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## *From Chairman's Desk*

Service quality and Moments of truth.

The concept of 'Moments of truth' was first propounded by the Scandinavian Airlines (SAS) CEO Mr. Carlzon in relation to instances of product or service quality experienced by a customer. These experiences lead him to form or change his impressions of the firm providing the product or service. Both technology as well as attitude has to be harnessed to ensure a positive experience to the customer. These instances which speak about the customer orientation of the service provider are called 'Moments of Truth'.

The moment of truth, if positive, can result into magnificent rewards to the service provider. Prof Randy Pausch, the late Professor of Carnegie Mellon University, in his book 'The Last Lecture' (#) narrates a beautiful story of his experience in Disney Land to make this point. When Randy was young, he had purchased a salt and pepper shaker as a surprise gift for his parents at one of the Disney Land souvenir shops during his trip there. The Shaker fell down and broke and Randy was in tears. When the Store man noticed, he smilingly provided him with a new shaker and even said that it was their fault because the original wrapping was not robust enough! On learning this, Randy's parents were amazed and they later made visits to Disneyland, an integral

part of their social volunteer work and organized numerous trips to Disneyland. Randy calculates that one customer service decision over a 10 dollars salt shaker earned Disneyland at least 100,000 dollars in added business.

Courteous behaviour and a smile are the first indicators of service quality. It is unfortunate, that one notices a general fall in these aspects in our daily life. Getting a smile and exchange of common courtesies are rare in our interactions with the public servant or auto/taxi driver so much so, that we do not realize, that these do not cost any money and will make life pleasant for all concerned and add to overall happiness. May be the concerned unions can pay some attention to this aspect!

Finally, can we not at individual levels too, exert a little more and provide happier moments of truth to each other!

[(# Carnegie Mellon University has a tradition where Professors are asked to deliver a hypothetical last lecture when they would consider their demise and express over what matters most to them. In case of Randy Pausch, he had been already diagnosed with pancreatic cancer and had been given only 3 to 6 months of life when he delivered his talk. The book based on his last lecture is a must read for the insights it provides into a creative and courageous life.]

## QUALITY MANAGEMENT IN HOSPITALS

By: Dr. Leena M. Karkhanis, Manoj Karkhanis

It is an undisputed fact that the 21<sup>st</sup> Century is marked by the age of Global Competition. The world is shrinking day by day and therefore, value for money has become the single most important factor, in almost all the economic activities. Whichever industry you are in, you are certainly operating in the Global Market, competing with the Multinational Companies and Brands.

Healthcare industry is no exception to this. In today's world, the customers (the Patients and their relatives) are in the center of all the health-promotion activities. Any healthcare organisation can **survive** as long as it can attract the patients to avail its services but can **grow** only if it has more and more **cured and satisfied patients**. **The surest way to keep your patients satisfied is to promise what you can deliver to them and to deliver what you have promised**. If a hospital consistently delivers the healthcare services of specified 'quality', it develops credibility in the people's mind, thereby having more satisfied Patients and their relatives, better market share, more profits and job satisfaction to the Doctors/Consultants, and all the Healthcare Providers. Although defining the term '**Quality**' is a bit relative and ambiguous, there is one common definition, which says that the **Quality is the degree to which the set of inherent characteristics of the products or services meet its buyer's or customer's expectations**.

In case of a Healthcare Organisation, when every product and service meets the Patient's requirements, the patient may develop a greater confidence in them. This is utmost important in the present situation, as the augmentation of Healthcare Service Providers into 'Not-For-Profit' Hospitals, small nursing homes-posing as Family Hospitals and the Corporate Hospitals is creating confusion in patients' mind about which service provider/s to rely upon. The competition amongst Healthcare Service Providers has also forced them to invest heavily in infrastructure and modern technology. Therefore, Healthcare Service Providers need a good management system that helps in continual improvement of the healthcare services, and emphasizes on error prevention as well as reduction of variation and organizational waste.

Since the Insurance Sector has opened up in India, it has made the privatized healthcare services affordable to almost everyone. Most of the Healthcare Service Providers are tying up with Insurance Providers and Third-Party Administrators (TPAs), for providing 'Cashless' Service. More than fifty percent of the urban population that seeks health care services does not pay for their own Medical Expenses. These expenses are either paid by their employers as the Medical Reimbursement or are paid by their Medical Insurance Providers. This also makes the people seeking health care services more demanding than ever before.

The experts in Healthcare Services have identified following areas in which the hospitals and healthcare organisations can achieve improvement:

- Hospital Acquired Infections & Patient Injuries:** Avoidable infections and injuries occur to the patients in the hospitals, increasing the risk of adverse outcome and escalated costs.
- Delays leading to higher cost:** Delays occur in many cases such as
  - o Pathological Sample collection, transport and reporting of results from the test laboratories leading to delay in diagnosis and treatment of the patients,
  - o Ordering and receiving Medical Consumables like Vital Medicines, Chemicals & Reagents, Oxygen Cylinders, Syringes, bio-fluid collection tubes and bulbs, Rubber Gloves, etc.,
  - o Repairs and Maintenance of Machines & Equipment like X-Ray Machines, Automated Machines used in Pathological Laboratory, Lighting and Air-Conditioning Equipment, Plumbing Fittings and Accessories, etc.

**Non-availability of Information:** Though in most of the hospitals and nursing homes, the processes are carried out to 'manage' patient care effectively, there is no adequate information available for the benefit of the actual service providers or in a few cases, to the decision makers. This information may be related to:

- o change in line of treatment suggested by the Consulting Doctor/s,
- o Diagnostic Tests advised by the consulting doctor/s,
- o employee related matters such as leaves and absenteeism, change in duties of medical, paramedical and ancillary staff,
- o Disinfection and Cleaning of various patient areas like wards, Operation Theatres, Consulting Rooms etc.
- o Patient related information such as payments received from the patients, replacement of medicines used for the patients etc.

All these issues mentioned above, may be addressed by implementing and documenting an effective Management System. These management systems may be based on a generic standard like the ISO 9001:2008 Standard or more specific standards like NABH Accreditation Standards for Hospitals and Health Care Organizations.

ISO 9000, a worldwide family of standards, is aimed primarily at achieving **customer satisfaction** by meeting **customer requirements** and applicable **regulatory requirements** through application of the **Quality Management System**, its **continual improvement** and the **prevention of nonconformities** at all stages. The **standard requirements** are **generic** and apply to all product or service categories and any industry sector, including Health Care Sector.

ISO 9001:2008 Standard offers the tried and tested model based on Plan-Do-Check-Act Approach in which the Health Care Providers have to identify, control and improve the Organizational Processes. ISO 9001:2008 Standards establishes the Requirements for Quality Management System Certification. A hospital needs to comply with all the requirements of the said standard for getting their Quality Management Systems certified to this standard. The said certification may be achieved by applying to any of the Certification Bodies, accredited by 'Quality Council of India's National Accreditation Board for Certification Bodies' or any other accreditation body that is a member of International Accreditation Forum (IAF).

On the other hand, NABH Accreditation Standard has identified Patient Centered Functions and Health Care Organization Centered Functions. Each of these functions includes FIVE Chapters each, i.e. total TEN Chapters which incorporate 100 Standards and 514 objective elements that are 'Critical' to any organization providing Health Care Services. Like ISO 9001:2008 Standard, even NABH Accreditation Standard is 'non-prescriptive' in nature. This means, the standard tells you through its 514 objective elements what needs to be done in order to achieve accreditation but does not prescribe a particular way for achieving various objective elements. Although NABH has published guide book to achieve the said

accreditation, various organizations have achieved this accreditation using their own methods for achieving the prescribed Objective Elements.

To sum up, it can be said that for achieving Certification as per ISO 9001:2008 Standard or NABH Accreditation, it is essential to identify critical functions & processes and problem areas that ensure **stringent checks on the overall quality** of the patient care. This also helps reduce the risk of escalating **costs** by **managing the resources** optimally. Critical processes in a Healthcare Organisation may include the Patient Centered Functions, including Initial Investigations, Handling the Emergencies, Diagnosis & Treatment, Discharge, etc. or Organization Centered Functions like Facilities Management and Safety, Responsibilities of Management, Continuous Quality Improvement, Human Resource Management, etc. Preparing the Standard Procedures for every critical process **makes the system person-independent**. Establishing **Healthcare Quality Policy** along with the measurable **Quality Objectives** certainly help a Hospital project a **positive image** about the health care services provided. Both, ISO 9001:2008 Certification and NABH Accreditation also provide much needed **international recognition** to the healthcare providers, helping them **compete better** in the global scenario.

In short, Patients want to know how much the Health Care professionals 'Care', before they care how much they 'know'!

### About the Authors :

Dr. Leena Karkhanis is an MD (Pathology) while Manoj Karkhanis is an MBA. Both are Management Consultants for Health Care Organizations at Multiknack Consultancy Services, Mumbai.

## THE STRATEGIC ROLE OF STATISTICS IN SIX SIGMA

by K.M.Date

### Introduction

By now, Six Sigma (SS) is being regarded by the world business community as the most potent business-tool to bring about major improvement in almost every sphere of business, viz., profitability, revenue-growth, cost reduction, cost avoidance, quality improvement, to name a few. Adoption of SS has not only resulted in positive impact on tangibles alone, but also on intangibles like customer satisfaction, organizational culture, branding, etc. Structurally, SS can be defined as: *An organized, systematic, and scientific approach to improve an existing process, or create a new one.* While the significance of the first two key-phrases is easy to understand and almost obvious, the phrase 'scientific' is not readily recognized as a significant one, and hence requires elaboration. This article attempts to describe the silent, but strategic role played by the phrase 'scientific' as applied to the SS methodology.

### The core of Six Sigma Deployment

SS deployment happens following a *project-by-project* approach, advocated by Dr Joseph M. Juran more than half a century ago. A project is defined as '*an investigation into a real or potential problem related to business or operations; resulting in/most likely to result in major business/operations issues; with a view to identify its root-cause(s), and developing and implementing remedies (actions and controls) so that the issues not only get addressed successfully, but do not crop up again*'.

**Define, Measure, Analyze, Improve, and Control (DMAIC)** is the six sigma methodology, to be practiced in the same order strictly, to not only improve the process under question, but to also ensure that it remains that way to sustain the gains.

**Define, Measure, Analyze, Design, and Verify/Validate (DMADV)** is the six sigma methodology to create a new process that is virtually defect-free.

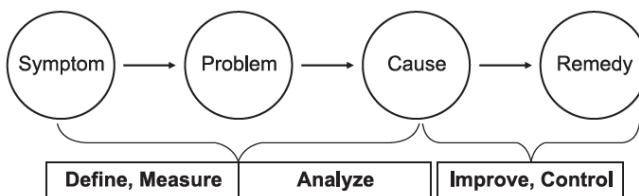
The scope of this article is confined to DMAIC only.

### **The Eternal conflict between 'organization' and 'science'!**

In the context of an enterprise, or for that matter any institution, the phrase 'organization' refers to 'people', as individuals and as a group of people, including the hierarchy and the attendant biases, opinions, etc. subjective traits, which may or may not represent fact. Add to this the inherent nature of human beings to influence, or get influenced, by virtue of the hierarchical position, experience, etc. of people. As against this, 'science' is defined as an objective inquiry into unearthing the facts associated with the matter being inquired. As is clear, the two sides will create some element of conflict, when they come together. **This conflict, if not addressed amicably, can jeopardize a six sigma project in more than one way, especially when the conflict spot is Analyze phase. This conflict in Analyze phase will result in one of the following two situations:**

1. Calling a non-root-cause as root-cause, and
2. Calling a root-cause as not-a-root-cause.

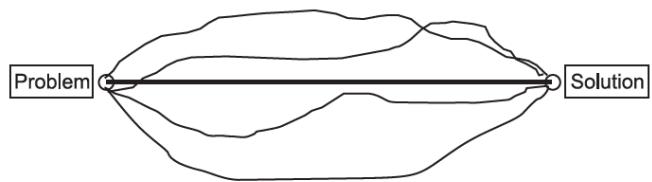
In either case, the effect of consequential action, whatever they may be, will range from problem remaining unresolved (waste of time, efforts, and resources spent on the problem with no gain + additional time, efforts, and resources required to freshly address the problem) to worsening of the problem and/or creation of a new problem that did not exist earlier, but got created due to action in wrong direction (waste of time, efforts, and resources with no gain + additional time, efforts, resources needed to freshly address the problem + time, efforts, and resources required to address the newly created problem that was not called for). As is evident, the cost of not following the scientific path is exorbitantly high!



### **How does it matter, whether the approach to doing something is scientific or not?**

Usually, to do a thing, there are more ways than one. This multiplicity of ways in which something can be done, increases non-linearly with increase in number of people involved in the 'doing'. In fact, because SS is an organized (involves number of people) approach, it is all the more necessary that it should be 'scientific', to avoid chaos. (remember 'number of people')? We all know that there are infinite numbers of ways in which two points can be joined. But only the straight line joining the two points is the shortest one. The analogy is equally relevant to the present context

as well. Let us see how. The two 'points' are 'the present problem' and 'solution to the problem'. Different opinions, coupled with hierarchical-bias that people have, give rise to many paths, each one of them being 'longer' path. The shortest path is the 'scientific' path. This is illustrated in the diagram given below.



The scientific-path is the 'shortest' (consumes time, efforts, resources that is a bare minimum, or absolute necessary.)

The non-scientific-path is 'longer' (consumes extra time, efforts, resources that is absolute necessary.)

### **In the context of a methodology, being Scientific is being Statistical**

As has been described above at length, the core of being scientific is, to value facts and facts alone. But, because facts may be (usually they are) hidden or invisible, there is no option but to begin with opinions. But here is a big hitch. Opinions also carry the weight of the hierarchy and experience of the person expressing the opinion, thus giving rise to a definite chance of completely masking the facts! This is dangerous. We all know that iron ore contains iron, and to separate iron from the iron ore, a process called blast-furnace is used. Just as iron ore contains iron, the numerical data from a process contains information about the process that generated the data. To separate information from data, we need to 'process' the data using statistical tools/methods/techniques. The last hitch remains, however! That is, bringing 'opinions' and 'numerical data' face to face! This becomes the biggest bottle-neck for variety of reasons. The main reason being, daring to take the hierarchy and experience, head-on. But then, we should not forget the exorbitant cost of regarding a mere opinion as fact. So, bringing 'opinion' closer to 'numerical data' path, is the crux. It is art as well as science! It is art because 'handling' a person, especially high in hierarchy and/or experience, to make him/her agree to collecting data requires skills in people-art. Bringing many such people to 'numerical data' mode is science because the only way to arrive at a consensus, if not full but at least a working-consensus, in the presence of difference of opinion is to use a near-objective scale.

### **The Final Word**

The above detailed explanation establishes the silent, but strategic, role of Statistics in Six Sigma. Also highlighted, is the heavy price that an enterprise has to pay, if the Six Sigma deployment leaders fail to recognize this strategic role of Statistics.

#### **About the Author :**

**Kanchan Date** – Quality Forum member and former head of Indian Statistical Institute, Pune regional Office. He is a trainer and consultant in SPC & Six Sigma.

## ACTIVITIES DAMAGING YOUR BUILDINGS

By N K Bhattacharyya

Maintenance is the economic process of preserving built assets. If maintenance is not done in time or discontinued, assets deteriorate beyond economical repair, lose its serviceability and life span gets reduced. Further, if you abuse and misuse your building in which you live in, it will exhibit early signs of distress and won't sustain itself to prevent premature collapse. Premature collapse of built assets affects national economy when acute shortage of shelters are affecting quality of life and living of millions throughout the country. Some of us carry on with our life with an apathetic attitude that collapse is not an everyday affair.

### **CONCRETE STRUCTURES**

Structural elements (Slabs, beams, columns, footing, in filled walls etc.,) are designed to impart strength, stiffness & stability within optimized limits of economy. Don't meddle or tamper with these to compromise with your safety. For any reason whatsoever (decoration, refurbishment, painting, coating etc.,) structural framework providing strength, stiffness, stability and safety to your building should not be fiddled with.

If any change, repair to damage, restoration of deterioration, rehabilitation consequent to natural calamities, retrofitting to update code provisions / revisions to zones of natural disasters is planned, a qualified structural engineer with right experience in the profession should be consulted. In general, the following guidelines should be adhered to:

- a) Never fiddle with the structure, misuse or abuse it by a chase cut, cutting a recess or a groove, drill a hole, make a cut for conduits, ducts, access way, etc., or chisel to reduce dimensional levels, fix brackets for unspecified loads beyond permissible limit (carrying capacity of structural element) or fix a vibratory machine on the structure. Even a nail driven at a wrong place (at places of high stress concentration) may weaken a structure and its connected enveloping members under normal loading conditions, and endanger for a collapse during cyclone or earthquake or any mechanical vibration. Nailing tamper integrity and redundancy which reduce life span of structural system.
- b) Never remove a filler masonry wall between RCC columns. It reduces the lateral rigidity of the structure making it vulnerable for collapse or severe damage to the building during cyclone or earthquake or any incidental heavy impact.
- c) Never construct a wall across a floor slab if it is not provided in the original design, enclose a balcony or create a load at the end of a cantilevered verandah, canopy, add a room at the terrace or eliminate a column. Such provisions change behavioral response of the main structure endangering its strength and stability and viability to damage for the

changes made in the loading system during service period of the building. Don't compromise safety. Your life is precious.

### **LEAKAGE & SEEPAGE**

A building becomes dilapidated because of leakage, seepage & dampness as properties of material components deteriorate with presence of persistent moisture content. High moisture within a building create unhygienic and unhealthy ambience for living. Water is essential for life and living, but damages built assets with its sustained presence in and around the structure. Prevent leakage, seepage or dampness in a building. Following of certain simple and basic principles can take care of it.

### **ROOF LEAKAGE:**

- a) Never allow storm water to stagnate over the roof. It not only creates seepage to the ceiling of the top floor but also create dampness down the enveloping external walls of the building.
- b) Ensure easy flow of roof water to the down take pipes without any obstructions. Remove debris if it accumulates.
- c) Inspect the roof before every monsoon, once during heavy monsoon and once thereafter. Ensure functioning of roof drainage system to prevent any stagnation of storm water and rigid fixity of down take pipes so that external wall does not get soaked with water seeping through pipe joints.
- d) If seepage appears in the ceiling of top floor, it indicates that roof water resistant treatment needs repair.
- e) Inspect twice, before or after monsoon and twice during dry period and ascertain leakage / dripping of water from roof top tank from any of the following sources :
  - i) Pipe inlet to tank
  - ii) Pipe outlet from tank
  - iii) Overflow pipe
  - iv) Structural joints
  - v) Permeable concrete floor & walls

### **ABUSE & MISUSE**

Concrete by its own characteristics develops cracks from the formation stage and also during its service period even if it is not exposed to surrounding atmospheric conditions. Never allow replacement of tiles, redoing of masonry or flooring work or any other repair work involving demolition to be carried out with hammer and chisel. Vibrations caused by hammering, transmitted through building material propagates these cracks beyond acceptable limits. In one hand enlarged cracks promotes leakage and seepage in the

building, on the other hand the weakened structure loses its serviceable life. Concrete structure becomes vulnerable to cyclone and earthquake for collapse or ir-repairable condition.

### **ROUTINE / PREVENTIVE MAINTENANCE**

- a) Leaching out of  $\text{Ca}(\text{OH})_2$  due to excess water in concrete mix or inadequate curing leads to development of micro porosity and interconnected channels in concrete. Concrete mass also loses its passivity resulting loss of protection to the embedded rebars. Harmful chemicals present in the atmosphere in ionic state make ingress inside concrete structures and corrode steel. Corrosion products of steel with its increased volume create bursting pressure and rupture concrete, damaging integrity of the concrete structural members and ultimately lead to collapse of building.
- b) Presence of moisture with oxygen in air at ambient temperature / exposure to ultraviolet rays of sun or chloride ions of saline atmosphere accelerates decay of most of the building materials. Permeation of water within constructed assets is detrimental to service life of the asset. Periodical service by way of external coating at regular intervals provides a building long service life protecting it from weathering effects.

### **GOOD LIVING PRACTICES**

#### **a) NAILING IN WALLS**

Hammering nail, done for convenience of home activities, interior decoration, aesthetic improvements, hanging of wall fittings, paintings, photographs etc., damage plaster, wall masonry with well-built finish of the surface and costliest paint.

#### **b) HAMMERING NAIL**

Hammering initiates cracks at places where concrete or masonry walls are weaker. Structure's load carrying capacity declines. Junction between concrete and other non-load bearing parts open up resulting moisture ingress and consequent leakages. People in developed countries drills (do not hammer) to fix attachments at predetermined locations, preplanned as a part of original construction at places of low stress intensity. Are they less knowledgeable?

#### **c) FLOORS**

Never pour water and broom it for cleaning. Mop it with wet cloth, otherwise your neighbour down stair will get seepage at the ceiling and you will get rising moisture above the skirting in the peripheral wall. Percolation of moisture through tile joints, edges at walls, concrete stairs, balcony slabs etc., with harmful dissolved ingredients in ionic state accelerates corrosion in RCC structure reducing life span of the building. No developed country permits it also.

#### **d) WASHING CLOTHES**

In spite of good quality washing powders or machines being available, many of us leave it to maids to spread wet clothes with water for alternate rinsing and thrashing or beating with wooden mallet on the floor. Tile joints loosen, bedding mortar cracks and seepage of water starts. If RCC slab below is a sunken one, you create a water reservoir and supply water to neighbour below. In western countries, wetting of floor is prohibited. Hardly you have an alternative to washing machine. Maids are beyond your reach.

#### **e) BATH ON FLOOR**

It is a luxury for some to sit on a stool and pour mugs of water from a bucket under the tap or to sit under a shower. Either our municipalities still supply enough water or we can hire tankers easily. Consequently, our neighbour below starts getting his extra share of water within a year or two from the ceiling. Today, bath cabins are popular in smaller bath rooms discharging sullage water directly out of walls through pipes. Floors remain dry. Stay dry to give your building a long life.

#### **f) INDISCRIMINATE CHISELING**

It is a common practice in the country to replace kitchen or bathroom wall or floor tiles by chiseling to renovate or go for better one, demolish existing masonry wall with chisel and hammer to reintroduce water supply pipe / outlet of WC / Nahani trap, remove fittings / fixtures from walls / concrete bases. Chiseling with a hammer with an intention to improve glamour and glitter of your room or repair of services leads to leakages through loosened / rusted joints of water pipes, tile joint, junction of floor and walls, seating and sealants around Nahani trap, WC fixed on floor finish or initiate or widen cracks in weakest points of masonry, concrete structural members and at cold joints / construction joints.

You can avoid all these by insisting on getting your bath / toilet room redesigned with modern technology.

### **CONCLUSION**

If you want to have a serviceable and sound life span of your building, attend to all trifles detail. Trifle makes perfection and perfection is no trifle.

#### **About the Author :**

**N K Bhattacharyya** – A retd. Chief Engineer of Min. of Defence with more than 40 years of multidisciplinary experience in Civil Engineering. Trainer of professionals in concrete & construction technology. Member of many professional bodies including Quality Forum.

## **INTERVIEW WITH PROF H. C. PATEL**

**Interviewed by P.H. Bhave**



Professor H C Patel is a well known name in the Academic and Quality profession. An M.Tech (1956) from IIT Kharagpur and Production management (1965) from Harvard Business School, Prof Patel worked in number of Institutions and finally headed the SBM Polytechnic from 1972 to 1988. He has been actively associated with Indian Institution of Industrial Engineering as well as Bombay Productivity Council. He is the founding member of NCQM (National Centre for Quality Management), Mumbai and continues to be associated with it as Joint Secretary.

Quality Forum interviewed Prof Patel on 3rd Nov 2011 to get his insights and candid opinions on various issues. Following are the excerpts from the interview.

**QF How did you develop an interest in Quality profession?**

HCP Shri D L Shah, Chairman, Perfect Machine Tools was the inspiration. He inducted me in 1983 in his core team for initiating Quality Movement to make "Made in India" quality happen. We studied industry practices and developed country studies. A book- Quality Management- was published. NCQM was established in 1985 with late Shri Ramakrishna Bajaj as founder president.

**QF You have been associated with NCQM almost from its inception for last 25 years! How do you look at this period?**

HCP That NCQM got established, it has survived as an NGO and has been contributing for promoting quality is most satisfying. I worked as executive director during 1988-1997. I was able to establish NCQM and contribute to Quality movement in India. NCQM now has adequate infrastructure facilities for office, conference and library.

**QF What is your vision for Quality in India?**

HCP I visualize India as a global leader and compete in many sectors. It has faced challenges from liberalization and globalization after 1990. Some sectors like cement, textiles, engineering, processed food, pharmaceuticals and automobiles have shown good results.

**QF You have a unique experience of being associated with Engineering education as well as with the professionals from Industry. How can the engineering education systems today, make an impact on quality in Engineering Industry?**

HCP As principal of Shri Bhagubhai Mafatlal Polytechnic during 1972-1988, I got opportunity to work under late Shri Arvind Mafatlal who was chairman of Governing Board of the Polytechnic. We practiced quality and were recognized amongst first five in India. SBMP was considered as creative and innovative Institute. We

introduced 4 year Sandwich training courses, credit system, post diploma courses and diversified courses – plastic engineering, chemical engineering -- first time in the state to meet industry needs. We involved industry professionals at many levels -- as faculty, as examiners and on various committees. We maintained norms and standards to run the institute. We developed faculty training / development programs. Our students were accepted by industry and were in demand. It was a very satisfying experience for me.

**QF How can the engineering education systems today, make an impact on quality in Engineering Industry?**

HCP Engineering education can improve if faculty is trained in Industry and can generate learning attitude in students. Involve students in project work and seminars. Create cost consciousness. Faculty must participate in professional societies and associations to broaden their outlook and knowledge.

**QF Are you satisfied with the current quality of Education in general and Engineering education in particular in Mumbai? What can be done to improve it?**

HCP I am not satisfied with current education system. Students want certificates only. Students perform very poorly at recruitment interviews. Their fundamentals are weak. Institutes do not maintain adequate infrastructure and do not have adequate faculty. Too much commercialization has taken place. Values are missing. Of course, some colleges do give better output.

NAAC and NBA accreditation has helped colleges to do self assessment. Standards can be improved by committed management and grant of autonomy. As mentioned earlier, customers must be involved and faculty must be trained to deliver right knowledge and skills.

**QF What is your message to the young generation?**

HCP Students must learn to challenge status quo and develop interest in work. They must study for career orientation and not just to get degree somehow. They must develop learning attitude and apply gained knowledge and skills.

**QF It has been found to be very difficult by almost all voluntary organizations to attract professionals' contributions. Your views?**

HCP A typical work life is nearly 40 years till retirement. One will be outdated if we don't keep updated with fast growing technology. Only professional activities can help. Professional institutions and associations should create awareness on need for updating and

play this role more effectively. The members in turn must also contribute to the profession. We must develop our profession and get recognition. Members of ASTME, a professional society (now SME), were told that a member should give at least one day per month to work for SME. Combined experience of all members is to be harnessed through books, seminars and courses in the profession.

### About Prof. H.C. Patel

Prof. Patel graduated in Mechanical & Electrical Engineering from Pune University in 1951, obtained M. Tech. from I.I.T., Kharagpur in 1956 and studied Production Management at Harvard Business School under USAID grant during 1964-1965. After working with Bombay State Road Transport Corporation (1952-1955) and Mysore Commercial Union, Bangalore (1956-1959), Prof Patel joined the academia first as Asst. Prof. in Mechanical Engineering, V.J.T.I., Bombay (1959-1961) and rose to become the Professor & its Head of Mech. Eng. Dept. (1961-to1972). Subsequently, he joined

Shri Bhagubhai Mafatlal Polytechnic as the Principal & Secretary (1972-1988) and later became Advisor (1988-1991). As the Executive Director, Prof Patel founded the National Centre for Quality Management (NCQM), Mumbai and had managed its affairs from 1991 to 1997. He has travelled abroad many times as delegate and for receipt of awards. He was awarded Ramaswamy Cup in 1976 for outstanding contribution to Industrial Engineering Profession and was presented 'Lilian Gilbreth Award' 95-96 by Indian Institution of Industrial Engineering. In his checkered career, he worked inter-alia as Chairman, Board of Examination [1975-1982], as Hon. Secretary [1983-1984], and as Chairman, National Council [1985] of the Indian Institution of Industrial Engineering. He was President, Bombay Productivity Council during 1987-1989, and was the Hon. Secretary, NCQM, Mumbai (2002-2010). He is a Qualified Lead Assessor for ISO 9001 QMS, has conducted many training programmes on ISO 9001 awareness and on Internal Quality Audit and has assisted over 45 organizations for achieving ISO 9001 Certification.

## TAO IN YOUR WORK WORLD

"Tao" means the way: the way it is; a child grows up to be an old man; that is the way it is; it is "tao". That is our daily world. The work world has its own "Tao". Here are some examples:

- ★ The lift leaves and goes up as you approach, when you are late for office.
- ★ The file you are looking for will not be there. If it is there, the letter will be missing.
- ★ If you are looking for the June 1992 report, the file will have all reports upto May 1992 and from July 1992 onwards till the latest.
- ★ The deal you have clinched so cleverly will be with the competition the next day.
- ★ The paper clip always joins the right letter to the wrong enclosure.
- ★ The despatch system works the most efficient when you rush to intercept the stinker you wrote to the client. The letter will have left your office.
- ★ The smart candidate you interviewed yesterday and whom you decided to hire will call today, if ever, to tell you, "No, thanks".
- ★ Whether or not the meeting takes place depends on whether you are prepared for it or not; if you are not, the meeting will take place.
- ★ If you are calling and if you get the line immediately, the person will not be there.
- ★ The raise and promotion are bigger and faster for the other guy.

That is "Tao" in your work life. When that happens, what do you do? "Relax" and be prepared to face more "Tao":

- ★ The length of the queue is in inverse proportion to the time you have to stand in one.
- ★ You discover that you are in the wrong queue, only when you reach the counter.
- ★ You always reach the counter at the lunch time or the closing time.
- ★ When you reach the counter in time, the tickets are over.
- ★ When you get the tickets, they are the wrong ones and therefore you have to go to the refund counter where you encounter the first two situations stated above.
- ★ When there are no obstacles and the queue moves quickly and you buy the right ticket, the teller has no change.
- ★ The teller has always his say.
- ★ The other queue always moves faster.
- ★ When you switch to the other queue, the original queue gathers momentum.
- ★ When you are finally in the second queue, the guy in the front develops a complicated problem which takes 25 minutes to sort out.
- ★ When others jump queue, no one says anything; when you jump the queue hoots and jeers follow.
- ★ Everyone in the queue will want to borrow your pen; when you want a pen, no one will have one.
- ★ You are always caught napping, when they open an extra counter.

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