Lean Aircraft Initiative Plenary Workshop

Organizational Change

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Presented by:
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Agenda

- Background
- Research Methodology
- LAC Case Study
  - Technical Support Team
  - Self-Directed Work Team
- Questions/Answer
Aerospace technical organizations typically organized in “functional” organizations or “stovepipes” which are characterized by:
- Organizational overlap
- Redundant activities
- Poor communication
- Multiple “pass-offs”
- Lack of responsiveness to production

Industry has adopted various team structures for new product development
- Despite clear advantages, most of industry has been slow to adopt similar organizational structures to sustain existing products or to support the development of manufacturing systems
Research Methodology

- Literature research to understand current theories
- Two site visits to establish industry norms or practices
  - Confirm existence of problem
  - Determine initiatives underway in other firms
- Eight day site visit and case study at division of a major US Aerospace Company
  - 21 individual interviews
  - 2 focus group interviews with 13 people
  - Attendance at a representative meeting for each type of team
Philosophy was to support production with a team of multi-functional technical personnel.

Goal was to create self-sufficient businesses within the business.

Approach driven by division executive and customer SPO.
Organizational Overview

IPT Organization - Phase II (March 1995)

PROGRAM OFFICE

BUSINESS DEVELOPMENT

A&I IPT

HOME ROOMS

PROD. OPS IPT
AIR VEHICLE IPT
SUPPORT SYST IPT
TRAINING IPT
PEPI IPT

ENGINEERING FUNCTIONS
Organizational Overview

Product Group IPT Organization

- PRODUCT GROUP IPT
  - CELL TEAM (MFG. DEPT.)
    - TASK TEAM
    - SHOP WORKERS AND / OR SELF DIRECTED WORK TEAMS / SUPPORT GROUPS
  - CELL TEAM (MFG. DEPT.)
    - TASK TEAM
    - "Worker" level

Director or Senior Manager level
Senior Manager or Manager level
"Worker" level
Organizational Overview

PHASE III (PLANNED)

PROGRAM OFFICE

BUSINESS DEVELOPMENT

PROGRAM INTEGRATION

HOME ROOMS

AIR VEHICLE IPT

SUPPORT SYSTEMS IPT

TRAINING IPT

ADVANCED DESIGN (ATAD & PEPI)
Observations

Strengths

• Very strong champion
• People at every level like change and feel that it has improved focus and improved program performance
• Little concern over “career impact”
• Significant improvement in communication
• Moving toward total enterprise concurrency
• People at every level are more involved
• Automation Team Linked to IPT to develop technology with users
Observations

Weaknesses

- Early resistance
- Lack of incentive systems
- Additional training would help
- Co-location very slow
Conclusions

- Best People MUST be selected to lead teams
- Training is essential
- Powerful “champion” is essential
- Changes on sound theoretical foundation
- Pace of transformation seems right
- Cultural transformation beginning
- Performance improvements reflect change in structure
Self-Directed Work Team

Paint Shop History

- Previous experience with SDT not effective
- Team developed by accident but also by necessity
  - High rework cost
  - Customer unhappy with quality of product
  - High manager turnover
  - “Circus Like” atmosphere
  - Paint shop on verge of being closed
  - Cyclical nature of process worked against improvement
Evolution of SDWT

- New director recognized need to get workers involved
- Painters understood their jeopardy
- Process began with series of daily meetings - Initial participation was low
  - Director became champion of the employees
  - Tremendous effort expended to satisfy needs of painters
    - Demonstrate Commitment
- Initially, little encouragement or support from first line supervision
- Participation grew as management credibility increased
  - Elimination of TLO
Evolution of SDWT

- People had to learn to work together and trust each other
  - “Head Bashing” meetings
  - “Very Painful,” “Weird Experiences”
  - Started to jell team

- Team improved painting process

- November 1995 commendation for:
  - 30% decrease in hours
  - Reduction in defects from 420 to 50
  - Significant reduction in rework and repair
  - Total savings of about $500,000 for aircraft

- Team established work assignments - Best people in most critical roles
**Critical Success Factors**

- High level management champion
- Strong desire from both management and labor to make it work
  - Mutual Benefit
- Demonstrated managerial credibility
  - “Walk the Talk”
Resistance from management and workers not committed to change
  – Failure to adapt to changing roles

Lack of training
  – Failure to understand changing roles

Inability to develop trust within the organization
Conclusions

- Organizational structure and capability is a source of uniqueness that can lead to competitive advantage.
- The lean enterprise should cultivate interdisciplinary capability.
- Organizations that will excel are those that discover how to tap people’s commitment and capacity to learn.
- Technology and organizations must be developed that collaborate with peoples skills.
- Structure of jobs will include a dual responsibility - performing current function and learning new disciplines.