
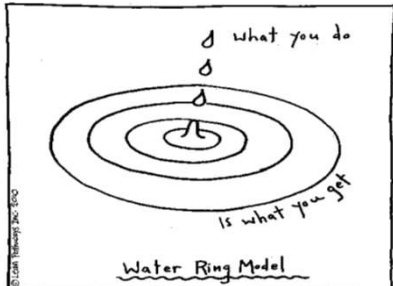



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Bringing Lean Out of the Factory to Transform the Organization

Lean Pathways Inc
Pascal Dennis



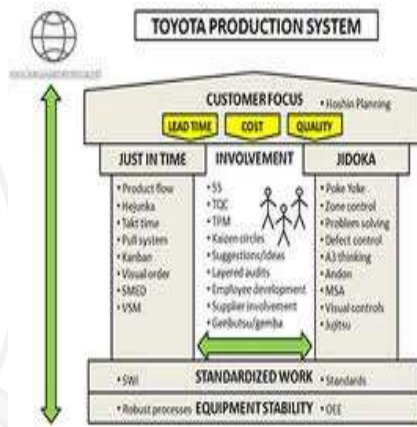
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Deploying Lean outside the factory

- ✦ A tale of two management systems
- ✦ Recipe for deploying in a non-manufacturing zone
 - ✦ Common obstacles & countermeasures
- ✦ Recipe for sustaining a Lean transformation

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A Tale of Two Management Systems – 1990's



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"We're going to implement FPS"



Objective:
"We're going to implement FPS."

Hypothesis: If we

- Learn TPS tools,
- Codify TPS in the 11 FPS elements,
- Audit FPS use annually,
- then people will learn & practice FPS.

Ref: "Ford Production System Lean Infrastructure", MIT Lean Advanced Initiative Plenary Session 2001

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FORD PRODUCTION SYSTEM DEFINED

11 elements to the Ford Production System:

- **Sharp:** safety and ergonomics
- **Work Groups:** team involvement
- **Managing:** cultural transformation
- **SMF:** materials and inventory management
- **FTPM:** Ford's Total Production Maintenance
- **IM:** Industrial Materials Management
- **ME:** Manufacturing Engineering
- **Environment:** includes ISO 14000 certification
- **ISPC:** In Station Process Control and Visual Factory
- **Quality:** includes ISO 9000
- **Training:** supports all elements

Ford Motor Company

Ref: "Ford Production System
Lean Infrastructure", MIT Lean
Advanced Initiative Plenary
Session 2001



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FPS



- ✦ Audit-driven implementation
- ✦ "FPS is a set of tools."
- ✦ Detailed manuals for 11 Core FPS elements
- ✦ Nine FPS levels
- ✦ Large central FPS group
- ✦ On-site FPS hourly & salaried FPS coaches

"You're going to make 60 good Corollas an hour."

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The diagram illustrates the Toyota Production System (TPS) as a multi-layered structure. At the top is a globe icon. Below it, a box labeled 'TOYOTA PRODUCTION SYSTEM' contains three main pillars: 'JUST IN TIME', 'INVOLVEMENT', and 'JIDOKA'. Above these pillars is a 'CUSTOMER FOCUS' box with 'LEAD TIME', 'COST', and 'QUALITY'. To the right of the pillars is a 'Hoshin Planning' box. Below the pillars is a 'STANDARDIZED WORK' box. At the bottom is an 'EQUIPMENT STABILITY' box. A green double-headed arrow connects the 'STANDARDIZED WORK' and 'EQUIPMENT STABILITY' boxes. A green vertical arrow points upwards from the bottom of the diagram.

Objective:

"You're going to make 60 good Corollas every hour."

Hypothesis: If we

- Give people difficult objectives,
- Practical learning experience, and
- Experienced senseis,

then people will learn & practice TPS.

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TPS

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- ✦ Informal, business-driven implementation
- ✦ TPS = a set principles & a way of *thinking*
- ✦ Small central support office (OMCD, TSSC)
- ✦ 'Learn by do'
 - ✦ Experiential learning,
 - ✦ "Practical Kaizen Training"
 - ✦ Sensei over sight

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Fast Forward: *Today...*



- ★ TPS
 - ✦ Deep roots in non-Japanese sites
 - ✦ Core concepts have migrated across many (not all) functions
- ★ FPS
 - ✦ “*Not much left of FPS...*”
 - ✦ Thankfully, Ford has prospered despite FPS failure

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Learning Points?



- ★ Connect system to Purpose
 - ✦ Strategy Deployment first
 - ✦ Pull in tools based on need
 - ✦ “*No need, no activity...*”
- ★ Teach *thinking* (principles) first, then tools
 - ✦ “*To a hammer, everything looks like a nail.*”
- ★ Learn by doing
 - ✦ Point, Flow & System improvement
- ★ Beware complexity
- ★ Other?

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Is Lean a set of tools or a set of principles?

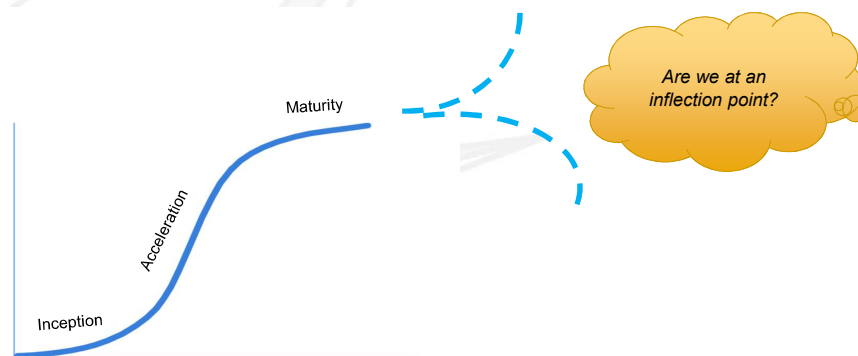


- ✦ Or a way of thinking, and
- ✦ A set of *principles*
- ✦ to be applied in ever more complex situations
- ✦ so as to subvert the status quo

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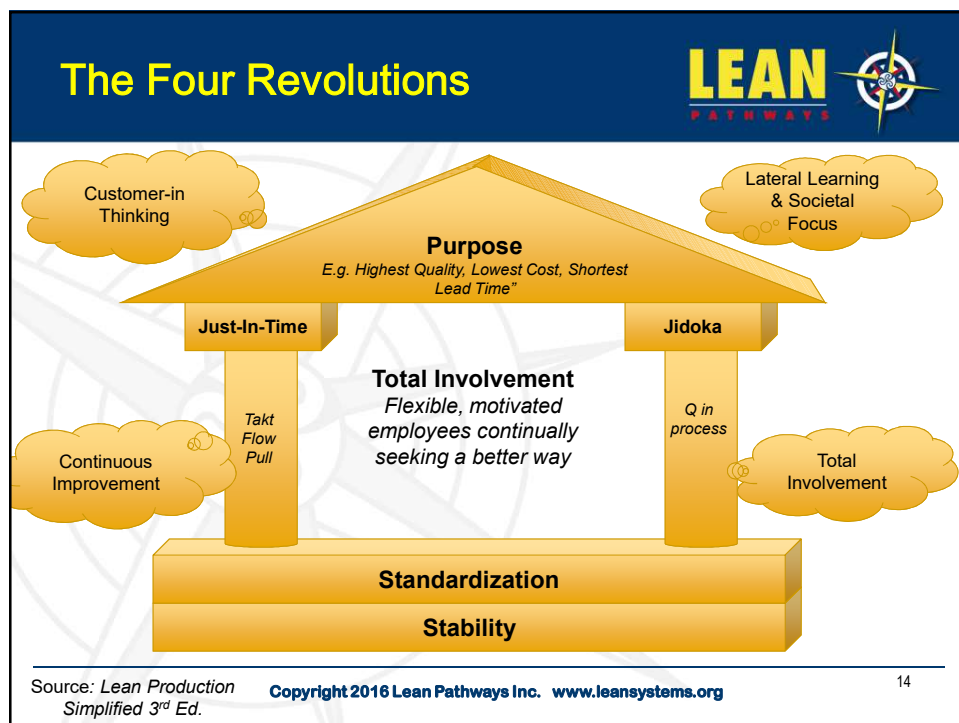
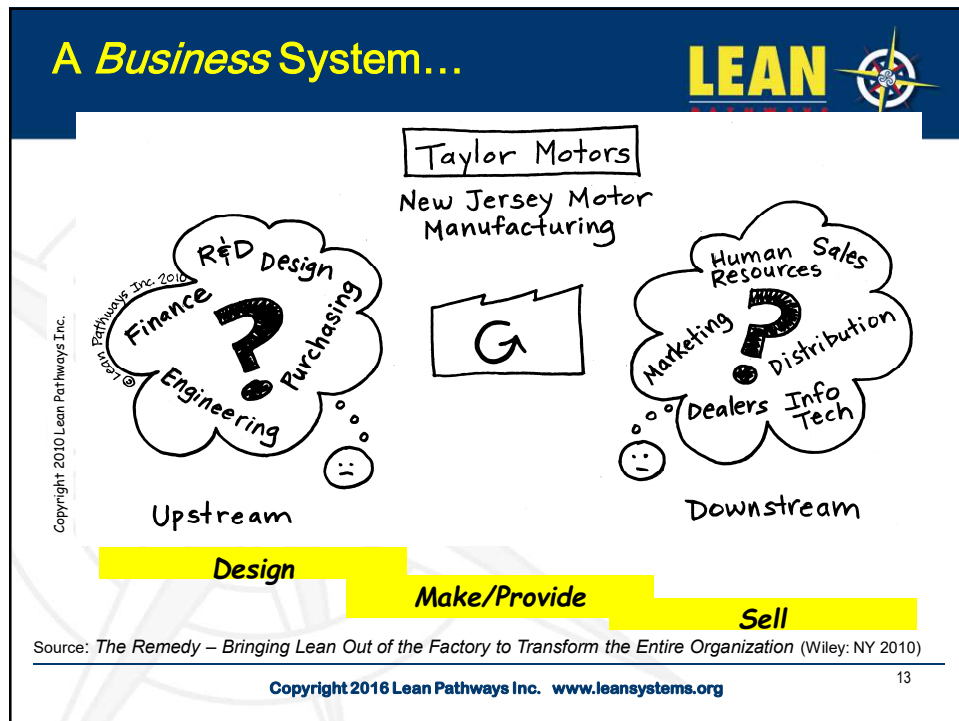
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Why does it matter?



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How Do We Deploy Outside the Factory?



1. Define *value*
 - *Who are the customers? What's important to them?*
 - *Boil it down to a handful of metrics*
 - *Develop daily/weekly team board & huddle process*
2. Understand *core mental models* in the zone
3. Define the value stream
4. Improve the value stream
5. Keep going

Finesse, finesse, finesse...

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Challenges



- ✦ Value & waste often *invisible* outside the factory
- ✦ Mental models can be very different
 - ✦ *Problems are garbage – hide them!*
 - ✦ *We don't have processes*
 - ✦ *Standards will kill my creativity*
- ✦ Often no history of continuous improvement
- ✦ Other?
- ✦ Most common failure mode – an absence of *finesse...*

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What is Value?



- ★ Changes form, fit or function of a product
 - ✦ Manufacturing definition
- ★ Activity that moves process forward
- ★ Value = Quality/Cost
- ★ *What our customers expect & need from us...*

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Homework: Gemba Walk – Value & Waste



- ★ Take a Gemba walk in at least one non-Operations zone of your choice
- ★ Who are the customers?
- ★ What is Value & what are critical few metrics?
- ★ Most important types of waste?
- ★ Reflections & learning points?



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E.g. Design



- ★ Value
 - ✦ Create useful knowledge
 - ✦ Create profitable value streams
- ★ Most important types of waste
 - ✦ Knowledge
 - ✦ Defects
 - ✦ Delay
 - ✦ Inventory
 - ✦ ...

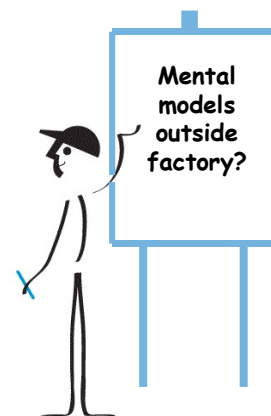
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Mental Models Outside the Factory?



- ★ What are at least three mental models in
 - ✦ Sales
 - ✦ Marketing
 - ✦ Design
 - ✦ Engineering
 - ✦ Human Resources
 - ✦ Finance
 - ✦ Other
- ★ Reflections & learning points?



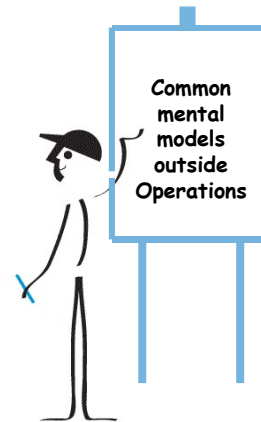
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Mental models outside the factory



- ✦ *We don't have processes*
- ✦ *I am the process. Why are you criticizing me?*
- ✦ *Problems are garbage – hide them!*
- ✦ *I do my thing, what happens later is not my problem...*
- ✦ *We don't need 'cookbook' medicine, design, farming...*



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More Mental Models



- ✦ Health Care
 - ✦ *White coat management*
 - ✦ *I don't follow your standard."*
- ✦ Construction
 - ✦ *"Standards will kill my creativity!"*
- ✦ IT
 - ✦ *"I repair my own code!"*
- ✦ Nuclear
 - ✦ *"Everything is just great!"*

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Knowledge work is invisible...

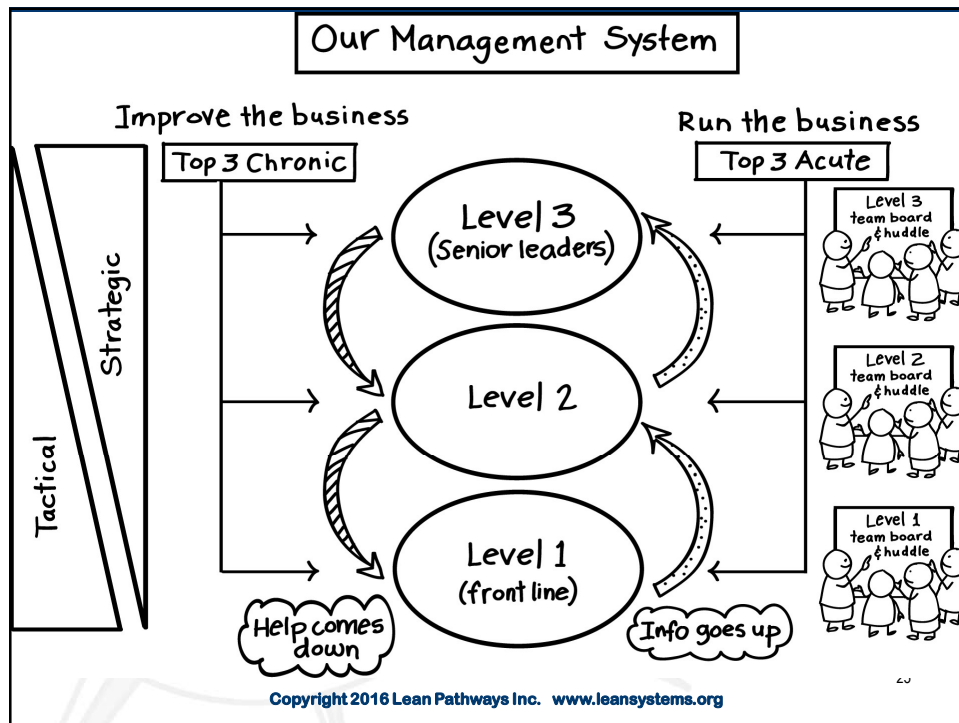
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- ★ Visual management is a great enabler
- ★ We need to practice 'reverse magic'



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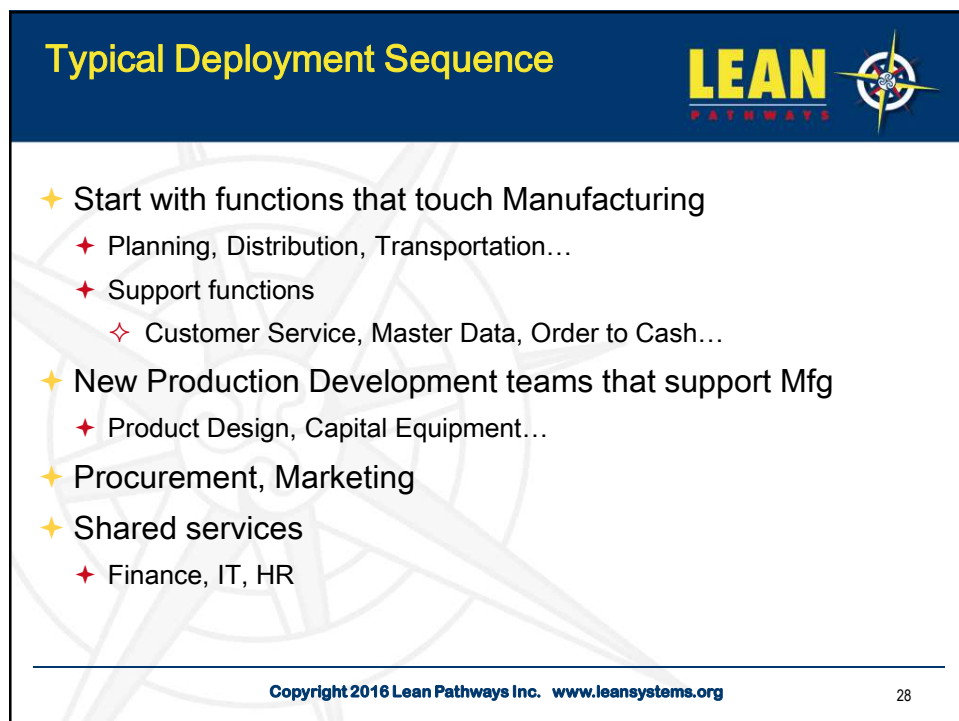
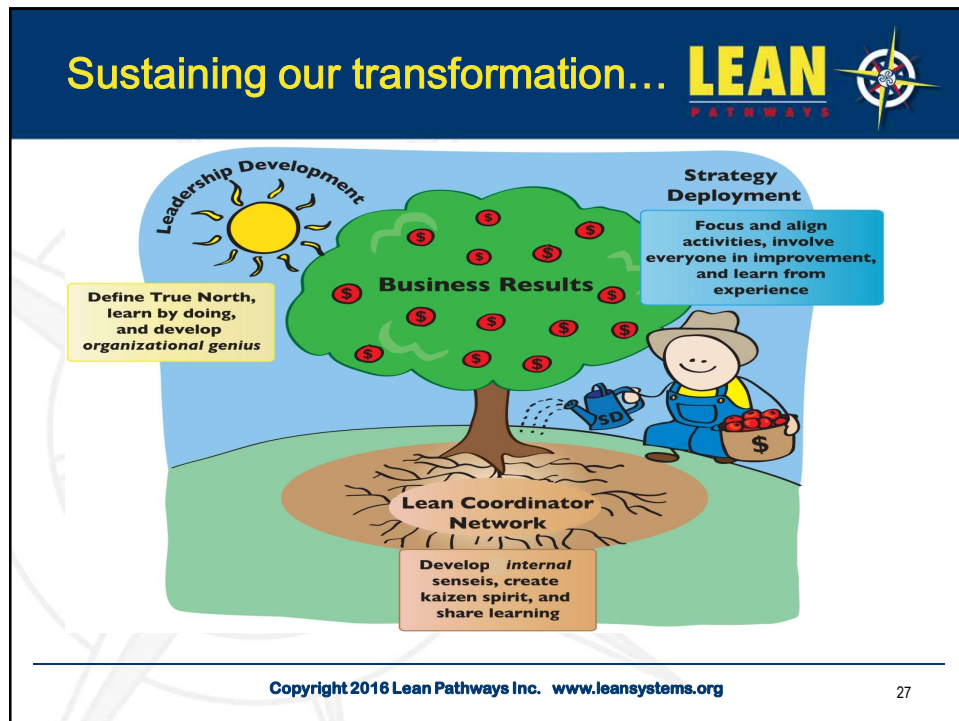


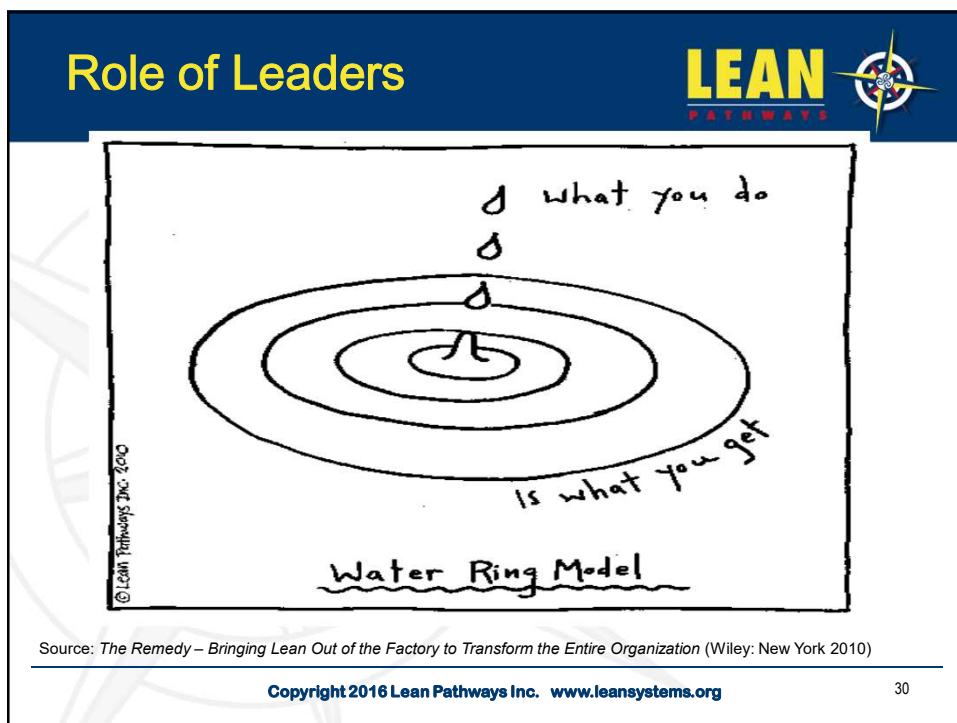
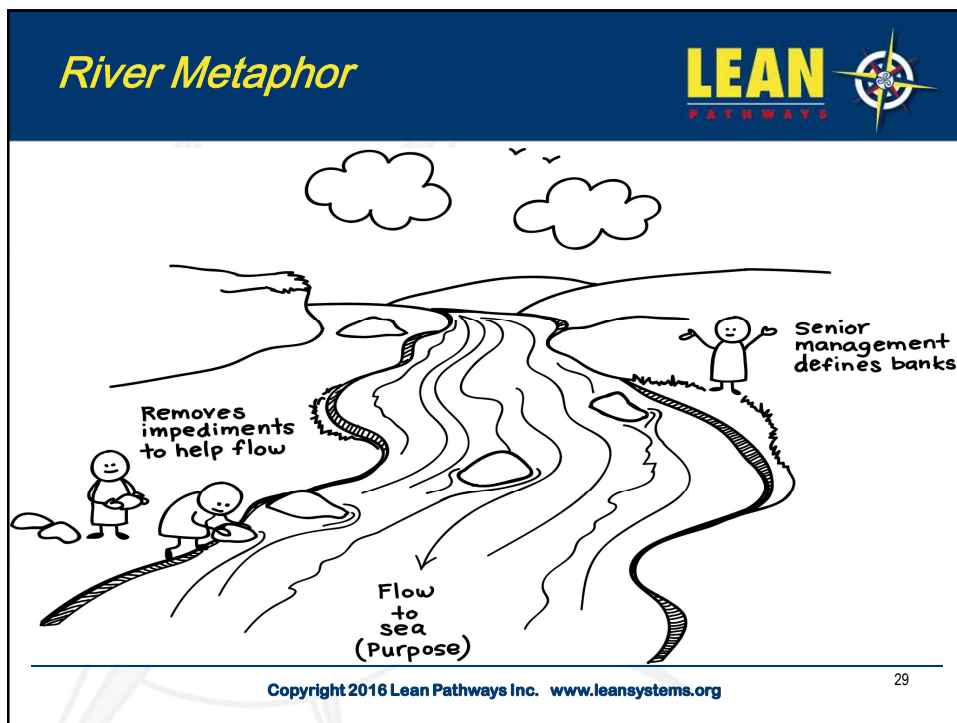
Visual Management Virtual Gemba Walk

- ✦ Take a virtual gemba walk in your assigned area
- ✦ Assess visual management
- ✦ *How might you improve?*
- ✦ Prepare a report out

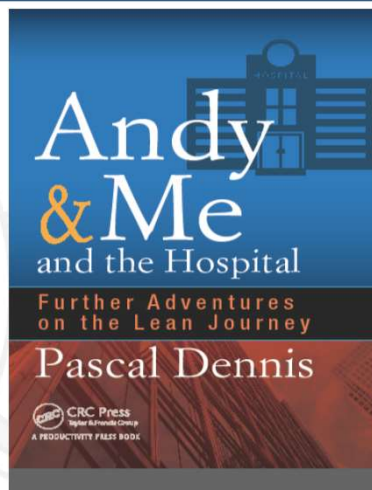
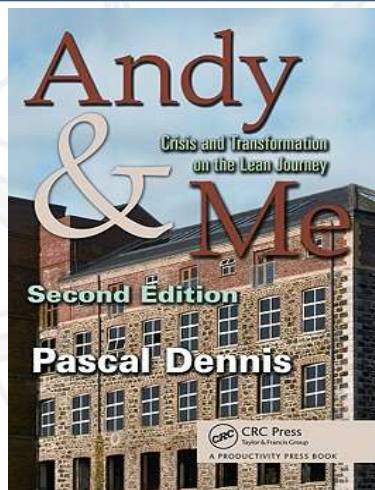
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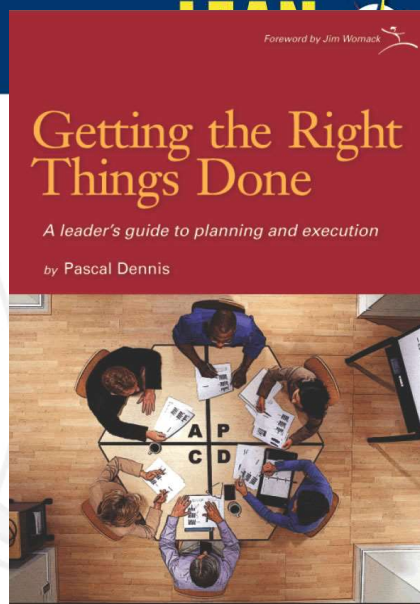
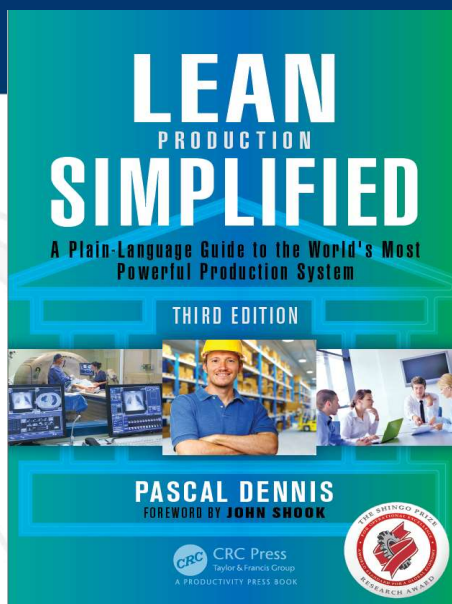


Recommended Reading



Available at www.productivitypress.com, Amazon, etc.

Available June 2016 at Amazon, Barnes & Noble etc.



www.amazon.com or productivitypress.com

www.lean.org

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Other Resources



- *Lean Pathways blog*
 - www.leansystems.org/blog
- *Twitter*
 - [@LeanPathways](https://twitter.com/LeanPathways)
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