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From Modern Management to Lean Management

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LEAN ENTERPRISE INSTITUTE

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Recessions Are Good Times for Lean

- Lean thinking was first fully embraced in the Japanese financial crisis of 1950 and fully applied to supply bases after the oil shock and recession of 1973-75.
- The American auto firms only took lean seriously after the crisis of 1979-82.
- American firms in many other industries embraced lean in the general recession of 1991 and the aerospace recession of the early 1990s.
(Healthcare will finally take lean seriously when a funding crisis – fueled by the boomers – threatens survival.)
- When faced with doing something hard (lean) or something harder (bankruptcy), many organizations will (finally) chose the easier path!

A Great Question to Ask Now

- Will you use this recession to become a better, stronger leaner supplier?

Or

- Will you simply reduce headcounts, delay new programs, squeeze your suppliers, and de-content your goods and services (hoping your customers won't notice.)
 - Historic note: Honda and Toyota have put every recession since 1973 to good use, emerging stronger every time & steadily gaining on competitors.
- What does the lean path require you to do?

Five Elements of a Lean Transformation

- Fulfillment, from order to delivery.
 - Product and process development, concept to launch.
 - Supply management, back to raw materials.
 - Customer support, forward to the end customer through the product life/use cycle.
 - Management, to determine your organization's purpose, to install processes to achieve your purpose, and to align and engage your people in sustaining and continuously improving your processes.
- Lean management is the hardest element to implement & sustain but the most important.

What Is the Work of Management ?

- Determine your purpose, specifically what customer problems you will solve.
- Create value-creating processes to solve customer problems.
- Align and engage everyone touching the value-creating processes to sustain and improve them.

Sum-up: Purpose, then process, then people, to eliminate muda, mura, and muri.

Managers Today Have a Fundamental Choice:

- **Modern management**

(The Conference Room School of Management)

versus

- ***Lean management***

(The Gemba School of Management)

Let's perform a side-by-side comparison of the principles of these schools.

Modern vs. *Lean* Management

- Strong focus on the vertical functions & departments in the organization as mechanisms of optimization & control.
- *Strong focus on the horizontal flow of value across many organizations, from raw materials to the end customer.*

Modern vs. *Lean* Management

- Clear grants of managerial ***authority*** by leaders of organizational units (vertical delegation).
- *Clear grants of managerial **responsibility** from managers at the next higher level, particularly to solve cross-functional, horizontal problems in vertical organizations based on vertical authority.*

Modern vs. *Lean* Management

- Line managers judged on end-of-the-period results for their span of control, increasingly financial.
- *Line managers judged on the state of their process, with rapid feedback loops with next-level management.*

“If the process is right the results will be right.”

Modern vs. *Lean* Management

- Planning and direction from the top down:

“Make your plan and/or explain the variances.”

- *Planning & direction in circular feed-back loops, with bosses asking questions:*

“What do you think our problem is?”

“What do you think the potential solutions (countermeasures) are?”

“What countermeasure do you think we should select?”

“Who must do what when where to test the countermeasures?”

“Planning is invaluable; plans rapidly become worthless.”

Modern vs. *Lean* Management

- Conviction from the top that a good plan, once properly implemented, produces the desired results.
- *Conviction that all plans are experiments and can only be evaluated through the scientific method in the form of PDCA.*

Modern vs. *Lean* Management

- Generalist managers, rotated frequently with weak process knowledge.
- *Line managers on extended assignments, with deep process knowledge.*

Modern vs. *Lean* Management

- Managers developed through formal education, often ex-company (e.g., management schools, consulting firms).
- *Managers developed through in-company gemba learning through repetitive A3 analysis.*

Modern vs. *Lean* Management

- Decisions made far from the point of value creation, by analyzing data.
- *Decisions made at the point of value creation, by converting data into facts (“Go see, ask why, show respect”).*

Modern vs. *Lean* Management

- Problem solving and improvement conducted by staffs, often through programs.
- *Problem solving and improvement conducted by line managers responsible for cross-function teams, with staffs reserved for unique technical problems.*

Modern vs. *Lean* Management

- Standardization of activities conducted by staffs, often with little gemba interaction and little auditing.
- *Standardization of activities conducted by line managers in collaboration with work teams, with frequent auditing.*

Modern vs. *Lean* Management

- Suppliers chosen on market criteria and managed by arms-length metrics through contracts.
- *Suppliers chosen on long-term alignment of interests and managed through continuous supplier/customer development of shared value-creating processes.*

Modern vs. *Lean* Management

- Customers identified by market criteria and managed on a short-term, transaction basis.
- *Customers identified by categories of problem to solve and managed in long-term, problem-solving collaborations.*

Modern vs. *Lean* Management

- “Go fast” as a general mandate:
“Jump to solutions” (with the consequence of going slow through the complete cycle of product & process development, launch & fulfillment.)
- “*Go slow*” as a general mandate:
“*Start with the problem*” and pursue many potential counter-measures in parallel (with higher costs & more time at the beginning, followed by lower costs, less time & happier customers at the end.)

Modern vs. *Lean* Management

- Strong emphasis on the vertical flow of authority, looking upward toward the CEO.
Performance usually evaluated at single points.
- *Strong emphasis on the horizontal flow of value, looking toward customers.*

Performance evaluated in terms of optimizing the whole process (all of the points).

Control reconciled with flexibility!

Methods of Lean Management

- If organizations wish to pursue lean management, what are the methods to employ at what levels?

✓ **Strategy deployment** – to align and engage employees on the few critical issues – the work of top management.

Note: The transition from modern to lean management might be an initial objective identified by strategy deployment!

Methods of Lean Management

- ✓ **A3 analysis** – to deploy top-level mandates, solve daily problems with processes as they arise, and evaluate proposals from lower levels of the organization – the work of mid-level management.

A3 Analysis

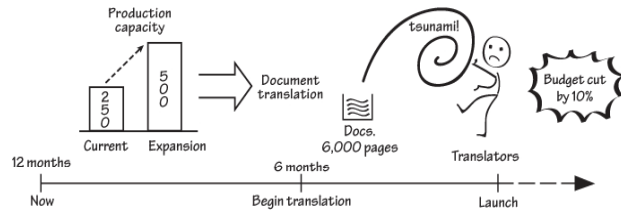
- A process with a number of steps, in the form of questions:
 - ✓ What is the background condition?
 - ✓ What is the specific business problem?
 - ✓ What is the root cause? (Hint: It lies somewhere in the value creating process.)
 - ✓ What are the potential countermeasures?
 - ✓ What is the best countermeasure for testing?
 - ✓ Who will do what when where to test it?
 - ✓ What evidence will indicate success?

Perfect Document Translation

I. Background

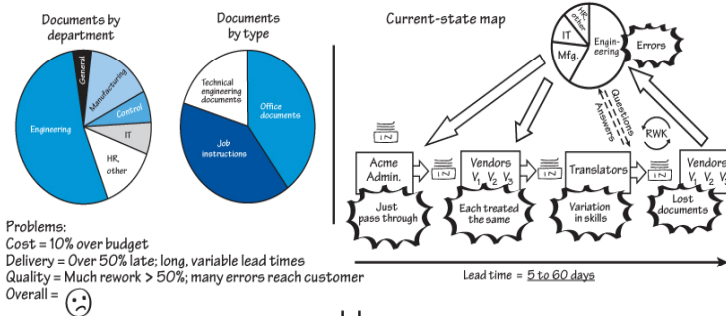
Acme plant to double capacity. Much document translation required

- Poor English translations of Japanese documents caused many problems at original plant startup.
- Expansion plans call for aggressive launch timeline and cost reduction.



→ Document translation problems could impede launch!

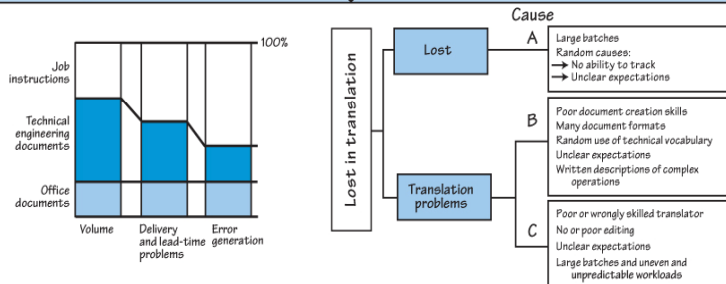
II. Current Conditions



III. Goals/Targets

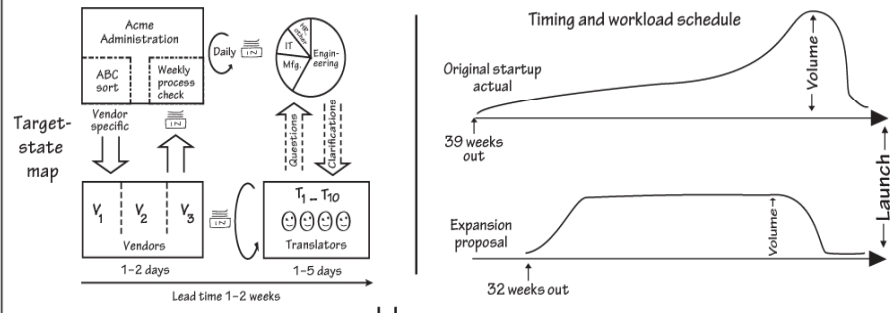
- Quality** - 0 defects at launch
- Rework less than 10%
- Delivery** - 100% on-time
- Level weekly volume (heijunka)
- Consistent short lead time with predictable delivery
- Cost** - 10% decrease — Rework down; overtime down

IV. Analysis



V. Proposed Countermeasures

Cause	Countermeasure	Description	Benefit	Responsible/support
A	Central document-flow tracking process	Overall process ownership established Document flow and timing management - Timing control chart; weekly check - Segmentation by document type	Delivery Quality Cost	Porter - Each day - Vendors
B	Standard vocabulary database and templates	Standard terms for processes, equipment tools, work flow across job sites Create standard templates and include photos and videos Gathered from each department, input into database for use by internal document creators and translators	Quality	Administration IT Each department
C	Standard vendor three-step process	Step ① Translation by topic specialist Step ② Rewrite by native English speaker Step ③ Check by highly skilled bilingual	Quality Delivery	Analysis - Each vendor - Procurement



VI. Plan

Deliverables	Timeline	Responsible	Support	Review
Overall Launch Timeline	Nema-washi AS authorized	Administration/Porter	Each department	Plant management Committee Japan HQ
Planning	Evaluate Bid Select	Procurement/Francis	Administration/Each department	
Vendors	Three-step process	Each department	Administration/Porter	Each department
Document creation	Compile Ongoing updates	- Administration/Carter - Each department	- IT (Rick and Terry) - HR - Administration	Administration/Sanderson
Document translation management system	A, B, C sort Weekly check	Administration/Porter	Each department	Administration/Sanderson
Midproject review				

VII. Followup

- Midterm review
Prelaunch review
- Ensure ongoing collaboration
Monitor system weekly. All metrics, especially quality and delivery

Do the counter-measure address the three grouping of root causes?

Has the of count measure achieved by giving earlier o proper c eration : testing?

The Dual Nature of A3 Analysis

- While the pupil solves a problem the boss also creates a new lean manager!
- Lean management education is almost entirely learning by doing under the supervision of someone at a higher level with more experience whose most important job responsibility is to create the next generation of lean managers.

Methods of Lean Management

- ✓ **Standard management of standard work** with continuous **kaizen** – to stabilize the organization and permit improvement – the work of front-line management.

Special Challenge for Operational Management

- To design, implement, sustain and improve a lean process to achieve every organizational purpose.
- ✓ Operating system design, so the process is right from Job 1.
- ✓ Continuous improvement of the lean process once implemented.

What's A Process?

- A value stream by another name.
- A series of steps (actions) which must be performed properly in the proper sequence at the proper time to create value for some customer.

Types of Processes

- Primary:
 - ✓ Development of products with processes.
 - ✓ Fulfillment, from order to delivery.
 - ✓ Support, through the product/customer use cycle.
- Support: Hiring, training, counting, purchasing, etc.

What's a Lean Process

- Value is properly specified from the perspective of the customer.

Otherwise everything is muda!

What's a Lean Process?

- Every step in the process is:
 - ✓ Valuable – Henry Ford & Taiichi Ohno
 - ✓ Capable – Dr. Deming and 6 Sigma
 - ✓ Available – Total Productive Maintenance

Note: Capability x availability = stability
(foundational)

 - ✓ Adequate – Theory of Constraints & TPS
 - ✓ Flexible – Toyota Production System

What's a Lean Process?

- The steps are connected and coordinated by:
 - ✓ Continuous flow wherever possible - TPS
 - ✓ Pull (not push) when flow is not possible – TPS
 - ✓ Leveling, to smooth demand from a single pacemaker point - TPS

What's a Lean Process?

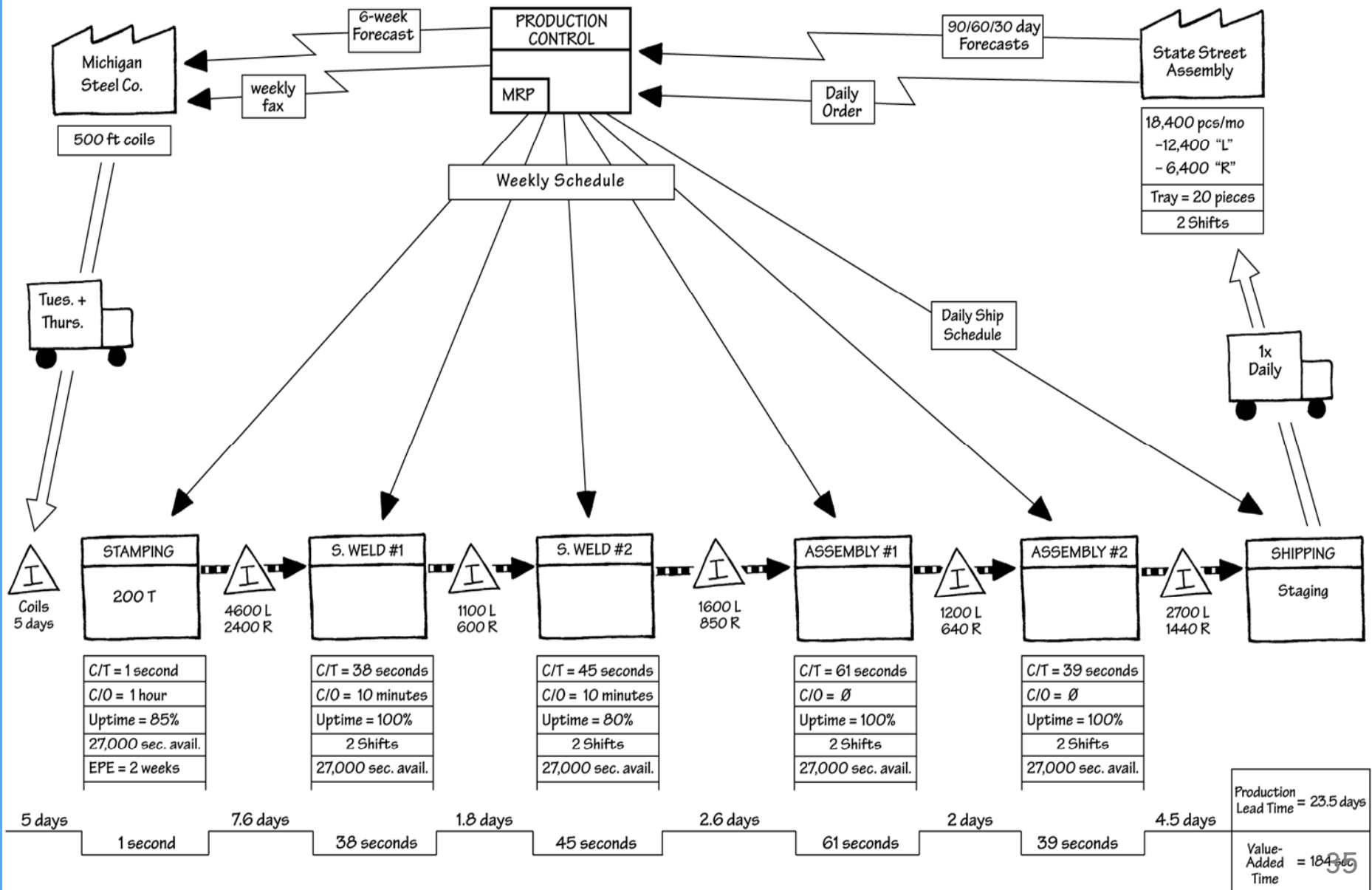
- To eliminate:
 - ✓ Muda (waste)
 - ✓ Mura (unnecessary variation)
 - ✓ Muri (overburden on people and technologies)

Note: Mura causes muri and both create muda!

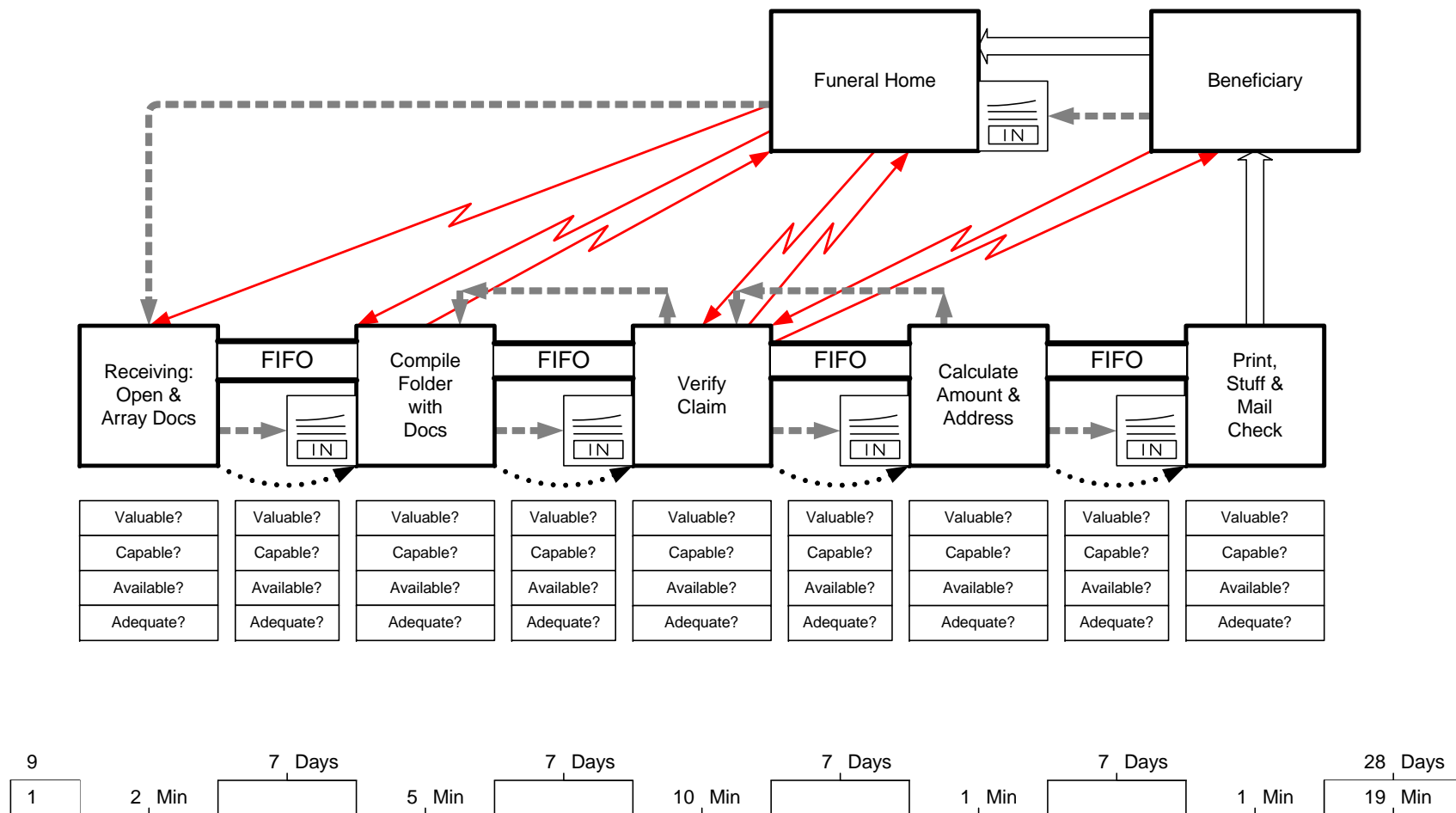
The Power of Mapping

- Any process in any organization in any industry can be mapped on a single page to make it's current performance visible to everyone.
- Requires the participation of everyone touching the process, led by a responsible person.
- Can't be done in the conference room; data must be turned into facts.
- “Go see, ask why, show respect.”

Widget Current-State Value Stream



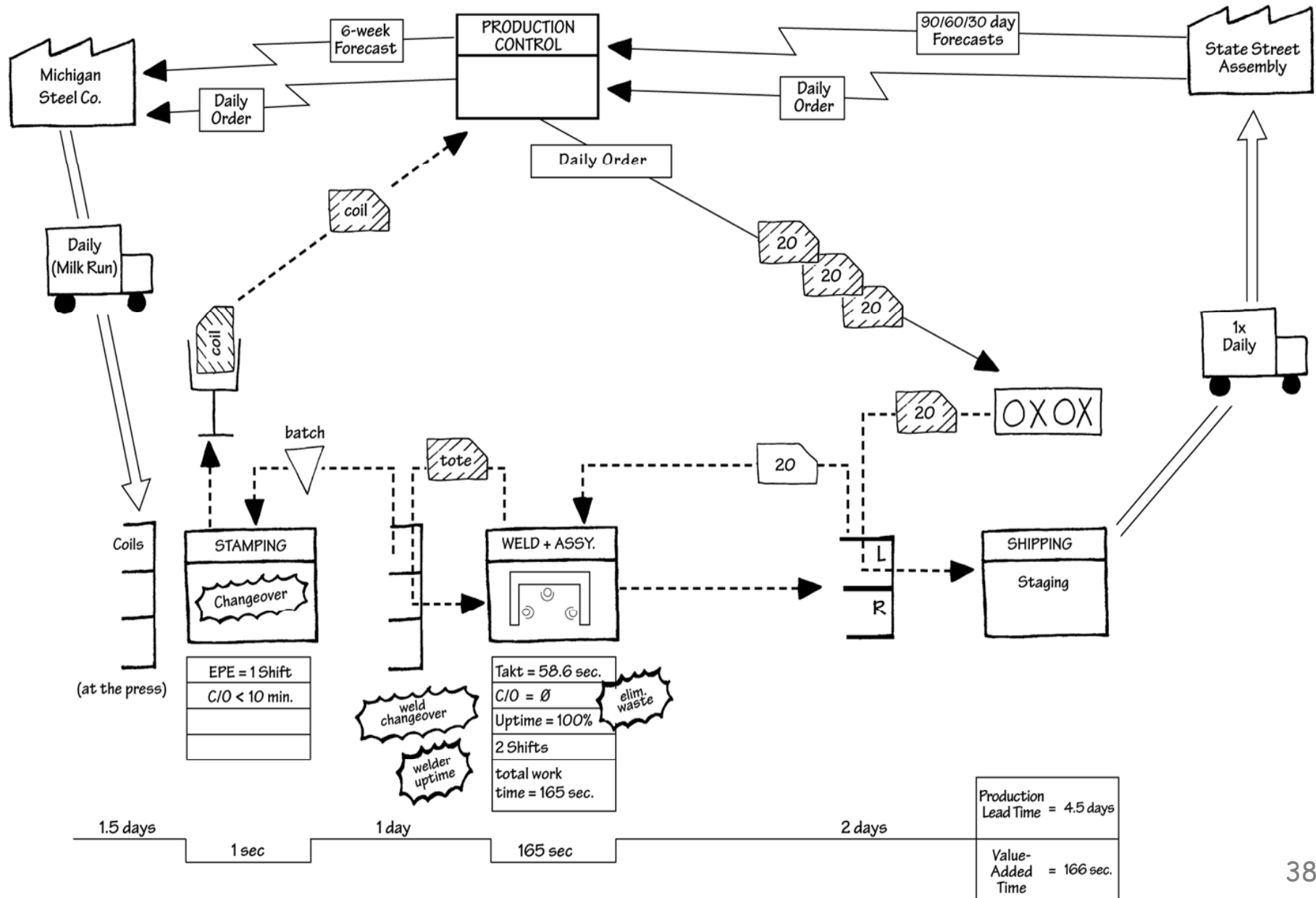
Insurance Claim Current-State VSM



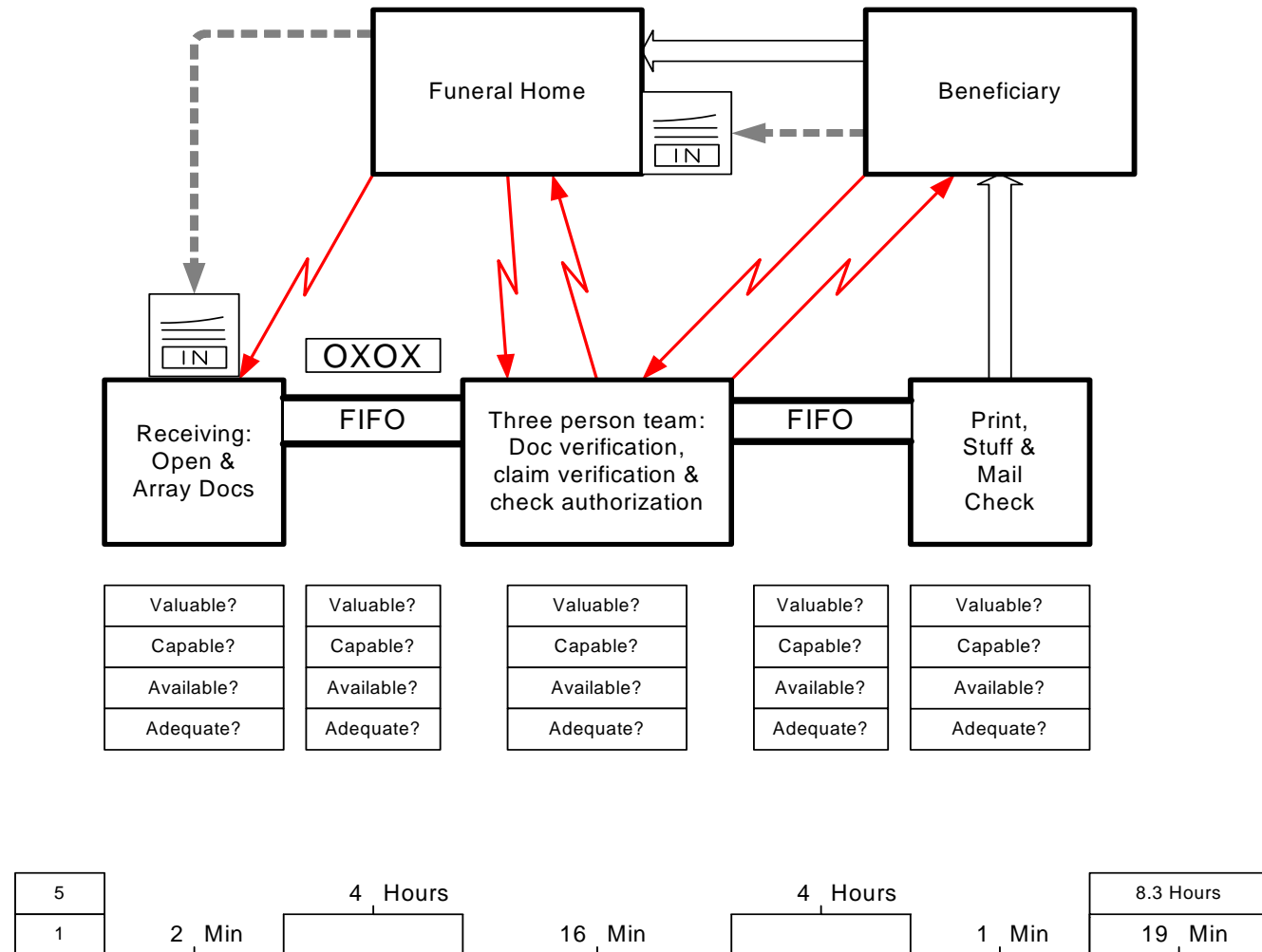
The Power of Envisioning

- Any process can be substantially improved by envisioning a future state that is leaner.
- This map must be embedded in an A3!
- Mapping without a responsible person to manufacture the authority for implementation and an A3 to guide the scientific, Plan-Do-Check-Act process leads to muda!

Widget Future-State Value Stream



Insurance Claim Future-State VSM



APEX TUBE COMPANY—Continuous Flow Project

Truck Fuel-Line Pacemaker Cell

1) Background/Business Case

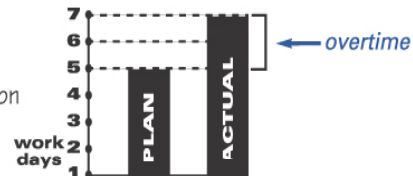
Be sure to link your plan to business objectives

Product – S/L/A Fuel Lines

Location – Anytown

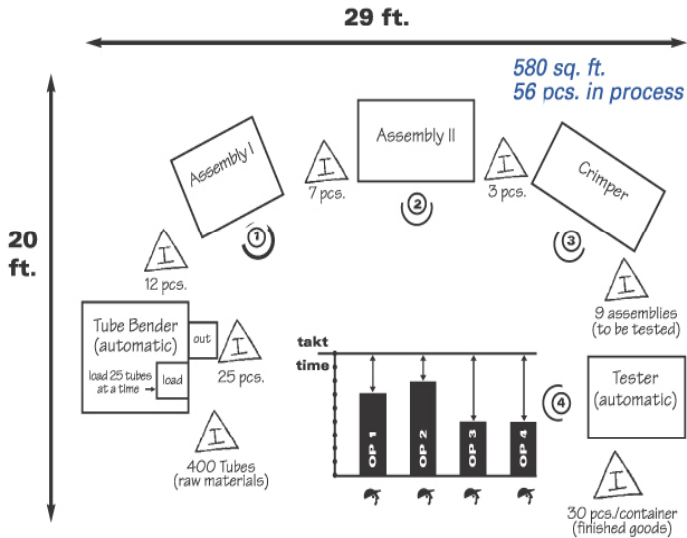
Needs:

- Customer requires 5% cost reduction
- Improve productivity

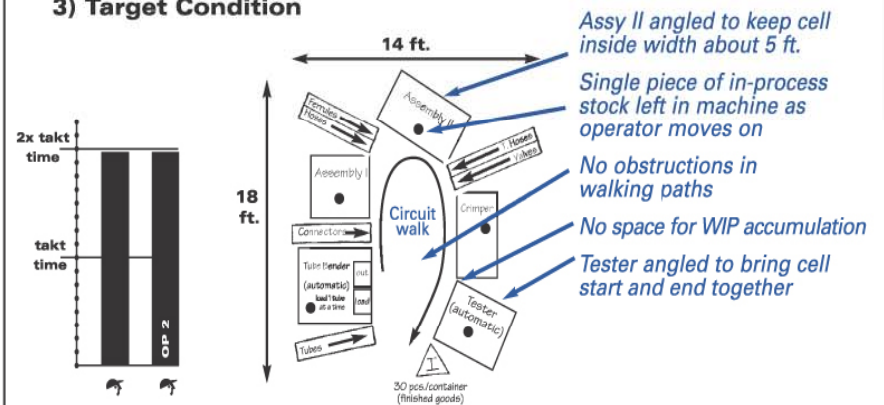


2) Initial condition

- No continuous material flow
- No people flow (operators stay at one machine)
- Unstable output
- Too much overtime
- Not working to takt time
- Too many operators for demand rate



3) Target Condition



4) Implementation

#	Task	Metric	Responsible person	Target date	March '04	April '04	May '04	June	Review	Review
1	Introduction Training				○	△				○
2	Mock Up/Trial				○	△				○
3	Add Auto Eject				○	◇	△			△
4	Reconfigure Cell				○	△				○
5	Std. Work Training				○	△				○
6	Train Material Handlers				○	△				△
7	Cell Debugging					○	?			
8	Finished-Goods Supermarket					○	△			
9	Production Kanban					○	△			
10	Frequent Withdrawal						○	△		
11	Heljunka Box							○		

○ Proposed Start

● Actual Start

(Planning/Tracking)

△ Proposed Completion

▲ Actual Completion

◇ Review

○ On Target

△ Behind Target

(Evaluation)

× Trouble

5) Indicators

	Pcs. per Hour	WIP	Space	Cost per Unit
Current				
Goal				

Be sure to include goals so level of success can be evaluated.