Lean PD Chicago 2006 — Mind Map

Central node:
Lean PD Chicago 2006
10/22/2006 - v24

Slide 1 — Objectives
- Define lean PD
- That allow discussion of systemic Structures
- TMC

Slide 2 — What is Lean?
- Slide 3 — Historic Perspective
  - Machine that Changed World
    - Womack, Jones, Roos
    - Lean Manufacturing Focus
  - Slide 4 — Do Like Toyota
    - Value Stream Focus
      - From Customer Hands
      - **All Essential Actions required to bring product through main flows**
        - Manufacturing
        - Product Creation
    - Continuous Improvement
      - At Toyota
      - Always do it Better
    - Waste Elimination
      - Ohno's 7 Categories of Waste
        - Waiting
        - Overproduction
        - Transportation
        - Over Processing
        - Inventory
        - Motion
        - Correction
    - Just in Time
      - The Next Process is the "Customer"
        - Deming
          - Everyone involved
          - Everyone has customer
      - Supply
        - What is needed
        - Supply when needed

Slide 5 — Can We Map to Lean PD?
- Important Difference
  - Manufacturing
    - Finish to Start
    - Linear Relationship
  - PD
    - Simultaneous
    - Many activities
- Slide 6 — Is There Physical Product in PD?
  - Digital Prototypes
    - Cad Drawings
    - FEM
    - 3d Simulations
    - Package
  - Physical Prototypes
    - Conceptual
    - Detailed
  - Not Products
    - Only provide means to create/ transmitt knowledge about produdct
- Slide 7 — Product of PD not Physical
  - Knowledge
    - Explicit
      - Can be Codified
      - We can know more than we can tell — Polanyi
    - Tacit
      - Learned by Doing
        - Subtle
        - Intuitive
      - Difficult to Transfer
        - Cannot Explicate
- Slide 8 — Lean PD is:
  - Toyota Principals
  - Application
    - Knowledge Creation
    - Knowledge Employment

If we can assume this is true we can apply Ohno's princip[...]

Slide 9 — What is Gemba Where is Gemba?
- Slide 10 — Work Place "Real Place"
  - Value Stream is What Happens
  - Gemba is Where it Happens
    - At Toyota & Honda
      - Go to Gemba
      - Actual Part
      - Actual Place
      - Actual Situation
- Slide 11 — Why is Gemba Important?
  - Filter
  - Amplifier
  - Decision goes out of Conference Room
    - To people Effected
- Free Star Story

Important Value Stream Concept

Slide 12 — Creating a Lean Knowledge Engine
- Slde 13 — Drucker
  - Do things right.
  - Do right things
  - Slide 14 — Lean at Intersection
  - Plant Story
- Slide 16 — Deming Cycle
  - Like religion
  - Used for Everything
  - Starts with Plan(action)
  - System of Thought
  - Slide 17 — How Important is PDCA
    - Drives Continuous Improvement
    - Is the Knowledge Engine for Shelf
- Slide 15 — Three KE Concepts
  - Slide 18 — Customer Expert as Leader
    - Creates Value Proposition
    - Communicates Needs
    - Does Shopping(shelf)
    - Integrates for Customer
  - Slide 19 — Part to Learn
    - Enables Deep Tacit Learning
    - Rapid Inch-up
    - Is at Multiple Timing Levels
    - Shelf Enables Set Based
    - With Point Base cannot abandon poor design

Shelf does not create an Inventory of parts- It continually creates "New Knowledge" that is applied to subsequent designs

Slide 20 — What are Cultural Aspects of Lean
- Slide 21 — Digital Networks Ride on top of Social Networks
  - Useless Without
    - Trust
    - Community
    - Reciprosity
- Supplier Study Story
- Slide 22 — Transactional Design Model
  - Series of Transaction
    - Engineer
    - Quality — Trust &Priority Issues
    - Analyst — Trust &Priority Issues
    - Design — Trust &Priority Issues
  - Shared Resource
- Slide 23 — Lean Design Model
  - Minimum Shared Resource
  - Highest Learning Opportunity