

# MARKETING OF ENGINEERING CONSULTANCY SERVICES: COMPETING THROUGH PEOPLE (ENGINEERS)- THE EMERGING PERSPECTIVE

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**Abstract:** This study aims to establish the relevance of the fifth P of marketing, i.e. People (engineers) in the marketing of engineering consultancy services. Engineering consultancy being intellect services, people (engineers) of various disciplines constitute the nucleus in the marketing mix. For the client, consultant's engineers are perceived to be an integral part of the service offerings. For them, consultant's engineers are the product, service and the firm. The unique features, quality elements, limited client base, strategic dependence on a few clients, etc. make people (engineer) management indispensable in engineering consultancy. However, despite the earnest necessity, the practice of people (engineer) management in engineering consultancy is in an embryonic stage. In this backdrop, the paper dwells upon customized elements pertaining to engineering consultancy sector, like scope, market paradigms, defining marketing, unique features and its implications, critical roles People (engineers) play, talent management, etc.

**Key Words:** Engineering consultancy, Internal marketing, Technical quality, Functional quality, Moment of Truth, Return on Talent (ROT)

## **Introduction**

Levitt (1960) in his classic *Marketing Myopia*, remarked that most businesses suffer from myopia when they fail to ask themselves a question, *what business are we in?* Levitt opined that firms must learn to think of itself not as producing goods or services, but as producing followers, i.e. *customers/clients*. The firms must aim at acquiring customers/clients by doing the things that will make them confident to do business with them. Viewed in retrospect, Levitt hit the bull's eye with his insightful thought. More than five and half decades later, one finds many firms in deep trouble for neglecting the basic purpose of their business – *meeting customer's/client's expectation*.

Levitt's views are highly significant in the marketing of engineering consultancy services due to the unique features, quality elements, the magnitude of capital investment in the project, gestation period of the project, high perceived risks of project execution, techno-economic of the projects, etc. All these calls for a committed relationship from both the parties, i.e. the consultant as well as the client. In engineering consultancy, the client-consultant relationship is an on-going process highly interdependent due to co-

existence of consultant's engineers and client's engineers as well as client's participation; co-operation and role contribution during project execution.

## **Background and Foundation**

Engineering consultancy and construction activities have been in existence since the dawn of civilization. It is one of the oldest *knowledge-based* professions in the world. Ever since the human race started harnessing natural resources in the service of mankind, the significance of this profession is increasingly realized. Engineering consultancy services required during the pre-industrial revolution era were rudimentary, and the projects were undertaken without time, money and resource constraints. However, these services have become highly complex, requiring multidisciplinary skills in view of exacting demands with regard to high quality, economic cost and zero time overrun. That is why the role of a professional engineering consultant in projects is a well-established fact and their appointment an essential requirement. Without the involvement of a professional engineering consultant, either in the house or outside, a project cannot take proper shape. [Chatterjee and Sharma (2001)]

## **Significance of the Work**

Engineering consultancy firms are operating in an ever more complex world having constantly changing market parameters, veering project execution modalities and the emergence of new global market players with comparable professional and technical competence. The market paradigms, the changed marketing scenario propelled by hybrid project execution philosophies have added dimensions to the marketing of engineering consultancy services. These dimensions call for a different mindset for carrying out business from being concerned with short term transaction to long term client relationship. Aspects like client commitment, relationship, delight, patronage, etc. essential for an on-going relationship with the client, are no more management jargons but have become business realities for the marketing of engineering consultancy services. However, these are just rhetoric unless an engineering consultancy firm adopts a client-centric marketing approach through its people (engineers) rendering the services. This emphasizes the need to have a system for client-centric marketing through people (engineers) in the firm. But, in many firms, client-centric marketing management through people (engineers) have not moved at the desired pace. In such firms, the traditional marketing concepts are still being stretched to justify the actions. For such firms, this work can find its applicability as a blueprint as it deals with the strategic issues involved in making client-centric marketing happen through people (engineers) in the changed scenario.

## **Methodology**

The study is predominantly an exploratory research study, as it develops a precise framework for an identified need, establishes aspects having strategic significance and gathers information on the aspects for doing descriptive research. The work is based on primary data collected from a limited opinion survey, secondary data from literature survey and authors' own practising experience of around three and half decades in engineering consultancy service sector, dovetailed with around three decades of academic preaching experience in the area of B2B industrial marketing.

To assess the present situation, to get acquainted with the concept of marketing of engineering consultancy services, role people (engineers) play in service production and service delivery, and with an aim to conceptualize the work, a thorough survey of the literature was conducted. Elements, characteristics and essentials of an effective engineering consultancy services marketing system, role people (engineers) play, management of people (engineers) and talent management etc. have been reviewed and examined with respect to the proposed objectives undertaken for the study.

And, to have real-life insights, to assess factors influencing client delight, client-centric marketing orientation, clients' expectations from consultant, and thereby to establish the concept, opinion survey was conducted as well. Opinions were collected from primary sources through informal discussion from a cross-section of practising engineers of different clusters and different engineering disciplines. The engineers were namely the technologists, process engineers, civil engineers, structural engineers, metallurgical engineers, electrical engineers, utility engineers, procurement-contracting-commercial engineers, engineers from other engineering disciplines, construction engineers, erection engineers and other site services engineers. These target respondents (engineers) are working with a leading engineering consultancy firm of international repute located in South East Asia with ISO 9001-15000 accreditation and having many 'firsts' to its credit with vast experience of implementing multi-unit mega projects in mining & mineral beneficiation sector, ferrous & non ferrous metallurgy sector, power sector, oil and gas sector, infrastructure sector, raw material handling sector, environmental engineering and sustainable development sector, etc. As mentioned earlier, the literature survey findings, the opinion collected from the practising engineers and personal practising cum preaching experience of the author were suitably blended in the paper.

### **Literature Survey**

For the present study, two types of literature were stressed upon– the conceptual literature concerning the theories and philosophies of service marketing, and the empirical literature concerning the work done on prevailing practices in the area of engineering consultancy services. For this purpose, textbooks, handbooks, journals of academic institutions, reading materials distributed during management development programs conducted by various institutions, seminar proceedings, publications of trade associations, information available on the Internet, etc. were searched. The literature survey has been used as a guiding material for shaping and sharpening the work. Observations gathered during a literature survey have been reported below.

Stanley (1961) opined that a consulting engineer is an independent, professional engineer who performs professional engineering services for clients on a fee basis. They have nothing to sell except service, time, knowledge, and judgement. He observed that in comparing the relative merits of consulting engineers, a client might well consider the following factors: experience, the concept of problem, competence, staff, knowledge of local conditions, integrity, cooperation, standing, and reputation. He further observed that human relationships, important in any business or activity, are more important to the consulting engineer who has nothing to sell except his time and talent.

Kubr (1976) viewed consulting as a method for improving business practices. According to him, consulting is essentially an advisory service. It is a service providing professional knowledge and skills relevant to practical management problems. Consultant's basic job is to improve the client's capability in handling problems. The consultant functions as a change agent and management have to assume the main responsibilities for the implementation of change. He used an analogy that the consultant's function is that of a physiotherapist, not that of a crutch.

Lidstone & Melkman (1977), Cannon (1980), Shapiro & Moriarty (1980), Shapiro & Wyman (1981) stressed to have special attention to retaining strategic clients. Gronross (1978, 1981), Berry (1981, 1983) and Berry & Parasuraman (1991) were early ardent proponents of the service firm's practising marketing first to internal employees. Sinha (1982) has opined that one of the major concerns of the organisational consultants is to create an effective relationship with the client system. Tomezak (1982) has observed that a consultant is anyone who is professionally and legally qualified to provide advice or services to the client in areas of his identified expertise. Cowell (1984) presented some of the contemporary thinking and ideas relating to the marketing of services. He suggested a few important characteristics, namely intangibility, inseparability, heterogeneity, perishability and ownership, to distinguish services from products.

Choi (1986) defined engineering services as the means for seeking the optimum method for applying knowledge and technology to practical problems in the field. Magrath (1986) stressed that when marketing services, 4Ps are not enough. He said that another three Ps, namely personnel, physical facilities and process management, must be included in the marketing mix. Scanlon (1988) noted that marketing must start with the customer or the client. Scanlon (1988) opined that there are three postures an organization can adopt with regard to its customers or clients. These are an enquiry driven stance, a sales-driven stance and a marketing-driven stance. But he cautioned that few organization gets sufficient business to survive by adopting an enquiry driven stance whereas a sales-driven stance leads to vulnerability in the long term as fundamental changes in market requirements take place. The market-driven stance is the only posture capable of providing the basis for long term business growth and development.

To measure customer delight with different aspects of service quality, Parasuraman, Zeithaml, and Berry (1988) developed a survey research instrument called SERVQUAL. Taking the lead from the definitions proposed by earlier authors, Gronross (1990) proposed a working definition of services. According to him, a service is an activity or series of activities of more or less intangible nature that normally, not necessarily, take place in interactions between the customer and the service employee. Greenbaum (1990) visualized consultant's marketing mix as a bicycle wheel, where the successful practice is the axle, and the various parts of the mix are the spokes. For a wheel to turn, each of the spokes must work at peak effectiveness and contribute to the functioning of the wheel. If one spoke is weak, the wheel will not work effectively to propel the axle forward. The key to the successful marketing of a consulting business is to ensure that all elements of the mix are developed carefully.



Berry and Parasuraman (1991) have suggested that a service company can only be as good as its people. A service is a performance, and it is usually difficult to separate the performance from the people. If people do not meet customer's expectations, then neither does the service. Day and Barksdale (1992) have suggested that marketing of professional services to business clients requires considerable sophistication, coordination, and participation by all members of the provider firm, including the senior partner. Verma (1993) has opined that the reason for the poor quality of service levels across different service industries is that managers often tend to solve service marketing problems with tools and techniques that are essentially meant for tangible products. It happens because of an inadequate understanding of the nature of services.

Payne (1995) gave ample information regarding services marketing. He opined that the task of manager in developing a marketing program is to assemble the elements of a marketing mix to ensure the best match between the internal capabilities of the company and the external marketing environment. He opined that the success of a marketing program depends primarily on the degree of match between the external environment and the organization's internal capabilities. Shanker (1998) mentioned that a service denotes bundle of features and benefits. The most important issue in service marketing is understanding clearly what benefits the client is seeking. The service can be a success only if there is a synergy between the service product from the client's viewpoint and the consultant's viewpoint. Cannon & Narayandas (2000) opined that the key accounts place greater demands on selling organizations and require new customer relationship management strategies and tactics.

Zeithaml and Bitner (2001) mentioned that through its external marketing efforts, a company makes promises to its customers regarding what they can expect and how it will be delivered. They further mentioned that external marketing is just the to beginning for services marketers: Promises made must be kept. Keeping promises, or interactive marketing is the second type of marketing activity –and is the most critical from the customer's point of view. Service promises are most often kept or broken by the employees of the firm. Interactive marketing occurs in the *moment of truth* (Carlzon- 1987) when the customer interacts with the organization, and the service is produced and consumed. The third form of marketing, internal marketing, takes place through the enabling of promises. In order for providers and service systems to deliver on the promises made, they must-have skills, abilities, tools, and motivation to deliver. They further mentioned that internal marketing also hinges on the assumption that employee satisfaction and customer satisfaction are inextricably linked. Chatterjee and Prasad (2002) opined that in engineering consultancy, ongoing relationship with the client is a major business asset of the firms due to the limited client base and strategic dependence on a few. For engineering consultants, the greatest opportunities lie in keeping, retaining, growing and managing the existing clients rather than running after the new ones.

Fitz-enz and Davison (2002) coined the term workforce analytics, in which he outlined the metrics which can be used to effectively measure hiring and staffing, compensation and benefits, training and development, employee relations and retention programs, employee performance, etc. It can be applied throughout the employee life cycle. It helps enable organisations to continue doing what is right,

identify and stop doing what is not right, and predict and take measures even before something goes wrong.

Authors like Bartlett and Ghoshal (2002) and Parasuraman (2004) opined that in service industry employees are an integral part of the product itself. Chatterjee and Prasad (2003) mentioned that for engineering consultant, the name of the game is 'manage a strong Client base and flourish'. Instead of running after the clients, engineering consultants need to run along with them. Chatterjee (2009) carried out a study to understand the engineering consultancy process and interrelationship of various departments for a typical work situation. Kimura (2011) conducted an empirical study into the current state and structure of internal marketing in Japanese companies. The research study empirically examined the relationship between the degree of penetration of internal marketing and corporate performance in Japanese companies. The research finding indicated that internal collaboration between functions and operational strength are two main factors for the realization of firms market development. Furthermore, internal collaboration was particularly influential in the firms which successfully conducted external marketing. Srinivasan (2012) modified SERVQUAL to E-QUAL in e-business, giving the opportunity to consumers to evaluate the firm's service quality performance on line. Sharma (2018) mentioned that people analytics helps an organization optimize the productivity of their workforce by qualifying the RoI (Return on Investment) on their human capital investments. He further mentioned that people are valuable assets to an organization, and indeed, the highest cost. Chatterjee and Chatterjee (2019) stressed that in engineering consultancy, the brand is built by all the people (engineers), whereas branding is by a few personnel of the corporate communication department.

Review of published literature revealed that service marketing is a new old adage, that services and the unique requirements for marketing them have received great attention from various authors in developed countries, that it is an area that has attracted considerable interest and great attention around the world especially in the United States, the United Kingdom and the countries in the Nordic region, that much of the work in service marketing has been concerned with building the argument that services are different from products, and these differences necessitate special marketing consideration, that in services, people constitute the nucleus in the marketing mix, that a service firm should practice marketing first to internal employees, that there are many works carried out on services marketing, while there are few on engineering consultancy services and very few on marketing of engineering consultancy services, etc. The available literature on the subject is not comprehensive, and very few of them have a direct bearing upon the subject. In authors considered the opinion, these seem not sufficient enough to establish the concept of marketing in the context of engineering consultancy. Previous work done in this particular area is almost minuscule or even nonexistent.

### **The Endeavour**

Responding to the above stimuli, an attempt has been made in this work to establish the philosophy and practice of people-client centric marketing in the engineering consultancy sector. The work encompasses issues like understanding engineering consultancy services from the marketing perspective, scope of engineering consultancy services, the market paradigms, defining engineering consultancy marketing, unique

features of engineering consultancy, its marketing implications, critical roles people (engineers) play in rendering service and delighting clients, talent management, return on talent (ROT), etc. The work is just a modest endeavour from the academic point of view to provide a foundation for future work, to bridge the institutional gap between the existing practice and what needs to be done to flourish in the wafer-thin margin competitive scenario.

### **Engineering Consultancy – The Scope of Services**

Engineering consultancy, as the name suggests, implies rendering **intellect** services to Clients as a **connoisseur** in identifying and investigating opportunities, imparting value-added engineering & technology advises, recommending an appropriate course of action and rendering services thereof to implement the recommendations. It is basically the people (engineer) based idea imparting services. An engineering consultant plays the pivotal advisory role as the *owner's design engineer* during the project engineering phase and participatory role as *owner's site engineer* during the project management consultancy (PMC) phase. The scope of services of an engineering consultant includes the entire gamut of engineering activities related to setting up of projects in green as well as brownfields. An engineering consultant is an integral part of the project from concept to commissioning right from the project engineering-formulation phase to the project implementation- PMC phase and even during the post-implementation phase [Chatterjee and Prasad- (2002)].

During project engineering-formulation phase, an engineering consultant acts as a counsellor. It tries to persuade the client to adopt a proposal based on its merit and gets involved right from the conceptualization stage to the generation of baseline data to engineering of end-to-end solutions for its effective implementation. The role played by the engineering consultant is mainly **advisory**. Usual services during this phase may include any or all of the following: preparation of the project profile/ concept note, carrying out market surveys and arriving at the product mix, preparation of pre-feasibility report/ techno-economic feasibility report (TEFR)/ detailed project report (DPR), process/ technology selection, site survey and site selection, raw material linkage studies, planning infrastructure facilities (external power supply, water supply, rail network, road, mines, township etc.), preparation of environmental impact assessment (EIA)/ environmental management plan (EMP) reports, rendering assistance to client in obtaining financial, environmental and other clearances from statutory authorities etc.

During project implementation-PMC phase, the role of an engineering consultant is mainly **participatory**. It encompasses involvement of engineering consultant in defining the project scope, organizing the project team, carrying out basic engineering, detailed engineering, approval of vendor's drawings, procurement engineering, inspection services at vendor's work as well as at site, project management and monitoring, supervision of civil & structural engineering construction work ; erection of plant & equipment; Preliminary acceptance test; testing & commissioning of the facilities. After commissioning of the plant, the consultant assists the client in handing over- taking over, in streamlining the operations, in conducting performance guarantee (PG), in co-ordinating preparation of 'As Built Drawing'; preparation of project completion report highlighting package wise history; definite cost estimate (DCE), in final acceptance, etc. etc. In engineering consultancy, the relationship



between the consultant and the client seldom ends as it is an ongoing process which continues till project completion phase and helps determine the client's choice the next time around.

### **The Market Paradigms**

Engineering consultancy firms which nurtured in a cosy environment with guaranteed business sometime back, are facing new business austerities and realities. The era of awarding contracts on the nomination or cost-plus basis is over. Today they are operating in a constantly changing buyer's market having stiff sales bottlenecks, from monopoly to market-driven competition having presence of serious rivals, from budgetary support to self reliance, from cost-plus approach to market administered pricing, from quantity push approach to quality and timely delivery, from short term transaction to long term relationship, from life long technologies to fast-changing technologies, emergence of new market players with comparable professional and technical competence, etc. Gone are the days when clients could be herded towards the services that were on offer as opposed to giving them/ providing them customized end-to-end solutions what they needed.

There is a paradigm shift in the client's buying behaviour. Industrial business to business

(B2B) Clients have become more demanding, value-seeking, information savvy, globalised in outlook, process and technology-oriented and time conscious. Today, not only are they more demanding but are also swamped with choices. They have access to more information and more opportunities to voice their opinions and can be the whistleblowers for unethical practices. Their wide exposure to global technology and even capital have made them more demanding and discerning. They have moved resolutely from a state of from being submissive to dominating. They have a strong desire to aspire for contemporary technology and want value for their money/ investment. They have grown more sophisticated, global demand standard of technical and functional quality, customized offerings (8Ps), shortest project schedule, quick response to complaints/ troubleshooting, reasonable fees, payment terms based on progress milestones achieved, and so on. They have become as opportunist as can be possible and today's best may not be tomorrow's best for them. They no longer exist to have consultant's services but, rather, consultants exist to serve them by solving their problems.

Because they assume that quality will be built into every activity, they have very little patience for poor quality, time and cost overruns. With more choice available, they have no patience for unsubstantiated marketing mixes. They want to be delighted, not just satisfied. Clients stress on lesser employer's and greater consultant's obligations. Yesterday's differential offerings have become today's essential requirement, and today's best may not be tomorrow's best for them. They have become highly vocal, and they are deadly allergic to aspects like selling on the competencies not proficient in, or inability to meet commitments or failure to settle complaints, or a jaded or lackadaisical approach towards engineering/ site problems, or holier than thou or a knowing all attitude, or lip services, etc.

They visit the design office premises of the engineering consultant prior to placement of order to assess their design, engineering and project management capabilities. With



a plethora of alternatives available to them and attractions designed by the other competing firms to court them, engineering consultants are finding it onerous and challenging to gain, retain and regain the lost clients. The traditional concept of providing only exclusive or standalone engineering consultancy services is fast waning. As a corollary, clients are seeking services on engineering, procurement and construction management (EPCM) on single point responsibility basis.

In addition, the development in information technology has added 'e' flavour to every functional area of business, including project management. Computer-aided design engineering and drafting (CAD), computer-controlled project management, process control and automation, management information system, customer/ client relationship management (CRM), enterprise resource planning (ERP), SAP etc. are no longer buzz words, but have become an integral part of engineering consultancy.

### **Defining Engineering Consultancy Marketing**

Engineering consultancy marketing can be defined as the process of identifying clients and their changing techno-economic project investment requirements, converting them into required products/ services (**P<sub>1</sub>**), making them available at convenient places (**P<sub>2</sub>**), pricing them reasonably (charging fee) (**P<sub>3</sub>**), communicating (promoting) with them (Client) and initiating action (sales) (**P<sub>4</sub>**), rendering services with pace (**P<sub>5</sub>**), execution through proper people (**P<sub>6</sub>**) & process (**P<sub>7</sub>**) supported by physical infrastructure (**P<sub>8</sub>**), so that the process of order on nomination basis or repeat order continues through competitive differentiation and client delight. In this definition, marketing research assumes the task of identifying clients and their changing techno-economic project requirements, while the marketing mixes (**8Ps**) are used to deliver the solutions. Thus, engineering consultancy marketing commences much before the services are rendered and continues after the services are over. To succeed in this marketing warfare, it is essential for engineering consultancy firms to know the markets/ clients, their changing requirements and the competitive forces as well. This calls for market acquaintance, understanding the clients and customization of the services. Thus, engineering consultancy marketing is a three-tier system (3S) comprising of searching/selecting the markets/ clients, serving the selected/ identified markets/clients and sustaining the said markets/clients through client relationship marketing (CRM) and key account management (KAM).

### **Unique Features of Engineering Consultancy Services and its Implication for Marketing**

Engineering consultancy has a number of unique features which makes it different from industrial products or capital goods. Taking the lead from the writings of authors Cowell (1984), Parasuraman et al. (1985), Das (1997), following unique features of engineering consultancy services are being proposed. The features are knowledge and expertise based profession, inseparability, co-existence of the service provider (consultant) and service receiver (client), client's participation; co-operation and role contribution, variability/heterogeneity, intangibility, perishability, low entry barrier, environmental changes etc. Each of these features has a number of managerial and operational implications, which makes its marketing idiosyncratic with respect to

industrial products or capital goods. A clear understanding of the features is an essential pre-requisite for formulating client-centric marketing strategy.

Engineering consultancy is a multi-disciplinary knowledge and expertise based profession. An engineering consultant is one who possesses the required knowledge, analytical power, expertise and skill, one who renders advisory services or participatory services or both to client at different stages of project execution, one who is fully conversant with the magnitude of the engineering and technological issues likely to be encountered in execution of the project, one whose opinion can be relied upon when ideas are conflicted or bounced against each other. The personnel of engineering consultant are expected to play the role of a partner, teacher, advisor, reviewer, facilitator, motivator, negotiator (with input suppliers or vendors) to give shape to the ideas into engineering realities in line with the best industry practice. To this end, the client seeks the credentials of the engineering consultants and asks them to furnish the list of similar assignments/ project executed in the recent past for other clients.

Engineering consultancy services are inseparable as the engineering consultant, and the services he provides cannot be separated, and the services are consumed as it is produced. This also means that the service provider (consultant's engineer) becomes a part of the product/service itself and finds himself as an essential ingredient in the service experience for the client.

In engineering consultancy, co-existence of the service provider (consultant) and service receiver (client) is a very common phenomenon. **Figure 1** depicts the co-existence of engineering consultant & client in the project. [Chatterjee and Chatterjee 2019] As depicted, on most of the occasions, the consultant/ its project team and client/ its project teamwork in close association with each other during different phases of project execution at various places. It may be at design and engineering office of the consultant, or at the office of the statutory authorities for defending the project report, or at works/shop floor of the equipment manufacturer, or at the project site of the client etc. During project conceptualization, project appraisal, project planning and project execution stage, consultant's engineering team and client's project team operate in a closely-knit manner and are involved in simultaneous service transaction. Engineers of engineering consultant interact with their counterparts on a number of occasions for various engineering and non-engineering issues. Such interactions are more during the project execution phase as compared to the design and engineering phase. And, each such individual interaction creates a **moment of truth** about the engineering consultant, its engineers, its quality of work, etc. and provides/withholds marketing opportunities. Thus, each engineer involved in service transaction has the opportunity to reinforce or change the client's perception and beliefs favourably. Their attitude towards the client's project team at every interaction creates bonding (or un-bonding). Any variance (positive or negative) by any one of them at any instance has the potential to either gain a client's trust or have the opposite effect. It is the moment where the consultant's image is built or destroyed. A series of **moments of truth** leads to client delight or annoyance. Engineering consultant must keep this aspect in mind while interacting with the client's project team.

Engineering consultancy services are highly variable as such services depend upon the engineer who renders them and under what circumstances they are being rendered. The services are personalized in nature as the human element is associated with it. Due to this reason, quality of service delivery keeps on changing from engineer to engineer, site to site, time to time, situation to situation, and the service (as experienced) may not be of consistent quality. What is excellent for one client, may not be so for another, or what is excellent for one client at a particular occasion/time, may not be so for the same client at another occasion/time. The profession represents such a wide variety of expertise that it is impossible to put them into any common system of grading.

Due to variability/ heterogeneity, engineering consultants face a major problem, which is to maintain consistent service quality. Uniform performance standards are difficult to set. Service quality can't be guaranteed despite the fact that guidelines and procedures have been laid down to carry out design and engineering activities, preparation of assignments and technical specifications, approval of drawings, etc. to minimize the effect of the human element. Clients are aware of this variability aspect and hence, before selecting a consultant, they prefer taking views of others who have availed similar services from the engineering consultant.

Engineering consultancy services are intangible in nature. As such, the client does not get anything tangible. Being intangible, it can't be displayed, seen, tasted, felt or experienced before they are consumed/ availed/rendered. It can only be experienced from the effect/ benefits created on client's operation/business system. In case of capital goods/ industrial installation, the value can be assessed at pre-purchase period but in case of engineering consultancy, the value of consultants services cannot be assessed at pre-purchase period but can be assessed only on its completion at post-purchase period. It is difficult to provide an exact sample of the engineering consultancy services that are on offer. A new client's experience of engineering consultancy service is in totality, the effect of all the elements present at the time of rendering service. It is not possible to duplicate the totality as a sample, even the entire identical infrastructure and resources (engineers) are deployed and put in place. As such quality of the service varies and marketing mixes are difficult to formulate.

Further, like any other services, acquiring engineering consultancy services is associated with a high degree of trust due to a high degree of perceived risk. To decrease risks, to increase a client's confidence level and to make services differentiable with respect to competitors, engineering consultancy firm must increase tangibility indirectly. Deployment of right set of engineers for the project, physical evidences like full-fledged engineering office with all latest infrastructure, IT tools, Auto CAD, plant engineering & design software, project management software, piping flexibility & stress analysis software, equipment design software, electrical system study software (viz. ETAP, AutoGridPro, PSCAD, PLSCAD), etc. play a vital role in increasing/ adding the tangibility.

Because of simultaneous production and consumption, engineering consultancy services like site-supervision services are perishable, they cannot be stocked for later consumption and hence non-inventorial. They tend to go waste/ unutilized, if not availed during contractual time schedule. The loss of money on account of say, non-utilization of consultant's engineering man-hours deputed at the site for rendering designer's supervision services for construction, erection, preliminary acceptance test (PAT),



commissioning, performance guarantee (PG) test, etc. during contractual time schedule cannot be made up.

Client's participation, co-operation, involvement and role contribution is important for meeting contractual responsibilities/obligations by the engineering consultant. It is the key to the quality of service and project execution success. Quality of service depends to a great extent on the client's attitude towards consultant's project team, disclosure of their requirement, furnishing of techno-commercial information, site's geo-technical data, taking prompt decisions etc. For the engineering consultant, the client's project team is his extended arm. In fact, without the client's involvement, inputs, co-operation and prompt action, the quality of engineering consultancy service may be far from usurp. Due thought in project formulation, disclosure of relevant information, furnishing of complete field data in time, adequate efforts, full involvement of project department of client, no or minimal midstream changes/modifications in project parameters, or insisting to changes which are inevitable, managing clearances from the various statutory/regulatory authorities, quick action after project clearance, making the front available and giving "Go-Ahead" clearance, identification and empowerment of the key project personnel, mobilization of fund, no change in project team, avoidance of multiplicity of agencies/vendors as far as possible, placement of trained manpower and input materials/feedstock in position before PAT, commissioning and conducting of PG test, transparency of thoughts and working, etc. are important actions which a client has to take for successful and timely completion of the project.

Likewise, engineering consultants are equally important for the client. Their role being the owner's engineer, they should be considered as an integral part of their project team. To be effective, they have to be treated as an insider and shall be given full co-operation, power and authority. The project will succeed if service composition from the client's perspective and the consultant's perspective are in consonance. The consultant could only bring about the change if the client is willing to listen, especially to unpalatable truths. To bridge this gap, engineering consultants should try to assess what benefits the client seeks, their expectations from the consultant as well as package contractor, etc. during pre-engineering stage while finalizing the scheme and rendering them well during contract execution stage and even after project commissioning and stabilization stage. The challenge for engineering consultant is to solicit co-operation from the client's project team.

Consultant's knowledge about the client, its project team, its decision-making units, their expectation and constraints, etc. and clarity about the project execution methodology to avoid midterms changes is vital for successful completion of the assignment. In fact, without clear understanding, the service quality may be far from appropriate. Setting up of an engineering consultancy firm needs moderate investment, the infrastructure required is not capital intensive, as a result, the barriers to entry are low rendering the industry assailable/vulnerable/exposed to stiff competition, both in terms of number and magnitude. As in other industry, the engineering consultancy services too is substantially influenced by the environmental changes such as alteration in Government's industrial policy, export-

import trade policy, World Trade Organization (WTO) norms, the arrival of new technology, etc. Such changes lead to change in the industry structure, size of service firm and the intensity of competition.

### **Role of People in Service Industry**

In the service industry, among the **8Ps** of marketing (**P<sub>1</sub>** product, **P<sub>2</sub>** placement, **P<sub>3</sub>** price, **P<sub>4</sub>** promotion, **P<sub>5</sub>** pace, **P<sub>6</sub>** people, **P<sub>7</sub>** process and **P<sub>8</sub>** physical evidence), it is the people **P** which plays a significant role. Authors like Bartlett and Ghoshal (2002) Parasuraman (2004) and many others have opined that services are basically performance performed by the people. Since a service is a performance performed by the people, it is impracticable to separate the performance of the service from the people performing the service. They further elucidated that a service company is known in the market place through its people. For customers/market, the service is produced and delivered by the people, who are either at the front line or supporting the front line from behind the scene. If these personnel don't meet the client's expectations, neither does the service. This establishes the indispensable role the front line client contact people (personnel) and people (personnel) supporting the front line from behind the scene play for the success of service firm.

### **Role of People (Engineers) in Marketing of Engineering Consultancy Services**

As mentioned earlier, in engineering consultancy, aspects like nature of service (intellect), unique features, the associated quality elements, limited client base, strategic dependence on a few clients, ongoing relationship with the client, etc. heighten the need for strong people (talent) management. The key to quality service lies with the engineers who are involved in the service offerings, who render services to the client for the project, either at the front line or supporting the front line from behind the scene, and their passion for quality.

Thus, *people (engineers) of various disciplines constitute the nucleus and central force in the marketing mix* of engineering consultancy services. These people (engineers) are from various discipline, as mentioned earlier. In consonance with the opinions expressed by Bartlett, Ghoshal, Parasuraman, etc., an engineering consultant's identity in the industry is only through its people (engineers). The people (engineers) who work for the project and render services are perceived to be an integral part of the service offerings by Clients, as they were directly involved in service offerings (i.e. service production and service delivery). In fact, in engineering consultancy, for clients, consultant's engineers are the product, and hence they have a penchant for the talented ones. Clients judge engineering consultant's performance by the performance of engineers. They view the engineering consultant through the disposition of these engineers. In their opinion, these engineers who are either at the front line or supporting the front line from behind the scene, are the product, service and the firm. For them, consultant's engineers are the most sought after marketing mix, they are the face of the firm and their talent, courtesy, and personal traits are firm's USP (Unique Selling propositions). They (engineers) manage the *Moments of Truth* about their firm with the client's project team, contractor, vendors, statutory authorities, etc. [Carlzon, (1987)]. They usher cutting edge and ultimately create the service differentiation in the market place, resulting in referrals, repeat orders or orders on nomination basis.

In engineering consultancy, talented engineers give birth to innovative ideas which result in quality services, processes, time economy, cost economy, client elation, etc. Innovative ideas of engineers create future business leaders and opportunities. Only when these engineers of the consultant deliver the services in a quality way, with the utmost concern for client and completion of the project in time-without cost over-run, the likelihood of client patronage and placing additional responsibilities increases. To run with clients and to solicit client's co-operation, it is essential that consultant's people (engineers) are talented, have the client-centric mindset, have an attitude to work in consonance with clients team and enjoy their confidence.

As mentioned earlier and as depicted in **Figure 1**, engineering consultancy services are inseparable. Consultant's engineering team and client's project team operate in a close-knit manner and are involved in simultaneous service interaction and transaction on a number of occasions for various engineering and non-engineering issues during the entire project life. This establishes that the consultant's engineers (service providers) are a part of the product/service itself and hence an essential ingredient in the service experience for the client. Each service interaction and transaction creates '*Moment of Truth*' about the engineering consultant, about its people (engineers), about its service quality etc. Every '*Moment of Truth*' creates either a positive opinion or a negative one, client's satisfaction or dissatisfaction, etc.. Thus, each people (engineer) involved in service interaction and transaction has the opportunity to reinforce or change client's beliefs and perception favourably. If an engineer is persuasive, then, for the client, the firm is persuasive. It is the moment where the consultant's image and goodwill are built. And, a series of '*Moments of Truth*' leads to either client delight and elation, patronage leading to additional business opportunities or withholds the existing ones.

Thus, the people **P** (engineer) makes marketing of engineering consultancy services distinct w.r.t other business. In engineering consultancy, each and every engineer is the brand ambassador of the firm and by default is involved in prospecting, the first and critical milestone of marketing. In engineering consultancy, the brand is built by all the people (engineers), whereas branding is by few personnel of the corporate communication department. To measure up to the new business realities, it is imperative for the engineering consultancy firm to lay emphasis on people management, i.e. management of talent.

### **What is Talent**

Talent is all about a person's erudition, intelligence (IQ), sagacity, scholarship, literacy, knowledge, competence, understanding, skill, comprehensibility, attainments, expertise, behaviour as well as his attitude and willingness to deliver superior value both internally and externally. It is also a person's ability to leverage the resources available around him as well. Talented persons influence society, colleagues and working environment. Views, suggestions and opinions of talented persons are appreciated, accepted, acknowledged and shared in the society as well as in the organization and industry. Talented persons are confident persons. They feel sure and secure of themselves and their abilities- not in an arrogant way, but in a realistic and rational way. For talented persons, confidence is not about feeling superior to others but a quiet inner knowledge that they are capable of. Such people rely on their



strength, skills, knowledge, etc. to handle what may come. They think "I can" instead of any other thought.

## **Talent Management**

Talent management is an integral function of management to enhance the value that can be delivered. Talent management deals with following four broad elements: **(i)** Attracting right talent towards the firm **(ii)** Keeping talent **(iii)** Managing talent **(iv)** Identifying talent [Chowdhury, (2002)]. Attracting the right talent (engineers) describes how to become a strong magnet for talent (engineers). Keeping or retaining talent describes how to create and maintain conducive working environments in which talents can productively pursue the joy of work and financial benefits from contributions to achieve corporate objectives. Managing talent describes how to treat talents as an important resource and create opportunities and freedoms for talents to stretch for their dream, for the things that make big differences for the firm. Identifying talent describes ways to identify visible and hidden talents, say, by noticing the obvious talents, by using a performance-based identification tool, using a test-based identification tool, etc.

The important sub-elements within talent management are recruitment & selection of engineers through nation-wide entrance test at entry-level, training, re-training and development to keep tab on contemporary issues and to cope up with the environmental changes, proper job specification & allotment, empowerment, motivation (monetary & non-monetary), mechanism to recognise and applaud great work, opportunities to help achieve fullest potential, career planning & path visibility, personal development & growth prospect, transparent working environment, job satisfaction, proper compensation preferably above industry practice, calculating performance in terms of return on talent (ROT) and feedback system. To improve proper feedback is essential. Bill Gates opined “that we all need people who will give feedback. That’s how we improve.”

## **Calculating Return on Talent (ROT)**

In the context of any investment appears a simple question- what is the return on investment (ROI). People (human capital: engineers) recruited by the firm are also an investment. People are valuable assets to a firm and indeed the highest cost. Return on talent (ROT) measures the return on human capital (people/engineers) instrumental in earning revenue for the firm. It is the ratio of contribution (return) by the talent (engineer) and total capital invested in the talent (engineer) with an aim to have zero attrition. It quantifies the payback from investment in people (engineers). It shows whether the right people (engineers) are being recruited and how effectively they are being utilized to achieve the firm's business objectives. ROT calculation assists in monitoring performance and forecast opportunities in a congenial atmosphere.

Mathematically, ROT is given by the following formula :

$$\text{ROT} = \frac{\text{Contribution (Return) by the Talent}}{\text{Total Invested Capital in Talent}}$$

$$\text{ROT} = \frac{\text{Revenue Earned by the Talent} - \text{Total Invested Capital in Talent}}{\text{Total Invested Capital in Talent}}$$

$$\text{ROT} = \frac{E - C}{C}$$

$$\text{ROT} = \frac{E - (C_P + C_T + C_I + C_C + C_R + C_O)}{(C_P + C_T + C_I + C_C + C_R + C_O)}$$

Where,

- E** = Revenue earned by the Talent (earning per respective employee)
- C** = Total capital invested in Talent = (C<sub>P</sub> + C<sub>T</sub> + C<sub>I</sub> + C<sub>C</sub> + C<sub>R</sub> + C<sub>O</sub>)
- C<sub>P</sub>** = Cost of identifying and recruiting Talent
- C<sub>T</sub>** = Cost of training, re-training & developing Talent
- C<sub>I</sub>** = Cost of required environment in which Talent can work (Infrastructure Cost- H/w & S/w, AI, IoT, machine learning, robotics, deep learning, etc)
- C<sub>C</sub>** = Cost of compensation to the Talent
- C<sub>R</sub>** = Cost of retaining the Talent (Personal & spouse rewards, recognition, special perks, career aspirations as motivator, etc),
- C<sub>O</sub>** = Overhead Cost apportioned to the Talent

All the above data can be had from the financial module of SAP. The ROT computation helps monitor the performance of the talents and determine the profitability of their investment in talent. To make investment more profitable, the firm must constantly calculate ROT, continuously improve ROT and nurture, develop, and refreshing talent. The ROT calculated should be then compared with the ROT rate prevailing in the firm's other similar strategic business units (SBUs), ROT rate prevailing in the same industry, ROT rate prevailing in the similar industry, etc. for drawing the inference. ROT has a uniqueness. Unlike, return on a physical asset, which is a scalar quantity, ROT is a vector. It has both *magnitude* and *direction*. A high talent, not directed to a right or priority direction, will yield return which may be unimportant or even irrelevant. [Banerjee, (2013)] Such talents which are valuable and incredible assets of the firm may become a non-performing asset (NPA). As we know, NPAs affect all walks of society and economy in one way or other, similar will be the situation for the firm. It is true that there cannot be zero NPA but lesser, the better. For that, talent management has to be conducive. If talent management is conducive, personnel (engineers) moral will be high, and personnel (engineer) turnover will be negligible or minimum, that too the inevitable ones. The firm must recruit right personnel (engineers) who meet the job profile in terms of capability, competence, skills, attitude, etc. and provide them congenial working atmosphere and rightly designed career growth trajectory in order to achieve high-quality service and higher ROT.

ROT can be both a quantitative and qualitative measure, based on managerial viewpoint. For quantitative measurement, pricing of talent in the form of skills, expertise, experience, knowledge, etc. would be required. While qualitative measures

may be in terms of organizational profile drawn on the basis of opinions of the Clients, multilateral funding agencies (like World Bank (WB), Asian Development Bank (ADB), Asian Infrastructure Investment Bank (AIIB), European Bank for Reconstruction and Development (EBRD), African Development Bank (AfDB), industry associations, professional bodies like Fédération Internationale Des Ingénieurs-Conseils [International Federation of Consulting Engineers- FIDIC], Confederation of Industries, Consultancy Development Centre, Consulting Engineers Association, International Council of Consultants, Project Management Associates, etc.

In engineering consultancy, an engineer's delight is essential as it acts as a stimulus for committed performance. Moreover, employee delight and client delight are inextricably linked, as a delighted employee willingly walks that extra mile for clients and proactively volunteers services to act as a bridge between the various departments of both the firms, rather than concentrating on a one to one standalone relationship. Only a delighted employee can keep the client delighted. It is the  $E = mc^2$  of client loyalty. This important aspect must be kept in mind while formulating HR/personnel strategy.

Engineers are the firm's greatest asset for being a fantastic success of the firm. Like any other physical and financial asset, they have value creation ability. The remarkable difference between physical assets and human resources are human resources not only create value but also appreciate over time like land. An engineering consultancy firm with its worst situation may revive again only due to the contribution made by human resources. In engineering consultancy, the human resource is used as a barometer for comparison in like to like situation.

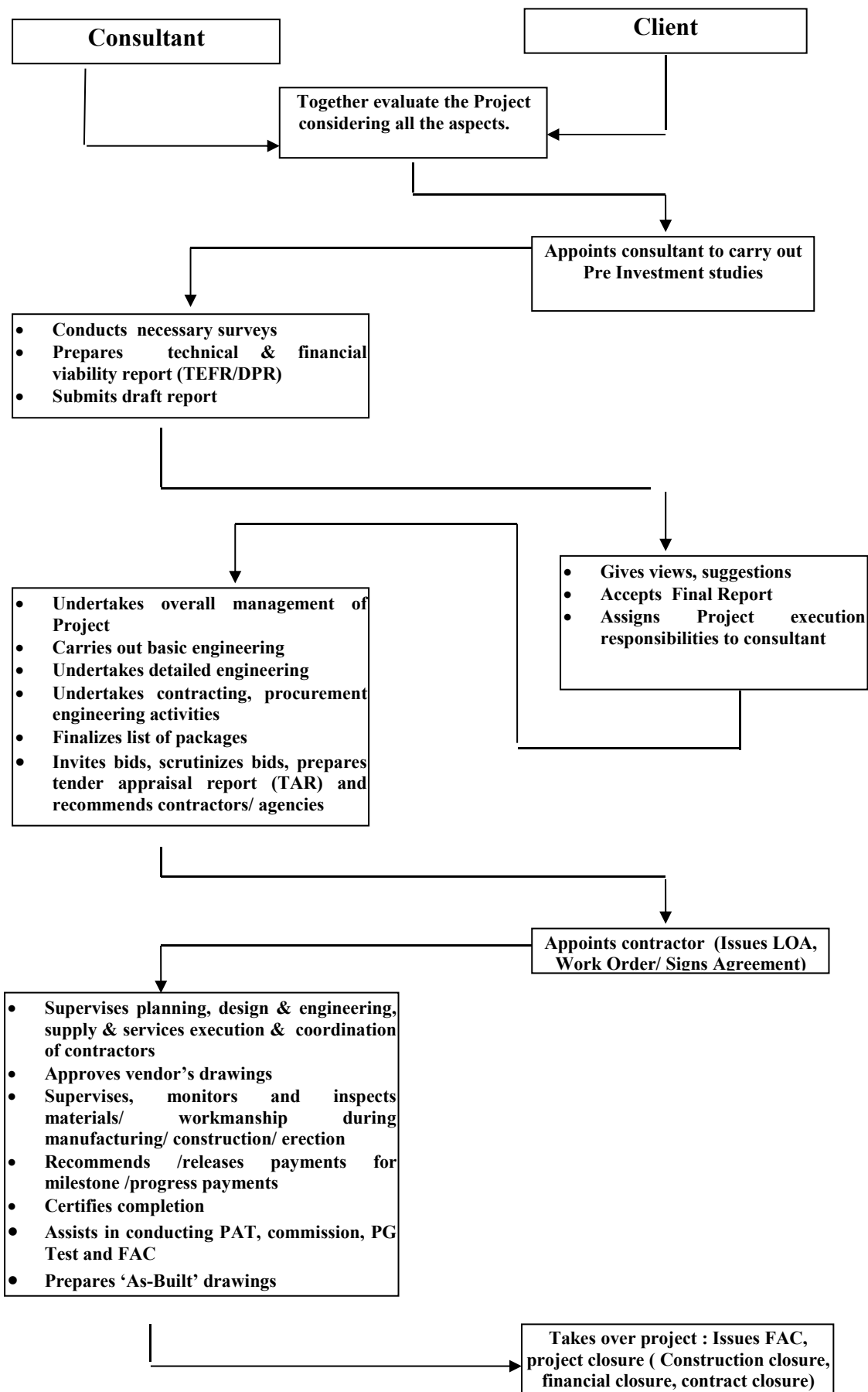
### **Conclusion**

Marketing of engineering consultancy services is altogether an arduous and heterodox profession as the business is intellect, sagacious, inseparable and dictated by relationship development with limited and strategically important corporate houses/clients. People (engineer) are the cynosure of the engineering consultancy business. Their role is vital and indispensable. As such, it warrants its inclusion as a distinctive element of the marketing mix, i.e. talent management. It should be kept in mind that, in today's fast-paced world, business success is exponentially proportional to firm's ability to articulate itself cogently (the individual personnel [engineers] of the firm and the firm ubiquitously). In B2B engineering consultancy marketing, the real issue in the globally competitive scenario of the 21<sup>st</sup> century will not only be just deployment of superior engineering and technology or automation but, more importantly, it will be effective management of client through the people (engineer). People (engineer) management must be the foundation on which the success story of design, engineering, erection & commissioning and other site services excellence will unfold. It is, therefore, essential for the engineering consultancy firm to make sure that its front line customer/client contact engineers and engineers rendering support/services to front line engineers behind the scene are well motivated, trained and client-oriented to meet the challenge.

Prioritizing people (engineer) initiatives quickly and adequately, conducting training and internal marketing programs regularly, practising entrepreneurial culture by the democratization of business with power and authority, developing competent, motivated,



satisfied and client conscious engineering workforce, etc. should be emphasized to create client orientation.



**Figure 1: Inseparability and Co-existence of Consultant and Client in Project**

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