality in the delivery of the functions assigned to them.

Thus, the interaction and hence the relationship between the highway authorities and the Consulting Engineers has been evolving for about three decades.

It is often queried that when due respect is given to professionals such as Doctors, Lawyers, Chartered Accountants, et al whenever one goes for consultations with them, then why is not the same respect given to Consulting Engineers also. However, for the latter, that has slipped down over the years. The Consulting Engineering profession needs to introspect as to why this situation has arisen. Who are responsible for the situation that affects them today? How can the prestige of Engineering Consultants be restored?

The Consulting Engineering Association of India is working hard to find solutions, counsel the professionals and improve the credibility and the engineers in the country. It is for the professionals also to come forward and ensure that all that they do is ethical, technically sound, the quality meets the requirement of the contract, work is completed on time, keep themselves updated with the developments in their areas of work, and above all act as an extended arm of the client.

06

Expectations & Suggestions for Clients - Consultants in the Highway Sector

I K Pandey
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Ministry of Road Transport and Highways, Government of India

Backdrop

The Ministry of Road Transport and Highways, Government of India is the nodal Ministry for development and construction of National Highways in the country. The Ministry issues Guidelines, Circulars and Specifications for procuring the contract for construction, as well as supervision of the Highway infrastructure. They have also prepared various contract forms based on which the tenders are invited and contracts finalized for procurement.

Till the 1990s and even up to 2004-5, the preferred mode of contract was based on the Bill of Quantities. For externally aided projects also the FIDIC document was followed, and that also was based on a detailed bill of quantities.

Consultants were engaged only for externally aided projects or by NHAI only. For all other projects, supervision was done Departmentally. The International consultants had Indian consultants as their associate to execute the consultancy work. The basic field work was done by the Indian consultant whereas the international key personnel provided guidance. Both worked on a monthly remuneration basis.

Gradually the contract form has changed both for procurement of civil contract and consultancy work. Under the changed circumstances now all Detailed Project Reports are being prepared by consultants and all works are now being supervised through the consultant only.

The Client has now assumed the role of Managers only. The advantages of such a system is that the Client does not require a large Manpower for supervising a large number of works.

Present Setup

The Client's role now has been reduced to such a miniscule level that they seldom actively associate in preparation of DPR and supervision of works, which therefore leads to change of scope during execution, Land acquisition of left out areas in some patches, non approval of GAD of ROBs or forest clearance which form the conditions precedent for award of civil work. That has been eventually leading to delay in execution of works and disputes during execution and operation. It is therefore suggested that there has to be active participation of the Client in the techno-economic and planning decision making for which the Client's institution must be strengthened to have specific departments for Bridge Design, BMS and Specification,

Road Design, Research and RMS, Quality Assurance, Road Safety and Traffic Engineering. That would help the personnel of the respective department to continuously upgrade their knowledge and contribute more effectively. A centralized procurement division/ department also needs to be setup to avoid variations in evaluation of bids on key issues.

Local Indian Consultants have now developed expertise however, there is a big gap in availability of Good, Knowledgeable Key Personnel vs actual requirement. Moreover, the selection criteria give more weightage towards the number of years and projects which make it necessary to deploy only very senior or retired persons. Stipulating a requirement of having done DPR for construction work is also illogical. The factual availability aspect is thus completely ignored. The policy on replacement and penal action on consultants for false CV of Keyperson or willful denial of the Keyperson to join the project after selection is unreasonable as data and registration of Key-personnel is done by the Client only through INFRACON. The Client should take action against such defaulting Key-personnel rather than against a Consulting firm which would render the Consulting firm further constrained to work. It is therefore suggested that Clients may relook into this policy and make it logical and reasonable.

Timely Decisions by the Client

Delay in decision-making by the Client is another concern. The Client provides about a one-year time period for preparation of a DPR and 1month for alignment approval, whereas more often than not, the Client is not able to approve the concept design and alignment plan even after a year thus frustrating the contract. In addition, the Client's insistence to keep all Keypersons deployed till the DPR is approved, even beyond the contract period without any compensation is another action that needs to be set right. This condition causes pecuniary losses to the Consultant as the Consultant has to keep the Keypersons deployed for the full extended period without any tangible work as further work can only be done after the approval of the alignment and key parameters. Besides, there are frequent changes in decisions resulting in delays in final delivery. After approval of concept plan and alignment by Client, if there is any change, then the onus of that should be taken by the Client rather than making only the Consultant responsible and penalizing the Consultant.

There is a need for both the Client as well as the Consultant to follow the timeline stipulated in the Contract and if there is any deviation, from the decisions taken earlier, then the additional work required to be done by the Consultant, needs to be compensated by the Client. Thus, there is a greater need for active association of the Client during the project preparation and a clear understanding as to what is required from the DPR Consultant.

On the other hand, if any Consulting firm does not deliver the work in time and fails to carry out the same as per the Terms of Reference (ToR), then it needs to be dealt with in accordance with the Contract to avoid recurring default.

CV of Personnel

As far as the supervision of work is concerned, there is a huge shortage of manpower. Those who qualify most often are not up-to the mark for site work. Either they do not take decisions or take such a decision which leads to disputes. The Site Keypersons are often found conniving with the Contractor, without knowledge of the designated AE. Under the circumstances there is a need to look into the system of INFRACON to capture data relating to such aspects of a person's conduct.

The Client should not reject CVs mainly because it scores less marks than that proposed during bidding as long as the CV meets the requirement. While dealing with the Consultant's manpower, it should not be dealt with on the same lines as for civil construction work.

There is also a need to look into the RFP for procurement of consultants, whether there is really a need for so many CVs as called for/ provided in the RFP. There is also a need to look at whether the

requirement of having done a DPR is required for AE/IE works? A Material Engineer's requirement is the same for road and bridge works; then why should there be any tweaking with the requirement and make it specific to needs of a certain Consultant. In India there are no specific courses for Pavement/ Highway/ Geotechnical/ Highway Engineering and Contract Specialist. The main discipline is Civil Engineering and in the field an Engineer works on all the specific requirement of Pavement/ Highway/Geotechnical/ Highway Engineering/ Contract Specialist, hence compartmentalized criteria of selection of CVs and typifying the CV into a specific compartment and rejecting other needs to be relooked. INFRACON does not address this issue and thus the Client needs to look into it and suitably correct it.

Procurement Process

It is also seen that the Clients take unreasonably long time, sometimes exceeding one year to evaluate and finalise bids. Under such circumstances, it is difficult, rather impossible, to ensure availability of Keypersonnel for such extended periods of time. Bids should normally be finalized within a month by setting up a specific Procurement Division in the Client's organization.

Relaxation in procurement criteria for civil work has led to rate cutting even below 20% and upto 32% below. Many of the bidders who quote low, neither have the expertise nor the required resources (men, material, machine and money) and fail to do quality work besides being slow. It has also been seen that there are many contractors who do not follow the contract and do hurried work without getting quality assurance tests and informing the AE. Those works have been subsequently found to be substandard. The Contractor, however, puts pressure for payment of bills and blames the AE for the delay. The Client should look into such matters and follow the AEs recommendation rather than putting pressure on the Consultant for release of the Contractor's bills.

Competency & Ethical Conduct

Last but not the least, the Consultant should also keep on upgrading their knowledge and skills. They should learn usage of modern computing tools, accelerated construction practices, AI and digital working.

Consultants should quote rates which are workable and on which they can make a reasonable profit. The CVs submitted should reflect only what the person has done personally and not what a team or firm has done.

In short, all the parties concerned should present factual, verifiable data, and do all work in the best professional manner to the required specifications and timelines. That would enhance the prestige of the profession for all the persons concerned, be they of the Client or of the Consultant.

07

Reflections & Introspections on Inter-Relationship with Clients

Jeffrey Nambiar
Director
Chempro Expertise Pvt. Ltd.

Introduction

The paper is based on the feedback received from many members of the staff at Chempro Expertise involved in consulting engineering services for Chemical and Industrial Projects, mostly for private sector clients and the management perspective garnered over around five decades in the Consultancy service.

A Company's policy and its mission statement, as set and driven by the Founder(s) determine the work culture that prevails in an organisation; it directly affects the work being carried out by the employees. An organization whose moto is service driven does fare much better in the long run, since the Client feels comfortable to approach them and award repeat orders, rather than an organisation which is solely focussed only on the business aspects. The contents of the paper are those emanating from a service driven organisation.

Client's Expectations

Clients expect that since it is a paid contractual assignment for engineering service, the Consultant needs to provide technical expertise which is state-of-the-art and fit for purpose based on tacit knowledge and experience. Thus, understanding the Client's requirement is of foremost importance and translation of the same into the required engineering efforts and time to do that. Where a Consultant lacks knowledge and/ or experience, the Consultant should inform the Client upfront. The option then could be to augment the resources by the Consultant per se or the Client could appointment some other right resource. Recognition of one's capability and being transparent about it is key to building trust.

With digitalisation having made deep inroads in all sectors the Clients also expect that the Consultant would be using appropriate versions of engineering software along with the necessary hardware. 3D platforms are virtually mandatory now. Clients who are tech savvy would also like to review the project as it comes along on a 3D platform since that would increase the speed of review.

Representative of the Consultant

The Project Manager (PM) of a Consultant is the face of the Consultant's company and a PM's objective oriented attitude with mature people skills enable management of a Client's expectations, meet project exigencies, and ensure execution even under pressure on a day-to-day basis. Needless to add that the PM must be of sound technical competence, must be an all -rounder and be able to take the team along so that their full support is always available.

The PM's and the Consultant's Project Team's ability to use project management tools - scheduling of

deliverables, proper planning of resources, practical prioritisation, etc. go a long way in the timely achievement of Project Milestones. That earns the Client's respect and builds confidence in the Consultant and strengthens the relationship.

Project Team of the Consultant

The Project Team of the Consultant must understand the Client's requirements thoroughly, even the tacit ones. They need to then perform engineering based on sound principles, provide optimised solutions where required, deliver information/ documents on time without any loss in the quality of the deliverables, proper BOQ's, etc.

The Consultant needs to use a 3D platform, so that most of the above get automatically taken care of, or at the most could be suitably linked and performed besides providing a continuous interphase between the Consultant and the Client's teams right from Concept to As-Built drawings and later for operation and Maintenance of the plant/facility.

The PM and the Consultant's team members need to inter alia Communicate Effectively and Consistently within themselves as well as with the Client's Team. They need to Be Positive in their Outlook, Share Knowledge, Be Open-Minded, Understand the Client's Goal, Speak the Client's Language, Stay Humble, Appreciate the Client's good gestures, Seek Feedback, Follow-up after the project ends, and, Exceed Expectations.

Coming down to brass tacks, the Consultant must always sign a contract and the Consultant's Team must Set Clear Deliverables, Be Authentic, Establish regular communication, Personally get to know the Client's Team Members, Set Realistic Expectations, Be Transparent, Be Honest, Ask the Client about specific Goals, Think like the Client, Don't be afraid to Speak, Voice misgivings, Hold Meetings with the Client and other parties involved at regular intervals and record all discussions – agreements & disagreements.

A Consultant should endeavour to obviate all human errors within their purview and strive for a fit for purpose design. Client delight stems from adaptability to change, the agility to incorporate change as well as flexibility combined with tolerance to change.

Project Team of the Client

The Project Team of the Client must likewise follow and adopt as applicable whatever is mentioned for the Consultant's Team. In addition to those they need to provide Timely Inputs in terms of user requirements towards the Design Basis; Give Timely Approvals on submissions or their feedback with comments; Procure Plant & Equipment on Time; Share Vendor Data after procurement; Be Flexible in terms of milestone approvals as per Project's actual progress; Timely Payments for work done and Timely Regularisation of Additional Work with Change Orders and Payments; Honour the provisions of the MSME Act vis-à-vis payment delayed beyond 45 days.

For most projects, a Consultant's Fees are small in comparison to the project cost, hence trying to reduce that is not worth the effort. It needs to be borne in mind that insufficient fee would translate to insufficient resources for the project work - opting for L1 would not be in the interest of a Client and the Client's objectives, especially where a Client is wanting a collaborative approach.

Just like the Consultant's Team the Client's Team also needs to be able to use a 3D platform for review and give stage wise approvals in a time bound manner.

Collaborative Approach

The aim of the teams from the Client as well as the Consultant should be to collaborate and add value by objectively looking at all issues, discussing them and taking the matter forward in a win-win situation for both. Both the Teams should work towards overcoming issues which may arise, if any, in input data, design and implementation of the project, without resorting to any finger pointing by either side. Both must function as part of a supportive project team focussed on

innovative solutions for achievement of the common project objective. This approach has been proven time and again, by not only successful completion but also value addition to the project. Here it is important that a Client does not shy away from compensation for all the extra efforts incorporated to bring about such a result. All dealings should be ethical and fair by both the parties – the Client as well as the Consultant.

The key factors would be as shown in the figure.

Customer Delight

Customer Delight would stem from the Successful and Timely Completion of the assignment/ project, which brings a profitable outcome to the Owner on account of the Excellent Services provided by the Consultant, which at times may be beyond the original contractual obligations. That is where the role of a Consultant as a partner comes in; the monetary compensation can be discussed and decided in parallel. The principal aim should be to complete the project with a Win-Win situation for both.

08

Consultant - Client Relationship: What, Why & How!

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Past President, National Association of Consulting Engineers (NACE)*
Member, Governing Council, CEAI
Member, Past Presidents' Council, CEAI
Executive Chairman, Holtec Consulting Private Limited

"There is only one definition of the business purpose: To create a customer - it is the customer who determines what a business is. The customer is the foundation of a business and keeps it in existence."

Peter Drucker

Through effective marketing, consultants generate expectations from their clients and through their services/ products they create opportunities to fulfil or exceed these expectations. If that happens time and again, the bond with the client becomes stronger, the relationship becomes sustainable and the client becomes central to the consultant's business purpose. That leads to development of trust, which is the driver of value-creation in the Consultant-Client relationship.

However, that does not happen overnight. Patience, perseverance and the enthusiasm to meet the objective are all needed, in abundance. Understanding of the client's track-record, core values, style of functioning, etc. become the corner-stones of coming closer to the client. At the same time, clients have also to meet certain obligations to get the optimum from their consultants, since that helps them in achieving their own objectives.

Client's expectations from a Consultant

Clients have several expectations from consultants when they engage them for their services. Some of the common expectations include, but are not limited to:

a. **Expertise**: Clients expect consultants to have deep knowledge and expertise in their respective fields. They want the consultant to be well-informed about the latest trends, technologies, and best practices in the industry and evolve innovative solutions.

b. **Problem-solving skills**: Clients hire consultants to help them solve complex business problems. Therefore, they expect the consultant to be able to analyze the problem, identify the root cause, and provide effective solutions.

c. **Results-orientation**: Clients expect consultants to be results-oriented and focused on delivering measurable outcomes that align with their business objectives.

d. **Flexibility**: Clients may expect consultants to be flexible and adaptable to changing circumstances and requirements.

e. **Communication**: Good communication is essential for any successful consulting engagement. Clients expect consultants to be excellent communicators who can explain complex concepts in a clear and concise manner.

f. **Trustworthiness**: Clients would like consultants to be honest, trustworthy and maintain confidentiality, especially when dealing with sensitive information, even if not specifically mentioned in the contract.

g. **Professionalism**: Clients would like consultants to be professional in their conduct, which includes, among other things, their attire, punctuality, and demeanour.

h. **Responsiveness**

i. **Accurate** outputs and compliance with time-schedules.

j. **Value**: Clients would expect consultants to provide value for their money by delivering in time high-quality services that are worth the fees charged.

Overall, clients expect consultants to be responsive to their needs and be trusted advisors who can help them navigate complex challenges, identify opportunities, and achieve their goals. To meet their expectations, it is essential for consultants to develop strong relationships with their clients, communicate effectively, and provide high-quality services that are ACE, viz. Above Client Expectations.

A format, for eliciting feedback from clients for all projects completed during the quarter is given as being followed in Holtec.

Client Feedback on Services

Name & Designation of Respondent						
Name of Organization						
Date						
SN	**Parameter**	**Disagree**			**Agree**	
		0	**1**	**2**	**3**	**4**
		(Put '√' in the opted box)				
Our portfolio of services/ outputs are:						
1.	Technologically contemporary					
2.	Accurate and reliable					
3.	Timely					
4.	Comprehensive in meeting industry requirements					
5.	User-friendly & visually appealing					
Our people are:						
6.	Adequately experienced					
7.	Easily contactable					
8.	Quick to resolve bottlenecks					
9.	Open to suggestions					
10.	Well prepared during all interactions					
Any other areas you wish us to improve: • •						

Collation of the feedback, over multiple projects, helps in addressing recurring deficiency areas by identifying their root causes.

Client's obligations to a Consultant

Just as a client has expectations from a consultant, there are also certain obligations that the client should fulfill to ensure a successful consulting engagement. Some of these obligations include:

a. **Define clear project objectives and scope**: Clients should provide clear and concise project objectives and scope to the consultant, which will enable them to deliver results that meet the client's expectations.

b. **Provide access to necessary information**: Clients should provide consultants with access to all relevant information, data, and resources that are required to complete the project.

c. **Provide timely feedback**: Clients should provide timely feedback to the consultant on their work to ensure that the project is on track and any necessary adjustments can be made in a timely manner.

d. **Respect professional boundaries**: Clients should respect the consultant's professional boundaries and not interfere with their work or try to dictate project direction.

e. **Ensure proper payment**: Clients should make timely payments for the services provided by the consultant according to the agreed-upon terms and conditions.

f. **Demonstrate professionalism**: Clients should treat consultants with professionalism and respect, which includes their time, expertise, and opinions.

g. **Maintain confidentiality**: Clients should maintain confidentiality regarding any sensitive information that the consultant may have made the client privy to during the consulting engagement.

By fulfilling these obligations, clients can ensure a smooth and successful consulting engagement and build a long-term working relationship with the consultant.

In general, while most of the above obligations are reasonably met, receiving timely payment is one that is still not satisfactory. That leads to a burgeoning of Accounts Receivable, and creating undue pressures on the consultant's working capital. The problem is further aggravated on account of GST payments becoming due on invoicing, rather than when payments are actually received.

Client's perception of the level of input from a Consultant

The level of input that a client expects from a consultant can vary depending on the nature of the project and the client's specific needs. Some clients may want the consultant to take charge of the project and provide strategic direction in addition to the engineering services, while others may prefer a more collaborative approach where the consultant works alongside the client's team.

Generally, clients expect consultants to provide valuable insights, recommendations, and engineering expertise that will help them achieve their business objectives. However, the level of input required from the consultant may depend on several factors, including:

a. **Client's knowledge and experience**: Clients who have a good understanding of the subject matter may require less input from the consultant, while those who are less familiar may need more guidance and advice.

b. **Scope and complexity of the project**: More complex projects may require a greater level of input from the consultant, while simpler projects may require less input.

c. **Time and budget constraints**: Clients may have limited time and budget, which may impact the level of input that the consultant can provide.

d. **Consultant's expertise and experience**: Clients may seek input from the consultant based on their experience and expertise in a particular field.

Ultimately, it is important for the consultant to work closely with the client to understand their expectations and determine the appropriate level of input required for the project's success. Open communication and collaboration between the client and the consultant are paramount in achieving the desired outcomes.

Based on a consultant's background, experience and standing in a particular sector, the consultant's fee could be higher. The client gets the benefit of the deliverables being superior in quality and are not of run-of-the mill quality.

Quantum of Consultant's fee and its effect on work output vis-à-vis quality and time?

The quantum of fee that a consultant charges depends on many factors which inter alia are the consultant's work output, including the quality and time required to complete the project. Clients may assume that a higher fee corresponds to a higher level of expertise and quality output, while a lower fee may indicate lower levels of expertise and quality output. However, this is not always the case, as the fee charged by a consultant may depend on several factors, including their level of experience, the scope and complexity of the project, and the market demand for their services. A consultant who charges a lower fee may still provide high-quality services if they are experienced and efficient in their work, while a consultant who charges a higher fee may not always deliver the desired outcomes.

It is essential for the client to understand that the fee charged by the consultant does not always correspond to the quality and time required to complete the project. Instead, the focus should be on the consultant's expertise, experience, and track record of delivering successful projects.

Clients should also communicate their expectations clearly to the consultant and be prepared to pay a fee that is commensurate with the scope and complexity of the project. That would help ensure that both parties are aligned on the project's objectives, timelines, and deliverables, and the fee charged reflects the value provided by the consultant.

If the consultant enjoys the reputation of being the premier consultant in its domain, once a client entrusts it with a project, expectations are always high. In addition, to keep the motivation levels and the learning opportunity high for staff entrusted with each assignment, the consultant has to insist on superior quality of outputs within the organisation.

Types of Consultant - Client relationships

The relationship between a consultant and client can vary depending on several factors, including the technical capability and level of knowledge of the client. Generally, the consultant-client relationship can be classified into three types:

a. **Advisory relationship**: In this type of relationship, the client relies heavily on the consultant's expertise and knowledge to provide guidance and advice on specific issues or projects. The client may have limited technical capability or may lack specific knowledge in certain areas, and therefore relies on the consultant to provide insights and recommendations.

b. **Collaborative relationship**: In this type of relationship, the consultant works alongside the client's team to provide support and guidance on specific projects or initiatives. The client has a certain level of technical capability and may have a good understanding of the subject matter, but requires additional expertise or resources to achieve their goals.

c. **Supportive relationship**: In this type of relationship, the consultant provides support to the client's team to help them achieve their objectives. The client has a high level of technical capability and knowledge, but requires additional resources or support to complete specific tasks or projects.

The type of relationship between the consultant and client would depend on the client's specific needs, the nature of the project, and the consultant's expertise and experience. It is essential for consultants to understand the client's level of knowledge and technical capability and adjust their approach accordingly, to ensure a

successful outcome. Effective communication and collaboration between the consultant and client are the key building blocks towards establishing a strong and productive relationship.

Conclusions

a. Consultants cannot afford to forget, even for a while, that their clients are central to their business and there is no business without a client. Happy clients would tell friends about the good experiences, while unhappy clients would tell the world about their frustration. When the client comes "first", the client will "last" to the consultant's delight.

   "*It is not your customer's job to remember you. It is your obligation and responsibility to make sure they don't have the chance to forget you*".

   Patricia Fripp

b. It is important to engage clients regularly, keeping communication open to gain better understanding of their business, style of functioning and deeper understanding of their strategy.

c. A robust Consultant-Client relationship enables clients to feel comfortable calling the consultant, when they are faced with an issue that may not be related to a current project, simply because they have started treating the consultant as a partner. That can happen when a synergy in Consultant-Client relationship has been established.

d. A smooth and sustainable relationship between the Client and Consultant should result in delight to both, besides improvement in their respective bottom lines.

* In 1996, NACE (National Association of Consulting Engineers) and ACE (Association of Consulting Engineers) merged to form CEAI (Consulting Engineers Association of India).

The Construction Index

Construction News
Tue March 14 2023

McLaren cracks glass recycling in Camden

McLaren Construction is recycling window glass on a Camden estate refurbishment project in what is being described as an industry first.

McLaren Construction is reckoned to be the first UK contractor to deliver closed-loop recycling of window glass at scale. The recycling is on the refurbishment of 644 apartments at the Chalcots Estate in Camden, where window replacements started in February this year.

McLaren has established the process with Powerday and Saint-Gobain. Powerday collects and crushes the glass; the resulting cullet (crushed glass) will then be recycled back into window glass manufactured by Saint-Gobain.

Saint-Gobain's target is for more than 25% of its glass to be recycled from dismantled buildings (post-consumer cullet) by 2050, while the proportion currently stands at less than 1%.

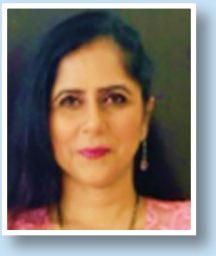
McLaren was awarded the contract for refurbishment of four 23-storey blocks on the Chalcots Estate in January 2022. The works include replacement of 24,000 sq m of cladding and 3,496 windows while around 3,500 residents remain in their homes.

McLaren's pre-construction director for facades, Claire Tribe, explained the challenge. "In principle, glass is infinitely recyclable," she said, "but we don't recycle enough of it and we haven't got to grips with the challenges around higher-grade glass."

09

Opportunities & Synergies in a Client–Consultant Relationship within an Industrial Project Ecosystem

Luqman Ummer
Consultant – Engineering & Project Management



Arshi Bhutani
General Manager

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Abstract

An industrial project life cycle spans from concept to commissioning. The project eco-system consists of a diverse set of stakeholders. Their importance and impact on project success is not uniform over the entire project life cycle. Government agencies have greater interaction at the beginning and closing stages of a project due to statutory approvals of the process, layouts, permission to set up the plant, as well as in terms of approvals to commence operations upon completion of installation. Suppliers play a key role during the execution phase. Similarly, other stakeholders get engaged and disengaged depending on their roles.

Three of the most important stakeholders are the Client, Consultant and Contractor (3C). The dynamics of the relationship among these three stakeholders are complex and intricate. Over the years, various scholars, practitioners, industry and statutory bodies have proposed numerous ways and means to ensure harmony amongst them. This paper is focused mainly on two stakeholders - the Client and the Engineering Consultant within the project ecosystem. It provides a bird's eye view of some of the relationship building blocks along with underpinning theoretical frameworks. It also examines how to ensure the project success while simultaneously managing individual stakeholders' own expectations.

Introduction to Industrial Project Ecosystem

According to the PMBOK Guide (Project Management Body of Knowledge) by the Project Management Institute (PMI), a project management life cycle consists of 5 distinct phases including Initiation, Planning, Execution, Monitoring, and Closure The project management process connects all project activities together and creates the harmony in the project by dividing the project into manageable stages, each with its own goals and deliverables, as that leads to ease for controlling the project and the quality of the output.

"A project is a temporary endeavor undertaken to create a unique project service or result" (PMBOK® Guide—Fourth edition).

"A project is a set of tasks that must be completed in order to arrive at a particular goal or outcome" (www.projectmanager.com).

The above two characteristics of industrial projects would help to understand some salient concepts of

project lifecycle, and their relevance in a **Consultant - Client relationship.** The first concept is that a project does not have a sense of permanence. It is of a temporary nature with a finite lifetime and a clear start and stop milestone. Second is that it has a unique and defined objective or output. Third is that it consists of a set of defined and measurable tasks which must be executed in a particular sequence to arrive at the objective or goal.

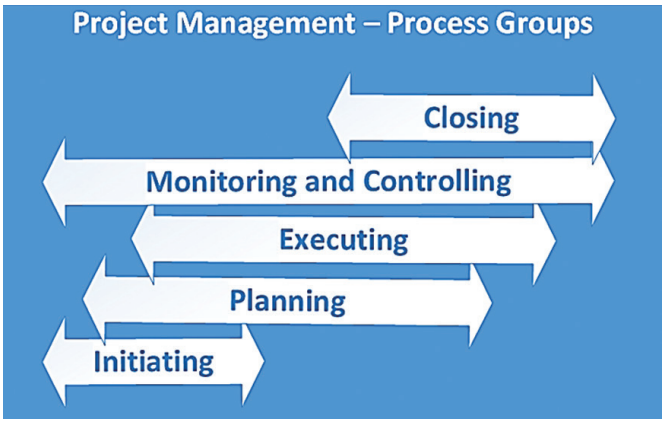

Figure-1: Project Management process groups
Courtesy: www.codesteps.com

The performance metrics in terms of safety, cost, schedule, quality, et al. and the target KPI values are well defined through various Project Management bodies like PMI and thus well accepted also. The project passes through various stages in its journey from concept to commissioning. These stages are distinct from one another and unique in their characteristics. For every stage of a project, from the simplest to the most complex, there are certain steps and processes that need to be followed to ensure a successful outcome. A typical industrial project ecosystem is depicted as shown in Figure-2

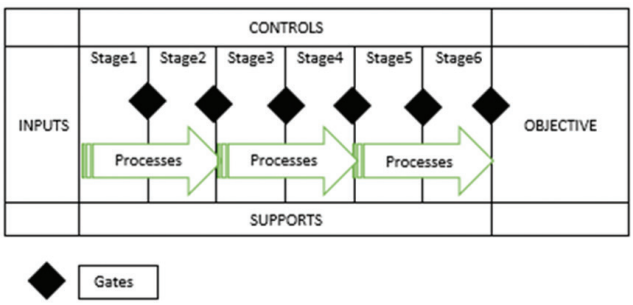

Figure-2: Typical Project Ecosystem ©

The stages may vary from organization to organization, but can be broadly classified as:

1. Concept development / Feasibility Study
2. Basic Engineering / Front End Engineering
3. Detailed Engineering
4. Execution including Procurement & Construction
5. Handing over including Commissioning & Startup
6. As Built & Close out

Control and governance systems such as stage gating system approvals, cost & budget approvals, etc. are to be in place to ensure that financial investment discipline is maintained and investor interests are protected at all times.

Support systems such as resourcing, quality assurance, planning & control, etc. are also to be in place to ensure that the project is moving in the right direction and is on track to achieve its objectives within the constraints.

The prime enablers for the seemingly robust ecosystem to function and deliver effectively and efficiently are, among other things:

1. Organization factors such as shareholder expectations, hierarchies, etc.
2. People – both within the client organization as well as outside it, such as consultant, contractor, supplier, et al., and their skills and competencies
3. Processes that lend themselves to healthy audits and which are well established and implemented
4. Technological tools for controls, performance measurement and monitoring, etc.

Among all these enablers, all being key factors, "*the people*" are arguably the one single enabling element which have a profound impact on all the other enablers and have maximum influence on the outcome of the project. *Eddie Fisher et al. (2011*) have highlighted the importance of people management and their contribution to successful completion of projects. That is on account of the complex dynamics, in not only the way the people interact with each other, but also the way they leverage the other enablers; an enabler is also prone to inconsistency and unpredictability.

The people domain is populated by diverse role players such as client, consultant, contractor, suppliers and other service providers. The two among these stand out because of the extent of their authority, responsibility, accountability and influence over the other role players, over project KPIs related to safety, quality, progress as well as the overall project outcome. These two are the **CLIENT** and the **CONSULTANT**.

Consultant – Client relationship: An Analysis

Consultancy is a market relation between a management group from inside the client organization and another from outside, brought together by their native expertise and competency (*Robin Fincham et al. 1999*).

According to *J. Chelliah et al. (2010)*, Consultant – Client relationship is dominated by two types of expectations. One is based on the formal contract. The other is based on a perceived psychological contract and is driven by past experiences and comparisons.

Figure 3: Psychodynamic Model for the Client – Consultant Relationship
Courtesy: www.semanticscholar.org

The nature of the relationship and a few of the factors influencing the relationship are discussed below.

a. Project Lifecycle

The duration from the start to the completion of the project is referred to as the Project Lifecycle. During that period, various stakeholders get engaged and collaborate to accomplish various tasks. Many disengage at some point of time and some may re-engage later on. They engage in diverse roles such as service provider or supplier, related to safety, engineering, construction, quality assurance, etc. All of this follows a logical sequence and schedule, which is vital to the success of

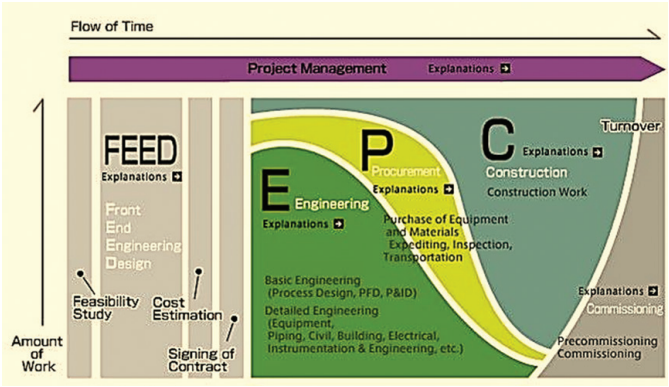

Figure 4: Schematic Representation – Time Loading of Project Execution Stages
Courtesy: www.arvengtraining.com

the project. The schedule, together with the roles and responsibilities of all the stakeholders, is the veritable blueprint of the project (*Chuck McKeever et al., 2006*).

The blueprint is developed by means of a joint effort and collaboration between the client and the consultant at the concept development or FEED phase. The consultant is well positioned to understand the client requirements and propose the best fit strategy, execution method, budget & timelines, tenders & procurement, risks & mitigations, change management, etc. The client is best positioned to align these with organizational policies & values and the shareholder interests.

Although the above discussion tends to indicate the existence of clear boundaries and roles for client and consultant relationship in technical matters, however, the interface for managerial authority tends to be a little vague. *Andreas Werr & Alexander Sthyre et al. (2002)* have recorded the client managers' perception of the need to maintain a distance and control the consultants.

b. Three Common Models

Suvi von Becker, Eeva Aromaa, Päivi Eriksson et al. (2015) have described three models of Client – Consultant relationship.

1. The Expert Model where the consultant takes a dominant role with his superior knowledge. The client expects the consultant to solve all problems

and limits himself to the role of implementing the consultant's recommendations. It is a less interactive relationship.

2. The Critical Model where the consultant dominates by means of persuasion using rhetoric and argumentative skills.
3. The Social Learning Model, where neither party dominates. Consultants act as facilitators and coaches who approach their clients as equal experts and contributors. Consultants and clients jointly diagnose clients' problems and develop solutions for them.

All three models have their merits depending primarily on the maturity and competency of the client as an organization as well as of the individual who is the client's manager. According to *Hicks et al. (2009*), the relationship is more of knowledge creation rather than knowledge transfer, and from this perspective, the social learning model is more prevalent these days.

c. Influencing Factors

Today business is happening at a global level. Clients are engaged in diverse businesses with unique requirements and challenges. That in turn puts diverse demands on the consultant and tests the limits of his knowledge and market intelligence. Clients often seek suitable consultants across the globe. In that context, the three factors that influence are examined.

Geographical factors:

When clients engage consultants from overseas, in addition to the normal project scope, the contract needs to cover various issues like:

1. Legal issues and applicable court of arbitration
2. Taxation
3. Prevailing inter-governmental concessions or restrictions
4. Visa conditions
5. Politically sensitive locations
6. Labour laws
7. Insurance

Special attention is also required for applicable technical matters like:

1. Safety practices
2. Codes & standards
3. Environmental standards
4, Climatic conditions and applicable basic design data
5. Corrosion prone environment

Business factors:

There are many questions and their responses to be ascertained before proceeding further in the consultant client relationship domain. The credentials of a consultant, the previous execution experience in a particular geography, the reputation of the consultant in the market play an important role in getting the business.

Consulting firms no longer enjoy a monopoly on specialized knowledge. The access to online information and the alumni of consultants working in leadership roles across private, public and social sectors globally indicates that expertise has been disseminated across the industry.

Cultural factors:

Cultural factors are a very important consideration when the client organization and consultant organization are from very different backgrounds or from very different parts of the world. Interpersonal relations and hierarchical behavior in an eastern country like, say, Korea, is very different from a Latin-American country like, say, Brazil.

Special attention would also be necessary in areas of:

1. Language
2. Dos & Don'ts in the public as well as professional space
3. Meeting etiquettes and reporting transparency
4. Understanding and aligning with client expectations in matters such as available work-front, resource loading and resource constraints.
5. Alignment of ethical policies & practices

Client behavioral/ management styles can vary from passive to aggressive, or friendly to distant, or demanding to understanding, etc. Clients may demand greater transparency regarding costs, and show resistance to billable hours. In an increasingly agile environment, intensified by rapid digital innovation, clients now expect more value, a higher quality of work, and a faster delivery of solutions and services. Consultants are expected to respond to such cultural stimuli and align values and ethical practices within the framework of professionalism. (*www.consultancy.uk/news/22032/five-major-challenges-facing-the-global-consulting-industry*).

d. Value proposal

Projects are usually conceived as ideas within an organization and then germinate through the organizational policies and processes to be finally recognized as a *potential* business opportunity. The opportunity may be within the prevailing business domain as an expansion or in an entirely new domain as a diversification. From there on, to be recognized by the shareholders as a *viable or feasible* business opportunity, is not an easy task. Thereafter, to engineer and execute the project up to completion is a long and arduous journey demanding knowledge, skills and competencies which usually is not available within the client's organization. A consultant can come aboard at this stage and be a very useful ally who can help the client to avoid all the pitfalls and achieve successful project completion.

Figure 5: Schematic representation – Consultant Value Adds ©

A consultant brings specialized knowledge and skills that empower the clients to make informed decisions throughout the lifecycle of a project. *Figure-5* is a schematic representation of consultant value-adds.

e. The 3rd wheel – Contractor

Any discussion on the industrial project ecosystem cannot be complete without mentioning the contractor. If the client and consultant are the two wheels which conceive and plan, the contractor is the third wheel which executes those plans. A Contractor's selection is another key decision in the project delivery process and if not done properly can easily result in project failure in multiple ways viz. safety incidents, schedule delays, cost overruns, startup & operation issues, etc.

A successful project is a product of an integrated efforts and contribution of the three Cs:

• Client • Consultant • Contractor

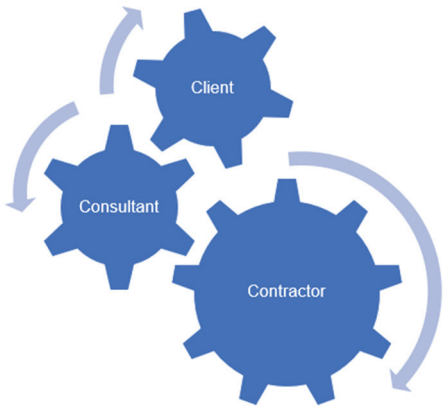

Figure 6: Schematic Representation of Client-Consultant-Contractor Relationship ©

The Consultant has a crucial role to play in the selection of the contractor, in terms of:

1. Contractor's due diligence & prequalification
2. Contractor's selection process
3. ITB preparation & bid evaluation

The most common practice of awarding to the lowest bidder, can sometimes cause contractors to cut corners in execution. That can introduce risks related to safety, quality and timely completion, among other things.

Safety of personnel and property is of paramount importance in industrial projects. The Contractor is the one who holds the key in that matter. The Client and consultant need to jointly review a contractor's past safety performance and records as well as past client testimonials in order to assess whether a contractor is suitable for the task at hand.

Derek Miles (1996) et al. opined that all parties involved in a project should establish a project charter which identifies the roles of each and the mutual objectives of various stakeholders, and that all parties have to concede a winning relationship. In this regard, the Consultant has the dual role of being the client's professional agent, but at the same time, the Consultant is an independent and fair mediator between the Client and the Contractor.

Aligning expectations & obligations to achieve common goal

Opportunities and synergies abound in the industrial project ecosystem, to work as a team with the objective of achieving common goal. So do risks. *Robin Fincham et al. (1999)* have highlighted the importance of trust between client and consultant. *Project Charter* and the *Contract* are two documents which serve as the bedrock for this trust.

The project charter is a document which serves as a guide and quick reference for all stakeholders when in doubt. The project charter is prepared primarily by the client with inputs from the consultant as optional, and addresses various key high-level objectives and commitments. *Chuck McKeever et al. (2006)* have written at length about the purpose and contents of the Project Charter, and its role in a project's success. It is also recommended in the *PMBOK® Guide*.

As already mentioned, in a project ecosystem, diverse stakeholders with core strengths as well as known and unknown weaknesses, come together and work together to achieve a common objective. Even with the best of intentions and teamwork, it is a risk filled proposition and the landscape has its share of pitfalls.

The contract document must clearly address the scope, accountability and responsibility of each stakeholder, including the key performance metrics and also the mitigations and redressals thereof. A contract which is fair, equitable and in line with law of the land and principles of natural justice would boost the feeling of trust and incentivize the stakeholders to perform to the best of their abilities and at times even beyond that called for in the contract.

A FIDIC Contract is the international standard for the Consulting Industry and is recognized globally. It is renowned for its balanced approach to the roles and responsibilities of the main parties, as well as the allocation and management of risk. It has a standard format comprising mainly two sections – General Conditions Of Contract & Particular Conditions. The FIDIC contracts are the preferred choice when the project has a global footprint.

Other robust and proven contract format options are also available and serve the purpose equally well, depending on the nature of the project.

1. Implement safety best practices
2. Codes & standards compliance
3. Performance based incentive contracts (with clauses linked to completion of key deliverables or milestones)
4. Best fit engineering
5. Timely statutory compliances & approvals
6. Leveraging the knowledge, experience, skills and competencies of all stakeholders

7. Identify and implement best fit contracting & execution strategy
8. Implement cost effective procurement and supply chain
9. Match tasks and resources for avoiding square pegs in round holes
10. Identify risks and implement mitigations
11. Control cost & schedule effectively
12. Effective change management
13. Quality assurance
14. Value engineering
15. Documentation and as-built
16. Smooth startup, commissioning & handover

However, in order to convert the opportunities into reality, both the client and the consultant need to understand what their roles & responsibilities are, be perfectly aligned with the project plan and work in a synchronized manner.

The following are some important behavioural aspects for achieving a successful project:

1. Safety culture
2. Good governance
3. Mutual respect and trust
4. Transparent communication and reporting
5. Healthy and cordial project atmosphere
6. Friendly and professional interactions
7. Celebrate milestones

a. Client's Expectations & Obligations

The client is accountable to the shareholders of the owner organization, to ensure that the project progresses in line with the approved project charter and achieves the project objectives within approved cost, schedule, quality and other KPIs. The client is totally dependent on the consultant to deliver his promise to his shareholder.

The client expects, *inter alia,* that the consultant would:

1. Be responsive to his wishes, tastes and expectations
2. Implement his instructions
3. Add value to his ideas
4. Be collaborative
5. Comply with the project charter
6. Meet or exceed safety, cost, schedule, quality and other KPIs
7. Conduct engineering reviews
8. Prepare bid documents and manage bidding activities
9. Conduct due diligences
10. Manage procurement including expediting
11. Oversee all planning activities
12. Resolve issues
13. Monitor and report progress with look ahead predictions
14. Prepare recovery plans
15. Liaise with contractor and other stakeholders
16. Support to obtain statutory permits

The client also has obligations, such as:

1. Provide all inputs as per contract and agreed timelines
2. Timely issue of Gate approvals
3. Liaise with statutory bodies
4. Participate in engineering & safety reviews
5. Avoid changes and scope creep
6. Positively influence cash flows
7. Participate in pre-commissioning
8. Commissioning and start up
9. Training of internal resources
10. Celebrate milestones

b. Consultant's Expectations & Obligations

The consultant is responsible to manage the overall execution of the project to the client's satisfaction. In order to deliver on the promise, the consultant's expectations from the client are:

1. Transparent governance
2. Gate approvals
3. Avoid changes and scope creep
4. Timely engineering approvals
5. Participate in the meetings
6. Support in resolving issues
7. Release funds as per plan
8. Harmonious relationship with the client

In addition to the contractual duties, the consultant is obliged to:

1. Manage safety
2. Manage communication
3. Maintain records
4. Disseminate information
5. Engage with the contractor and suppliers
6. Expedite progress
7. Maintain project documentation
8. Conduct training

In general, expectations tend to be loaded in favour of the client, whereas obligations tend to be loaded against the consultant. This is schematically represented in *Figure-7*.

Figure 7: Schematic Representation – Balance of Expectations vs. Obligations ©

Conclusions

The client and consultant come together for a finite duration of time, during which they have the common goal of completing the project as specified, by leveraging other resources and stakeholders. Both are accountable to others and responsible for the delivery of the project successfully, within the framework of the project charter and governance processes.

Even though the goal is the same, both have different perceptions and expectations. The client expects the consultant to respond to all his wishes without jeopardizing the project. The consultant perceives all unplanned things as a risk. Differences of opinion/ conflicts are thus natural.

Metrics of project success can be very objective in terms of scope, cost and schedule or subjective in terms of customer satisfaction. A good contract addresses all the tangible elements necessary for both to work together and deliver successful projects. In that, the intangibles and behavioural aspects also play a very important role.

The consultant is the intermediary between the client and the contractor and should be balanced and impartial in dealing with issues affecting the client and the contractor. Transparency, fairness, openness, confidence, co-operation, mutual respect, and trust are key to achieve the project objectives.

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10

Factors to Focus on to Enhance Consultancy Business

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Principal Director
(Business Development)

Akhil Padmakumar
Managing Director

Pems Digital Technologies Pvt. Ltd.

It is well known that the Head or Principal Director of Business Development and Client relationship primarily drives the Consultancy organisation and for that person, it is not just the management or application of technology alone that yields results.

It is more of managing the Client by simultaneously engaging and closely interacting with personnel in the Consultant's own and the Client's high-quality professionals, who may carry tons of ego, for ensuring deliveries on time as committed by the Consultant to the Client while converting business.

In consultancy engagements especially, difference of opinions occurs while analysing the consultant's deliveries before ultimately freezing them. In Government as well as in the Private Sector, very often a Consultant is not able to deliver the best. Here, the Consultant, normally, knowingly may agree to various deviations just to suit the needs of the Client for reasons beyond the Consultant's control.

Therefore, one must understand that, in the commercial world, the importance of Consultancy Services Business Activities of acquiring new clients while simultaneously retaining existing ones and thereby expanding the business is given more importance than many other activities which are also equally important for the organisation's overall performance. Needless to add that it does not imply that engineering services to be rendered can by any means be less important for the business to exist and expand. The importance of parameters such as Quality, Integrity, Trust, Loyalty, Delivery, etc. can be no less.

Quality is never an accident; it is always the result of Intelligent Hard Work and Efforts. Since a Consultant is providing services to a Client, the former must Learn How to Enjoy the Work keeping Quality and other parameters mentioned above in mind.

The consultancy business warrants strong interpersonal bonds and it's that Bonding only that drives the business to new heights and growth.

Client/ Customer Relationship Management (CRM) is the fulcrum around which the consultancy business revolves and settles. Therefore, CRM is a necessity and not an option for any organisation or individual professional businessman.

CRM should be viewed as a System whereby the objective should be not only to attract new clients but focus simultaneously and seriously on Good Management of existing clients and retaining them by securing repeat orders from them.

In the Consultancy business, like any other business, it is very important to provide high quality professional services in a cost effective and time bound manner.

The clear objective of any Client to engage an outside agency or consultants is to improve their own performance or fill-up on areas where they do not have the requisite knowhow and expertise. This engagement enhances the commercial advantage for the Client and in a few cases even their long-term objectives.

Here, it should be kept in mind that first and foremost, a Consultant should understand and give more importance to is that All Good Relationships are based on Trust and the Consultant's Track Record.

Based on experience and the relationships built over years, it can be emphasized that "Without Trust", one Cannot even Start a Relationship. "Trust" comes first. Establish Trust and then the equations between the Consultant and the Client are different.

In order to be a Trusted and Effective Consultant, the Client - Consultant relationship needs meaningful transparent timely communication with mutually honest dialogues. Delays, Silence, Avoiding, carrying Ego, feeling that I am One Above others, etc., can only end up in losing reputation.

For a Consultant, especially an engineering consultant, professional skill is the expertise for which the Consultant is directly accountable, and not like a Professional who certifies, "Based on the information provided by the Client, I hereby certify" and thus sidestep all their responsibility and accountability.

An Engineering Consultant cannot certify "as per the information provided by the contractor, I hereby certify" that the bridge will last for 60 years, etc. Hence, the Engineering Consultant must very well understand the responsibility and accountability.

A Consultant's proven established performance demonstrates the Consultant's expertise. If the Consultant's track record is good and helpful to clients and can contribute to their growth, then it increases the chances of a client getting to know more about the Consultant, like and trust the Consultant, and then engage the Consultant. Hence, there must be a Focus on Value Engineering.

A Consultant must keep in mind that the first few Clients are crucial towards getting more offers and assignments. So, the Consultant needs to make sure that the job can be done. The Consultant needs to also demonstrate by presentation and show proof that the Consultant is one among the best.

To grow a consultancy business there is need of:

1. Books to refer, quote and study,
2. Online courses for consultants who are in early stage of professional career
3. Coaching programs
4. Online SITE training
5. The Leader should possess skills to integrate and navigate different expertise and then suitably package them and place the Value of what services and deliverables that can be provided to attract clients.

A Consultant does not always need to always grow more to grow. It may be better to Strip away the inefficiencies and ensure that only the essentials are left.

The Consultancy business needs a lot of New Ideas; therefore, the Strategy should be a Decision to take a clear path even if it means at times saying "No". One needs to note that Confidence is Contagious, so is lack of Confidence. The essence of consultancy business is to keep in mind as a strategy is "Choosing What Not to Do".

While taking Risks – they should definitely be calculated risks. If that is not paid heed to in a consultancy business, the Consultant's reputation would be lost.

Once a new technology roll's in, Notice it. Tomorrow it could be considered as a part of every assignment. Learn to adopt and adapt to changes.

Three main things emerge in the Consultancy business are Disagreement, Confusions, Complex situations, Friction and Questionable Performance. To minimise and even prevent the occurrence of those factors it is best that the Consultant accepts only such assignments that the Consultant can do. An error in judging own

capabilities is what Business Development Leaders must avoid.

Some Engineering Consultants nowadays worry about getting the assignment and then worry a great deal more later on about how to manage the deliverables.

Do not try to compete with others, figure out what is Needed or Required to Do what is Essential to Complete the Project and then decide on the commercial parameters accordingly.

The unique point that needs to be understood in a Consultancy Business is that there are Two Rewards – one is of course monetary gain and the other experience. That is also echoed by Mr. Shiv Shanker, MD Suyog Telematics who implemented the first Funicular Railway Project "I suggest that take the experience, the Cash will automatically come later."

In engineering consultancy, the difference between successful people and very successful people (like PEMS Chairman late Mr. M S Iyer (ex TCE and NTPC) is that very successful people say "NO" very often to new assignments even if they are commercially attractive. The reason being is that those people are very sincere to honour the existing commitments on time and not to lose reputation by over stretching themselves.

To conclude, To Give Real Service, the Consultant Must Add Somethings Extra which cannot be bought or measured with Money, and those are **Sincerity, Trust and Integrity**.

Tuesday, March 14, 2023 | 02:44 PM IST

Perhaps it is time for India to introduce tort law and punitive damages

Those who cause bodily harm, property damage, or financial loss to others on their premises or due to their operations should be liable in law to provide financial compensation to the victim

Topics Insurance | sbi

Debashis Basu

Last Updated at March 13, 2023 07:37 IST

In December 2021, D S Ranga Rao, a retired government officer, and his wife visited a State Bank of India (SBI) branch in Thane, Maharashtra. He fell from a shaky, unstable ladder in the locker room, receiving major injuries that needed surgery. The bank refused to acknowledge any responsibility or offer compensation. Officials there would not even call an ambulance until he agreed to pay for it. Guided by the Moneylife Foundation, Mr Rao filed a complaint with the branch, escalating it to the nodal officer and then taking it up with the banking ombudsman (BO) office. At each stage, his claim was summarily rejected. To add insult to injury, the BO made its decision non-appealable. When we escalated the matter to the highest levels in the Reserve Bank of India, Mr Rao's costs were partially reimbursed.

CEAI NEWS

CEAI Office Bearers For 2023-2024

During the meeting of the Governing Council members held on 4th January 2023 the office bearers elected for the period 2023-2024 are:

Mr. Vishwas Jain Managing Director Consulting Engineers Group Ltd	Vice President	
Mr. J Venkata Lakshmi Narayana Regional Director (North) Aarvee Associates Architects, Engineers & Consultants Pvt. Ltd.	Vice President	
Mr. Girish Chandra Mishra Principal Consultant & Director Saviram Engineering Consultants Pvt Ltd	Honorary Treasurer	
Mr. Navneet Sharma Chief Executive Officer Lion Engineering Consultants Pvt Ltd	Honorary Secretary	

Regional Centre Representatives In Governing Council

Mr. Sourav Daspatnaik Managing Director SWACH Environment Pvt Ltd	Eastern & North Eastern Region
Dr. Harshavardhan Subbarao Chairman & MD Construma Consultancy Pvt Ltd	Western Region
Mr. Tarun Rawat Managing Director Theme Engineering Services Pvt. Ltd.	Northern Region
Mr. K Rajkumar Managing Partner Dhrumataru Consultants & Constructions	Southern Region

Nominated And Co-Opted Members To The Governing Council

Nominations From Epc and Affiliate Membership Categories

Mr. S K Peter Managing Director & CEO Ocean Lifespaces India Pvt Ltd	Member EPC (Organisation)
Mr. Gagan Anand Managing Partner Legacy Law Offices LLP	Affiliate Member

Co-Opted Members to the Governing Council

Mr. Amitabha Ghoshal, Past President, CEAI
Mr. Arun Prabhat Mull, Past President CEAI
Dr. Yaduvendra Mathur, Vice Chairman, Consulting Engineers Group Ltd.
Mr. M R Moorthy, PEMS Engineering Consultants Pvt. Ltd.
Mr. Saurav Sekhar, SA Infra Consultants Pvt. Ltd.

CEAI Committees 2023-2024

S. No	Name of Committee	Activity	Chairperson
1.	Presidents' Council	Advisory to Governing Council	Dr. Ajay Pradhan
2.	Finance Committee	Accounts and Finance	Mr. Girish Mishra
3.	Constitution Review Committee	Memorandum and Rules of Association and Other Administrative Regulations	Dr. S Chatterjee
4.	Ethics, and Quality Committee	Ethics and Quality	Ms. Sayona Philip
5.	Publication Committee	CEAI Publications	Mr. A P Mull
6.	External Relations Committee	Liaisoning with National and International Organisations/Departments	Mr. Vishwas Jain
7.	Seminars and Events Committee	All Events, except FIDIC related matters	Mr. JVL Narayana
8.	FIDIC Committee	All matters related with FIDIC (including Training)	Mr. Sudhir Dhawan
9.	Membership Committee	Membership of CEAI	Mr. Navneet Sharma
10	Environment and Sustainability Committee	Environment and other related matters	Mr. Arvinder Singh Brara
11.	CEAI Academy	Liaisoning with Educational Institutions, Students, Training & Placement	Mr. Alok Bhowmick
12.	CEAI Foundation	Social Engineering Works	Mr. Sudhir Dhawan
13	Future Leader Forum	Young Professionals/ Future Leaders Affairs	Mr. Mihir Singha

Interaction of Hon'ble Minister of Commerce & Industry, Consumer Affairs, Food & Public Distribution and Textile with Services Sector Stakeholders

The Hon'ble Minister of Commerce & Industry, Mr. Piyush Goyal held a review meeting with all Export Promotion Councils on 23rd January 2023 thus underlining the significance of the services sector exports. In that meeting he proposed to have an interaction with heads of organization in services space.

Accordingly, a meeting Chaired by Hon'ble Minister of Commerce and Industry was held on 14th February 2023 at Vanijya Bhawan, New Delhi. Mr. R S Sharma, President and Dr. Ajay Pradhan, Past President represented CEAI in the meeting.

The purpose of this meeting was to bring together industry stalwarts and stakeholders from various sectors of the services industry to discuss the current state of the industry, export opportunities, challenges faced and need for incentivization and handholding.

The points raised by CEAI were:

a. Engineering Services export is little over Rs. 11,000 crores from India and mostly through Offshore Design Engineering from Multi-National Companies. However, there is a need for a level playing field for Indian companies to go out and do business in Africa, Central Asia, SE Asia, etc. Therefore, CEAI needs support from an Indian Missions abroad in helping with laws and regulations for Indian companies to do business besides providing opportunities in those countries for the Indian companies on a regular basis. The Indian desks at The World Bank, ADB, AfDB, etc. should also provide information on opportunities and support the member organizations of CEAI.

b. Guarantees for advance and performance are often a problem for Indian companies due to the non-availability of an Indian Bank in those countries. Hence, either the EXIM Bank or any other Government Bank should support the Indian companies.

Workshop on "Steel – For Sustainable Development"

Consulting Engineers Association of India – Western Region Centre (CEAI-WRC) along with Institute for Steel Development & Growth (INSDAG) and the Indian Institute of Technology Bombay organized a one day Workshop on ***"Steel - for Sustainable Development"*** on 4th February 2023 in the VMCC at the Indian Institute of Technology Bombay to promote the use of steel for buildings and infrastructure works.

The key objectives of the workshop were to discuss and deliberate on the latest methods of construction and technologies of steel industry, and their advantages on achieving sustainable development goals. It also focused on creating awareness amongst potential customers about the application and benefits of steel usage in construction and infrastructure.

Dr. Harshvardhan Subbarao, Chairman CEAI-Western Region Centre was the moderator. He extended a warm welcome to all present and explained the role that CEAI played for the Consulting Engineers in India. He then invited Mr. P K Mishra, Director General, INSDAG to give the welcome address. Mr. Mishra explained the importance of use of steel for sustainable development and the Ministries objectives. Prof. Najeeb M Shariff, Civil Engineering Department, Indian Institute of Technology Bombay, conveyed greetings on behalf of IIT Bombay and highlighted the ranking of the Civil Engineering Department. Thereafter the eminent speakers shared their learnings and experience on the use of steel.

Dr. Rajesh Kumar Singh, Senior Director at SPHERA Solutions APAC and Middle East delivered the Keynote Address on *Steel - for Sustainable Development.*

He explained that for Sustainability it was necessary that there be a holistic environment impact quantification tool supporting product strategy; the potential

environmental impacts of a product throughout its life cycle which covers value chain i.e., upstream raw materials production, transport, manufacturing, downstream transport, use and disposal be studied. He added that Guidance on sustainable design, Benchmarks, and Targets and Roadmaps were also necessary. These he said would be applicable to Designers, Architects, Material Suppliers, Contractors, Builders, Developers, and Users. He went on to explain how to conduct LCA.

Some of the aspects that came out of the presentation were:

- Steel contributes to 7% of global CO_2 emissions, hence resource efficiency in very important for Life Cycle Assessment (LCA).
- Environmental Product Declarations (EPD) help in rating of buildings/ structures.
- Net Zero (Carbon Emission) commitment of construction sector by 2027 – Operational CO_2 Emissions and Embodied CO_2.
- An elaborate BOQ is required to be calculated in order to calculate the Carbon footprint of a structure.
- The Global Warming Potential for an RCC building is 900 whereas for a Steel Intensive building it is 800 kg CO_2eq/m^2. Cement and Steel contribute 42% and 28% respectively to the Global Warming Potential (kg CO_2eq/m^2) in a structure
- The Global Warming Potential for an RCC Bridge is 950 whereas for a Composite Steel Girder Bridge it is 450 kg CO_2eq/m^2.

Dr. Rajesh Singh then talked of the Sustainability interventions that need to be incorporated. He advised that while Steel has a lot of advantages but there were a few disadvantages also. Hence, the details need to be truthfully communicated to customers to enable them to make informed decisions.

Mr. Girish Dravid, Director, Sterling Engineering Consultancy Services Pvt. Ltd. presented on *Steel Composite Technology in High-rises,* and cited the advantages of Composite Construction – particularly for large spans and high rises, and showed some of the structures that have been built.

He mentioned that the IS 11384: 2022 vis-à-vis the first edition of 1962 is a very elaborate standard brought out by the Bureau of Indian Standards. He explained the different types of shear connectors, profiled deck sheetings, encased and infilled columns.

Mr. Dravid then presented brief case studies a number of the major composite construction projects built over the past 4-5 decades in India and abroad. He also cited the advantages and disadvantages of using steel.

He showed the various studies which need to be done for deciding on the type of structure for a particular building – costs & time, system performance, head room availability, etc.

Mr. Dravid was also candid in sharing the experience gained on the projects and what all need to be taken care of. He cautioned about the stresses that develop in a structure during various erection conditions. They all need to be analysed, studied and duly incorporated in the designs. Although the condition is temporary but can govern the design.

Prof. Siddhartha Ghosh, Dean (Educational Outreach) at Indian Institute of Technology Bombay. He also manages the 'Structural Safety, Risk and Reliability (SSRR) Lab'.

He dealt with *Steel Intensive Structures – Sustainability Aspect* based on research work being done at IIT Bombay.

The presentation revolved around the Three Pillars of Sustainability:

- Economic – Relating to cost
- Environment – relating to carbon emission
- Social – relating to user costs, life costs, injuries, casualties

Life Cycle Cost (LCC) comparison of buildings (50 years life period) – without seismic consideration.

Major contributor Operational cost-plus Initial cost

RCC – Rs. 39.81 Crores, Steel – Rs. 39.46 Crores

Hence, LCC is insignificant – operation costs are found to be similar – material costs are determinants.

LCC comparison of bridges

30 m span, 8.5 m width, 2 lanes, 2 ways in Maharashtra

Life of steel bridge 60 years; Life of PCC bridge 30 years; Discount rate 4.25%.

Option 1, 50 years life – Steel is 13.68% cheaper than PSC – Road user cost is the deciding factor

Option 2, 100 years life – Steel is 27.73% cheaper than PSC – Road user cost as well as reconstruction cost are the deciding factors.

Way Forward

1. Indian Standard for Structural LCCA
2. Archiving of Construction and Maintenance Data
3. Software for calculating LCCA
4. Guidebooks for Short Span Bridge Designs

Dr. K Saravanan, Senior Vice President, Eversendai Construction Pvt. Ltd.

He very lucidly explained the *Construction of Large Cantilever Steel Concrete Composite Structure.*

He presented a few cantilever steel structures in India and then moved on to present the details of a very interesting structure – a large cantilevered steel-concrete composite structure for an office building with 10 floors.

He explained the design principles, the logistics involved in the construction, how the crane access was provided; how the analyses that were done for each stage and the connection details that were developed.

Erection was very challenging – Dr. Saravanan explained how at many stages of the erection work, structural analysis was done in tandem with the erection methodologies and sequence.

All fabrication was done off-site; hence transportation logistics was also involved. He also elucidated how the structure and the deflections were continuously monitored during erection and de-propping and measurements recorded using Total Station. The result was a unique building cantilevered from the core.

Mr. Kantish V C, Head of Steelsoft Consulting Services India presented on *Cold Formed Steel Buildings.*

He informed that use of cold formed steel (CFS) members started in 1850s but absence of design standard and code made acceptance an issue. However, now it is being used in many countries including India. He then dealt with the manufacturing technology and the advantages of using CFS to cater to the large scale requirement for housing to meet the growth in the urban population. To meet those requirements, he elaborated on the level of usage and the construction technology involved for housing. Mr. Kantish moved on to the software availability for CFS. the future prospects of CFS in construction, including the use and availability of software for designing and manufacturing of all components. BIM and its AI would ensure that each member would have a unique tag. That would speed the construction process.

He then moved on to inform that IS 801 was under

revision and would be more elaborate than the current issue. He also explained the structural behaviour of CFS members and how lateral forces would be catered for.

Dr. Harshavardhan Subbarao, Chairman & Managing Director of Construma Consultancy Pvt. Ltd., and Chairman, Consulting Engineers Association of India, Western Region Centre.

He presented at length on *Steel in Bridges – Various Aspects*, and also covered Sustainability aspects.

Whole Life Carbon Emission = Embodied Emission (Capital) + Operational Carbon Emission

Foundation and substructures are highly carbon intensive.

Embodied Carbon Emission = Carbon Emission pertaining to Product Stage + Construction Stage + Utility Stage + End of Life Stage + Beyond Life Stage.

EDPs conform to ISO 14044, EN 15804

LCC Database – Gabi database or Ecoinvent database

Mr. Terrence Busuttil, Director constructsteel the steel construction market development programme of the World Steel Association (worldsteel). His presentation/ talk was online. He explained about *constructsteel, WSA in Steel Construction Promotion* and focused on explaining the solution – the development and ecosystems to be adopted by the steel producers and the steel promotion Institute like INSDAG in India.

Mr. Charles Simoes, Independent Expert, currently Adjunct Faculty at Sardar Patel College of Engineering, Mumbai for Master of Technology students in Structural Engineering and Construction Management. He explained the concept and need for *Reusability of Steel for Sustainability.*

He drew attention to the need for using resources more efficiently and reduce wastage and thus the carbon impact. He explained the waste hierarchy and went on to recycling and reuse in view of the end of life scenario of steel and concrete.

He explained how reuse of steel, as distinct from recycling, has greater advantages and where all it can be used. The structure needs to be designed for deconstruction and reuse, and, dealt with their key principles. For deconstruction, records have to be meticulously maintained.

He also discussed about business model, reclamation process, barriers and the future outlook.

Presentations by Sponsors

JSW Steel, SAIL and Tata BlueScope Steel –explained their product portfolios and capabilities plus the material quality all aiming towards sustainability using steel for construction.

The workshop received an excellent response and as per the written feedback received, it was very well appreciated by the participants.

FIDIC TRAINING PROGRAM

Consulting Engineers Association of India organised 3-days training program from 1st March to 3rd March 2023 for National Association for Professional Engineers and Consultants Kazakhstan. The training was attended by 54 participants. Mr. Bogdan Oprea, a FIDIC accredited trainer conducted the training.

The training was focused on FIDIC Module 1: Practical Use of FIDIC Conditions of Contracts.

MEETING WITH CONSULTANTS

A meeting was convened by the President CEAI on 17-03-2023 at the request of consultants in the highway sector to discuss and evolve a strategy of improving the quality of DPRs often flagged by Hon'ble Minister of Road Transport and Highways, Shri Nitin Gadkari in various forums.

It was a hybrid meeting in which a number of leading consultants participated. During the meeting, the various factors affecting the quality of DPRs and possible ways of bringing improvements were suggested by the members. Some of the suggestions that emerged in the meeting are listed below:

a) Low rates quoted by the consultants.

b) Requirement of DPRs in hand in the RFP of supervision contracts.

c) Shortage of expert professionals

d) Insufficient time assigned for DPRs

e) Payment Schedule not commensurate with expenses incurred.

f) The Land Acquisition, utility relocation, and Environment/forest clearance may be kept out of engineering consultancy. For these activities, specialist agencies may be appointed.

After due deliberations on the way forward, the following decisions were taken:

i) With a view of improving the system, it was decided to hold a full-day workshop in collaboration with the Ministry of Road Transport and Highways inviting all stakeholders so that all aspects including supervision and quality in construction could also be deliberated.

ii) It was also decided that CEAI could propose to the MORTH to develop a model DPR for a real highway project section of about 100 km length on international standards which could be used as a template for future projects. The modalities of scope, funding, and implementation may be worked out in consultations with the Ministry/ NHAI.

MEMBER NEWS

President of the Institution of Structural Engineers, London Mr. Matt Byatt, along with their Dy Chief Executive Mr. Darren Byrne visited India early February 2023. A reception was organised on 10th February 2023 at Hotel Eros, to which Dr. S. Chatterjee and Professor S. S. Chakraborty were invited. Dr. Chatterjee presented a copy of the recently published CEAI Compendium to Mr. Matt Byatt. Mr. Byatt, who is specialised in designing, construction and dismantling of major offshore structures, gave a talk on that theme.

OBITUARY

Mr. Uttam Sengupta, former Corporate Advisor– Contracts & Risk, Voltas Limited departed from this earth on 12th February 2023. He had an active career spanning over 40 years and even after retirement he continued to assist and counsel whenever someone sought his advice.

He did his BCom and LLM Law from the University of Bombay.

He started with a reputed engineering multinational - Siemens, where he performed various Domestic and International functions.

Later, at Voltas Limited, a TATA Enterprise he headed Contracts & Risk Management for the International and Domestic businesses.

He specialised in Contract Management, evaluation of risk by reference to contract provisions, monitoring and reviewing them so as to suggest mitigation measures in the entire contract procedure, including basic risk areas.

He had a proven track record of managing risks of multi-million dollar international projects across Middle-East, South East Asia and Africa and had the willingness and aptitude to handle challenging assignments.

Mr. Sengupta was actively involved, in mentoring management students from reputed management institutions in International Business, lecturing and sharing of knowledge at various corporate forums and institutional bodies. He was a Member on the Board of Studies of GNIMMS and the Industry Representative on the Ad-hoc Board of Studies in Management Courses, Mumbai University.

Mr. Sengupta represented Voltas on the Governing Council of the Consulting Engineers Association of India. He was Vice President CEAI for the term 2016-2018 and the Chairman of its Western Region Centre for quite a few years, 2014-2018.

He actively participated in International FIDIC conferences in London, UAE and India. He was also an Indian faculty on Construction Contracts and Risks.

For the seminars, courses, workshops, lectures, webinars, etc. in the Western Region he played a stellar role. Mr. Sengupta was able to persuade experts from India and abroad to come and share their knowledge and experience for the benefit of professionals here.

CEAI conveys its deepest condolences to his family members and prays that the Almighty gives peace to the noble soul.

Introducing
CEAI Academy

CEAI has started an Academy, which would become a nationally recognised centre of excellence for furthering the limits of know-how for consulting engineers by providing training to freshers, and continuing education plus professional development opportunities to individuals and organisations.

Vision of CEAI-Academy

To be a nationally recognised centre of excellence in consulting engineering, by providing training, education and professional development opportunities to individuals and organisations. The Academy aims to foster a dynamic and inclusive learning environment that leverages the latest technology to deliver high-quality, relevant and impactful education to Consulting Engineers.

CEAI-Academy is launching a nation-wide survey from practicing engineers, consultants to help gather the required data and information regarding subject areas for training, its priorities and how the education and training could be delivered.

https://docs.google.com/forms/d/e/1FAIpQLSc2sKTdvlpQxXT2zZi8zXFfrHq38_17FaOnJGbzwWWrU-bHwQ/viewform?usp=pp_url

Mission of CEAI-Academy

The mission of the Academy is to increase awareness, develop expertise and to provide consulting engineering industry with the required knowledge and skills to execute and manage projects and their business operations with excellence. CEAI is committed to deliver training that is accessible, affordable, adaptable, and responsive to the needs of the industry.

VIEWPOINT

The themes for CEAI's quarterly magazine "ViewPoint" for the term 2023-2024 are::

1. June 2023 –Climate Resilient Infrastructure
2. September 2023 – Consultancy for Rural Area Development. Alternatively, it could be on Safety covering all sectors. (Final theme will be intimated later)
3. December 2023 – Consultancy in the Industrial Sector
4. March 2024 – Consultancy for Start-Up and MSME
5. June 2024 – Affordable Housing.
6. September 2024 – Energy Transition
7. December 2024 – Recycling & Reuse of Building Materials in Construction Industry.

The articles for an issue need to reach CEAI at least 3 weeks prior to the end of the month of the ViewPoint issue. Articles need to be in Times New Roman 12 with single line spacing with before and after 6 pt and normal margin, on A4 size. A recent clear and bright passport size photograph of the author(s) is to be sent along with the article. For details of formatting please refer to *"Format for Articles for CEAI Viewpoint"* on CEAI's website, under *'Publications'*.

Advertisement in ViewPoint

ViewPoint is circulated to all CEAI Members, FIDIC, Ministries of the Government of India, Public & Private Sector Undertakings, Construction Firms, Contractors, Consultants, Foreign Missions and Funding Institutions in India and other organisations related to or dealing with the engineering profession. Thus, all stakeholders partnering development and progress are its readers.

Support from CEAI members and stakeholders are

sought for increasing the number of advertisements, so that ViewPoint gains in its stature as a unique Technical Publication for the fraternity and the public at large to spread information of how Consulting Engineers are helping society for improving the quality of life and doing so sustainably.

The rates for advertisements in ***VIEWPOINT*** with effect from 1st January 2023 are given below:

Item	Rate Per issue* (Rs)	Discounted rate at 10% for 2 consecutive issues* (Rs)	Discounted rate at 20% for 4 consecutive issues* (Rs)
Back Cover	**25,000.00**	**45,000.00**	**80,000.00**
Inside Front Cover	**18,000.00**	**32,400.00**	**57,600.00**
Inside Back Cover	**18,000.00**	**32,400.00**	**57,600.00**
Full Page (Colour)	**12,000.00**	**21,600.00**	**38,400.00**
Full Page (Colour), if a specific page position is required.	**14,000.00**	**25,200.00**	**44,800.00**
Full Page (B&W) (such advertisements will be taken up for printing only when there are 4 or multiple of 4 advertisements for an issue)	**8,000.00**	**14,400.00**	**25,600.00**

Notes: ****GST @ 5% or as prescribed will be added to the above rates.***
**Inside Front Cover booked till June 2023
***Inside Back Cover booked till Sept 2023

Tech Quiz

1. **What is important while selecting a Consultant?**
   a. Qualification and Resources
   b. Experience and Track Record
   c. Expertise and Flexibility
   d. All the above

2. **Which of the following model is ideal for Consultant-Client Relationship?**
   a. Consultant is Active – Client is Passive
   b. Client is Active – Consultant is a Passive Advisor
   c. Consultant – Client, both are Active
   d. Consultant – Client, both are Active and Collaborative

3. **Which of the following contribute to efficient working on a project?**
   a. Clear & unambiguous Contracts
   b. Monitoring & Executing the Contract & the Works by each party
   c. Timely Decisions and Payments
   d. Each party executing what it ought to do

4. **Which international standard is for Project Management?**
   a. ISO 10006
   b. ISO 26000
   c. ISO 21500
   d. ISO 9001

5. **When was the "Manual for Procurement of Consultancy and Other Services" first issued?**
   a. 2005
   b. 2006
   c. 2000
   d. 2012

6. **When does the Consultant-Client Relationship start?**
   a. Receipt of Letter of Intent/ Work Order
   b. Responding to Request For Proposal/ Notice Inviting Tender
   c. Interaction with a prospective Client to help conceive a project
   d. Client/ Owner voicing intent of a Project

7. **What helps cement a Consultant - Client Relationship?**
   a. Professional & Ethical conduct
   b. Domain knowledge
   c. Long Experience
   d. Working as per the Contract

8. **Conflict of Interest relates to:**
   a. Activities of the Consultant.
   b. Assignments of the Consultant.
   c. Business or Family Relationship.
   d. All the above.

9. **What is crucial for relationship to grow in the digital age?**
   a. Define responsibilities of each party and their members
   b. Restrict usage to only what is essential
   c. Deploy digitalisation across the Project but maintain personal contact
   d. Keep pace with new developments

10. **What is the right phrase?**
    a. Design to standards as per the Contract
    b. Design to the highest standards
    c. Design to international standards
    d. Design to relevant standards as per the Contract

The first person who mails the correct answers to CEAI *info@ceai.org.in* will get a congratulatory mail and will be acknowledged by publishing the persons photograph in the next issue.

Contributed by A P Mull

Answers to Tech Quiz of December 2022 issue

1. (d), 2. (b), 3. (a), 4. (d), 5. (c), 6. (d), 7. (d), 8. (d), 9. (c), 10. (c)

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- Water Supply Schemes for over 500 Towns and Villages
- Design of over 4200 Bridges, Tunnels and other Structures
- Over 45 Projects of Railways and Metro Rails
- Master Plan and Development Plans for over 77 Cities/Towns
- Irrigation Planning & Design of over 8,00,000 ha. Gross Command Area

KEY BUSINESS VERTICALS

Expressways and Highways

Tunnels

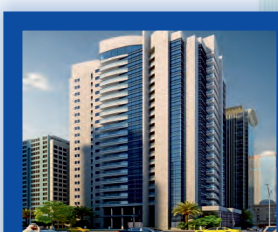
Bridges and Other Structures

Railways and Metro Rails

Airports and Aviation System

Urban Regional Planning and Smart City Solutions

Traffic Transportation and Road Safety



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