MOTIVATION FOR QUALITY

"There are no bad sailors, only bad officers."

Earl Mountbatten of Burma

TAYLOR’S APPROACH TO MASS PRODUCTION

- Development of concepts and methods for measuring work and analyzing jobs into simple task elements
- Recognition of the need to match worker’s abilities to jobs through selection and training
- The concept that incentives will be most effective if dependent on good performance and provided soon after work has been completed
- Recognition of the need for goals to be specific and clearly understood by all involved in their attainment

INDIFFERENCE THEORY (THEORY X)

- Labour is a commodity which can be purchased as needed like materials.
- Work is inherently distasteful to most people and will be avoided if possible; what people do at work is less important than what they get paid for doing.
- Workers can be influenced to perform in the desired manner with monitory incentives for meeting standards and with penalties for failure.
- Fewer workers want or can handle work which requires creativity, self direction or self control.
CRAFTSMANSHIP THEORY (THEORY Y)

Workers are viewed as the most important asset to the organization:

- The work itself is viewed as a potential source of satisfaction to workers if it provides opportunities for successful accomplishments.
- Most workers are viewed as able and willing to exercise self control and self direction.
- Workers are assumed to have an internal drive for accomplishment and derive satisfaction from producing results of craftlike quality. The organization, however, gives workers meaningless, monotonous jobs which stifle their natural drive.

CRAFTSMANSHIP THEORY (THEORY Y)

Workers become frustrated because they cannot attain the satisfaction they want from the job. Management’s job is to create the conditions under which workers can contribute meaningfully to the work and exercise self control.

<table>
<thead>
<tr>
<th>Indifference Theory</th>
<th>Craftsmanship Theory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of piecework and bonus payments</td>
<td>Emphasis on day-work</td>
</tr>
<tr>
<td>Dependence on inspection for control of quality</td>
<td>Reliance placed on production personnel</td>
</tr>
<tr>
<td>Dependence on inspection for setting of machines</td>
<td>Operators and setters accept responsibility for their machines</td>
</tr>
<tr>
<td>Indifference Theory</td>
<td>Craftsmanship Theory</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Inspection records used for determination or bonus payment</td>
<td>Inspection used to assist operators and for general control</td>
</tr>
<tr>
<td>Emphasis on financial penalties for poor work</td>
<td>Establishing causes of failure and attempting to remedy</td>
</tr>
<tr>
<td>Poor relationships between operators and inspectors</td>
<td>Co-operation between operators and inspectors</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indifference Theory</th>
<th>Craftsmanship Theory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criticism of defective work aimed at operators</td>
<td>Constructive criticism aimed at reasons</td>
</tr>
<tr>
<td>Operators disinterested in work and tend to mislead inspectors</td>
<td>Operators have genuine interest in the quality of their products</td>
</tr>
<tr>
<td>Operators not expected to contribute to ideas to improving products</td>
<td>Operators positively encouraged to contribute ideas for improving processes and products</td>
</tr>
</tbody>
</table>

The indifference theory shows workers attitude depends heavily on:

- Use of financial incentives,
- Control by other people,
- Extensive use of narrow specialists.

Results in low morale, boredom and indifference. Most unlikely to encourage a constructive attitude.
A company whose management philosophy demonstrates a belief of its workforce will discover the workers will display:

- Better self control,
- Greater pride in their work
- More self confidence
- Loyalty to the company and its customers
- High productivity
- High levels of skill
- Responsibility
- Good Motivation
- More involvement in their job
- Better quality products

---

**Taylors Concept**

Management responsible for all decisions and problem solving:

- Decision
- Plan
- Execute
- Check

Employee merely carry out instructions

---

**Scientific Management**

Large part of control developed from manager to specialist:

- Decision
- Plan
- Specialist
- Execute
- Check

Employee merely carry out instructions
The Craftmanship Method

Instructions → Plan

Check → Execute

management provides all resources and training

employee controls activities

Motivation - Hygiene Factors
Herzberg

<table>
<thead>
<tr>
<th>Hygiene Factors</th>
<th>Motivational Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policies and Administration</td>
<td>Achievement</td>
</tr>
<tr>
<td>Supervision</td>
<td>Recognition</td>
</tr>
<tr>
<td>Salary</td>
<td>Work Itself</td>
</tr>
<tr>
<td>Interpersonal Relations</td>
<td>Responsibility</td>
</tr>
<tr>
<td>Working Conditions</td>
<td>Advancement</td>
</tr>
</tbody>
</table>

QUALITY CIRCLES
BACKGROUND

Quality circles are quality improvement study groups. A circle is composed of workers (usually no more than 10) and their supervisor who functions as a leader.

The emergence of quality circles was a natural consequence of a top down process of statistical and quality management education that began with senior management and worked its way down the organisational pyramid to the engineers, supervisors and shop floor foreman.


A typical Japanese quality control circle consists of a first line supervisor and a small group of operators who meet voluntarily to help solve quality related problems in their department.

The initial success of Quality Circles has been documented by numerous examples of quality improvements brought by employees identifying specific quality problems, proposing feasible solutions, and with the concurrence of management implementing the most feasible solution proposed by the group.

Quality Circles were introduced into the Aerospace industry in the USA in 1975,

and at the Rolls Royce Aero Engine Plant at Derby, UK in 1978.
For quality circles to be truly successful, it is now evident that at management at every level must be genuine proponents of McGregor’s Theory Y, believing that their workers have a valuable potential for contributing to the well being of the enterprise.

When fully involved with their views sought and listened to at every stage, workers may come to see Quality Circles as a truly bottom-up change agent.

OBJECTIVES

- To build a strong workshop
- To establish a state of control.
- To enhance morale
- Human relations
- To improve work methods
- To encourage voluntarism
- To encourage works to think well and use wisdom
- To broaden the way of thinking
- To improve the income of the employees
- To allow specialists to devote their time to proper jobs

SETTING UP QUALITY CIRCLES

- Establish a Steering Committee
- Appoint a Facilitator
- Appointment of Circle Leaders
- Training of Circle Leaders
- Selection of the Circle Members
QUALITY CIRCLE OPERATIONS

The three basic functions of a Quality Circle are:

- to identify,
- analyse
- and solve
- quality problems.

STANDARD TECHNIQUES

- Brainstorming
- Cause and Effect Analysis
- Data Gathering
- Pareto Analysis
- Presentation Techniques
- Group Leadership and Motivation
- Statistical Quality Control
- Problem Solving Techniques

SOLVING PROBLEMS

The scope of the circle may be expanded to include topics such as cost reduction, safety, absenteeism, delivery, facility planning, jigs and tools and production control.

Circles have spread from shop floor to the warehouse, from the plant to the office and from the manufacturing to the service sector.

A coalition of two or more circles in an internal supplier-customer relationship may form a joint circle.
FAILURE OF QUALITY CIRCLES

- Organisational Culture
- Economic Conditions
- Cooperation
- Lack of Time
- Turnover, Promotions, Transfers and Retirement
- Non-observance of Quality Circle Principles
- Inadequate Resourcing
- Disillusionment
- Formation of Elite Groups

SUMMARY

Paying attention to job satisfaction, improvement in teamwork, higher morale and motivation soon have the effect of improving productivity in the long run.

The Quality Circle concepts and philosophy are intrinsically sound for modern organisations and the problem seems to be more on how to implement successfully.
TOTAL QUALITY MANAGEMENT

TOTAL QUALITY

commitment  teamwork  tools

TQM IS PEOPLE DRIVEN

THE TQM MODEL

Management Commitment

Quality System (ISO 9000)

Teamwork  Tools (SPC etc)
You can’t carry on trying to do everything on your own we need teamwork

TEAMWORK

The use of the team approach provides:

• A greater variety of problems may be tackled, which are beyond the capability of any one individual, or even one department
• The problem is exposed to a greater diversity of knowledge, skill and experience
• The approach is more satisfying to team members and boosts morale
• The problems which cross departmental of functional boundaries can be dealt with easily
• The recommendations are more likely to be implemented than individual suggestions
Several facets of TQM are summarised below:

- recognising customers and discovering their needs;
- setting standards which are consistent with customers requirements;
- controlling process and improving their capability;
- establishing systems for quality;
- management's responsibility for setting quality policy, providing motivation through leadership and equipping people to achieve quality;
- empowerment of people at all levels in the organisation to act for quality improvement.

WILLIAM EDWARDS DEMING
(1900 - 1994)

- American Statistician who worked with Shewart
- Contributed to the American war effort by teaching statistics and quality control techniques
- 1947 sent to Japan (by the American Government) to help in the reconstruction of industry
- 1950 invited back to Japan
- 1960 Japanese create Deming Award for quality in his honour
- 1980 “Discovered” in the USA (through a TV documentary)
- 1980 -1994 Total Quality Guru giving seminars internationally
Deming’s philosophy of management is so different from historic precedents that many managers are unable to make the transition.

There are several underlying assumptions which are unacceptable to them...........

Most people really want to do a job. The fraction of people who do not want to take pride in their work is very small and are easily recognisable.

When things go wrong, the odds are at least 5 to 1 that the difficulty is in the system and not the people.

When variability is reduced, costs do go down, errors and mistakes become fewer, quality goes up, customers are happier, market share rises. Reduction in variability can be achieved with the assistance of the workers.

The purposes of an enterprise matter. It is impossible to have everyone working harmoniously together for the same purpose if that purpose does not appeal to their hearts and minds. Simply making profit is not enough.
Management by Positive Cooperation

not

Management by Conflict

The workers work in the system; the manager’s job is to work on the system and improve it with the workers help

Towards the end of his life Deming was emphasising three particular themes:

Joy in Work
Innovation - not just improvement
Win - win
We are here to come alive

Management's job is to create an environment where everybody may take joy in his work.

What is needed is profound knowledge.

People get rewarded for conforming, no wonder we are on the decline.

I used to say that people are assets, not commodities. But they are not just assets they are jewels.

**THE JOINER TRIANGLE**

- Obsession with Quality
- All one Team
- Scientific Approach

**PLAN-DO-CHECK-ACT CYCLE**

- Plan
- Act
- Do
- Check

for continuous improvement
DEMING'S FOURTEEN POINTS
1. Constancy of Purpose
2. The New Philosophy
3. Cease Dependence on Inspection
4. End “lowest Tender” Contracts
5. Improve Every Process
6. Institute Training On The Job
7. Institute Leadership
8. Drive Out Fear
9. Break Down Barriers
10. Eliminate Exhortations
11. Eliminate Targets
12. Permit Pride of Workmanship
13. Encourage Education
14. Top Management's Commitment

3. CEASE DEPENDENCE ON INSPECTION

◆ Eliminate the need for mass inspection as a way to achieve quality by building quality into the product in the first place.

◆ Require statistical evidence of built in quality in both manufacturing and purchasing functions.

4. END “LOWEST TENDER” CONTRACTS

◆ End the practice of awarding business solely on the basis of price tag.
◆ Instead, require meaningful measures of quality along with price.
◆ Reduce the number of suppliers for the same item by eliminating those that do not qualify with statistical evidence of quality.
◆ Move towards a single supplier for any one item, on a long-term relationship of loyalty and trust.
◆ The aim is to minimize total cost.
◆ Purchasing managers have a new job, and must learn it!
Who would buy a tyre for his car at the lowest price?

The overriding requirement for a single supplier is his burning desire and ability to work with you on a long term basis.

---

4. END “LOWEST TENDER” CONTRACTS

---

5. IMPROVE EVERY PROCESS

- Improve constantly and forever every process, production and service.
- Search continually for problems in order to improve every activity in the company, to improve quality and productivity and thus constantly decrease costs.
- It is management's job to work continually on the system (design, incoming material, maintenance, improvements of machines, supervision retraining).

---

10. ELIMINATE EXHORTATIONS

- Eliminate the use of slogans, posters and exhortations for the workforce, demanding zero defects and new levels of productivity without providing methods.
- Such exhortations only create adversarial relationships; the bulk of the causes of low quality and low productivity belong to the system and thus lie beyond the power of the workforce.
12. PERMIT PRIDE OF WORKMANSHIP

Remove barriers that rob hourly workers, and people in management, of their right to pride of workmanship.
This implies, amongst other things, abolition of the annual merit rating (appraisal of performance) and of management by objective.

Again, the responsibility of managers, supervisors, foremen must be changed from sheer numbers to quality.

12. PERMIT PRIDE OF WORKMANSHIP

What do you have without pride of workmanship?

Just a job, to get money.

There's not much joy in that people get rewarded for conforming.

No wonder we are on the decline.

12. PERMIT PRIDE OF WORKMANSHIP

- People are unable to contribute what they would like to contribute to their jobs; they have to concentrate on getting a good rating people find out what is important for merit, and do it.

- Who can blame them?

- The aim is to get a good rating, to please the boss stay in line; don't miss a raise people get rewarded for conforming, no wonder we are on the decline.
Institute a vigorous programme of education, and encourage self improvement for everyone.

What an organization needs is not just good people; it needs people that are improving with education.

Advances in competitive position will have their roots in knowledge.

We're not here to learn skills;

We're here for education

You can install a piece of equipment - but you cannot install knowledge

What is needed is a profound knowledge

**DEMING'S CONTRIBUTION TO QUALITY**

* Understanding Variation - identification of special causes and common causes of variation
* Scientific approach to quality - using statistical tools etc
* Use of Joiner triangle - model for TQM
* Plan-Do-Check-Act cycle - feedback system basis of many quality assurance programmes eg ISO 9000
* Focus on people as the most important part of the system
* 14 Points for Management
* Management Commitment
* Education, Commitment and Obsession
* Joy in Work
THE MALCOLM BALDRIGE AWARD

BALDRIDGE AWARD WINNERS

<table>
<thead>
<tr>
<th>Year</th>
<th>Manufacturing</th>
<th>Small Business</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>Cadillac Motor Car Co. IBM Rochester</td>
<td>Wallace Co., Inc. Federal Express</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Selection Corp. Zetex Corp.</td>
<td>Marlow Industries</td>
<td></td>
</tr>
<tr>
<td>1992</td>
<td>AT&amp;T Network Systems Transmission Systems Business Unit</td>
<td>AT&amp;T Universal Card Services</td>
<td>Granite Rock</td>
</tr>
<tr>
<td></td>
<td>Texas Instruments, Inc., Defense Systems &amp; Electronics Group</td>
<td>The Ritz-Carlton Hotel</td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td>Eastman Chemical Co.</td>
<td>Anso Rubner Co.</td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td>Wamwright Industries</td>
<td>AT&amp;T Comm. Serv. GTE Directions</td>
<td></td>
</tr>
</tbody>
</table>

THE BALDRIGE AWARD

The Baldrige Award has three central purposes:

1. to promote awareness and understanding of the importance of quality improvement to the nation’s economy;

2. to recognize companies for outstanding quality management and achievement; and

3. to share information on successful quality strategies.
The Award Program is a public-private partnership. A crucial part of this partnership is the willingness of the Award winners to share information on their successful quality strategies with other U.S. organizations.

For purposes of the Award Program, a "successful quality strategy" has three principal features:

1. integration with business strategy;
2. active organizational learning processes tying together all corporate requirements and responsibilities - customer, employee, supplier, productivity, etc; and
3. multidimensional results that contribute to overall business improvement and competitiveness.

An applicant for the Baldrige Award is required to submit a report summarizing its practices and results, responding to requirements in the examination items. Award applications are reviewed in a four-stage process by a private sector, volunteer Board of Examiners.

The first stage consists of multiple, independent, detailed review by at least five Examiners.
The top applications are forwarded to the second (consensus) stage to refine the first-stage evaluations.

In the third stage, top contenders are site visited (2 to 5 days each) by teams of 6 to 8 Examiners.

A Panel of nine Judges reviews the site visit reports and recommends Award recipients.

All applicants receive comprehensive feedback reports.

Final contenders for the Award each receive about 500 hours of review.

The criteria for the Baldrige Award comprise 28 examination items distributed among seven categories, as follows:

1. Leadership;
2. Information and Analysis;
3. Strategic Quality Planning;
4. Human Resource Development and Management;
5. Management of Process Quality;
6. Quality and Operational Results; and
7. Customer Focus and Satisfaction.

The system comprises the set of well defined and well designed processes for meeting the company’s customer and performance requirements.

Measures of progress provide a results-orientated basis for channeling actions to delivering ever-improving customer value and company performance.
**BALDRIDGE AWARD CRITERIA FRAMEWORK**

**Dynamic Relationships**

**Driver**
Senior executive leadership sets directions, creates values, goals and systems, and guides the pursuit of customer value and company performance improvement.

**Goal**
The basic aims of the system are the delivery of ever improving value to customers and success in the market place.

---

The Baldrige model serves as a very broad structural guide for quality transformations, and the assessment categories serve as a basis to evaluate the progress of implementation in any organization.
The Malcolm Award Program’s purpose is educational - to encourage sharing of competitiveness learning and to “drive” this learning nationally. It fulfills this purpose in three major ways:

- by promoting awareness of quality as an important element in competitiveness
  - by recognising companies for successful quality strategies and
  - by fostering information sharing of lessons learned

Major purposes of the Malcolm Baldrige Award are to:

- Promote Education
- Self Assessment and
- Sharing