



QUALITY

Striving for Excellence

National Centre for Quality Management

Vol. V

May-June 2007

No. 2

President's Page

Facts, Facts and Facts



Perceptive Managements are deceptive. They are giving way to the fact-based ones. Measurable managements ensure sustainable performance. In the management of quality, significance of facts and data goes well beyond the dictionary meaning of statistical information.

Management of IT industry is a case in point. The industry breaths data. To effectively manage the continually changing software environment, when new technologies often compound the problem, focusing on data and management of measured facts is found imperative.

Fact-based management, rather than gut feel or whimsical approach, needs to be encouraged at every stage. Even in those cases where decisions are

taken without quantification, appropriate facts should get collected the soonest, to validate the decision already taken. Fact-based decision-making is a powerful tool and is always more reliable, provided facts are facts.

While facts and figures can be powerful, they can also be sometimes a bore. Numbers by themselves don't make a story complete, and they can be dull. When you see them, use them appropriately and judiciously. Make them live. Incorporate facts and figures that are live and really interesting. People and events bring the facts alive.

"The main part of intellectual education is not the acquisition of facts, but is learning how to make facts live," according to Oliver Wendell Holmes, an American Judge. Medical practice is a classic example of how facts are made alive and effectively used.

Our next issue is on 'Mutually beneficial supplier relationship'

Factual approach to Decision Making

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While deliberating on facts, importance of segmentation cannot be overlooked. Studies have proven that the most supporting aids for top management are process differentiation, process development and innovation. While resorting to such segmentation, it is essential to give attention to fact-based logic. There have been several studies that have proven that fact-based segment management is an easier path towards enhancement in financial performance.

Management by facts requires a number of measurements that are derived from the organisation's needs and strategy, and should provide critical data and information about key processes and results. Performance measurements usually focus on input data, environmental data, processing data, cost data and output data and their measurement system.

Apart from the fact-based management related to operations, which many leading companies adopt, prosperous organisations are evolving internally consistent frameworks for measuring other key

dimensions, such as vision, mission, core values like integrity, humility, tolerance and responsibility, contribution to both long and short-term perspectives, and commitment to both knowledge and information systems.

No one doubts the importance of data. It is being widely accepted as a key resource for any successful operation. Quite often systems are created to throw up the required data whenever asked to do so.

The biggest problem of data management is that it can be manipulated and interpreted in a way that suits one's logic and even its conclusions. It is only a detailed and careful analysis of the data that would bring out the errors. Experience has shown that even the most glaring errors can be wrapped under deep chests.

Deliberate attempts to twist data to suit one's convenience should be nipped in the bud. This tendency is far more serious, and should be squarely faced, often with the ruthlessness it deserves.

— Mahesh V. Gandhi



Congratulations

Harrington-Ishikawa Quality Professional Medal, 2007 awarded to Mr. Navin Shamji Dedhia, Chairman, International Committee, NCQM.

Mr. Navin S. Dedhia of San Jose, California, was selected for the Harrington-Ishikawa Quality Professional Medal, 2007. The award is given by the APQO (Asia Pacific Quality Organisation, www.apqo.org), a quality organisation domiciled in an Asia Pacific Region. The medal will be awarded at the APQO International Awards Dinner on Oct. 18, 2007 during the 13th Asia Pacific Quality Organisation International Conference in Shanghai, China.

The Harrington-Ishikawa medal is presented annually to a quality professional who has distinguished himself/herself as a person providing outstanding contribution to the promotion of quality methodologies in the Pacific region.

Mr. Dedhia is a Quality Consultant. He holds MBA, M.S. (EE) and B.E. (EE) degrees. He was elected Fellow of ASQ and is recipient of the ASQE, Jack Lancaster Medal and many testimonial awards. He has numerous publications and presentations to his credit, amongst which is — Quality From Many Perspectives, Part I and Part II (D. L. Shah Trust Publication, India). He served the ASQ Board of Directors as National Director, representing Division Affairs Council (DAC). He is an Academician of the International Academy for Quality (IAQ).

NCQM's Extension Centres are at Ajmer, Chennai, Gurgaon, Hyderabad, Kolkata, Navi Mumbai, Pune & Rajkot

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The opinions expressed in this newsletter are the opinions of the writers and do not necessarily reflect the official views of the National Centre for Quality Management.

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Learning organisation

N. C. Dutta[†]

Introduction :

The learning organisation is a natural evolution of the participatory management themes of the 1970s and recent emphasis on empowerment and self-managed work-teams. The term 'learning organisation' is being used for an integration of a set of ideas that have emerged from organisational research and practice over the past three or four decades. A learning organisation is not so much characterised by its flatter and less hierarchical and redesign of work, but by the transformation of the relationship of the organisation to the individual and increased capacity for adaptation and change.

Those who work in a learning organisation are 'fully awakened' people. They strive to reach their potential by sharing the vision of a worthy goal with team colleagues. They pursue a mental model of personal mastery, and their personal goals are in alignment with the mission of the organisation. Working in a learning organisation is seeing one's work as part of a whole, inter-relationships and processes that depend on each other. Consequently, awakened workers take risks in order to learn, and they seek enduring solutions to problems.

1. How it all came about :

There are five disciplines that Peter Senge (1990) has defined in his seminal book 'The Fifth Discipline : The Art and Practice of the Learning Organisation'. They are : **Personal Mastery, Mental Models, Team Learning, Shared Vision, and Systems Thinking**. These core disciplines are based on the belief in the ability of people and organisations to change and become more effective.

The idea of approaching them as five disciplines is of Peter Senge, but the theories are the work of

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some leading thinkers. Senge's contribution was to put the pieces together in a way that people can understand who they are.

Jay Forester of MIT led the team to build the first modern digital computer. He wrote many books on System Dynamics. However, they are too technical for general readers.

David Bohm was a Quantum Physicist and his ideas are the foundation of team learning and dialogue. Theories about Defensive Routines and Mental Models came from **Chris Argyris** of Harvard and **Don Schon** of MIT. They have been working on the Counterproductive Dynamics of groups of intelligent managers and identified why bright, talented, committed people are often much less effective collectively than they are individually.

Robert Fritz was an extraordinary talented musician and composer on whose work Personal Mastery is based, while the theories of Shared Vision came from **Charlie Kieffer**, the founder of Innovation Associates.

Hence, as Peter Senge said, "The book was supposed to be a collaborative venture, but one by one the others dropped out and I found myself standing alone on the playing field. It was a matter of going ahead alone or quitting." Thankfully Mr. Senge didn't quit.

2. What is a 'Learning Organisation' ?

'A learning organisation is a large body of *aligned* individuals whose members at *all* levels *spontaneously* learn and innovate in ways that promote the well-being and mission of the organisation'.

Key words :

Aligned : collective purpose to improve whole organisation.

All : every individual in the organisation, and

Spontaneous : innovations to occur anytime



⊕ anywhere without a mandate from management.

‘An organisation that discovers how to tap people’s commitment and capacity to learn at all levels of the organisation’.

‘An organisation committed to the continuous testing of experience and the transformation of experience into knowledge’.

3. Objectives of Learning Organisation :

To review and evaluate present practices, new products, services and processes for effective-ness, competitiveness and future survival of the organisation. The exercise of the five disciplines contributes to increased organisational effective-ness in carrying out its primary mission.

4. Types of learning :

There are more than one types of learning. A committee, led by Benjamin Bloom, identified three domains of learning activities what came to be known as Learning Domains or Bloom’s Taxonomy. Domains can be thought of as categories. They are :

1. *Cognitive* for *mental* skills (Knowledge),
2. *Affective* for *emotional* feelings (Attitude),
3. *Psychomotor* for *manual* or *physical* skills (Skills).

Often, this taxonomy of learning behaviours refers to as KAS, SKA, or KSA (Knowledge, Attitude, and Skills).

A brief discussion on these three types of learning will be appropriate to comprehend the nuances of a Learning Organisation.

4.1 Cognitive :

The cognitive domain involves development of knowledge and the intellectual skills. This consists of recall or recognition of specific facts, procedural patterns, and concepts that serve in the development of intellectual abilities and skills. There are *six major* abilities in this direction, as listed below in degrees of difficulties.

(i) Knowledge :

Recall of data.

Indicators : Defines, describes, identifies, matches, recognises, lists, etc.

(ii) Comprehension :

Understand the meaning, interpolation and interpretation of instructions and problems.

Indicators : Interprets, paraphrases, predicts, infers, translates, etc.

(iii) Application :

Applies what was learned in the class-room into situations in the workplace.

Indicators : Applies, changes, computes, constructs, demonstrates, discovers, etc.

(iv) Analysis :

Distinguishes between facts and inferences.

Indicators : Compares, contrasts, deconstructs, discriminates, relates, etc.

(v) Synthesis :

Put parts together to form a whole, with emphasis on creating a new meaning or structure.

Indicators : Categorises, combines, compiles, composes, creates, designs, etc.

(vi) Evaluation :

Make judgements about the value of ideas or materials.

Indicators : Appraises, compares, concludes, contrasts, criticises, describes, etc.

4.2 Affective :

This domain includes the manner in which we deal with things emotionally, such as values, appreciation, motivations, and attitudes. The *five major* abilities are listed below :

(i) Receiving phenomena :

Awareness, willingness to hear.

Indicators : Asks, chooses, follows, identifies names, points to, etc.

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(ii) **Responding to phenomena :**
Active participation on the part of the learners.

Indicators : Answers, assists, aids, conforms, greets, helps, etc.

(iii) **Internalising values :**
Has a value system that controls the behaviour of the learner.

Indicators : Discriminates, influences, listens, solves, verifies, and modifies, etc.

(iv) **Valuing :**
Valuing is based on the internalisation of a set of specified values, which are expressed in the learner's identifiable overt behaviour.

Indicators : Demonstrates, differentiates, explains, forms, initiates, etc.

(v) **Organisation :**
Organises values into priorities by contrasting different values and creating a unique value system.

Indicators : Adheres, combines, compares, defends, synthesises, etc.

4.3 Psychomotor :

The psychomotor domain includes physical movement, coordination, and use of the motor-skill areas. Development of these skills requires practice and is measured in terms of speed, precision, procedures or techniques in execution. The seven major categories are listed below :

(i) **Perception :**
Use of sensory cues to guide motor activity.

Indicators : Describes, detects, differentiates, isolates, distinguishes, identifies, etc.

(ii) **Set :**
Readiness to act. It includes mental, physical, and emotional sets. These three sets that predetermine a person's response to different situations are

called mindsets.

Indicators : Displays, explains, reacts, shows, states, volunteers, etc.

(iii) **Guided response :**
The early stages in learning a complex skill that includes imitation and trial and error.

Indicators : Copies, traces, follows, responds, etc.

(iv) **Mechanism :**
Intermediate stage in learning a complex skill. Learned responses can be performed with some confidence and proficiency.

Indicators : Assembles, constructs, dismantles, fixes, measures, etc.

(v) **Complex Overt Response :**
This proficiency is indicated by a quick, accurate, and highly coordinated performance.

Indicators : Builds, calibrates, constructs, displays, measures, fixes, etc.

(vi) **Adaptation :**
Skills are well-developed and the individual can modify movement patterns to fit special requirements.

Indicators : Adapts, alters, changes, rearranges, reorganises, varies, etc.

(vii) **Origination :**
Learning outcomes emphasise creativity based upon highly-developed skills.

Indicators : Arranges, builds, combines, composes, constructs, creates, designs, initiates, etc.

5. Styles of learning organisations :

Two different styles :

- (a) Adaptive Learning
- (b) Generative Learning

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5. (a) *Adaptive Learning* :

Characterised by :

- Single-loop learning — directed to improve existing
- Focus to 'catch up' or on incremental improvements
- Enforced conformity
- Routine behaviour
- Risk avoidance
- Block diversity of opinions, experimentation
- Static intra-organisational relationship
- Retards company's ability to envision
- Impede organisation's potential to cope with high-velocity change environments eventually, hasten, decline and resignation.

5. (b) *Generative Learning* :

Characterised by :

- Double-loop learning directed to analyse :
 - Why we are doing and what we are doing ?
 - Should we be doing something else ?
- Ability to learn how to learn.
- Emphasis on continuous experimentation and feedback.

6. *Five disciplines of Generative Learning* :

6.1 System Thinking

6.2 Personal Mastery

6.3 Shared Vision

6.4 Mental Models

6.5 Team Learning

6.1 *System Thinking* :

Normally, to understand problems, we use the method of breaking it into components, studying each part in isolation, and then drawing conclusions about the whole. According to Senge, this sort of linear and mechanistic thinking is becoming increasingly ineffective to address modern problems

(Kofman and Senge). This is because, today, important issues are interrelated in ways that defy linear causation. In fact, it is the circular causation — where a variable is both the cause and effect of another set has become the norm, which leads to the conception of 'primacy of the whole'.

At the heart of systems, thinking is an awareness of the interconnectedness and varying levels of interdependency of persons in teams, of teams in organisations, and organisations with the larger environment.

System Thinking mind is characterised by :

- Shift of mind in seeing as separate from the world, to connected to the world.
- Seeing problems caused by someone or something, to seeing how our own actions create problems.
- People continually discover how they create their reality and how they can change it.
- Identifying patterns and interrelationship
- ***Simplify complexity***
- Subtly retrains the subconscious to structure data in circles (circular causation) rather than straight lines (linear causation).
- Traditional managers think they have all the answers
- Learning organisation managers think their staff has the answer.

6.2 *Personal Mastery* :

Personal mastery means individuals charting a course of development that leads to a special level of proficiency through life-long learning. This learning is not only in the areas related to the product or service of the organisation, but includes areas as enhancing interpersonal competence, personal awareness, emotional maturity, and an enlarging understanding of the ethical/moral dimensions of organisational life. This kind of personal mastery leads people to make unique contribution because of their deepening understanding and commitment to their own vision.

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Personal Mastery is characterised by :

- Individual learning — Organisations cannot learn unless individuals begin to learn
- Use both reason and intuition to continually clarifying and deepening personal vision
- Developing patience
- **Seeing reality objectively**
- Connects personal learning with organisational learning.

Imperatives of Personal Mastery :

One must define what one is trying to achieve and must have perception of the rational and achievable 'Goal'. However, Goal — not short-term or long-term as normally understood, but much further away the distance, may take lifetime to achieve it. 'Vision' is the word.

One of the most widely read books on Personal Mastery is **Stephen Covey's "The 7 Habits of Highly Effective People"**.

6.3 Shared Vision :

'Vision' — a graphic life-like mental image of the future. Vision of goals, values, and missions will have most impact on behaviour of individuals in an organisation when they are widely shared and owned by them throughout the organisation. Shared Vision produces a much higher level of sustained commitment than when the vision is imposed from above.

Shared Vision is characterised by :

- It binds people together around a common identity
- A vision is often a 'Goal' one is trying to reach
- It develops '*Creative Tension*' — the difference between shared vision and current reality, the gap between where it is now and where it wants to go.

➡ **Shared Vision energises the people to do because they want to — not because they have to.**

6.4 Mental Models :

Our responses to new situations are influenced by our ingrained assumptions and generalisations about how things work in organisations. These mental models enable us to rapidly size up new situations and take action accordingly.

Sometimes these mental models are limiting or even dysfunctional and prevent adaptation that would strengthen the person, team or organisation. In the learning organisation, mental models are freely shared, rigorously scrutinised and revised, as necessary, at the personal, team, and organisational levels.

Mental Model is Characterised by :

- A framework of the 'cognitive' process of our mind and development of intellectual skill
- Determines how we think and act
- Change takes place when teams share mental models
- One's way of looking at the world
- Identify assumptions, generalisations or images as to how we understand the world.

6.5 Team Learning :

Teams exist in all organisations. They may be called departments, units, divisions, committees, etc. Often a person functions on several teams. For example, a person may be part of the X Department, a member of Y Committee, and a member of Z Taskforce. Each of these team settings has its own dynamic processes. Team learning improves its effectiveness.

However, team learning requires a systems perspective, so that persons see themselves as interdependent with other team members and their team as interdependent with other teams that make up the larger organisation.

Team Learning is characterised by :

- Synergy
- Aligning and developing a team to create the results its members truly desire



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- Dialogue, conversation (not speech-making)
- Talking and thinking together
- Totality becomes better than part
- Raising collective 'IQ' of a group above individuals
- Overcome defensiveness that undermines group learning
- Teams not individuals are fundamental learning units in modern organisations.

7. *Barriers to Learning :*

Two predominant types of barriers :

- (i) Organisational
- (ii) Individual

7. (i) *Organisational :*

Organisational barriers are characterised by :

- Management decisions that are not to be questioned
- Inability or failure to understand barriers
- Blaming rather than trusting culture
- The famous 'not invented here' (NIH) syndrome
- Management behaviour that says, "Our subordinates have to learn, but not us".
- Lack of training time, materials and resources
- Satisfaction with the status quo
- Punishing mistakes rather than treating them as necessary learning experiences
- Failure to encourage innovation
- Lack of knowledge transfer or cross-fertilisation mechanisms.

7. (ii) *Individual :*

Three identifiable deficiencies are observed :

- (a) Insufficient capacity to act
- (b) Insufficient capacity to reflect and interpret
- (c) Insufficient capacity to disseminate learning

7. (ii) (a) *Insufficient capacity to act :*

• *Symptoms :*

- Lack of initiative for experimentation — Fear of failures
- Afraid to take calculated risk

• *Causes :*

- Stress regarding priorities
- Bias toward activity versus results — Perceptions of powerlessness

7. (ii) (b) *Insufficient capacity to reflect and interpret :*

• *Symptoms :*

- Problem avoidance
- Incomplete/inaccurate analysis

• *Causes :*

- Sheer mental laziness
- Performance pressure
- Absence of learning forums/structures
- Unlearning what has worked in the past, but no longer effective
- The unconscious assumption that 'I know all I need to know'
- Discomfort at having to give up cherished opinions or beliefs
- The feeling of being too busy.

7. (ii) (c) *Insufficient capacity to disseminate learning :*

• *Symptoms :*

- Ignorance of the problem/ solution
- Redundant efforts

• *Causes :*

- Inter-group boundaries
- Myth of uniqueness
- Narrow information bands

8. *Overcoming the barriers :*

Revitalisation from two directions :

- (i) Organisational
- (ii) Managerial climate

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8. (i) *Organisational* :

To take initiatives in the following directions :

- Formation of steering committees that prioritise and lead change.
- Develop trainers or teachers specialised in various subjects.
- Develop generic subject-matter experts to support cross-fertilisation.
- Establish a strong R&D set-up to lead innovation.
- Formulate an employee suggestion scheme for fast feedback, high acceptance rate and frequent recognition.

8. (ii) *Managerial Climate* :

To effectively address the following aspects :

- Fact-based decision-making
- Openness to new ideas and paradigms
- Active promotion of innovation
- Encouragement of experimentation and intelligent risk-taking
- Drive for continuous improvement.

9. *Candidates for Learning Organisation* :

- People in organisation recognise that organisation-wide learning is critical
- Learning is a continuous process that is integrated with work
- Organisations believe Systems Thinking is fundamental
- Organisational climate encourages and rewards individual and group learning
- Workers are innovative in networking, both inside and outside the organisation
- Organisation embraces change and views failures as opportunities to learn

- Organisation is agile and flexible
- People in organisation are driven by desire for continuous improvement
- Organisation continuously adapts and revitalises in response to changing environments.

Conclusion :

The five main ideas listed above are not new — what is new is an attempt to integrate all five of the ideas into a single organisation. Learning organisations take these five very powerful ideas and pursue them simultaneously. Because the simultaneous pursuit of these is difficult, Peter Senge calls them ‘disciplines’ in the sense that employees need to deliberately and studiously learn them and practise them as an imperative to their and their organisation’s survival.

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One day Seminar
**Being Cost Effective through 5 S Principles of Good House-Keeping
7 W Seven Areas of Wastes**

October 6th, 2007

Organised by: National Centre for Quality Management, Mumbai.



(Continued from previous issue)

Abstract from presentation of Shri Navin Dedhia* on 'Voice of Customer'

Part I printed in previous issue covered aspects related to customer satisfaction. This part relates to customer dissatisfaction and voice of customer.

People have to deal with service delivery providers time and again. They may get dissatisfied with the service and/or the products delivered. Some examples of such dissatisfaction are given here :

- Healthcare services (Doctors, Hospitals, Nursing homes, Lab results, Nurses, Administrators)
- Government Operation (Federal, State, City, Local)
- Education system (Schools, Colleges, Universities)
- Monopolistic businesses (No competition)
- Utility Services (Telephone, Electricity, Water, etc.)
- Business Results (Stock prices, unethical operations)

Customer dissatisfaction may be caused by several reasons such as :

- Lack of trust in services
- No future
- No improvements in sight
- Quality of care
- Delays without valid reasons
- Lost human touch
- Delivery issues
- Safety
- Product recall (replacements)
- Data recovery
- Management system
- Organisation culture

- Emphasis on bottom line
- Meet the shipping quota and disregarding quality issues
- Bureaucracy
- Employee morale, attitude, behaviour, voice tone
- Employee training (listening skills, attention)
- Skill level of employees
- Employee errors (Shipping/invoicing errors)
- Product quality (Dead on arrival, early failures)
- Long waiting for a service (Banks, post office, ticket counters, airport security gate, telephone rings, lobby)
- Data recovery (After a disaster)
- No response to the inquiry
- Order inaccuracy
- Shipment received in damaged condition
- Lengthy forms, not user-friendly
- Difficult to find the merchandise on the shelf

Such cases arise in home delivery, annual maintenance contracts, outsourcing, delivered products due to poor design or lack of control in manufacturing or due to casual attitude of service provider, lack of human touch in automated service, information delay, bureaucracy red tape.

- In the USA, 54 % Americans are dissatisfied with the overall quality of healthcare.
- Patients know what they want, but they don't always tell. Doctors have to find out by questioning.
- Harris poll survey revealed that 70% Americans don't trust big companies.
- Mergers and acquisitions have a generally

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⊕ negative effect on customer satisfaction, particularly among service industries.

There are differences amongst what the customer wants and what the company thinks the customer wants. The difference is shown below :

Customers say

- > Roomy front seat of car
- > Good on-time performance
- > Hassle-free claims warranty insurance
- > Easy to learn software

Companies say

- ✓ Leg room, shoulder room
- ✓ Reach within specified hours
- ✓ Length of forms, days to process
- ✓ Menu depth, number of commands
- ➡ Customers are harder to satisfy, harder to find, have more options to choose from and more companies are chasing them.
- ➡ Total customer satisfaction is achieved through teamwork and individual job excellence.
- ➡ “If I ask my customers what they want, they would answer faster horse”, says Henry Ford.
- ➡ Customer care service requires radical approach, innovation and creativity.

Myths about customer satisfaction are :

- ➡ Satisfaction will occur if dissatisfaction declines
- ➡ We are on the leading edge in our industry
- ➡ Growth in customer demand or market share means customers are satisfied
- ➡ We know what business we are in
- ➡ We know who our customers are
- ➡ The most important customers have priority
- ➡ Customers don't know what they want
- ➡ What customers say they expect is actually what they want
- ➡ Our performance measures confirm our excellence.

To provide excellent products and service, IBM followed three basic beliefs *viz.* :

- (1) Respect for the individual
 - (2) The best customer service (service to the customer)
 - (3) Superior accomplishments of all tasks (excellence is a way of life; pursuit of excellence)
- and

Adopted under-mentioned eight operating principles :

- (1) *The Marketplace* is the driving force behind everything we do.
- (2) *At our core*, we are a technology company with an overriding commitment to quality.
- (3) *Our primary* measures of success are customer satisfaction and shareholder value.
- (4) *We operate* as an entrepreneurial organisation with minimum bureaucracy and a never-ending focus on productivity.
- (5) *We never* lose sight of our strategic vision.
- (6) *We think* and act with a sense of urgency.
- (7) *Outstanding*, dedicated people make it all happen, particularly when they work together as a team.
- (8) *We are sensitive* to the needs of all employees and the communities in which we operate.

Customer value flows continuously :

Value that flows continuously at the pull of the customer — *i.e.*, nothing is produced upstream until someone downstream requests it.

It is opposite of ‘Batch-and-queue’ thinking, which mass produces large inventories in advance, based on forecast demand.

Customer needs are unique. Mass production approach treats customer as consumer requiring standard products.

Customer requirements include :

- ➡ Basic needs — Performance, articulated, functional needs
- ➡ Expectations — Won't tell, unarticulated, emotional, based on the past experience,



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unambiguous, objective.

- Excitement — Differentiation, love it, innovation
- Customer perceptions have subjective criteria such as easy-to-use, timely, cheap, quick, understandable, concise & complete.

Examples are :

- Reducing the incidences of stay in hospital
- Increasing life of light bulbs

For long-term success and profitability, organisations have to capture Voice of the Customer (VOC).

VOC may sound like

- Music (melody tunes)
- Screaming
- Noise
- Shouting
- Whispering
 - VOC is critical to quality
 - The voice-of-customer process is a key contributor to long-term corporate profitability
 - It facilitates quality improvement, eliminates waste, time loss and improves profit

Customer feedback can be through :

- Informal/formal survey
- House of quality
Quality Function Deployment (QFD)
- ☐ Voice of customer is a comprehensive systems approach to effectively manage customer wants, needs and expectations.
- ☐ It requires systematically listening to multiple customers followed by analysis, prioritising and responding to the customer issues.

To capture VOC one must develop listening skills :

- You have two ears and one mouth to use it wisely, when it comes to customer.

- Listen with ears, eyes and whole brain.
- Pay attention to body language, tone, use of words, eye-blinks, etc.
- Ask open-ended questions about management.
- Management Metrics is not Customer Metrics
- Customer appreciates your listening, but is not willing to pay extra price.

We need to develop Customer-centred culture :

- It is a way of thinking and acting
- It is foundation for organisational practices, based on :
 - Philosophy (Mindset, paradigm, values, beliefs)
 - Excellence is a way of life
 - Measurements
 - Methodology (Principles, tools, application, roles)
- An action-oriented culture means the difference between merely surviving and thriving
- Listen to the customers via multiple modes as under :
 - Focus groups with key customers
 - Close integration with key customers
 - Interviews with lost and potential customers about their purchasing or relationship decisions
 - Use of the customer-complaint process to understand key product and service attributes
 - Win/loss analysis relative to competitors and other organisations.
 - Survey or feedback information including that collected on the internet.
 - Immediate feedback (perception of front-line employees — sales & service, marketing; talk between employees and customer rep.; customer-generated report card)
 - Formal and informal surveys
 - Periodic perception surveys first party and third party (telephone, mail, web-based and/or personal interview)

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- Sales analysis (Retained customers, Repeat customers, Lost customers, Lost sales to competitors, Loyal customers)
 - Customer forum/Formal meeting invitation
 - Visits to the customer
 - Customer complaints data base
 - Competitive information (Trade/professional associations, journals)
 - Third-party industry reports (R+ database, Financial analysts)
- Listen actively
 - Structure the information being sought, not the answers
 - Search for 'Root need'
 - Gather the information in the words of customers
 - Focus Groups vs. Individual interviews

Customer survey design requires capturing the customer information

- Customer survey design
- An accurate measure
- Asking the right questions (wording, length & layout)
- In-depth interviews
- Focus groups
- Understanding of sampling techniques
- Determining right sample size
- Avoiding ambiguous or biased wordings
- Choice of rating scales
- Deciding survey timing and introduction to the customer
- Using consistent data-collection procedures worldwide, but allowing for cultural differences in rating scales

- Simultaneous survey of front-line employees

Companies often set too many objectives for a customer survey

- An attention to survey design process is lost and misleading information is obtained.

Customer Feedback Data Analysis uses

- Statistical techniques to analyse numerical scales
- Techniques to analyse verbal scales (voice tone, facial expressions, attention to questions, time given during interview, interruptions allowed, wordings used)

Evaluate :

- High & low scores
- Satisfaction trends over time
- Satisfying and dissatisfying elements
- Prioritise for improvements
- Focus
 - Issues (which are important)
 - Group customers (old/new, high volume, occasional, repeat customer...)
 - Identify market segment (Domestic, International, OEM)
 - Area (Geographic — North, South, East, West, State...)
- Benchmark with successful companies

Customer feedback based on :

- Review company policy, objectives
- Address products, process and service improvements
- Provide feedback to the customer (What, How, When, Where, Whom ?)
- Monitor customer response.



Two day workshop

Integrated Management System

(ISO 9001 : 2000 QMS + ISO 14001 : 2004 EMS + OHSAS 18001 : 1999 OHSMS)

October 26th-27th, 2007

Organised by : **National Centre for Quality Management, Mumbai.**



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Data integrity — A case study

Dr. R. H. G. Rau

Let us appreciate that while collecting data, it should always be accurate, reliable and challengeable. Data integrity is vital for working towards sustained improvements. Every single management initiative and decision at each stage, whether in a manufacturing set-up or a service organisation, are data-based.

Let us look at the IT industry. It breaths data. Today's IT managers are challenged with questions such as, how can we effectively manage the continually changing software environment? How can we apply a myriad of emerging tools, platforms and methodologies? How can we address and control software development issues when new technologies often compound the problem? The whole challenge boils down simply to management of facts. The point is how to effectively ensure fact-based management across the organisation, that will succeed in this fast-changing environment.

No one doubts importance of data. It is being widely accepted as a key resource for any successful operation. Quite often, systems are created to throw up the required data whenever asked to do so. Irrespective of the type of data entry into the system, whether off-line or on-line, importance of data integrity can never be questioned or doubted.

Problems related to data integrity crop up primarily in large organisations, more so when their managements appear complacent. Over a period, these organisations could become so unwieldy that the internal checks, balances and counterbalances may go haywire. In fact, when detected, the deficiencies will be so glaring that they come out only as a great surprise to everyone around.

Periodic audits are expected to throw up the need for adequate measures after pinpointing deficiencies, either in the processes or systems or in their implementation. However, even the

audits sometimes get 'managed', thereby losing their value.

Data integrity can become questionable in two situations. Either there are genuine errors in capturing and presenting the data or there is a deliberate attempt to circumvent an uncomfortable development. The first one is not so serious since it could be easily addressed and corrected. Only thing is, the observed deficiencies should not be swept under the carpet, thereby convincing oneself that nothing wrong had happened.

Deliberate attempts to twist data to suit one's convenience should be nipped in the bud. This tendency is far more serious, and should be squarely faced, often with the ruthlessness it deserves. Very few managers have the time, patience and desire to go into detail and can be easily carried away by resorting to graphical displays through most impressive PowerPoint presentations. When such presentations are delivered by those who have excellent articulation skills, more managers can easily get fooled. By the time they wake up, possibly it will be too late.

The biggest problem of data management is that it can be manipulated and interpreted in a way that suits one's logic and even its conclusions. It is only a detailed and careful analysis of the data that would bring out the errors. Experience has shown that even the most glaring errors can be wrapped under deep chests.

A couple of years back, a leading organisation applied for a national award for business excellence. As per the globally accepted practice, a team of seasoned assessors was constituted by the award management and the application copies were sent to each team member well in advance. The application strictly followed the guidelines, was beautifully drafted, and was assessor-friendly.

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After studying the contents, the assessment team was quite impressed with the number of initiatives taken by the company to make its quality conspicuous in all its operations. Excellent linkage was apparent in the application report between the management initiatives taken, deployment among all the key operations and the business results. With tremendous positive feeling, the team decided to undertake a site visit to look for objective evidence against what had been claimed in the application report.

It was a three-day assessment involving five assessors to cover all the organisational activities. The applicant was informed of the issues which the assessor team might concentrate on, without losing sight of other related issues.

During this assessment, the leadership commitment and drive to take the company to higher levels of performance was visible. Several quality-related processes were internalised and systematised with necessary self audits for compliance. Continuous improvement methods involved every single worker through Quality Control Circles. In fact, every single employee was involved in one or more quality improvement teams. New ideas were encouraged through suggestion schemes, and the company held a record that over 60% of suggestions were successfully implemented. The skills exhibited by employees were exemplary. Most of their presentation skills were demonstrated through sharp PowerPoint slides and their key bullets well explained.

The financial performance, as visible through a study of balance sheets, appeared quite healthy for the past five years in spite of fierce competition for their product range, both in Indian and export markets.

At the end of the second day, there was a near unanimity among the team members that the company was outstanding from several angles, in all assessment areas related to the company's approaches, their deployment and results.

There was an uneasy discovery on the third day, once the team started focusing on the data. While very exhaustive data was demonstrated in all key operational areas along with periodic reviews, a few mismatches were thrown up. Evidently, hell lot of data was getting generated related to shiftwise and daywise operations. The data was then consolidated as weekly and monthly reports for appropriate reviews. Special attention was paid to bring out colourful graphs and charts for such reviews. The data and information were then escalated to quarterly reviews by senior management.

The assessment team made a critical study on the review process adopted by the company at various levels. The first observation was that the reviews were primarily aimed at stock-taking. Since the organisation was 'apparently' performing very well with sound financials, certain degree of casualness had crept into its approach.

The second, and in fact the most damaging one, related to glaring inconsistencies in the data presented at various fora. This had come to light when the assessment team wondered as to why the organisation was showing undue interest in converting most of the simple straightforward data into ratios. Several inconsistencies were detected when the team members took the trouble of recalculating the ratios. Obviously, the data was manipulated to convenience.

Consequently, the assessment team concluded that there was no integrity in data collection, analysis and presentation, and the applicant was wittingly or unwittingly moving away from operational excellence. The final outcome of the assessment was obvious.

Data integrity can be ensured only by demonstrating honesty at all levels. Senior management should take total ownership to make it happen.





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Application of Quality Tools in Education

U. A. Agnihotri[†]

Educational institutes have the primary responsibility to engineer the Human Resources in the identified fields, needed by HR market/society, meeting the prescribed standards of knowledge and skills, for performing at professional level. The HR market requirements are dynamic and the institutes must keep pace with them. Industry is demanding mixed-domain capabilities, emphasising the abilities to perform multi-tasking functions from the employees.

This has created the need for examining the quality of the pass-outs and all the teaching — learning and supportive processes in the institutes, especially at higher, vocational and technical education level. Having realised this, one can understand that Indian education system is currently at its crossroads, as an impact of worldwide socio-economic transformations and needs major interventions.

The factors responsible for demanding changes in the educational system are :

- Global wave of Liberalisation, Privatisation & Globalisation (*LPG*), applicable to education (such as multinational universities/institutes, distance mode/ blended learning modules, etc.)
- Increased awareness among stakeholders about their educational needs (students, employers, parents, etc.)
- Initiation of ranking, accreditation and comparison of institutions by regulatory bodies/others
- Digital revolution redefining delivery system and expanding virtual campus outreach
- Continuously reducing funding from governments
- Cut-throat competition

This stresses the need of changing the pattern of education also. Time has arrived for shifting from 'Knowledge-centred' to 'Skills-centred' delivery

system in education. The education pattern, especially at higher and professional education is moving from 'Teacher-centred' to 'Student-centred' approach. This demands a proactive approach from the institute side to take on the challenges for survival, growth and development.

What institutions need to do ?

Despite the huge infrastructure investments and government support, the educational institutes are not delivering the expected quality of pass-outs, because most probably they are facing the problem of '**Under-management**' of resources and various processes involved in academics rather than scarcity of resources. Therefore, though education is **Not a Business**, educational institutes **should be managed 'Business-Like'** to identify the critical problems in their functioning, so that they become **effective and productive** in their operations. So we need proven good business practices and tools for :

- Designing competitive educational products
- Effective implementation of T/L processes
- Timely monitoring and control of T/L processes
- Analysing & evaluation of output quality of T/L processes.

In this new context, institutes have to prepare themselves for facing the challenges of the situation through adoption of strategies and policies, so that they become :

- Flexible in responding to HR demands,
- Deliver what learners and employers need,
- Develop robust system to implement T/L processes,
- Assure the society and employers about quality of pass-outs,
- Exploit resources for optimum utilisation,
- Come out of protective environment and be **competitive . . . like a business**.

[†] Mr. U. A. Agnihotri is Faculty in Mechanical Engineering and Sr. Member, NCQM.

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⊕ Institutes generally discuss about the following issues as their problems :

- Poor performance of students in examination
- Poor attendance
- Curriculum design — Gap between need and actual
- Employment problem for students
- Unsatisfactory students' Services

But are they really problems or symptoms indicating failure, or out-of-control run of academic processes ? To identify the problems we have to follow the following scientific and logical steps :

- Collect the information
- Convert it into data and arrange it
- Analyse the data
- Identify the Human, Environmental, Resources, Processes (**HERP**) factors likely to affect
- Study of correlation of these factors with indicators
- Identify causes
- Develop action plan
- Implement

To do all these activities we need some Logical Tools, which can be Quality Tools such as :

- Tally Sheets
- Histograms
- Scatter Diagram
- Pareto Diagram
- Cause-Effect Diagram
- Arrow Diagram
- Relationship Diagram
- Affinity Diagram
- Graphs
- Stratification
- Control Charts
- Brainstorming
- Flow chart
- Tree Diagram
- Matrix Diagram

Tally Sheets/Histogram/Check Sheets :

The tally sheets are the formats/forms for recording data and/or its summarising, to study the frequency of occurrence of events, or for converting opinions into facts, for understanding the problem. The histogram prepared from the data collected, can be used to graphically visualise

the facts. This gives us information about the central tendency, variation, homogeneity of the data, etc. The illustration shown in the Fig. 1 indicates the distribution of marks obtained by students in test examination. It is clear from the histogram that if the variations in the marks are considered as indicator of effectiveness of T/L, then as a process there is large variation. So, special efforts are needed to boost the students at the same level. You can identify the students who need additional input and can pull them in achievers' group. For the programmes such as 'No student left behind', a histogram can be a useful tool to understand the facts. Check sheets can be developed for bringing uniformity in the procedural parts, such as maintaining the course file by every teacher for his/her course. Feedbacks

Class	Marks	Tally bars	Frequency
1	0-9	////	4
2	10-19	///	3
3	20-29	///	3
4	30-39	//// //	10
5	40-49	//// //	7
6	50-59	//// ////	9
7	60-69	//// // /	11
8	70-79	////	5
9	80-89	////	5
10	90-99	///	3
		Total	60

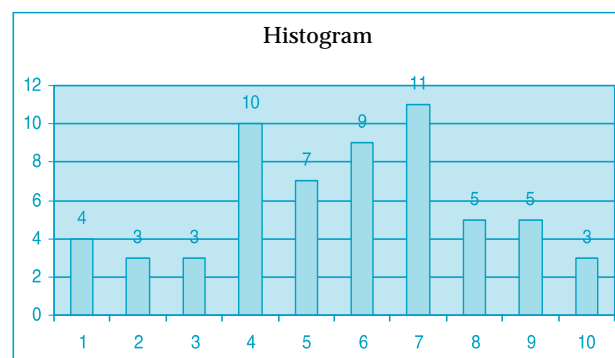


Fig. 1



obtained from the students can be visualised plotting histogram for various criteria.

Pareto analysis :

It can be used for analysing data about the frequency of problems or causes in a process, for deciding the most significant problems or causes when several of them are notified, for analysing

broad causes by looking at their specific components. It is also an excellent tool for communicating your data with other people. The illustration in Fig. 2 is the analysis of the students' survey. The Pareto analysis has indicated the relative significance of the various learning difficulties/dissatisfiers.

(to be continued in the next issue)

NCQM NEWS

Welcome aboard — New Members

Individual Members :

- MI-0448 Mr. Mahadeo D. Mhaske Pune
- MI-0449 Mr. Sanjay Makwana Ajmer

Senior Member :

- SM0048 Mr. Devendra Singh Chauhan..... Ajmer

Senior Life Members :

- SL0003 Dr. Rajendra S. Dalu Amravati
- SL0004 Dr. Prakash M. Khodke Amravati
- SL0005 Mr. V. Chandrasekharan Chennai

Student Members :

- T-27301 Mr. Hemant S. Velankar Thane
- T-27302 Mr. Vinay M. Chawdipande ... Nagpur
- T-27303 Mr. Alok Maiti Haldia, W.B.
- T-27304 Ms. Vaishali A. Khare Roha
- T-27305 Mr. Rajesh Mohan Verma Gurgaon
- T-27306 Mr. Ashok Kumar Gurgaon
- T-27307 Mr. Manish Chauhan Hardwar
- T-27308 Mr. Saiyyad A. A. Qutubali Nashik
- T-27309 Dr. Deepa Sharma Mumbai
- T-27310 Mr. Muazzam N. Bhatkar Mumbai
- T-27311 Mr. Ramagouda B. Patil Mumbai
- T-27312 Mr. Makarand J. Burande Kolhapur
- T-27313 Mr. Rajendra B. Ghatge Kolhapur
- T-27315 Mr. Tejas Pradeep Bhabal Mumbai
- T-27316 Mr. Jeevan Madhukar Sudade Pune
- T-27317 Mr. S. Balamurugan Tuticorin
- T-27318 Mr. P. Manoharan Madurai
- T-27319 Mr. S. Selvamurugan Madurai
- T-27320 Mr. G. Arunachalam Kariyapatti

NCQM NEWS

May 2007

A National Workshop on 'New Trends in Quality Management — NTQM 2007' was organised by SVNIT on May 5, 2007 at Surat.

Keynote address was given by Dr. R. P. Mohanty, NCQM Governing Board Member, Ex-Faculty, NITIE, Mumbai. Presently Chair Professor — Dean Research ITM, Navi Mumbai.

NCQM was represented by Dr. Purshottam Poddar, our distinguished faculty. He presented paper on 'TQM and Kaizen — Experience Sharing with Case Studies'.

Other topics included Six Sigma, National and International Quality Awards for Indian Industries, Quality in Service Sectors, TQM Applied to Technical Education Institute, TQM Concepts and Overview, 7 QC Tools, 7 New Management Tools, Quality Function Deployment (QFD), Design of Experiments, Benchmarking, Performance Measures in TQM and Balance Score-card Approach, 5 S Technique for Quality and Productivity Improvement with its case study, Kaizen Technique of TQM with its case study, Taguchi Technique, etc.

Industries which participated included L&T, Kribhco, Essaar, Reliance Industries and NTPC Hazira.

June 2007

American Society for Quality (ASQ), Cincinnati Chapter organised a tour of 'The United States Playing Card Company' (USPC) on 20th June 2007 for ASQ members. Dr. Purshottam Poddar, NCQM Treasurer, who was in USA, participated in the tour.

US Playing Card, based in Cincinnati, Ohio, since its founding in 1867, manufactures, markets and distributes playing cards, children's card games, collectible tins, puzzles and card accessories, including BICYCLE playing cards, the world's most popular card for over 100 years. Members studied Quality Management Practices of the company.

Its Quality & Security Technology checks include : Honeywell On-Line Scanner on Laminator, Vegitech Optical Scanner On-line on Web Press, On-line Weight Checks & Card Counters, Digital Pre-press & Plate-making, Plant-operating Software and Extensive Statistical Inspection Procedures throughout production.

Its documented QMS covers Policies, Procedures, Work Instructions, Control Plans, Forms, Visual Aids, Master Document Control List on Company-only Intranet, Calibration of all critical tools, gauges, scales and automated calibration reminders (www.usplayingcardcompany.com).

July 2007

Workshop on 'Quality Improvement Methodology and Tools' — A Report

A workshop on 'Quality Improvement Methodology and Tools' was organised at Shri M. D. Shah Mahila College, Malad (W), in collaboration with NCQM on 17th and 18th July 2007.

This was the 2nd workshop in the series of workshops undertaken by Internal Quality Assurance Cell (IQAC) with NCQM in aspiring for excellence. 34 delegates participated in the two-day workshop.

Dr. Mohanbhai Patel, an eminent industrialist and educationist, was the chief guest on the occasion. While inaugurating the workshop, he stated that the purpose of education was not to prepare people for jobs, but to create responsible citizens. He expressed the view that higher educational institutions must inculcate practical application of knowledge and ability to innovate, among students.

Dr. R. H. G. Rau in his session on 'Emerging

Trends in Quality — A Global Perspective' spoke about the process of attaining excellence in quality, especially in the field of education. He explained the emergence of the concept called 'quality' and elaborated on the methods to achieve it. He specified that the need to produce something outstanding was the beginning.

Dr. H. Mankad elaborated on quantifying quality to ensure progress. But he stressed that quality is an attitude.

The day ended with Prof. Uday Agnihotri's session on Quality Measurement and Tools. An Engineer teaching at Government Polytechnic, he spoke of the various methods used to identify problems and arrive at a solution by applying quality tools. It was an exhaustive technique-oriented session.

On the second day, participants formed groups and worked upon projects with adequate help from Prof. Agnihotri. The presentations thereafter were sufficient proof of the success of this exercise.

During the post-lunch session, Dr. Deepa Sharma gave a talk on applying TQM in academics. She spoke on different quality improvement techniques like Kaizen, 5 S, Six Sigma, Benchmarking and Quality Circles. But she emphasised that the change must come from within the individual.

A TQM project being conducted at Dr. B. M. N. College of Home Science, Matunga, was presented by Dr. Mala Pandurang. The project on 'Teaching and Learning Effectiveness — A Continuing Experiment' gave an idea to the participants on the use, execution and quantification of the methods involved in under-taking a project.

Smt. Bharati Naik, a person with valuable experience of nearly three decades in the field of education, who was the chief guest for the valedictory function, provided the right finishing touch to the highly successful workshop.

She shared her experience on the necessity to aspire for qualitative improvement in the present competitive market even in the field of education.

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International News

ASQ Annual Freund Scholarship to Support Quality Studies :

The Freund Scholarship honours the memory of Richard A. Freund, a past President of the American Society for Quality (1972-73). Freund was recognised internationally for his contributions to quality, international goodwill, and tireless scholarly research. The scholarship is given to a student who is planning to enrol, or is already enrolled in a master's degree or higher level programme that focusses on quality engineering, total quality management, quality control, quality assurance, quality improvement, or a similar quality emphasis at any university or college.

For more information visit the ASQ website at <http://www.asq.org/about-asq/awards/freundschar.html>

Forthcoming Programmes

- (1) Performance Management System
- (2) Quality Improvement
- (3) Communication & Listening Skills
- (4) Time Management
- (5) 5 S & 7 W
- (6) ISO Standards Update
- (7) Integrated Management System (IMS)
- (8) Six Sigma Green Belt

For further details please contact :

Programme Coordinator, National Centre for Quality Management, Mumbai.



NCQM's Best Educational QET (BEQET) President Award-2007

We are pleased to announce Best Educational Quality Enhancement Team (BEQET) President's Awards by National Centre for Quality Management for Educational Institutions. These annual awards have been introduced from the Year 2006.

One of the thrust areas of NCQM has been to promote Quality Values among educational institutions in our country. For the past few years, NCQM's senior consultants have been successfully facilitating a number of schools and colleges; prominent among them being SNTD colleges at Ghatkopar and Malad, Gurukul institutions, Sophia college and Matunga College of Mumbai University.

It is heartening to note that, as an outcome of this facilitation, a large number of Quality Improvement projects have been successfully undertaken and many more are being attempted.

The improvement areas covered so far are academics, administration, infrastructure and house keeping. All of them have been following structured Quality Improvement methodologies, using the powerful Team Approach.

With a view to enhance NCQM's involvement and encourage Quality Improvement Teams in educational Institutions in the country, NCQM has instituted these Best Education Quality Enhancement Team (BEQET) Awards. Details of BEQET are available on request.

First award competition was held in January 2007.

Award competition will be held at NCQM Conference Room in last week of December 2007. Entries from colleges affiliated to Universities are solicited.

Awards will be presented to winners on NCQM Foundation Day.

