

**Designing Quality Products and Processes**

**Lecture VII**  
*[Chapters 8 and 9 in textbook]*

**Evolution of the “Quality” Function**

**The traditional “Quality Department”**

**Responsible for**

**quality control**

**quality assurance**

**Evolution of the “Quality” Function**

**Should the “quality department”**

**be external to production**  
*[more “independent”]*  
**internal to production**  
*[less adversarial]*

**Tends to go through cycles**

**Evolution of the “Quality” Function**

**The traditional “Quality Department”**

**Responsibility for:**

**External quality**

**Both external and internal quality**

**Evolution of the “Quality” Function**

**Concept of “partnering” in the supply chain**

**Internal quality, External quality**

**Supplier relations, Customer relations**

**Evolution of the “Quality” Function**

**New characteristics of the organization**

**Cross – functional teams**

## **Roles and Responsibilities of Upper Management**

### **Upper management**

***“action” not just “support”***

## **Roles and Responsibilities of Upper Management**

***Participate actively and positively in quality activities***

## **Roles and Responsibilities of Upper Management**

### **Provide the necessary resources**

- training
- equipment
- recognition rewards

## **Roles and Responsibilities of Upper Management**

***Facilitate  
“cooperation”  
rather than  
“competition”***

## **Roles and Responsibilities of Upper Management**

### **Quality Council**

**Upper management team**

***Difference in focus rather than difference in personnel***

***“your action speaks so loudly, I can not hear what you say”***

## **Roles of the “Quality Manager”**

### **Traditional**

- Measuring and documenting “problems”
- Inspection department (sort, select, reject)

## Roles of the "Quality Manager"

### Contemporary

Managing to "ensure quality"

(including quantity and delivery)

## Roles of the "Quality Manager"

### Contemporary (cont.)

Quality planning

- plant versus corporate activities

Setting up quality measurement at all levels

- applicability at different levels

Auditing quality

- internal and outgoing

Auditing quality practices

- procedures being followed(ISO9000)

## Roles of the "Quality Manager"

### Contemporary (cont.)

Coordinating & assisting with quality projects

- continuous improvement (Kaizan)

Participating in supplier partnerships

- supply chain quality system

Training for quality

- tools, techniques, problem solving methods, and statistical methods

## Roles of the "Quality Manager"

### Contemporary (cont.)

Consulting for quality

- assist other parts of organization

Developing new quality methodologies

- keeping up with current state of the art

Transferring activities to line departments

- related to all of the above

## 6 Sigma Quality Project Teams



## Workforce Teams

Who is "selected" for the team

volunteers ?  
chosen ?  
elected ?

## **Workforce Teams**

**Personal characteristics and skills that are important for team members**

**Ability to communicate with peers is more important than the ability to communicate with management**

## **Workforce Teams**

**Personal characteristics and skills that are important for team members**

**Communication skills**

**Inter-personal skills**

## **Comparison of Organizations**

**Scope of work**

**Traditional - each individual is responsible for a narrow scope**

**Self-managed - team is responsible for a broad scope**

## **Comparison of Organizations**

**Job categories for personnel**

**Traditional – many narrow categories**

**Self-managed – a few broad categories**

## **Comparison of Organizations**

**Organizing, scheduling and assigning work**

**Traditional – primarily by supervisor or staff**

**Self-managed – primarily by team**

## **Comparison of Organizations**

**Measuring and taking corrective action**

**Traditional – primarily by supervisor or staff**

**Self-managed – primarily by team**

## Comparison of Organizations

### Training

**Traditional - training for task assigned to individual**

**Self-managed - extensive training for multiple tasks plus interpersonal skill training**

## Comparison of Organizations

### Opportunity for job rotation

**Traditional - minimum**

**Self-managed - high because of extensive training**

## Comparison of Organizations

### Reward systems

**Traditional – related to job, individual performance and seniority**

**Self-managed - related to team performance and scope of skills acquired by individual**

## Comparison of Organizations

### Handling of personnel issues

**Traditional - primarily by supervisor or staff**

**Self-managed – many issues handled by team**

## Comparison of Organizations

### Sharing of business information

**Traditional - limited to non-confidential information**

**Self-managed - open sharing of all information**

## Self-Managed Teams

### Benefits

*Improved work methods  
Helpful in recruiting  
Staffing flexibility  
Improved quality  
Output may improve  
Staff support reduced  
Supervision reduced  
Improved decision making*

### Problems

*Salary costs go up  
Training costs go up  
Personnel needed for training  
Unmet expectations may occur  
Resistance by middle management  
Resistance by staff groups  
Conflict: participants & nonparticipants  
Time lost in team meetings*

## Quality Training for Different Functional Areas

Upper management

Middle management

Quality department

Production supervision

Line workers

## Developing a Quality Culture

Maslow's list of human needs and potential quality motivation

**Physiological needs** (i.e., need for food, shelter, basic survival. In an industrial economy, this translates into minimum subsistence earnings).

Opportunity to increase earnings by receiving a bonus for good work.

**Safety needs** (i.e., once a subsistence level is achieved, the need to remain employed at that level).

Job security: e.g., quality makes sales; sales make jobs.

## Developing a Quality Culture

Maslow's list of human needs and potential quality motivation

**Belongingness and love needs** (i.e., the need to belong to a group and be accepted).

Appeal to the employee as a member of the team-he or she must not let down the team).

**Esteem needs** (the need for self-respect and for the respect of others).

Appeal to pride of workmanship, to achieving a good score. Recognition through rewards, publicity, etc.

## Developing a Quality Culture

Maslow's list of human needs and potential quality motivation

**Self-actualization needs** (i.e., the urge for creativity, for self-expression).

Opportunity to propose creative ideas, to participate in creative planning.

## Developing a Quality Culture

Job satisfaction / dissatisfaction

Not opposites of a single continuum

Dissatisfaction – from specific “dislikes”

Satisfaction – from what a worker does

## Developing a Quality Culture

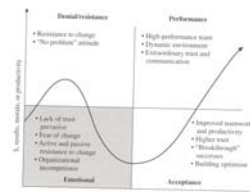


FIGURE 8.4 Organizational change curve.

## ***Developing a Quality Culture***

***The problem is no “change”***

***The problem is the transition !!***

## ***The “Goal”***

***Goal of the company / plant /  
department / operation***

***Throughput - inventory - operating costs***

## ***Performance Measurement***

***Forms of recognition / rewards***

***Based on participation, effort, or results***

***Individual or group***

***Monetary or non-monetary***

***Competitive or non-competitive***

***Who decides the form/amount of recognition***

***Who selects the recipients***

***Frequency of recognition***