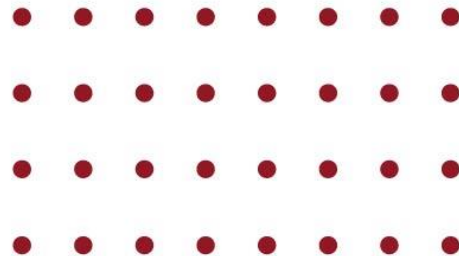


Chapter 14

Human Resources, Job Design and Work Measurement



- **Objectives**
- **Introduction**
- **Human Resources and Quality Management**
- **Human Resources Strategy for Competitive Advantage**
 - Constraints on Human Resource Strategy
 - Job Classifications and Work Rules
- **Labor Planning**
 - Employment-Stability Policies
 - Work Schedules
 - Job Classifications and Work Rules
- **Job Design**
 - Labor Specialization
 - Job Expansion
 - Psychological Components of Job Design
 - Self-Directed Teams
 - Motivation and Incentive Systems
- **Methods Analysis**

Objectives

Describe Human Resource and Quality Management

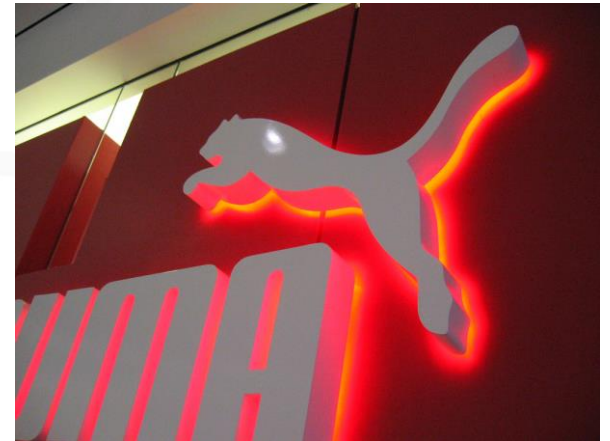
Discuss Human Resource Strategy for competitive advantage

Describe labor-planning policies

Identify the major issues in job design

Use the tools of methods analysis

Introduction



Human Resources and Quality Management

- Quality management is an integral part of most companies' strategic design, and the role of employees is an important aspect of quality management.
- To manage human resources from this perspective, a company must focus on employees as a key, even central, component in their strategic design.



- Companies that successfully integrate this kind of “employees first” philosophy into their strategic design share several common characteristics.



Human Resources Strategy for Competitive Advantage

- Good human resource strategies are expensive, difficult to achieve, and hard to sustain.



Constraints on Human Resource Strategy

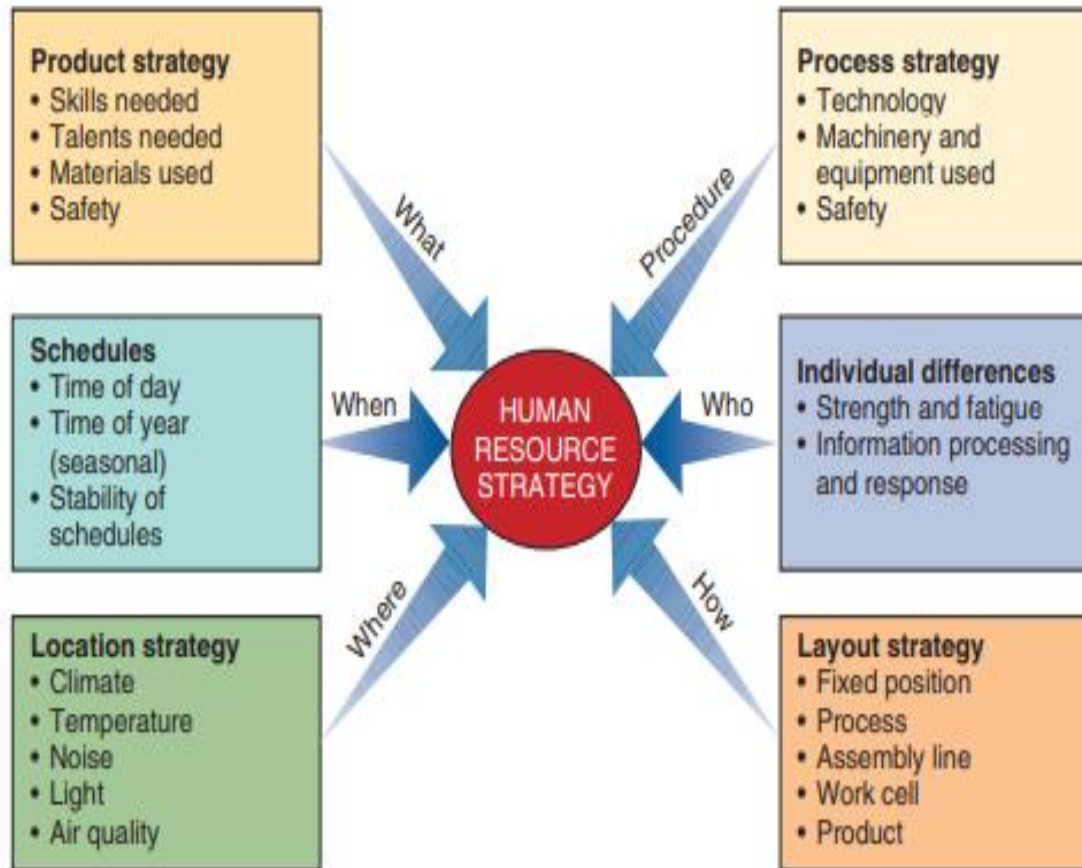


Figure 1.1
Constraints on Human Resource Strategy.

Job Classifications and Work Rules

- Many organizations have strict job classifications and work rules that specify who can do what, when they can do it, and under what conditions they can do it, often because of union pressure.

These job classifications and work rules restrict employee flexibility on the job, which in turn reduces the flexibility of the operations function.



Labor Planning

Employment-Stability Policies

- Employment stability deals with the number of employees maintained by an organization at any given time. There are two very basic policies for dealing with stability:

- 1. Follow demand exactly.**
- 2. Hold employment constant.**

Work Schedules

- Flextime allows employees, within limits, to determine their own schedules.

Daily Employee Schedule							
Department: _____	Week Of: _____						
Employee Name	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Jane		9a-5p	9a-5p	9a-5p			
Joe				8a-4p	8a-4p	8a-4p	8a-4p



Job Design

Job design specifies the tasks that constitute a job for an individual or a group.

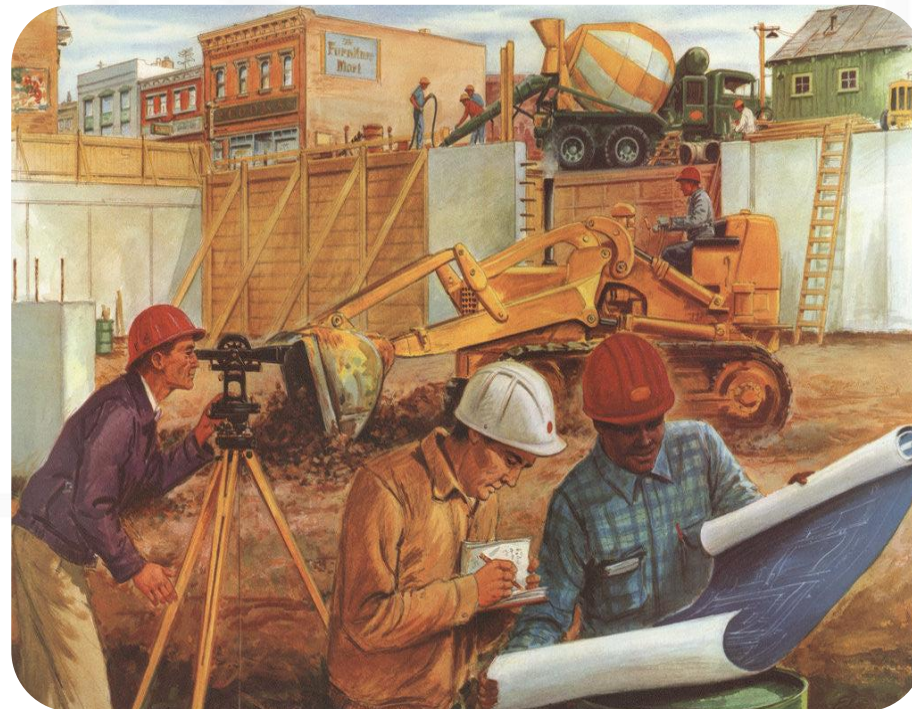
We examine five components of job design:

- Job specialization
- Job expansion
- Psychological components
- Self-directed teams
- Motivation and incentive systems



Labor Specialization

Smith suggested that a division of labor, also known as labor specialization (or job specialization), would assist in reducing labor costs of multiskilled artisans.



Job Expansion

- Moving from labor specialization toward more varied job design may improve the quality of work life. The theory is that variety makes the job “better” and that the employee therefore enjoys a higher quality of work life.
- This flexibility thus benefits the employee and the organization. We modify jobs in a variety of ways.
- The first approach is job enlargement, which occurs when we add tasks requiring similar skill to an existing job.

- Job rotation is a version of job enlargement that occurs when the employee is allowed to move from one specialized job to another.
- Variety has been added to the employee's perspective of the job.
- Another approach is job enrichment , which adds planning and control to the job.



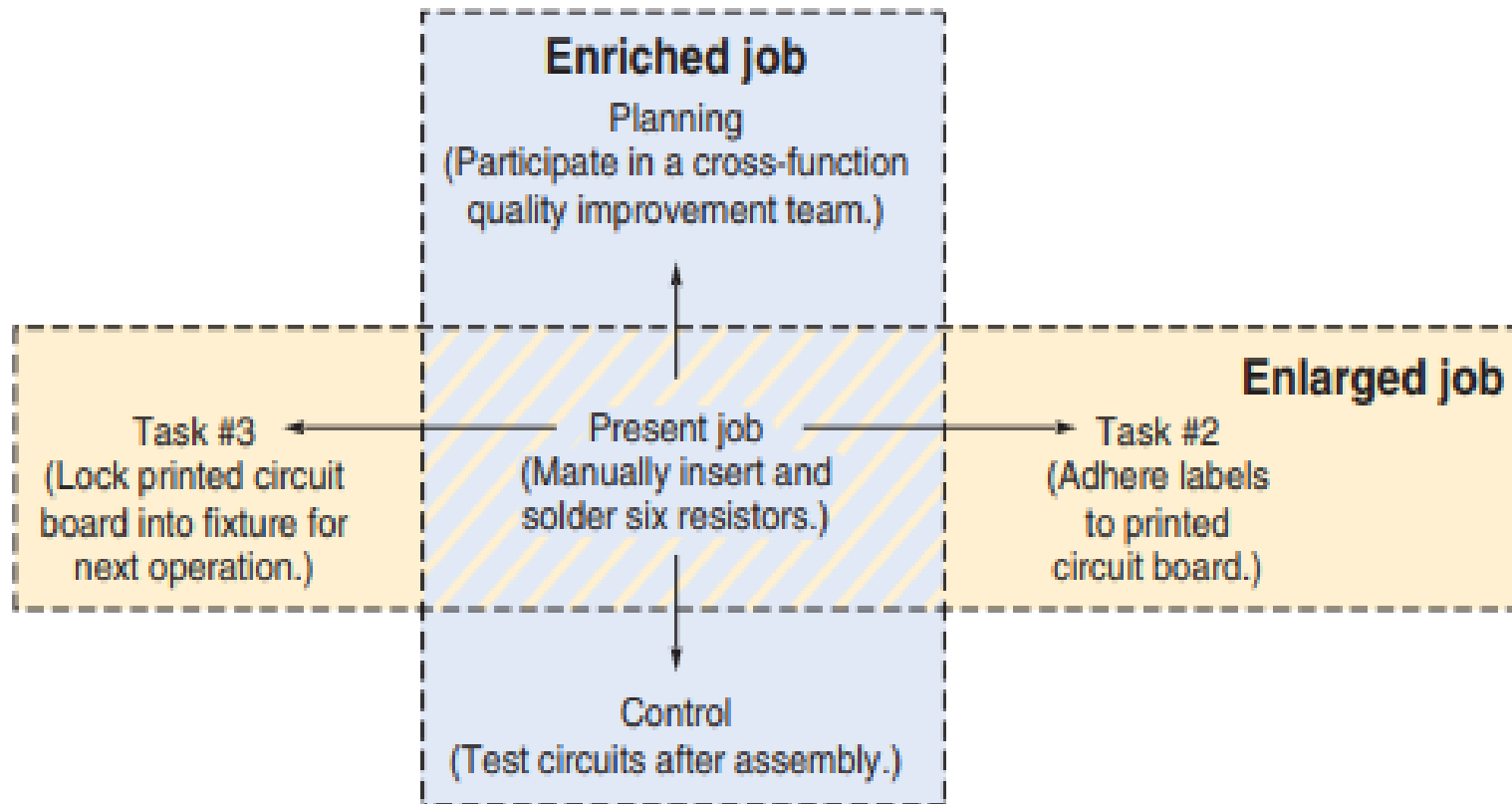


Figure 1.2

An Example of Job Enlargement (horizontal job expansion) and Job Enrichment (vertical job expansion)

Psychological Components of Job Design

Core Job Characteristics:

They suggest that jobs should include the following characteristics:

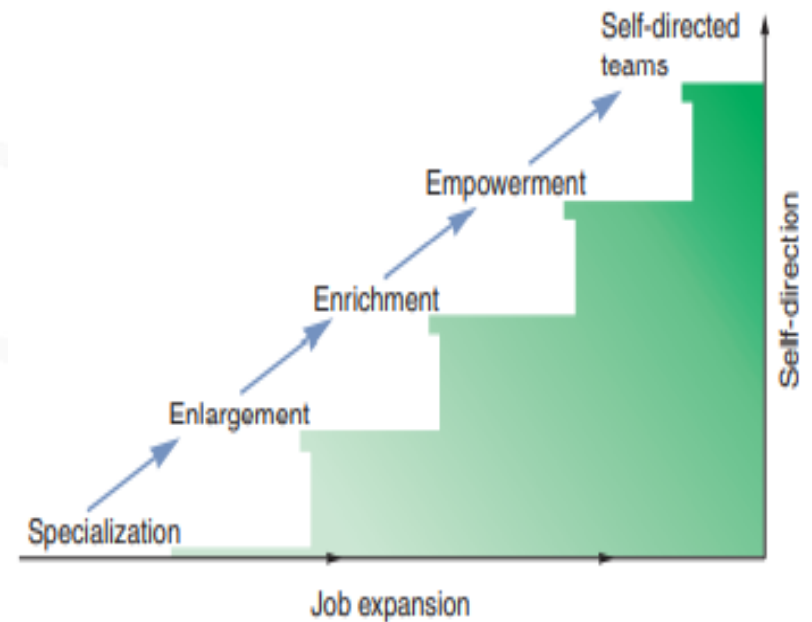
- Skill variety
- Job identity
- Job significance
- Autonomy
- Feedback

Self-Directed Teams

- A group of empowered individuals working together to reach a common goal.

Here are a few limitations of expanded job designs:

- Higher capital cost
- Individual differences
- Higher wage rates
- Smaller labor pool
- Higher training costs



Motivation and Incentive Systems

- Monetary rewards take the form of bonuses, profit and gain sharing, and incentive systems.
- Bonuses, in cash, stock ownership, or stock options, are often used to reward employees.



- Production incentives often require employees or crews to produce at or above a predetermined standard.
- The standard can be based on a “standard time” per task or number of pieces made.



Methods Analysis

Methods techniques are used to analyze:

- Movement of individuals or material.
- Activity of human and machine and crew activity.
- Body movement (primarily arms and hands).

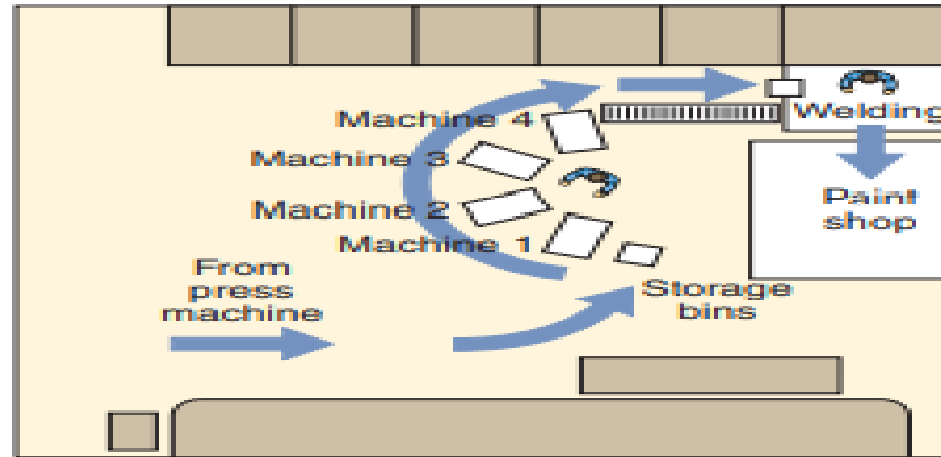
Process charts use symbols to help us understand the movement of people or material.

Present Method <input type="checkbox"/>		Proposed Method <input checked="" type="checkbox"/>		PROCESS CHART	
SUBJECT CHARTED <u>Axle-stand Production</u>				DATE <u>5/1/15</u>	
DEPARTMENT <u>Work cell for axle stand</u>				CHART BY <u>JH</u>	
				CHART NO. <u>1</u>	
				SHEET NO. <u>1</u> OF <u>1</u>	
DIST. IN FEET	TIME IN MINS.	CHART SYMBOLS		PROCESS DESCRIPTION	
50	3	○ → □ ▢ ▽		From press machine to storage bins at work cell	
5		○ → □ ▢ ▽		Storage bins	
5	4	○ → □ ▢ ▽		Move to machine 1	
4		● → □ ▢ ▽		Operation at machine 1	
4	2.5	○ → □ ▢ ▽		Move to machine 2	
4		● → □ ▢ ▽		Operation at machine 2	
4	3.5	○ → □ ▢ ▽		Move to machine 3	
4		● → □ ▢ ▽		Operation at machine 3	
4	4	○ → □ ▢ ▽		Move to machine 4	
4		● → □ ▢ ▽		Operation at machine 4	
20	4	○ → □ ▢ ▽		Move to welding	
		○ → □ ▢ ▽	■	Poka-yoke inspection at welding	
	4	● → □ ▢ ▽		Weld	
10	4	○ → □ ▢ ▽		Move to painting	
		● → □ ▢ ▽		Paint	
97	25			TOTAL	

○ = operation; → = transport; □ = inspect; ▢ = delay; ▽ = storage

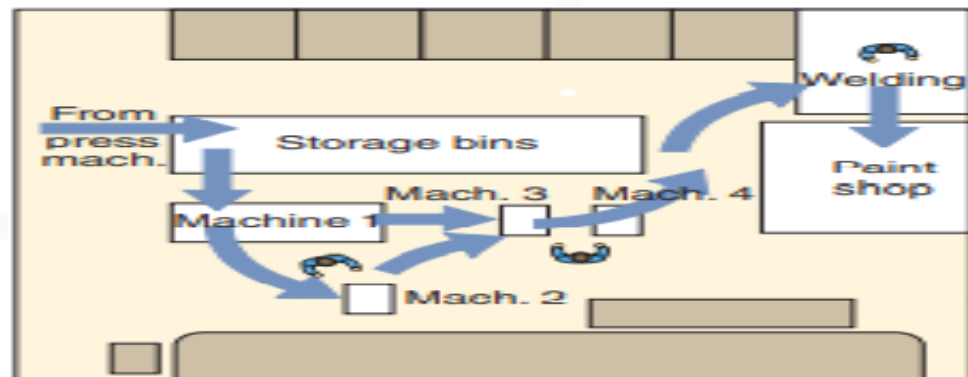
Figure 1.3

Flow diagrams are schematics (drawings) used to investigate movement of people or material.



Activity charts are used to study and improve the utilization of an operator and a machine or some combination of operators (a “crew”) and machines.

Figure 1.4



Summary

- Outstanding firms know that their human resource strategy can yield a competitive advantage.
- Often a large percentage of employees and a large part of labor costs are under the direction of OM.
- Consequently, an operations manager usually has a major role to play in achieving human resource objectives.
- A requirement is to build an environment with mutual respect and commitment and a reasonable quality of work life.
- Successful organizations have designed jobs that use both the mental and physical capabilities of their employees.

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2. Jay Heizer & Barry Render & Chuch Munson (2017), Operations Management Sustainability and Supply Chain Management, Global Edition 12th Edition, Chapter 17: Maintenance and Reliability, Page 700. (Figure 1.1)
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4. Jay Heizer & Barry Render & Chuch Munson (2017), Operations Management Sustainability and Supply Chain Management, Global Edition 12th Edition, Chapter 17: Maintenance and Reliability, Page 706. (Figure 1.2)
5. William J. Stevens (2018), Operations Management, Thirteen Edition, Chapter 17: Maintenance, Page 644 till 650.



Thank You!

