**Human Resources**

- Key Points
  - People are substantial investments by a company when you consider the cost of recruiting, selecting, placing and ongoing training.
  - Every person is different
  - The competitive nature of the global marketplace suggests only those companies that are good at acquiring and motivating their human resources will survive.

**Changing Markets**

- 1960’s only 7% of the US was exposed to international markets
- 1980’s that number exceeded 70%
- Today 20% of jobs are directly tied to international trade
- For every $1 Billion in exports, there are approximately 20,000 new jobs that pay 22% more than the average.
Impact on US Jobs

- Due to recession between 1987 and 1995 seven million permanent layoffs occurred
- Permanent loss due to new technology, new machinery, and new ways of organizing work
- Although unemployment remains at the lowest level in decades, the “leaning” of America continues
- The current economic expansion could not have sustained itself over the last five years without the record level of immigration that has occurred.

Changes in Structure and Design of Organization

- Trends forcing new forms of organization:
  - Smaller companies that employ fewer people
  - Shift from vertically integrated hierarchies to networks of specialists
  - Technicians replacing manufacturing operators as the elite worker
  - Pay tied more to the market value of skills rather than to a person’s position or tenure
  - Work is constantly changing to respond to increasing demands of the customer
Changing Role of Managers

- Traditional managers cling to power by hoarding information
- Today’s managers must be able to react rapidly to changing market conditions.
  - They must articulate a vision of what the organization stands for and what it wants to become
  - Use the vision as a benchmark to evaluate progress

Emergence of the Empowered Worker

- There are more women, multiethnic, older and more temporary workers at every level today.
- Workers don’t expect to have one career, they prepare themselves to adapt to changing circumstances.
- Do more with less, cross-training, personal flexibility, and continuous learning
Organizational Implications

- Capital, equipment and information are available to every company in a global market, the one element that doesn’t move across borders is a nation’s workforce.

- Quality of our workers will determine if we retain the ability to compete.

- A diverse work force is something a company must have, not ought to have

- The U. S. is now fourth in college graduation rate.
  - Norway 37.1%
  - United Kingdom 35.1%
  - Netherlands 34.6%
  - USA 32.9%
  - Source: Organization for Economic Co-operation and Development

Implications for R&M

- Treat R&M workers like people

- Provide training and ongoing development

- Create a sense of “ownership”

- Plan the work and the work environment

- Solicit and use your people’s ideas

- Emphasize communication that leads to real understanding on both sides
Implications for Leadership

- Contingency Theory:
  - There is no one right way to manage, rather the manager must develop the organizational structure, reward system, and leadership style appropriate for the unique combination of factors.

- Leadership Continuum:
  - Any style along the continuum may be appropriate

Leadership Continuum

- Autocratic
  - Telling or announcing decisions

- Diplomatic
  - Selling decisions to employees

- Consultative
  - Consulting with employees prior to decision

- Participative
  - Joining of employees in decision-making
**Training and Personal Development**

- Extended training hours as a result of lean manufacturing and other innovations
- Cross-trained employees
- Operators learn basic maintenance
  - inspection
  - cleaning
  - lubrication
  - minor adjustments

**Equipment Improvement Process**

- Select Equipment
  - Production bottleneck
  - High breakdown frequency or long repair
  - Safety critical
  - Quality rates
- Measure Extent of Loss
  - Quality and Accident rates
  - Lost production
  - Maintenance resource consumption
Equipment Improvement Process (cont)

• Prioritize and Plan Improvements
  – Criticality and difficulty of improvement

• Study and Correct Problems in Small Groups
  – Pareto analysis
  – P-M Analysis

• Monitor progress and share results
  – Monitor equipment for improvement as changes are introduced
  – Provide measurement responsibility to operator

Equipment Improvement Process (cont)

• Reevaluate Priorities and Continue Improvements
  – Continually reprioritize under-performing machines
  – Continually start up new equipment improvement teams

• TPM Development Program
  – Small work groups are organized to focus on improving equipment suffering chronic losses
  – Team members are from:
    • Equipment and maintenance engineering
    • Production supervision
    • Production and craft hourly employees
Barriers and Other Issues

- Labor Unions
- Manager’s unwillingness to invest the effort and resources required to change present work practices