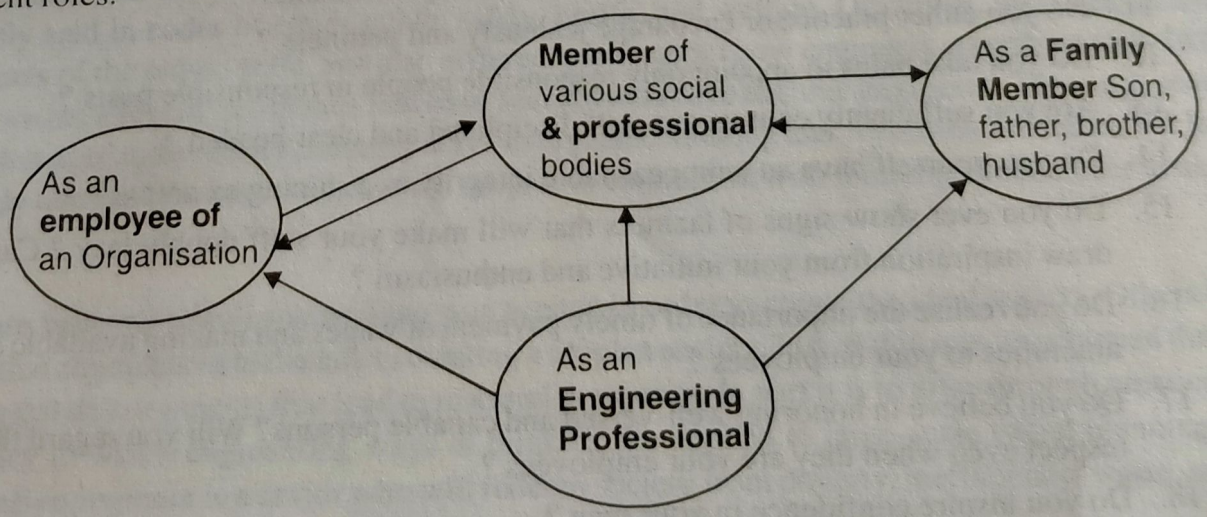
CHAPTER 7

Engineers as Managers, Consultants and Leaders

Engineers are generally considered to be technocrats. Technocrats are perceived as professional experts and knowledgeable in their chosen area of specialization and are expected to be result-oriented. Many a generalist believes that engineers have a narrow perspective and are egoistic and not so adaptable. Some engineers harbour a feeling that they are not getting their due share of power and position. In this Chapter we look at the various roles played by an engineer.

ROLE OF ENGINEERS

Let us first understand the variety of roles played by engineer. An engineer wears different hats in different roles.



Different Roles performed by engineer

Are the different roles performed by him exclusive to one another? Are there any conflicts? Within a family itself roles as a son and as a father could be conflicting. Similarly in the working life

he is a subordinate to somebody and superior to others. How can he discharge disparate responsibilities ?

Mr. Sushrut got promoted from being just an engineer to be the CEO of the FTZ Corporation. He had been working in the organization for a number of years and had come up from the ranks. He read an episode in Mahabharata wherein Narada was delivering a code of conduct to Yudhistara before the latter's coronation as the king. The teachings were in the form of questions and answers. Narada tells Yudhistara to ask the questions and find the answers for himself. Mr. Sushrut knew that the teachings were time-tested, and thought that by developing a similar set of appropriate questions and answers for himself, he could become a successful leader.

1. Are you a person of high principles?
2. Are you consistent in the practice of economic principles both in business and personal life? Do you avoid excess consumption of wealth and showy living?
3. Have you divided your time rightly between pursuit of virtues, wealth generation and entertainments ?
4. After evaluating your strengths and weaknesses, will you keep an updated note of your competitor's strengths and weaknesses too?
5. Do you keep a watchful eye on what your associates, competitors and frustrated employees are doing ?
6. Do you ensure that your managers are virtuous? Are they of good family background ?
7. Are they thoughtful of your organization's welfare? Are they able to distinguish between what should be done and should not be done? Are your managers well versed in their subjects? Do they know how to keep a secret? Are you sure that they are not susceptible to the influence of your competitors, your subcontractors, your clients or your opponents ?
8. In crucial decisions do you consult experienced and wise men? Do you have too many advisors ?
9. Do you take blind leaps into the dark? Or calculated jumps with the required precision and precaution ?
10. Are you prepared to accept one learned and efficient key man rather than a number of useless fools , so that there is at least one person to help you substantially and usefully? Do you entrust work to undependable and corrupt assistants?
11. Do you either practice or encourage jealously and pettiness ?
12. Do you take pains to appoint only responsible people in responsible posts ?
13. Are you sufficiently courageous, self disciplined and clear headed ?
14. Do you yourself have an unimpeachable integrity as a shining ex ample ?
15. Do you ever show signs of laziness that will make your staff doubly lazy ? Can others draw inspiration from your initiative and enthusiasm ?
16. Do you realise the importance of timely payment of wages and making available essential amenities to your employees ?
17. Do you believe in honoring well-versed and capable persons? Will you regard them with respect even when they are your employees ?
18. Do you inspire confidence in your men ?
19. Are you always absolutely impartial ? Do you value the society's respect for you as an impartial man ?

Keep eye an associates, competitors and frustrated employees

20. Do you have flair for environmental relations ?
21. Do you generally have a conciliatory approach in conflicting situations?
22. Do you believe in training yourself and others under the best available experts, even if it costs more?
23. Will you be able to watch your men continuously to be sure that they continue to be trustworthy?
24. Do you indulge openly in drinking, gambling and philandering?
25. Do you give gifts to deserving person?
26. Do you have eye for detailing with a touch of perfection?
27. Do you manage your time between internal and external affairs?
28. Do you act impulsively?
29. Have you resolved to conduct yourself with dignity everywhere and thereby command respect?
30. Do you punish the guilty and honour the innocent without any consideration for personal likes or relationships?
31. Can people deposit their trust in you and feel safe?
32. Are you always a balanced person?
33. Do you believe in teamwork?
34. Do you show serious concern about the welfare of your people?
35. Are you flexible and practical or rigid and stubborn? Do you read and re read important documents?
36. While you expect others to be loyal to you, are you loyal to others?
37. Do you strive to evolve a code of your own high principles which will hold you aloft everywhere?
38. Can you firmly say no with a smile ?
39. Do you avoid doing purely personal work in your office during office hours, except as a part of social or professional service ?

upward, up, high

Models of Professional Roles*

We said that the profession of engineering is aimed at promoting the public good, or as is ommonly said in codes of ethics public safety, health, and welfare. Of course, there are different onceptions of the public good, and also different views about how engineers contribute to it. In this ection, we list a few of the models that have seemed attractive to some engineers. These are general odels that need to be refined, but they serve to organize thinking and crystallize attitudes. We leave r a study question the assessment of the models in connection with thinking about career goals.

Savior

Plato believed a philosopher-king was needed in order to create the ideal society. Others have lieved that engineers hold the key to creating a utopian society. In part this is to be achieved through chnological developments that lead to material prosperity. In part it is to arise through creation of a chnocracy in which engineering ways of thinking are applied to large-scale social planning. The presentative engineer is a savior who will redeem society from poverty, inefficiency, waste, and the udgery of manual labor.

redeem : save, rescue
utopian: ideal, progressive

Ibid, pp. 32-33

Believe in Team work

usher: lead, help

2 Guardian

Perhaps engineers cannot usher in the Utopia. Yet it is they who know best the directions in which, and pace at which, technology should develop. Accordingly, they should be given positions of high authority based on their expertise in determining what is in the best interests of society.

3 Bureaucratic servant

Within the corporate setting in which engineers work, management should make the decisions about the directions of technological development. The proper role of the engineer is to be the servant or handmaiden who receives and translates the directives of management into concrete achievements. The engineer is the loyal organization man or woman whose special skills reside in solving problems assigned by management, within the constraints set by management.

4 Social servant

The role of engineers lies exclusively in obedient service to others, but their true master is society. Society expresses its interests either directly, through purchasing patterns, or indirectly, through government representatives and consumer groups. Engineers, in cooperation with management, have the task of receiving society's directives and satisfying society's desires.

5 Social enabler and catalyst

This *is* a variation of the social servant model. Service to society includes, but is not exhausted by, carrying out social directives. Ultimate power and authority lie with management; nevertheless, the engineer plays a vital and active role beyond mere compliance with orders. Sometimes engineers are needed to help management and societies understand their own needs and to make informed decisions about desirable ends and means of technological development.

6 Game player

Engineers are neither servants nor masters of anyone. Instead they play by the economic game rules that happen to be in effect at a given time. Their aim, like that of managers, is to play successfully within organizations, enjoying both the pleasures of technological work and the satisfaction of winning and moving ahead in a competitive world.

FUNCTIONS OF ENGINEER

An engineer's responsibility encompasses a whole range of functions that are listed below in the Table along with a sample of ethical questions to be asked against each:

Function	Ethical questions to be asked (Illustrative)
Conceptual design	Will the product be useful" Not illegal, as are certain drugs
Market study	Is the study unbiased or is it to attract investors?
Specifications	Do they meet established standards and codes? Are they physically realizable?
Contract	Are cost figures and time schedule realistic? Is it bid made low to get the job, with the hope of renegotiating?
Analysis	Is there an experienced engineer who can judge if a computer program gives reliable results?
Design	Are safe alternatives explored?
Purchasing	Will parts and materials be spot tested for quality upon receipt? Are they as per the specifications?
Manufacturing parts	Is the workplace safe, free of noise and toxic fumes? Is time

	allowed for quality workmanship?
Assembly construction	Are workers familiar with the purpose and basic functions of the product? Who supervise safety?
Final test of product	Are testers sufficiently independent of manufacture or construction management?
Sale of product	Any bribes? Is advertising honest? Are customers given good advice? Is informed consent required?
Installation, Commissioning	Do users get training? Is the safe exit tested? Are neighbors informed of possible toxic emissions?
Use of product	Are users protected from harm? Are users informed of risks?
Maintenance and repairs	Is maintenance regularly carried out by competent staff? Does the manufacture still carry spare parts?
Product recall	Is there a commitment to monitor the 'experiment' and if necessary to recall the product.
Decommissioning	How are recycling of valuable materials and disposal of toxic wastes handled at end of useful life?

Engineer as a manager

Many engineers move into management, often after a few years of starting their career. As managers they are responsible for establishing and maintaining a moral climate conducive to professional responsibility and to dealing constructively with conflicts. An approach is suggested herein which could be used by an engineer manager to improve his managerial effectiveness.

An engineer manager is often confronted with a situation in which two or more ethical principles are in conflict causing a moral dilemma. Usually, the five moral dimensions are:

(*a*) Information rights and obligation,
(*b*) Property rights,
(*c*) Accountability and control,
(*d*) System quality, and
(*e*) Quality of life.

He/she could use a five-step methodology to analyze a situation. This involves identifying: (1) facts (2) values (3) stockholders (4) options and (5) consequences of action. Once the ethical analysis has been performed to arrive at a judgment, six ethical principles derived from culture, religion and traditions could be applied. They are not hard and fast rules and may not apply to all situations. These principles are:

1. ***Golden rule***: Do unto others as you would have them to do unto you. Putting yourself in the place of the other person(s). Think of yourself as the object of the decision. Think about fairness as it would apply to you.
2. ***Immanuel Kant's Categorical Imperative***: If the action is not right for everyone to take, then it is not right for anyone. Ask if everyone did, could the organization or society survive ?
3. ***Descartes' Rule of Change***: If an action cannot be taken repeatedly, then it is not right to take it at all. Once started on a slippery path, you may not be able to stop.
4. ***Utilitarianism***: Is it for the common good ?
5. ***Risk Aversion***: Take that action that achieves the highest or greatest value Take that ac-

Think of Fairness

tion that produces the least harm or incurs the least potential cost. Some actions have extremely high failure costs with very low probability of failure. (say, building a nuclear generation facility in an urban area)

6. ***Ethical 'No free lunch' Rule***: Assume that virtually all tangible and intangible objects are owned by someone else unless there is a specific declaration otherwise.

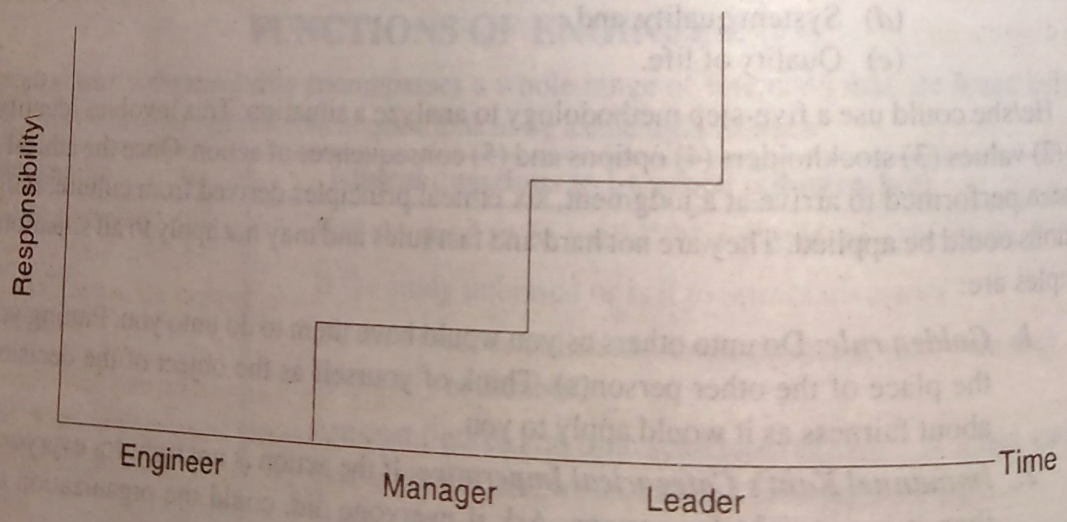
After having been only an engineer, a person may be promoted as a manger in an organization. As a manager he would have a number of subordinates working under him and other colleagues working with him. There would also be his superiors. If one has to become a good boss, one needs to be a good subordinate first. This transition from technical to managerial work calls for a number of adjustments. Engineers are preferred as managers because of their strong analytical and problem solving skills and work ethics.

The skills required as an engineer are technical; but when one becomes a manager, managerial skills like motivation, communication, and teamwork are essential. A technocrat may not be a team player. He may be excellent in technology-based solutions, but may lack the skills needed for solving human conflicts. A good technocrat need not necessarily prove to be a good manager. Unless he acquires managerial skills he may not succeed as a manger. But there is always a continuity of moral thread in the transition from being a technical person to being a manager.

As a manger, engineers remain professionals whose primary responsibility is to provide useful products and services while ensuring that they are safe and profitable. He has the responsibility for promoting ethical climate in the organization and resolving conflicts amongst his subordinates. As a manager he has to combine formal organization and policies with informal traditions and practices and personal attitudes and commitments.

Engineer as a leader

One may work at the middle level or a senior level position. In those positions one would have to take decisions on transfers, promotions and removal. You may be posted in the production department or sales. As one moves up the ladder from the position of engineer to manager to leader, the responsibility and the functions increases and from the technical functions it moves to the function of people management. The following figure depicts the movement and the responsibility.



Figure

Every manager feels that within him/her there is a leader waiting to burst out. "**Managers do things right and leaders do the right things** "observes Peter Drucker. One of the 'right things' that a leader should do is to offer leadership based on sound principles and values, says Stephen Covey. We have a number of examples of this in India. Two of the most enduring names in corporate India – J.R.D. Tata and Ramakrishna Bajaj are known as much for their humanitarian values as their business

acumen. Many of today's business leaders like Narayanamurthy and Azim Premji have taken this concept on board and results are for all to see.

A leader has to develop a Vision and Mission for his organization. Organizational values emerge from this. It is evident from the prominence being accorded to Corporate Social Responsibility (CSR) and 'Societal Mission' that ethics is being given increasing importance in the corporate world. The 'good old days', when 'increasing monetary profits for the share holders' was the only guiding principle of the corporate world, are slowly disappearing. Why is it that Bill Gates, the richest man in the world, is willing to part with a sizeable chunk of his money for charity?

As a leader, an engineer has to build his organization's culture which is its soul. It is the collective values of the individuals who form the organization. Each individual has beliefs which translate into personal values, which expressed collectively shape the organization culture. In living companies, values are clear and operationalised and form the base on which decisions are made. Values provide stability for employees, contribute to insight and direction when facing unpleasant decisions, provide the rudder for steering the organization to higher ethical conduct, respect and dignity for the individual and increase employee motivation – all of which jointly provide the 'competitive edge' to the organization. When employees share organizational values they feel greater loyalty and commitment to the organization and identify more strongly with it.

Jack Welch, the former Chief Executive Officer –CEO of General Electric, stated:

"The success of our company lies in the fact that (our) people understand (our) values. They joined the company knowing these were the values, and they have worked to implement them. This is our life. This is how we behave. If someone cheats in our company, they are thrown out the first time. Some may get second chance, but they don't get third. If they are not open, if they don't share ideas that's bad behaviour. We have translated values into operational behaviour."

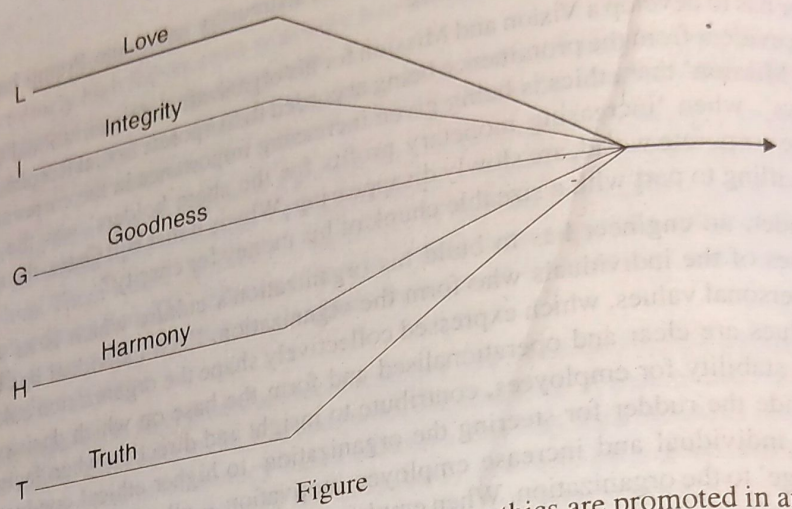
Great leaders use and communicate values. Values make the difference between winners and losers. A leader should build an organization that lasts by creating an environment of safety, trust, honesty, loyalty and stability, where workers trust management and each other, where management works in everyone's best interests, where employees are free to focus on their work and the organization cares more about them, where innovations and creativity abound. Fear complex should be eradicated at all costs since fear destroys truth. When people become fearful, they recognize and communicate dangers and not opportunities.

Trust is the foundation of any organization and creating and maintaining that trust is the responsibility of a leader. The founder of Matsushita Electric states:

"I am the soul of this company. It is through me that our organisation's values pass. The statements of the organization vision, mission and policies – however numerous, well crafted and eloquently articulated are futile if the leader's actions and behaviour are inconsistent with these statements. Action speaks louder than words, what the leader does and values set the ethical tone and create the moral environment of the orgnisation."

In India we have had leaders like Swami Vivekananda, Sri Aurobindo, and Mahatma Gandhi who lived for higher values of life. One can learn a lot about leadership from their lives. In one of his articles, Subhash Sharma * proposes the concept of corporate VEDA, ie. Vision, Enlightenment, Devotion, and Action, of leadership.

The five human values which were valid in earlier times are equally valid today in the knowledge era. The diagram shows that the noble thoughts and the LIGHT from leaders should spread in all directions. This kind of moral leadership is needed in engineering. Engineers need not necessarily take up moral leadership only in their own organizations; but they can take up useful leadership roles in social services also.



Figure

An example from Tata Steel, given below, shows how ethics are promoted in an organization:

The month of July is celebrated as 'Hamara' ethics month in memory of J R D Tata. The object of this unique initiative is make all employees of the Steel Company, including those based in its far-flung raw material sources aware of the Tata Code of Conduct, the relevance of corporate governance and to adopt an ethical behavior at their work place. The campaign is even more significant today, as many corporate houses in the recent past have failed to maintain ethical behaviour in their business dealings and have lost their esteem and respect as honest, fair and transparent business houses.

The campaign has been called 'Hamara'' to create a feeling of belonging and ownership among all individual employee and generate team feeling across the company. Numerous activities were undertaken during this month. Some of them are - hosting of Tata Code of Conduct on the e-Procurement site on the company's Intranet, organising awareness talks on Business Ethics, quiz rounds, and skits on ethics the various departments and locations of the company. Invariably, there is overwhelming response and employees participate in the campaign with great enthusiasm.

Competitions are held during the month for creating slogans and suggestions. Such events are meant to constantly remind everybody to conduct their business in the most ethical way despite various adverse conditions prevailing all around.

Engineer as a consultant

Consulting engineers usually practice as independents. They are compensated by fees for the services they render, not by salaries from their employees. Because of this, they tend to have greater freedom to make decisions about the projects they undertake. A consulting engineer will face disputes relating to advertising, competitive bidding, contingency fees and giving technical opinions in disputes.

The proposed Engineers Bill and codes of conduct highlight the role and conduct of consultant engineers. (Please see the last chapter for details) As a consultant one should not release misleading advertisements or endorse false claims of a product. As a bidder, the engineer should not encourage cartel formation in submitting bids. (*When your client makes a false claim for insurance, what should you as a consultant do?*)

*Subhash Sharma, Towards Corporate VEDA : Indian Ethos and Corporate Development, Journal of Human Values, 9(2),pp.163-171

The LIGHT from leader should spread in all directions

An institute in Hyderabad training students in computer programming applied for ISO Certification to a multinational agency. The certifying agency appointed a consultant to carry out the quality audit. Before interacting with the consultant, the institute checked with the certification agency whether he was from a competing company since their area of activity was new and very few consultants were available. The firm then revealed their internal procedures and confidential information to the consultant. They still had doubt about the consultant and so decided to investigate further. It was discovered that the consultant was indeed from a competing company. He had concealed this information from the certification agency. The firm took up the matter with them. The laws in India on competitive information are not strict. What could the institute do? All that they could do was to get a written assurance from the certification agency that they would keep the information secret!!

The engineer as a consultant has duties and responsibilities and a role to play. He should, if possible avoid, working for competing companies. In case he does, he should not use confidential information of one company for the other company. He has to be very careful about what he says and does.

Engineers as expert witn3esses and advisers

Engineers at times provide expert testimony in adversarial contexts. The focus may be on past or future. Past may be in the form of causes of an accident, malfunctions etc. or may be about technology for future. Should they become hired guns or should they function as impartial seekers and communicators of truth ?

Between being a hired gun and being a disinterested observer lie a range of forms of advocacy that are open to abuse. The plaintiff or the defendant in civil or criminal cases may hire an engineer to appear as an expert witness. Some engineers may come as expert witnesses while some others may be appearing as specialists in forensic engineering. Forensic engineering means the application of engineering skills and knowledge in criminal investigations to aid judicial system. They may act as witnesses in the cases concerning defective products, personal injury, damage to properties, traffic accidents and air crashes. Their evidence is considered seriously while awarding compensatory damages, compensation for loss of property or violation of rights.

Engineers are hired by lawyers to serve the interest of their clients. When hired, engineers have a responsibility of confidentiality and act honestly. He may be hired as an eyewitness or an expert witness. As an eyewitness, engineer has to give evidence in the court about what has been actually seen. There is little freedom whereas as an expert witness, he has larger latitude of opinion in the area of his expertise and reporting standards. Although lawyers are supposed to be hiring engineers and paying for their services to unearth the truth and not for giving just supporting evidence favourable to the lawyer's clients, there are many instances the opposite is the case. Let us understand them so that engineers can avoid and protect themselves against them.

Abuses

1.Hired Guns:

When engineers are hired by lawyers to help them to establish the facts in a way favourable to their clients, they are called 'hired guns'. The objective is to get a favourable report. As a hired gun, an engineer may have to stretch the standards of honesty. *For example*: a brand new heating rod gives an electric shock to a user. He is hurt and files a case against the manufacturer. An expert engineer may be called upon to certify that there was no defect in the product. He is expected to examine the rod and give his unbiased opinion; but instead he certifies that there was no manufacturing defect without subjecting the rod to critical examination, and suggests that the consumer would have used it wrongly. Since the manufacturer has hired him, he gives a favourable report. Is this right? He is

Engineer as a consultant must avoid working for competing companies

forced to give a false report since he is a hired gun. This is one kind of abuse of his position as an engineering expert.

2. Financial Biases:

Being paid by one side can create a financial bias. This will influence one's investigation and testimony. The bias will be all the more when the fees are paid only after the case is won. These fees are permitted by law but may lead to bias and hence could be unethical. In some case forensic engineers who act as expert witnesses will always support the lawyer who hired them. Some of these engineers make their living only by serving as expert witnesses.

3. Ego Biases:

Engineers could get influenced by their own perception and ignore other aspects of the case. He would look at the dispute only from his own side. The other side is regarded as guilty without examination. His egoistical stance could greatly influence the opinion given by him. Engineer has to guard himself against this type of bias.

4. Sympathy Biases:

An Engineer feels sympathetic towards a particular party and identifies himself with that party's situation. This is human nature. This bias can upset disinterested investigation of the facts.

To overcome these influences the engineers while serving as expert witnesses, must take efforts to maintain their integrity. (In a particular case, a professional engineer swore an affidavit in support of a lawsuit. He was not a party to the lawsuit. It was alleged and admitted that the affidavit contained statements the professional engineer knew or ought to have known were false and that would mislead the court. The submission of the affidavit was not within the practice of professional engineering and the conduct was regarded as disgraceful, dishonorable and unprofessional. Hence it was regarded as misconduct.

Engineer as an adviser in planning and policy making:

Expert advice may be called for in a new technology. They may be asked to forecast the usages and users of the technology. In such cases, engineers have to take precautions not to get biased by advocates of a particular view. He may be asked to make a study and evaluate the safety of the technology. The cost benefit aspects would have to be examined. The feasibility has to be looked at from market side as well as from technical aide. They are paid fees for technical studies. They have to be candid in these situations since often public at large are involved and the impact of wrong decisions would be on the public.

As an adviser there are conflicting responsibilities to their clients and also to the general public. To face such conflicting situations, there are some normative models that could be used. .

Value-Neutral Analysis: This model insists that engineers should be impartial. He must avoid any bias and favoritism. Their role is to identify all options and analyse the factual implication of each options. They have to make cost – benefit analyses. They should remain neutral.

Value-Guided Advocates: when they are advocates, they should remain honest and independent in their opinions. They have to consider the responsibility to the public paramount and be honest on all technical facts.

Important requirements for an adviser are virtues like, honesty, competence, diligence and loyalty.

Engineer as an entrepreneur :

An engineer may decide to start his own enterprise instead of working for somebody; he may

Engineer must maintain integrity

decide to work on his own. Since he is basically a technocrat, he should not be carried away by the technology but acquire managerial skills. He has to become a team player. When he is selecting his line of business, he has to look at its impact on society. When choosing the location for his firm, he has to keep in mind environmental issues. *For example.* if he is setting up a chemical factory, he has to invest in pollution control;. treat the water and air, which are let out from the facility. He should avoid selecting products that would have harmful effects. As an entrepreneur, he has responsibilities towards his employees. He must try to create an ethical climate. It is his responsibility to build trust and relationship amongst his people. He needs to pay taxes and duties as mandated by law.

Role of professional and regulatory bodies

An Engineer plays a significant role as a member of regulatory bodies, professional bodies like the Institution of Engineers, Computer Society of India, and most importantly as a citizen. He has immense responsibilities as a citizen and he is expected to play a positive role in contributing to the development of the country. Engineers may take up jobs in the Government or occupy positions in regulatory bodies. As a member of such bodies he would be responsible for framing appropriate laws and regulations.

The aim of an Engineers body should not be confined to regulating the behaviour of engineer members as per the Engineers' Act, but should also extend to the actions and conduct of engineers outside the practice of professional engineering. They must curb ***incompetence and, professional misconduct*** and enforce a strong ***code of ethics.***

A member must be found ***incompetent*** if he or she displays a lack of knowledge, skills or poor judgment or disregard for the welfare of the public in discharging professional responsibilities. The responsibilities of a professional engineer go beyond acts within the practice of engineering profession. ***Professional misconduct*** is behaviour relevant to the practice of engineering that would be regarded as disgraceful, dishonorable or unprofessional by the engineering profession. At times an engineer may commit fraud or breach of trust not as an engineer, and he could be found guilty of a criminal offence. This is an act of misconduct. Professional engineers are accountable to the public and must be seen to be trustworthy. If a professional engineer has demonstrated untrustworthy behaviour to an extent that it resulted in a criminal conviction, it is reasonable to suggest that he be charged with professional misconduct.

An engineer failed to obey court orders to pay monies owed to another engineer for services rendered by the latter. The former was found to guilty of professional misconduct because the circumstances pertained to an engineering relationship. They were relevant to the practice of professional engineering and failure to obey court orders was both dishonorable and unprofessional. Violation of ***Code of ethics*** is regarded as misconduct and unprofessional. Even if an unethical situation is not covered by the code of ethics, it might still be ruled professional misconduct.

A number of professional engineers are involved in pre-purchase home inspection for residential homebuyers. There are also many non- engineers offering these services. However, engineer offering such services often use the fact of their professional engineering qualification as an indication of superior qualification for such work and to gain competitive marketing advantage over the non-engineers offering the same service. In such circumstances, it is fair to suggest that the pre-purchase home inspection is relevant to the practice of professional engineering. Therefore a professional engineer providing such services could face disciplinary action if the conduct relating to those services were determined to be disgraceful, dishonorable or unprofessional.

As it is company has to deal with so many disclosure norms under the various provisions of the company law. The cost of compliance worries the Indian companies. Indian Credit Rating Agency (ICRA) has started the concept of corporate governance ratings (CGR). The key variables in ICRA's rating methodology for corporate governance include shareholding structure, governance structure

and management process, board structure and process, stakeholders relationship, transparency and disclosure and financial discipline.

ICRA conducted a survey of 35 leading institutional investors and large brokerage houses in 2003 to understand the market mood. As per the survey, an overwhelming majority felt that corporate governance would play a major role in making the capital market safer place for investors. From the investor's point of view integrity of accounting statements and stress on ethical behaviour were identified as the key objectives of good governance. However, the presence of a strong board of directors ,a major focus of corporate governance in most countries featured somewhat lower in the respondents' list of priorities. Over 85% of respondents felt that corporate governance is as important as quantifiable factors such as likely growth in earnings, from the point of view of investment decision.

It is a fact that well governed corporate entities are less likely to indulge in malpractice and are more likely to protect the interests of minority shareholders.

The Corporate Governance Rating (CGR) should be made voluntary or recommendatory and not mandatory in nature. The corporate sector has the fear that CGR will be made mandatory. Companies such as ITC, Wipro, Godrej Consumer Products, PNB Gilts, ESSAP Ltd and Infosys Technologies Ltd have gone ahead with ICRA rating though all have not gone for CGR. The cost of compliance to CGR will improve the cost of capital. Investors are willing to pay a premium for companies that have good corporate governance.

ROLE OF MEDIA

Media can supplement the efforts of mandatory regulations of norms of ethics and play a major role. Media have dual responsibilities. Instances of unethical behaviour should be given wide publicity. The culprits are afraid of media. On TV we see many people covering their face with cloth since they do not want to be identified. But before exposing the culprit investigative research should be done and cross-checked.

Media can also help in mobilizing opinions in society. It can influence decision makers. Press and TV are powerful media which can be used as a tool to bring about awareness about issues. If necessary engineers can also develop appropriate technology for different situations.

Thanks to Mr. Sam Pitroda who was responsible to bring low cost technology for Subscriber Trunk Dialing STD. The communication scenarios changed radically with STD. Every small village has STD. Prof. Jhunjunwalla of IIT Chennai has formed a center which have developed a low cost appropriate technology for rural communication. This has a wider reach.

ROLE OF CIVIL SOCIETY

The issue is how you can involve society in the crusade for ethics. Man is a social animal. He/she wants to operate within the societal norms. Earlier in Chapter I on ethics and environment we discussed the role of engineer as a citizen of India. We have seen how community coming together in the form of co-operatives has been used as successful business models.

Non Government Organisations (NGOs) can play an important role in promoting ethics. In Chapter VIII, we will read about the award given by the Rotary Club to Orchid Pharmaceuticals for responsible corporate behaviour vis-à-vis environment. Every year the Confederation of Industries (CII) presents Safety, Health and Environment-'SHE' awards for companies implementing measures to promote safety, health and environmental protection. The aim of the award is to recognize, motivate and facilitate corporates to adopt innovative practices.

Federation of Indian Chamber of Commerce and Industry (FICCI) has a Brand Protection Committee to address the issue of counterfeiting as an industry iossue rather than as a company issue.

Society can act in crusade of ethics

It is estimated that every year counterfeit brands result in Rs. 2,500 crores loss to companies and Rs. 900 crores loss to the Government revenues. The menace is more in Fast Moving Consumer Goods (FMCG). Textiles, Automobile ancillaries and pharmaceuticals. FICCI addresses the issue of counterfeit through a four-fold strategy. 1. Measuring and publicizing negative economic impact. 2. Open communication channels between the stakeholder to generate awareness and stimulate action. 3. Take action against the offenders and 4. Advocate more effective enforcement of existing laws and regulations.

FICCI organized a high visibility destruction in Delhi of the counterfeit products worth 10 crores. The committee has lobbied with the State and Union Government for better enforcement of IPR laws, which led to the creation of IPR cells in Maharashtra and Madhya Pradesh.

As a citizen it is the responsibility of engineer to participate in these social organization and contribute to the benefit of the society at large. They can take up issues of industrial pollution, automobile safety and disposal of wastes. Engineers can offer voluntary services to solve the problems of society.

CASE 1

Mr.Anil Manibhai Naik joined L & T as a junior engineer and rose to be the first full-time executive chairman in 15 years. He is the first professional to rise from the ranks. Anil was born in a family of teachers. His father was a Gandhian.After completing his education, he joined Nestler Boiler at Byculla in Mumbai. Within a year he was put in charge of the boiler shop, with nearly 350 people working under him. He took up a job in L & T as an Assistant Engineer in the planning department. During the interview, the General Manager asked him "what would you want to become in the company?" The reply was prompt: "Who knows, time will tell."

After 6 months he was given a supervisory role and more and more responsibilities came his way. He succeeded in disciplining the workers at Powai. Anil acted tough with those who refused to fall in line. At the same time, he understood their problems. His toughness ensured higher efficiency and productivity. Anil is a simple man, at heart and in life. The strict vegetarian loves the food prepared by his wife Geeta. Strange for a top-notch executive, he is not keen on dining in five-star hotels. He donated large sum of money to a school in Gujarat. He unwinds by watching Hindi movies and is a great fan of Amitabh Bachchan. He loves volleyball and cricket but mostly plays badminton. He does yoga regularly.

Naik's formula for success as he says is ***Observe, Learn, Think, Introspect and Correct***. He believes that his greatest strength is in making relationships which last. He learnt consistently. The end of the day is spent in introspection about what was done during the day. He said " My passion for relationships and dedication for work did the trick". He benchmarked the company against global standards. It made an aggressive entry into international markets. It started exporting to developed nations like the US and the UK. Anil achieved success in defence and nuclear sectors. Anil decided to concentrate only on core engineering and technology businesses. Accordingly, the cement business was demerged and it became the largest demerger in the history of corporate India. He wants to make L & T an Indian Multinational and fight other multinationals in India and abroad with skill and technology. The Week described him as a ***Gandhian Engineer***.

Questions for discussions :

1. What are the different roles Mr. Naik has played?
2. Identify the virtues that are required to be ethical.

As a citizen, engineer is responsible to participate in social organisation

CASE 2

Product Design

Normally the time taken in automobile industry from the drawing board to the showroom is two and a half years. An automobile company had developed a new design for which they wanted to crash the lead-time to two years. The new model of automobile had to withstand an impact at 20 mph from the rear side. The safety standard was increased to 30 mph. This was done to reduce possibility of fire in the event of a collision. There should be no fuel leak with an impact at 30 mph.

The prototypes failed at impact speed of 20 mph. The crash test showed ruptured gas tank and dangerous leaks. After the test there was modification done of the rubber bladder in the gas tank and a piece of steel was inserted between the tank and the rear bumper. Even then the vehicle represented a serious fire hazard when struck from the rear, even in low speed collisions.

The Company had to decide whether to take the risk and introduce the product and meet the time schedule at the risk of consumer safety or they should delay the project and redesign the fuel tank to make it safer.

The losses which included the cost of medical charges, property damages, insurance costs, legal costs, pain and suffering, cost of funeral in the event of death, etc were estimated Rs.2, 00,000 per accident. Benefits in terms of savings if the accidents were avoided were estimated at Rs. 5,00,00,000. The costs of the suggested safety improvements worked out to Rs. 10,00,00,000.

Question for discussion :

Assume you are the Managing Director of the Company; what decision will you take and why?

(Hint: Use the concepts discussed in Chapter IV.)

CASE 3

Who says honesty doesn't pay?

No dealings in black money. No payment of bribes. Strict adherence to rules and regulations. These are some of the principles that the Chennai based corporate group called Alacrity, a leading name in the business of housing, has unflinchingly adhered to. This account by the founder of the group which Central Vigilance Commissioner N Vittal has termed 'incredible', illustrates that value-based management does absolutely no damage to the profits of a business, that economic growth and social consciousness are not mutually exclusive.

Amol Karnad is the Founder and Chairman of The Alacrity Group of Companies, Chennai, which consists of Alacrity Foundations (P) Ltd., Alacrity Housing Limited and Alacrity Electronics Limited. These are excerpts from the Eighth Shri B V Narayana Reddy Memorial Lecture delivered at the Indian Institute of World Culture, Bangalore.

The Alacrity experience

Alacrity Foundations was launched in 1978 largely as an expression of my own search for an integrated identity in a complex society through the medium of business. Some friends and family members joined the new venture. I recognised that my quality of life was inextricably tied up with the quality of life of the society I lived in and unless the two were harmonised, I would have to live in an eternal state of conflict. Given this objective and given the fact that I was not inclined to go the way of society, I had no option but to think in terms of trying to change society to come my way. My way was simply the sensitive process of unfolding the human being, manager and leader within myself, sharing this experience with my colleagues so that they too could similarly unfold themselves and translating the power thus generated into a successful institutional strategy. To discourage any distraction from this central purpose, I made Alacrity Foundations a private limited company to be fully

owned by its employees in proportion to their seniority in the organisational hierarchy. Writing in the inaugural issue of our house journal, Genesis, I had described those early days in the following words: "We had little money, no `connections', not even `contacts'. But we had what mattered: a strong commitment to values and an abiding confidence in our ability to succeed. Steadfast in our mission, we made Alacrity our family, our religion and our community."

The active practice of ethical leadership meant that we had to remove the dividing line between personal life and professional life and be open, predictable and accountable with one another first and then behave similarly with our constituents outside Alacrity. I decided that this need would be best served if we not only worked together but also lived together, which prompted Alacrity's first apartment construction.

This perspective and the related optimism supported, of course, by the dedicated efforts of my colleagues, saw our first project being delivered in record time. As the quality of our flats and especially our prices got wider notice, more opportunities came our way not only from property owners who were happy to be provided with the option of not dealing in black and not losing sleep and hair in the bargain, but also from customers who responded warmly to our advertisements that said: "When you are investing for a lifetime, you need a builder you can trust." Encouraged by these opportunities, we decided to formally enter the field of urban housing and formulated our long-term strategy for this purpose. Explaining the strategy at the First Annual General Meeting of the shareholders of Alacrity Housing Limited, I had said: "Housing is a universal need: in other words, it is a need that no popularly elected government can afford to ignore or fail to support. That makes legislation on housing quite predictable, even if it is not immediately enabling, no matter which party be in power. By following a policy of strict adherence to laws and regulations with total avoidance of both dealing in black money and paying bribes to get sanctions or approvals, we have established a workable formula that cannot lose under any condition. The only risk involved is that an unwittingly misguided administrator or bureaucrat may unfairly delay or deny a sanction occasionally. When that happens we have a cast iron case which has every reason to be supported by the judiciary. Besides, should a representative of the government choose to get involved for whatever reason, not only would it make good copy for the press, but it would also encourage the political opposition to raise in the Assembly the issue of an honest builder being unnecessarily harassed. Thus our risks in a notorious area of conflict would be minimised, which only proves that the institutional cross-checks and balances provided for in our Constitution have indeed been designed to ensure that honesty does pay!"

With a reputation built around honesty, we readily attract customers who are naturally conscious of securing their investment of a life-time with a builder they can trust. Recognising that it is the responsibility of entrepreneurs to absorb risk, as far as possible, and not expose security-conscious customers to risk, we offer a fixed price and underwrite all escalations thereafter, and also compensate by way of liquidated damages for any delay in the delivery of a project, even if the delay is on account of factors beyond our control. The validity of these considerate policies has found concrete endorsement in the findings of a recent market survey carried out by an independent agency, which reported that when respondents were asked to prioritise the builders preferred by them, over 60 per cent had named only Alacrity. Thus even amidst the rough and tumble of the marketplace, there has been striking confirmation of the old adage, 'Honesty begets honesty.' And what is more, the Alacrity record over a decade proves that economic growth and social consciousness are not mutually exclusive.

Today, the Alacrity brand carries as much value in government departments as elsewhere in the marketplace. We have thus hopefully demonstrated that our public departments are only as corrupt, as ineffective and as inefficient as the rest of us. If dealing with the government departments in an ethical manner is considered one end of the ethical business spectrum, the care and consideration

shown to the less privileged and the underdogs may be seen as the other end: A migrant contract labour force which today is nearly 2000-strong has been offered the opportunity to settle down by ensuring regular employment and fair wages, membership of the company's provident fund trust as also medical insurance and other welfare support to the workers and their families.

In the past, whenever I had shared the human dimension of the Alacrity experience, I have been invariably asked if there is not a price to pay in terms of reduced profits or even losses. We have needed to balance it, of course, with superior performance in the conventional business functions. And I must say here that we do have a team of deeply committed people in planning, designing, development and implementation. But to understand the economic risk better, I have to take you back to my own early insights into business uncertainty. I had realised that the very fact of business being risky and uncertain establishes that there is no formula to guarantee profit all the time. Therefore, to enter business without adequate psychological preparation to deal with a loss situation was surely asking for trouble either in terms of being under pressure to misreport results or simply going under. So long as we were not able to raise our volumes to an optimal level, we had to provide for losses. But with a clear understanding of the principle of venture capital, we could justify these losses as the development cost of establishing an ethical business. Later, when we decided to go public with Alacrity Housing Limited, to increase our equity base, promising fair returns to the shareholder, sections of the popular press, drawing attention to the accumulated loss, called us scamsters and frauds. However, when we addressed a meeting of the Tamil Nadu Investors' Association, we were pleasantly surprised at the overwhelmingly favourable reception we got. Not only was the hall packed unprecedentedly but the president of the association also chose the occasion to harmonise his own position with ours. "I spoke to the association's auditor," he said, "and asked him about the loss. The auditor, who is not a regular investor himself, told me that when you consider investing in Alacrity, it has to be not on the basis of profit or loss but for the cause, and he had himself decided to invest. I have therefore decided to depart from my usual discipline of not speaking for or against any issue and ask you today to invest your mite in this honest company."

Has Alacrity's honesty finally paid off?

1. The Alacrity group's current annual turnover is in the region of Rs 100 crores.
2. Alacrity Housing Ltd is an overwhelming market leader among flat builders in the city of Chennai. It has paid steady dividends to its shareholders from the first full year of its operations. (Over 140 projects and 2500 flats have been completed and delivered in strict compliance with development regulations).
3. Alacrity Electronics Ltd which has a significant presence in the field of energy management with the well-established Krykard brand, has also opened its dividend record last year.
4. Alacrity Foundations Pvt Ltd has emerging businesses in the fields of primary health care and education.
5. Even more striking has been its social performance.

- Alacrity is in a position to say today that more than 30 per cent of flat building activity in Chennai is in strict accordance with Development Control Regulations and free from black money.
- Nearly 30 per cent of Alacrity's labour force has shown itself capable of sustained employment and earnings, thereby opening the prospect of an extended market for housing and growing opportunities for employment to cover the less privileged in our society.
- Alacrity's top managers mostly stay in Alacrity flats, travel by two-wheelers or public

transport and draw salaries much less than what they would command elsewhere in the market. In the process, they demonstrate that a moderate lifestyle does not stand in the way of excellence in business performance.

In conclusion, you might as well ask me: "Are you not making it all sound a little too smooth and rosy?" We have had our problems and crises. To meet such demanding standards over long years, Alacrity's managers have to sustain a level of self-discipline, commitment and self-renewal that can, at times, become quite stressful, especially at the higher levels. This would perhaps explain a recent development which tested the institutional strength: a group of senior employees departed from the Alacrity fold and we came through this test as well as ever. There is enough evidence to show that the institution has only grown wiser and stronger after every fresh crisis. And we continue to have the conviction that no wealth or power can be more valuable than our dignity, no loss of profit can be more critical than the loss of our credibility, no skills or qualifications can substitute the integrity of our character. As a result, the dangers and risks are turned into opportunities, and the failures become the proverbial stepping stones to success."

In 1990, Mr. Gopi a Non Resident Indian (NRI) settled in the US had invested in a flat of Alacrity looking at the ethics of the company. The company was the only promoter who received all the payments through cheque. The company was known for good quality construction and delivery of the flat promptly as per the due date. There were no price escalation clauses.

After over a decade he was looking at the financial results of Alacrity. The company was making financial losses. Many of their projects came to a halt. The company was failing to meet delivery schedule of flats. Mr. Gopi remembered reading the excerpts a few years back in a magazine. However, in recent years, the company has been incurring heavy losses. He was wondering what went wrong in Alacrity. He had heard that they had acquired land at high prices and the land prices had since then crashed. Was that the reason or was company paying the price for being ethical? Should he believe that the person who is ethical will have to suffer during a testing time, but in the long run ethical companies will survive and do well.

***Questions for discussion*:**

What alternatives does Alacrity have?
What should Alacrity do and why?

Short Questions :

1. What is a hired gun?
2. What are the various abuses that engineers faces as an expert witness?
3. What are the various normative models that engineers can use when faced with conflicts as an adviser?
4. What does forensic engineering mean?
5. Who is a consultant engineer?
6. What are contingency fees?
7. What are the changes involved in transition from engineer – manager – leader?
8. Who is an expert adviser? Give examples
9. Define professional misconduct
10. Define code of ethics
11. Define incompetence

Long Questions :

1. What is moral leadership?

2. Discuss the various roles played by engineers.
3. What are the functions as an engineer ?
4. Give examples of ethical issues faced by a consultant engineer.
5. How can a engineer manager/ leader create an ethical climate ?
6. Discuss the models of professional roles of an engineer?
7. Explain leadership qualities diagrammatically.

References:

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* Ibid pp. 32-33
* Subhash Sharma, Towards Corporate VEDA: Indian Ethos and Corporate Development, Journal of Human Values, 9 (2), pp. 163 - 171