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**Strategic Human Resource
Management**



MIT Sloan School of Management

Two ways of managing



Traditional

- ✦ Narrow job definitions
- ✦ Hire/Fire
- ✦ Adversarial atmosphere
- ✦ Managers think, employees execute
- ✦ No employee role in governance

High Performance

- ✦ Flexible jobs
- ✦ Teams
- ✦ Joint Problem Solving
- ✦ Employee participation in decision-making
- ✦ High levels of training

NUMMI

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Case Discussion

NUMMI



- **NUMMI produces an average of 87 cars/worker vs. approximately 50 for Saturn and Buick City, General Motors' most productive plants.**
- **Since 1983, General Motors has spent over \$80 billion on automation to improve the quality and productivity of their manufacturing plants.**
- **In 1998, a 58-day strike at G.M. idled 200,000 workers and cost the company an estimated \$2.5 billion.**

NUMMI Compared with Other Auto Plants (1986)

Plant	Productivity (Hours/Unit)	Quality (Defects/100 Units)	Automation Level (0=none)
Honda, Ohio	19.2	72.0	77.0
Nissan, Tennessee	24.5	70.0	89.2
NUMMI, California	19.0	69.0	62.8
Toyota, Japan	15.6	63.0	79.6
GM, Michigan	33.7	137.4	100.0
GM, Massachusetts	34.2	116.5	7.3

Source: John Krafcik, "Triumph of the Lean Production System", *Sloan Management Review*, 1988, Volume 3, pp. 144-52.

Toyota's Commitment to Learning



“All the organizations we studied that are managed according to the Toyota Production System share an overarching belief that people are the most significant corporate assets and that investments in their knowledge and skills are necessary to build competitiveness.”

**Steven Spear & Kent Bowen
Harvard Business Review
September-October, 1999**

Training in World Auto Plants

Ownership/ Location	Training Hours: First 6 Months for New Workers	Training Hours per Year: Workers with >1 Year Experience
Japanese/Japan	364	76
Japanese/North America	225	52
U. S./North America	42	31
U. S./Europe	43	34
European/Europe	178	52
Newly Industrialized Countries	260	46
Australia	40	15

SOURCE: MacDuffie and Kochan, *Industrial Relations*, 1995, p. 156

From the NUMMI Team Handbook



Our HR philosophy guides us in the development of our full human potential to enable us to build the highest quality automobiles at the lowest possible cost by:

- *Recognizing our worth and dignity*
- *Developing our individual performance*
- *Developing our team performance*
- *Improving our work environment*

NUMMI's Core Values



- *Customer Satisfaction (quality and cost)*
- *Dignity*
- *Trust*
- *Teamwork*
- *Consistency*
- *Frugality*
- *Continuous Improvement*
- *Simplicity*
- *Harmony*

Mini-Lecture



Teams

Effective Use of Team-Based Systems



- ❖ What is a team-based system?
- ❖ Costs and benefits of using teams?
- ❖ What is the leader's role in a team-based organization?
- ❖ What skills are needed for teams to function effectively?
- ❖ How can you introduce a team-based system?
- ❖ Overall lessons learned?

What is a Team?



A team is a small number of people with complementary skills who are committed to a common purpose, performance goals, and approach for which they hold themselves mutually accountable.

**John Katzenbach and Douglas
Smith, McKinsey & Company
The Wisdom of Teams
Harvard Business School Press, 1993**

Working Groups Versus Teams

WORKING GROUP

- ❖ Strong, clearly-focused leader
- ❖ Individual accountability
- ❖ Group's purpose is same as the organization's
- ❖ Individual work products
- ❖ Runs efficient meetings
- ❖ Measures performance in terms of larger firm
- ❖ Discusses, decides, and delegates

TEAM

- ❖ Shared leadership roles
- ❖ Individual and mutual accountability
- ❖ Specific purpose for which the team is responsible
- ❖ Collective work products
- ❖ Open-ended meetings for problem-solving
- ❖ Performance measured on team products
- ❖ Discuss, decide, and work together

Common Team Responsibilities



✦ Quality improvement	100%
✦ Cross-training	85%
✦ Scheduling (Production)	80%
✦ Safety	70%
✦ Process improvement	70%
✦ Measurement/goal-setting	75%
✦ Budget/expense control	50%
✦ Selection	55%
✦ Coordination with others	50%
✦ Customers and suppliers	60%
✦ Performance appraisal	50%

Manz and Sims (1993)

Costs/Benefits of Using Teams



Benefits

- ✦ Bring together complementary skills and experiences
- ✦ Provides for flexibility
- ✦ Social benefits: fun, commitment
- ✦ Less resistant to change

Costs

- ✦ Coordination costs
- ✦ Personal discomfort and conflict
- ✦ Diffusion of responsibility (free-riders and social loafing)
- ✦ Risk seeking

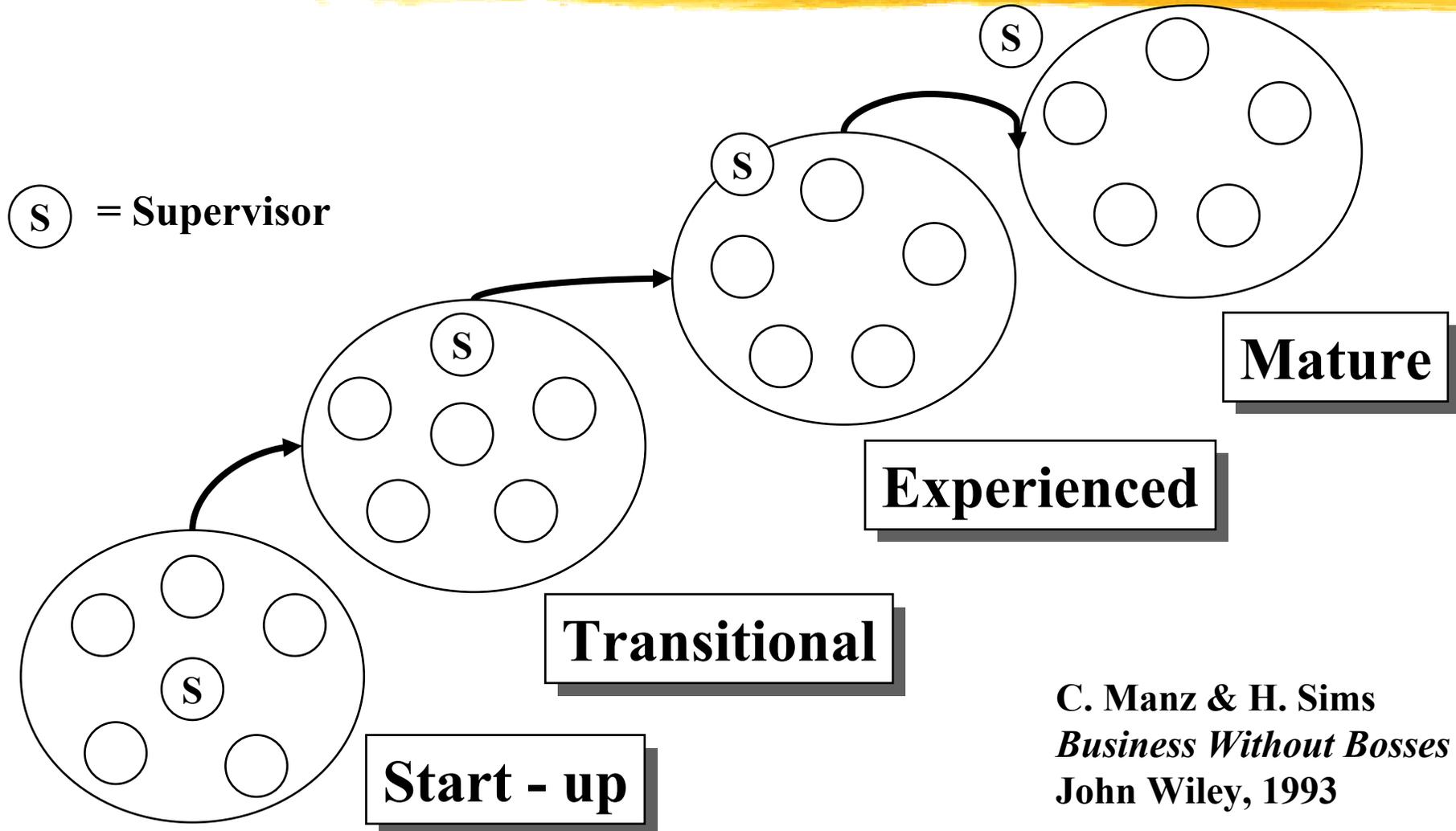
What is the role of the leader in a team-based system?

- *Ask questions*
- *Get the group to solve problems*
- *Promote real participation*
- *Help resolve conflict*
- *Train others*
- *Positive reinforcement*
- *Encourage high performance goals*
- *Encourage self-evaluation*
- *Tell the truth, even when it's disagreeable*
- *Liaison with higher management*

What Effective Team Leaders Do

- ❖ Keep purpose, goals, and approach relevant and meaningful
- ❖ Build commitment and confidence
- ❖ Manage the level and mix of skills
- ❖ Manage relationships with outsiders
- ❖ Create opportunities for others
- ❖ Do real work

Team Development



C. Manz & H. Sims
Business Without Bosses
John Wiley, 1993

What types of skills and training are required for a team-based system?



Training for Team Effectiveness



- ❖ Meeting skills, time management
- ❖ Conflict management
- ❖ Problem-solving, TQM
- ❖ Group dynamics, team building
- ❖ Change management
- ❖ Coaching and feedback
- ❖ Business knowledge (e.g., customer service)
- ❖ Technical skills

Evidence on Team Effectiveness

- ❖ Cost savings (labor, materials)
- ❖ Productivity
- ❖ Quality
- ❖ Customer service
- ❖ Speed and cycle time
- ❖ Innovation
- ❖ Safety
- ❖ Decreased absenteeism and turnover
- ❖ Decreased worker's compensation claims

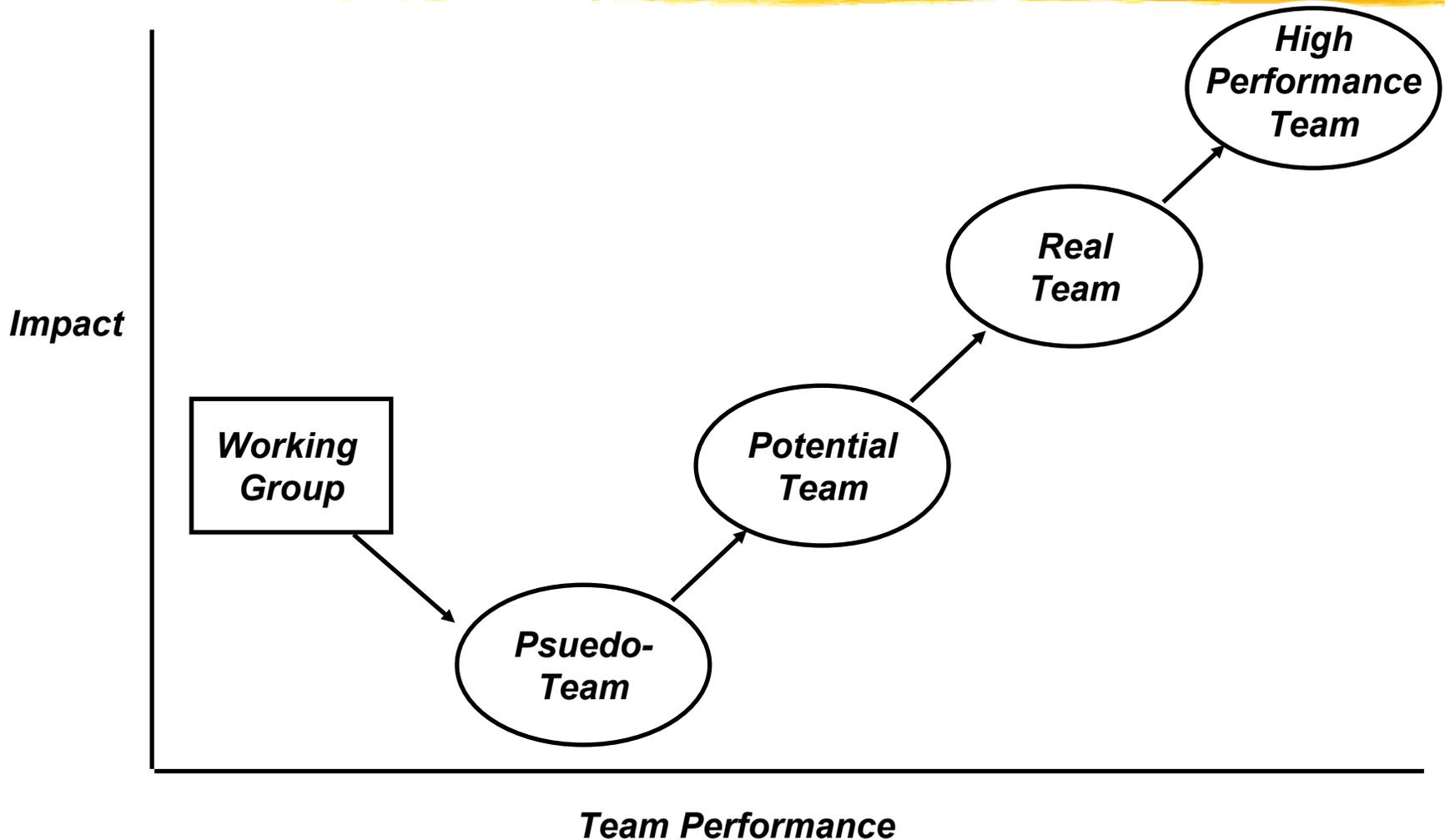
Pros and Cons of a Team-Based Approach?



Pros

Cons

Lessons Learned: Implementing Team-based Systems



Some Lessons Learned the Hard Way



- ❖ Organizations often expect too much, too soon.
- ❖ Things often get worse before they get better.
- ❖ Managers and supervisors are threatened.
- ❖ A new perspective on leadership is required.
- ❖ Need to begin with a clear philosophy and purpose.
- ❖ Technical people often see themselves as losers.
- ❖ Implementation needs careful planning.
- ❖ Employees need technical and behavioral skills.
- ❖ Greenfield sites are easier than retrofits.
- ❖ Continuous training is essential.
- ❖ Stability is crucial; turnover is deadly.
- ❖ May need new systems - especially MIS.
- ❖ Facilitation can help at the beginning.

Takeaways



- ❖ Teams need to be driven by a clear vision and purpose--why are we using them?
- ❖ Training and group process skills are important for groups to succeed.
- ❖ Team-based organizations need team-based systems, culture, and leadership--not just structure.

Another Example



Saturn

Source: Rubenstein and Kochan

Situating Saturn



- ❖ Grew out of GM-UAW 1980s workplace experiments with QWL, teams, NUMMI
- ❖ GM couldn't build small cars profitably
- ❖ High level of trust built up between UAW leader Don Ephlin & GM's Al Warren
- ❖ Both willing to champion a new approach

Most far-reaching & controversial labor relations & org. design experiment in the U.S of the past quarter century

Saturn's Evolution



✦ 1990-1996:

- ✦ Great customer reaction & high satisfaction
- ✦ Profits and Productivity--varied with volume
- ✦ "A new kind of union" adding value

✦ 1996-99:

- ✦ Delays & conflicts over new products
- ✦ Wilmington plant opens
- ✦ Difficult negotiations of decision-making & performance pay.

✦ 2000: New Company & Union Leadership

✦ Current challenge:

How to be more integrated in GM and yet retain sufficient independence to sustain the partnership and its competitive advantage.

Lecture

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High Performance Work Systems

Adopting High Performance Work Systems

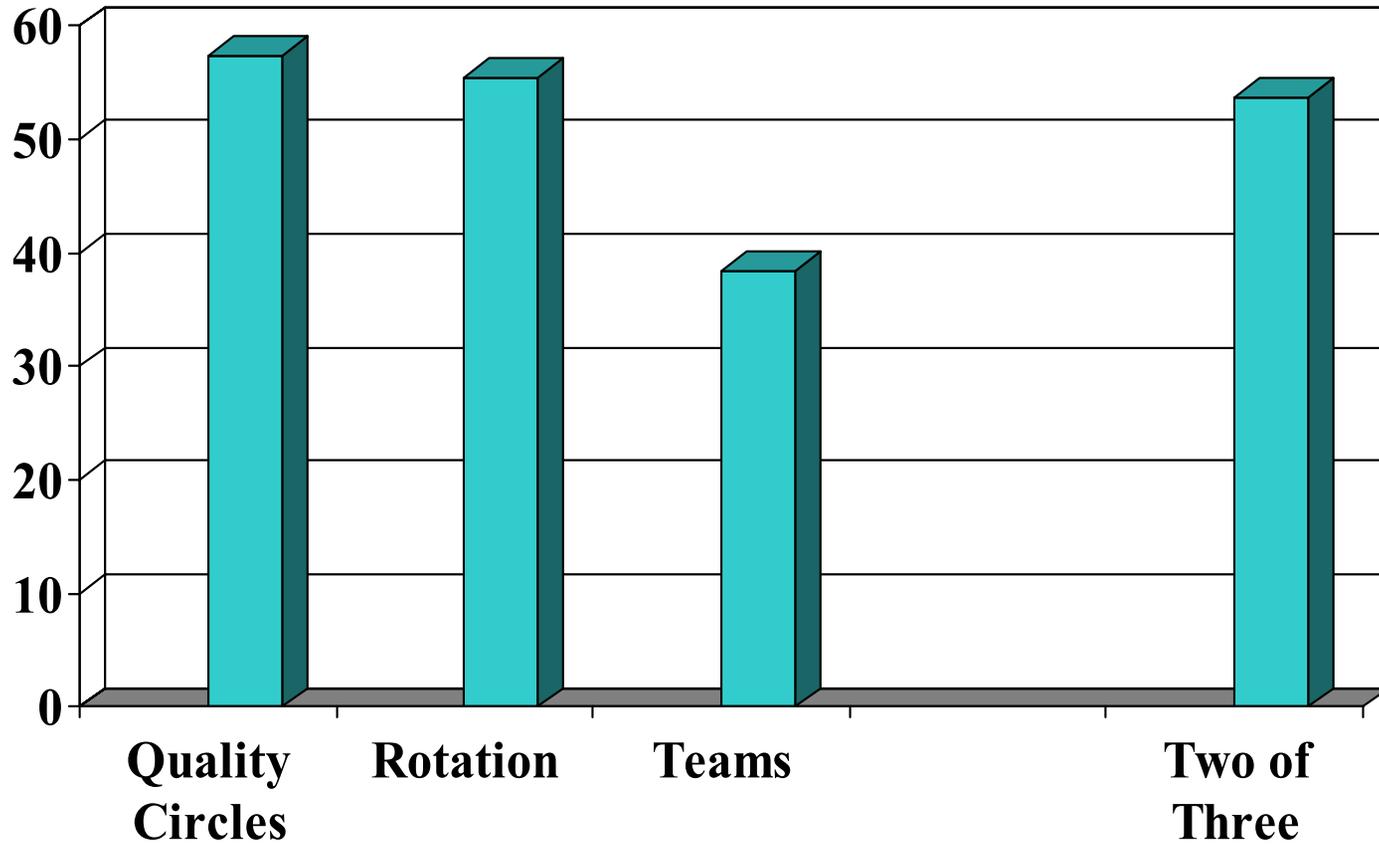
CHARACTERISTICS OF INNOVATORS

- ❖ YOUNGER
- ❖ COMPETE INTERNATIONALLY
- ❖ PART OF LARGER ORGANIZATION
- ❖ HIGH SKILLS TECHNOLOGY
- ❖ EMPLOYEE ORIENTED VALUES
- ❖ "HIGH ROAD"

SUPPORTING HUMAN RESOURCE PRACTICES

- ❖ PAY FOR SKILL
- ❖ GAIN SHARING
- ❖ PROFIT SHARING
- ❖ HUMAN RESOURCE DEPARTMENT IMPORTANT
- ❖ TRAINING

HIGH PERFORMANCE WORK SYSTEMS 1997



PERSISTENCE OF WORK SYSTEMS



	1997	1992
	YES	NO
YES	77.7%	22.3%
NO	49.5%	50.5%

Source: Osterman, Industrial and
Labor Relations Review, January 2000

GAINS FROM TRADITIONAL ORGANIZATION



- ❖ **Economies of scale from long standardized runs**
- ❖ **Control/Predictability**
- ❖ **Minimum training**
- ❖ **Less organizational disruption**

POTENTIAL SOURCE OF GAINS



- ❖ **Tap into workforce ideas and creativity**
- ❖ **Build commitment and effort**
- ❖ **More nimble/flexible**
- ❖ **Eliminate layers (e.g. quality supervisors)**
- ❖ **Speed up and peer pressure**

BARRIERS



- ❖ **Constituencies resist**
- ❖ **Teams are hard to create**
- ❖ **Skepticism of capital markets**
- ❖ **Small and medium firms lack time and resources**

QUESTIONS TO ASK IN MAKING CHOICE



- ❖ **How standardized or predictable is the environment?**
- ❖ **How flexible is the production technology?**
- ❖ **What does it take to recruit and retain employees? Do employees have requisite skills or can they be trained?**
- ❖ **How willing are you to create organizational disruption?**

Key Measurement Issues



- ✦ **Definitions of Terms**
- ✦ **Mail/Phone/In-person Surveys**
- ✦ **Sampling Frame of Employers**
- ✦ **Sampling Frame of Occupations**
- ✦ **Penetration Rate**
- ✦ **Report Fraction of Employers or Fraction of Employees**
- ✦ **Response Rate and Bias**

Issues in Assessing Performance



- ❖ **Unit of Analysis**
 - ❖ **Group, Process, Establishment, Firm, Industry, Economy**
- ❖ **Performance Metric**
- ❖ **Time Period of Measurement**
- ❖ **Additional Controls**
- ❖ **Contingency Perspective**
- ❖ **Selections Bias and Fixed Effects**
- ❖ **Direction of Causality**

AUTO STUDY METHODOLOGY



- ❖ **62 ASSEMBLY PLANTS, 1990**
- ❖ **WORK SYSTEMS: TEAMS, EI GROUPS, JOB ROTATION, SUGGESTIONS RECEIVED AND IMPLEMENTED**
- ❖ **HRM POLICIES: HIRING CRITERIA(EXTENT OF OPENNESS TO NEW SKILLS), CONTINGENT COMPENSATION, TRAINING, STATUS BARRIERS**

AUTO STUDY METHODOLOGY



- ❖ **OTHER CONTROLS: PRODUCT COMPLEXITY, AUTOMATION, USE OF BUFFERS, "JAPAN EFFECT"**
- ❖ **OUTCOMES: HOURS PER VEHICLE, DEFECTS PER 100 VEHICLES**

Source: MacDuffie

GAINS FROM NUMMI

	FREMONT	NUMMI	TAKAOKA
	1978	1986	1986
PRODUCTIVITY	43.1	20.8	18.0
CONSUMER REPORTS RELIABILITY INDEX	2.6-3.0	3.6-3.8	3.8-4.0

Source: Krafcik

CORRELATIONS OF PRODUCTIVITY AND QUALITY:AUTOS



	PRODUCTIVITY	QUALITY
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WORK SYSTEMS	.50	.50
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HRM POLICIES	.43	.67
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Source: MacDuffie

PRODUCTIVITY AND QUALITY: AUTOS



- ❖ **REGRESSIONS SUPPORT CORRELATIONS**
- ❖ **INTERACTION (BUNDLES) OF HRM/WORK ORGANIZATION ARE MOST POWERFUL PREDICTORS**

Source: MacDuffie

WORK ORGANIZATION AND PRODUCTIVITY IN STEEL : I



- ❖ **OUTCOME: PERCENT UP-TIME**
- ❖ **SAMPLE: MONTHLY OBSERVATIONS ON 36 FINISHING LINES IN 17 PLANTS WITH STANDARD PRODUCT**
- ❖ **HR VARIABLES: TEAMS, HIRING, ROTATION, TRAINING, EMPLOYMENT SECURITY, SECURITY**
- ❖ **CONTROLS: VINTAGE, CAPITAL TYPE**

Source: Ichniowski, Shaw and Prennushi

WORK ORGANIZATION AND PRODUCTIVITY IN STEEL:II



- ❖ **METHOD: CLUSTERED HR PRACTICES INTO FOUR GROUPS, FROM MOST TO LEAST TRADITIONAL**
- ❖ **ESTIMATED CROSS SECTION AND FIXED EFFECT REGRESSIONS**

Source: Ichniowski, Shaw and Prenzushi

WORK ORGANIZATION AND PRODUCTIVITY IN STEEL:III



- ❖ **MOST TRADITIONAL: UPTIME= 88%**
- ❖ **MOST TRANSFORMED: UPTIME=98%**
- ❖ **A MOVE FROM LEVEL 2 TO LEVEL 4
MAINTAINED FOR TEN YEARS=\$10
MILLION**

Source: Ichniowski, Shaw and Prennushi

WORK ORGANIZATION OF CUSTOMER SERVICE REPRESENTATIVES IN TELECOMMUNICATIONS



- ❖ **SAMPLE OF TEAMS AND TRADITIONAL CSRS IN ONE FIRM**
- ❖ **HELD CONSTANT PERSONAL CHARACTERISTICS**

Source: Batt

RESULTS FOR CSR'S



	TRADITIONAL	TEAMS
AVERAGE MONTHLY SALES	\$5010	5783
% OBJECTIVES MET	104%	108%

Source: Batt

Conclusion



- ✦ Next Class:
 - ✦ The HR Function