The Fit Between Organizational Culture and Lean

Thomas Bortolotti, University of Swansea
Stefania Boscari, University of Swansea
Pamela Danese, University of Padua
Barbara Flynn, Indiana University
Shah and Ward: Bundles of Lean Practices

2003: Four Bundles
- JIT
- TQM
- TPM
- HRM

2007: Ten Bundles
- Supplier feedback
- JIT delivery by suppliers
- Supplier development
- Customer involvement
- Pull
- Continuous flow
- Setup time reduction
- TPM
- SPC
- Employee involvement
Fitness: Foundation for Specific Practices

- Build muscles and agility, in a general sense
  - Athletes use similar routines to improve agility, strength, stamina
  - Foundation for more specific skills
- Allows a firm to respond more quickly and efficiently when market demand something different
  - More capabilities than needed to meet current competitive priorities
  - Strengthens means beyond the boundaries of current ends
- Can move in a number of different directions
Leanness Builds Upon Fitness

- Taking the fat out without a foundation of general strength and stamina can be counterproductive
- Leanness without fitness runs the risk of becoming fragile
  - Philips Electronics Albuquerque plant
  - UPS’ Louisville hub
HOW ARE FITNESS AND LEAN PRACTICES RELATED TO ORGANIZATIONAL CULTURE?
Organizational Culture

- Beliefs and principles that define an organization’s unique social and psychological environment
- “Social glue” that holds an organization together
  - Sense of identity for employees
  - Stabilizes the social system
  - Unwritten guidelines for how to get along
- Developed over time, based on organization’s:
  - History, technology, products, management style, strategy employees, national culture, other factors
Competing Values Framework

- Quinn and Rohrbaugh (1983)
- Horizontal dimension: achieving effectiveness through
  - Internal orientation, integration and unity vs.
  - External orientation differentiation and rivalry
- Vertical dimension: achieving effectiveness through
  - Flexibility, discretion and dynamism vs.
  - Stability, order and control
**Clan Culture**
- Collaborating
- Turbulent environment
- Customers as partners
- Develop a humane work environment
- Shared values and goals
- Participativeness
- Concern for people, consensus

**Hierarchy Culture**
- Controlling
- Relatively stable environment
- Integration and coordination of tasks and functions
- Uniformity in products and services
- Control over workers and jobs
- Efficiency, timeliness
- Clear lines of authority
- Standard rules and procedures

**Adhocracy Culture**
- Creating
- Hyperturbulent environment
- Develop new products and services for future
- Adaptiveness, innovativeness
- Transformation
- Ability
- Rapid reconfiguration capability
- Power shifts with problem being addressed

**Market Culture**
- Competing
- Hostile, competitive environment
- Improve competitive position
- Consumers are interested in value
- Goal achievement, profitability, market share
- Economic market mechanisms
- Aggressive competition
- Customer focus
Data Collection

Collected from 344 manufacturing plants in three industries

- Machinery
- Electronics
- Transportation components

Located in 14 countries

U.S.  U.K.  Spain  Italy  Germany  Austria  Switzerland  Finland  Sweden  China  Taiwan  Japan  Vietnam  Brazil

- Battery of 12 different questionnaires per plant
- Two respondents each
Measurement of Constructs

- Five point Likert scale items
- Thoroughly tested for reliability and validity
- Dimensions of organizational culture
  - Clan
  - Adhocracy
  - Hierarchy
  - Market
- Lean practices
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<td>Kanban Setup time reduction Repetitive master schedule Small lot sizes Cleanliness and organization JIT delivery by suppliers JIT link with customers Supply base reduction Supplier lead time</td>
<td>Equipment layout Preventive maintenance Autonomous maintenance Proprietary equipment Adaptation to new technologies</td>
<td>Feedback Electronic business interfaces IT use by suppliers IT use by customers IT linkage with suppliers IT linkage with customers Supply chain information sharing with suppliers Supply chain information sharing with customers</td>
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<td>Management involvement in product design Front-end design process Design for adaptation to change Reconfigurability Modularity of products Mass customization Supplier involvement in product design Product families</td>
<td>Continuous improvement and learning Management breadth of experience Multifunctional employees Psychological safety Employee suggestions Employee selection Task-related training Shared meaning Shop floor contact Knowledge absorption from customers</td>
<td>Manufacturing-business strategy linkage Competitor market knowledge Strategic supply chain management Agreement of supply chain vision and goals</td>
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Sample

- Randomly selected from a master list in each country
  - ~Half high performing
  - ~Half traditional
- Each plant represented a different parent corporation
- Minimum of 100 employees
Questionnaires

- Targeted by respondent
- 24 questionnaires per plant
- 12 different questionnaires
- Mix of objective and perceptual measures
- Developed in English
  - Translated and back-translated
Fit Hypothesis

Organizations with different dominant cultures will have different patterns of lean practice implementation.
Fit

- Consistency among elements
- A good fit among elements is believed to eventually have a positive impact on performance
- Culture-practice misfit can impede implementation of practices
  - Research focuses on a single dimension of culture
  - Research doesn’t account for complex and synergistic nature of lean
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| 1     | TQM            | Process control  
|       |                | Small group problem solving                                   |
| 2     | JIT            | Small lot sizes  
|       |                | Cleanliness and organization  
|       |                | JIT delivery by suppliers                                     |
| 4     | HR             | Cleanliness and organization  
|       |                | Shared meaning  
|       |                | Knowledge absorption from customers                            |
| 8     | Customer Integration | Top management leadership for quality  
|       |                | Setup time reduction  
|       |                | Small lot sizes  
|       |                | Shared meaning  
|       |                | Supply chain top management support for suppliers               |
|       |                | Ability to meet customer cost needs                           |
| 9     | Process Management | Top management leadership for quality  
|       |                | Management breadth of experience                               |
|       |                | Shared meaning  
|       |                | Achievement of functional integration                          |
|       |                | Supply chain top management support for suppliers               |
|       |                | Ability to meet customer cost needs                           |
|       |                | Effective process implementation                               |
## Clan

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Small group problem solving                                               |
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Small lot sizes  
Cleanliness and organization                                             |
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JIT delivery by suppliers  
Supplier lead time  
Continuous improvement and learning  
Psychological safety  
Employee suggestions  
Shop floor contact                                                        |
| 6     | Internal Integration | Small lot sizes  
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Leadership for functional integration  
Ability to meet customer cost needs  
Ability to meet customer speed needs  
Ability to meet customer on time delivery needs |
## Adhocracy

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| 1     | TQM   | Design for quality  
Small group problem solving |
| 2     | JIT   | Design for quality  
Small group problem solving  
Small lot sizes  
Cleanliness and organization  
JIT delivery by suppliers |
| 4     | HR    | Small lot sizes  
Cleanliness and organization  
JIT delivery by suppliers  
Shared meaning  
Continuous improvement and learning  
Employee suggestions |
| 6     | Internal Integration | Small lot sizes  
Cleanliness and organization  
Continuous improvement and learning  
Employee suggestions |
| 8     | Customer Integration | Setup time reduction  
Small lot sizes  
Cleanliness and organization  
Continuous improvement and learning  
Multifunctional employees  
Employee suggestions |
| 9     | Process Management | Top management leadership for quality  
Setup time reduction  
Small lot sizes  
Shared meaning  
Supply chain top management support for suppliers  
Ability to meet customer cost needs  
Ability to meet customer speed needs  
Ability to meet customer on time delivery needs  
Employee suggestions |

### External

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Knowledge absorption from customers |
| 6     | Internal Integration | Small lot sizes  
Cleanliness and organization  
Shared meaning  
Coordination of decision making  
Leadership for functional integration  
Continuous improvement and learning  
Employee suggestions |
| 8     | Customer Integration | Setup time reduction  
Small lot sizes  
Cleanliness and organization  
Suppliers  
Continuous improvement and learning  
Multifunctional employees  
Employee suggestions |
| 9     | Process Management | Top management leadership for quality  
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Small lot sizes  
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Suppliers  
Consistency of decision making  
Leadership for functional integration  
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### Control

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JIT delivery by suppliers |
| 4     | HR    | Shared meaning  
Knowledge absorption from customers |
| 6     | Internal Integration | Shared meaning  
Knowledge absorption from customers  
Achievement of functional integration |
| 7     | Supplier Integration | Shared meaning  
Knowledge absorption from customers  
Achievement of functional integration |
| 8     | Customer Integration | Setup time reduction  
Preventive maintenance  
Effective process implementation  
Adaptation to new technology  
Supplier market knowledge  
Customer market knowledge |
Configurations

- A more holistic perspective of lean-culture fit
- Configurations of various elements and their relationships
- Culture profiles = configurations of different levels of the four culture types
- Alternative views of alignment
  - Congruence hypothesis
  - Paradox hypothesis
Congruence Hypothesis

Organizations that have a congruent organizational culture profile will emphasize a coherent set of lean practices.
Congruence

- Quadrants of competing values model form a circumplex
- Each quadrant
  - Distinct from the others
  - Retains a specific spatial relationship with the quadrants sharing the same dimensions
Practices Associated with Internal Organizational Cultures (Hierarchy + Clan)

- Manufacturing-business strategy linkage
- Leadership for functional integration
- Employee selection
- Employee suggestions
- Coordination of decision making
- Information technology use with buyers
Practices Associated with External Organizational Cultures \((\text{Market} + \text{Adhocracy})\)

- JIT link to customers
- Customer market knowledge
- Competitor market knowledge
- Ability to meet customer cost needs
- Adaptation to new technology
- Design for adaptation to change
- Small lot sizes
- Functional integration
Practices Associated with Flexible Organizational Cultures

(\textit{Clan} + \textit{Adhocracy})
Practices Associated with Control Organizational Cultures (Hierarchy + Market)

- Ability to meet customer speed needs
- Ability to meet customer cost needs
- Customer market knowledge
- Competitor market knowledge
- Procurement process digitization
- Knowledge absorption from customers
Paradox Hypothesis

Organizations that have a paradoxical organizational culture profile will not emphasize a coherent set of lean practices.
Paradox

• Opposing, mutually exclusive elements that are
  • Simultaneously present
  • Equally necessary
  • Contradictory

• Characteristics of the quadrants that lie on the diagonal
  • Practices may fit multiple opposing categories simultaneously
Paradox

- Organization makes effort to develop and integrate the different elements of lean
- Not limited to emphasizing the elements that are the best fit with dominant organizational culture
- Lean as a balanced socio-technical system
High High

Hierarchy-Adhocracy

Adhocracy-Hierarchy

Low Low

- Manufacturing-business strategy link
- Employee suggestions
- Adaptation to new technologies
- Ability to meet customer cost needs
- Design for adaptation to change
- IT use with buyers
Clan-Market

- Employee suggestions
- Coordination of decision making
- Customer market knowledge
- Competitor market knowledge
- Manufacturing-business strategy link
Paradoxical Organizational Culture Profile

• A mix of all culture types
• Organizational culture types interact to collectively influence lean implementation
• Lean as a balanced socio-technical system
• Characteristics of all four quadrants will support a broader conceptualization of lean
  • Not coherent with the congruence hypothesis
Key Findings

• Supported the idea of fitness as a foundation for lean practices
  • Lean + fit = better alignment with organizational culture
  • Lean + fit = better performance?

• Supported the fit hypothesis
  • Organizations with different dominant cultures have different patterns of lean practice implementation
    • Between groups of practices
    • Within groups of practices
Key Findings

• Mixed support for the congruence hypothesis
  • Organizations that have a congruent organizational culture profile emphasize a somewhat coherent set of lean practices
  • Supported by coherent lean practices + one other set of practices, typically
• Suggests that the relationship may be more complicated than what is suggested by the congruence hypothesis
Key Findings

• Supported the paradox hypothesis
  • Organizations have a profile of organizational culture types, drawing upon all four quadrants
  • Supported by a diversity of lean practices
• Next steps: how do these profiles translate into performance implications?
• How to develop paradoxical practices in organizations?
Key Findings

• How to become fit + lean without becoming bulky?