16.682 The Aerospace Industry

March 30 Class

Special Guest:
Prof. Debbie Nightingale
Plan for the Class

3:05-3:10  Announcements and Introductions
3:10-3:55  Lean Enterprises Discussion (Ch 6)
3:55-4:05  Break
4:05-4:50  Av Week Article Discussion
4:50-4:55  Muddy cards
4:55      Adjourn
VISION 2016

People working together as a global enterprise for aerospace leadership*

Boeing Ñ Forever New Frontiers*

Core competencies

Detailed customer knowledge and focus
We will seek to understand, anticipate and be responsive to our customersÕ needs.

Large-scale systems integration
We will continuously develop, advance and protect the technical excellence that allows us to integrate effectively the systems we design and produce.

Lean Enterprise *
Our entire enterprise will be a Lean operation, characterized by the efficient use of assets, high inventory turns, excellent supplier management, short cycle times, high quality and low transaction costs.

Values

Leadership

Integrity

Quality

Customer satisfaction

People working together

A diverse and involved team

Good corporate citizenship

Enhancing shareholder value

*updated as of January 2001

Source: Lean Enterprise Value, Ch 6
Lean Enterprises

“A lean enterprise is an integrated entity that efficiently creates value for the multiple stakeholders by employing lean principles and practices.”

Source: Lean Enterprise Value, Ch 6

• Can we consider Course 16 as an Enterprise, and if so, what kind of enterprise is it?
• Who are the stakeholders for course 16 and what are their value expectations?
• How to the Lean Enterprise Model principles and practices apply to Course 16 activities?
Enterprise Stakeholders:
A corporate example

Multi Program Enterprise - Business Unit

Customers/End Users
Employees
Shareholders
Corporate Leadership
Society
Partners
Suppliers
Unions

“Any group or individual who can affect or is affected by the achievement of the organization’s objective”

Source: *Lean Enterprise Value*, Ch 6
Points Captured from Class Discussion

Course 16 Stakeholders

• Students
• Professors
• Corporate sponsors
  – Hiring jobs
  – Research funds
• MIT
• Government sponsors
  – Hiring jobs
  – Research funds
• Staff
• Parents
• Alumni
• Other universities
• Professional societies
• Nation as a whole
Value

• “How various stakeholders find particular worth, utility, benefit or reward in exchange for their respective contributions to the enterprise”

Source: Lean Enterprise Value, Ch 7
Stakeholder: _____________

Major Factors Contributing to Stakeholder Value:

Current Performance

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Relative Importance

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Stakeholder: Customer

Major Factors Contributing to Customer Value:

- Product/Service Quality
- Relationship with Corporation
- Cost of Ownership
- Cycle Time
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Relative Importance
LEM Architecture and Overarching Practices

Meta-Principles/Enterprise Principles

Enterprise Level Metrics

Overarching Practices
- Identify & Optimize Enterprise Flow
- Implement Integrated Product & Process Development
- Maintain Challenge of Existing Processes
- Assure Seamless Information Flow
- Develop Relationships Based on Mutual Trust & Commitment
- Nurture a Learning Environment
- Optimize Capability & Utilization of People
- Continuously Focus on the Customer
- Ensure Process Capability and Maturation
- Make Decisions at Lowest Possible Level
- Promote Lean Leadership at all Levels
- Maximize Stability in a Changing Environment

Metrics - Data - Barriers - Interactions

Enabling Practices (~60)

Supporting Practices (~300)
AvWeek Discussion

• In addition to your prompting questions for each article, consider:

Are the principles of Lean Thinking relevant to this article, and why or why not?