Lean in the Office/Administrative Environment

IMTA

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IMEC

Lean in the Office/Administrative Environment

- Fundamental Questions:
  - Are your customers satisfied with the level of service that you provide?
  - What do your customers really want and need?
  - What are the processes in your organization?
  - How are the processes performing?
  - What is being done to improve these processes?

Value Streams

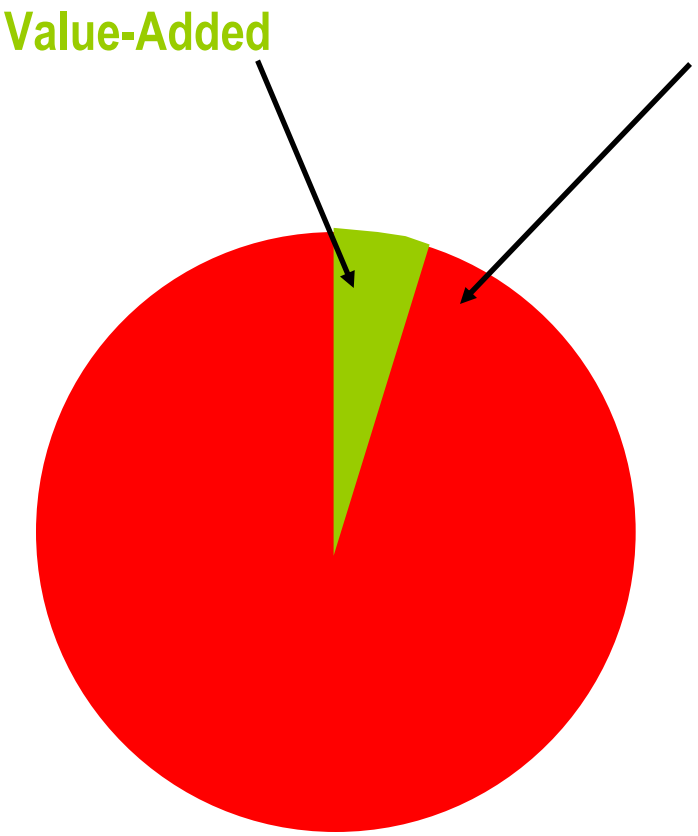
Value Stream = ALL steps, both value-added and non-value added, required to complete a product and/or a service from beginning to end.

- Raw Materials to Customer – Manufacturing
- Concept to Launch – Engineering
- Order to Cash – including Support Processes
  - Quoting
  - Order Entry
  - Purchasing
  - Credit Checks
  - Hiring
  - Shipping/Receiving
  - Accounts Receivable
  - Accounts Payable
  - Service & Warranty Support
  - Service Industries
  - End of Month Closing
  - Others?

Office/Administrative Value Streams

- Many office functions are not on the traditional “shop floor” value stream map
- Many office functions support several value streams without clear boundaries
- More difficult to identify customer, product and customer value
  - What do we track/map?
- Waste is more difficult to see - more entrenched and hidden

Lean = Eliminating Waste Through PDCA



Non-Value-Added

- Defects
- Overproduction
- Waiting
- Not Utilizing Employees
- Transportation
- Inventory
- Motion
- Excess Processing

Typically 95% of all lead time is non-value-added.

Office/Administrative Waste

- Overproduction
- “Inventory”
- Waiting
- NVA Processing
- Defects
- Excess Motion
- Transportation
- Underutilized People

- Printing paperwork too soon
- Filled “In-boxes”
- System downtime, meetings!
- Re-entering data, meetings!!
- Order Entry errors
- Walking to central filing
- Movement of paperwork
- Limited functional responsibilities, meetings!!!

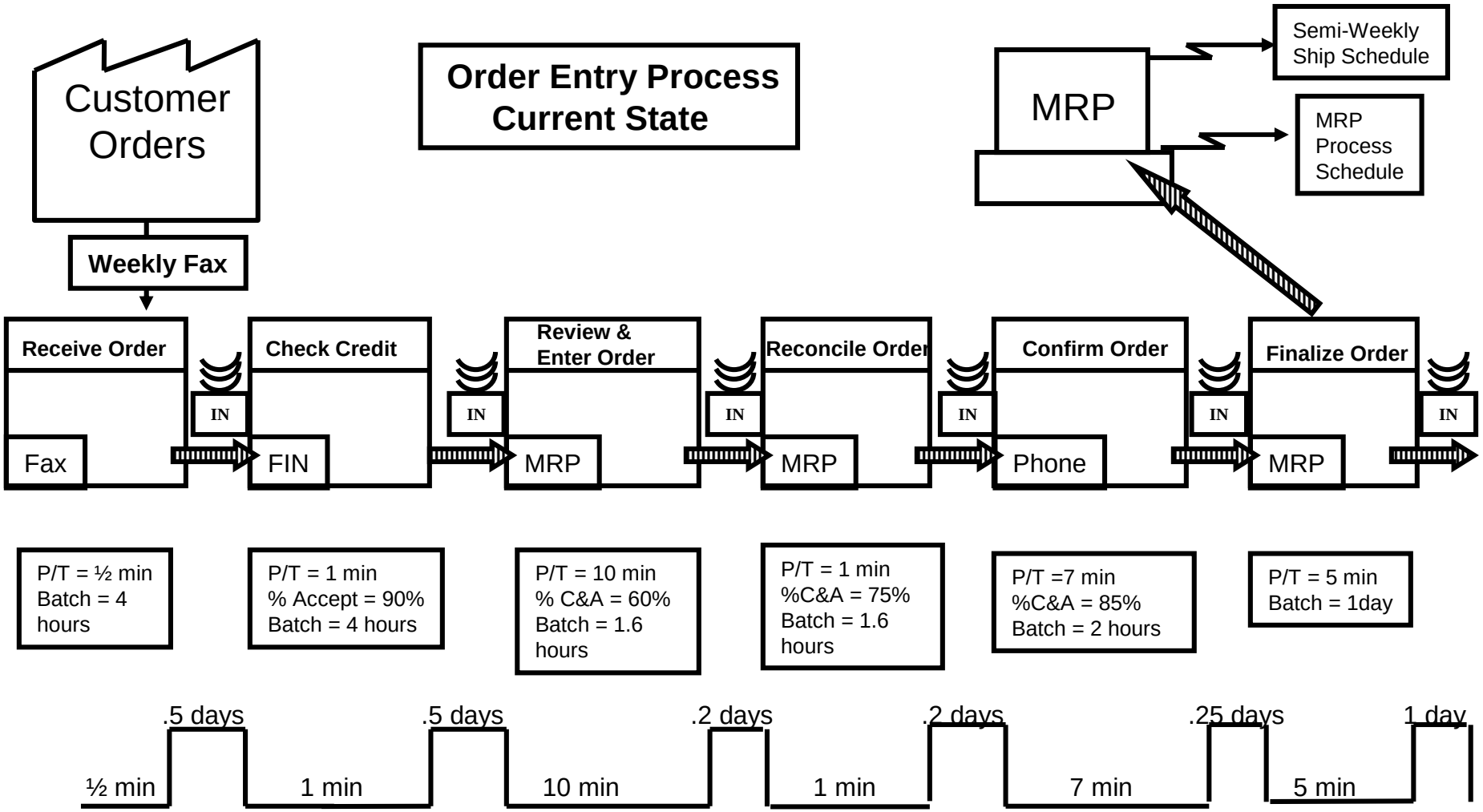
Value Stream Mapping

- Follow a “product” or “service” from beginning to end, and draw a visual representation of every process in the current state physical & information flow.
- Then, draw (using icons) a “future state” map of how value should flow in a lean environment.

Admin./Office Value Stream Common Variables

- Process time (touch time)
- Delay time
- Queue time
- Available time
- Set-up time
- Lead time/turnaround time
- Typical batch size or frequency
- % Complete and Accurate information (% C&A)
- Rework/revisions (e.g. design changes)
- Number of people involved
- Downtime (e.g. information systems)
- “Inventory” – queues of information (e.g. electronic, paper)
- Demand
- Information Technology used

Order Entry Process Current State



Total Lead Time = 2.65 days
Total Processing Time= 24.5 min
First Pass Yield = 34.4%

Lean Thinking

- Which steps truly add value?
- Which steps are waste?
- Potential to apply lean concepts and tools (e.g. one-piece flow, pull systems, standardized work, quality at the source,…)
- System impact of current controls and administrative guidelines
- Use of office Kaizens
- Applicability of technology-based solutions

Lean Thinking

- What steps truly add value? Which are waste?
  - Extra Processing (e.g. redundant data entry)
  - Correction of any form (e.g. paperwork errors)
  - Waiting (e.g. batching of transactions)
  - Motion & Transportation (e.g. to/from file cabinets)
  - Overproducing & “Inventory” (e.g. in/out boxes)
  - Underutilized People (e.g. limited authority)

Lean Thinking & Tools

- Applicability of Lean Thinking & Tools
  - Standardized Work
  - Quality at the Source
  - Workplace Organization
  - Visual Controls & Management
  - People Involvement
  - Batch Reduction or Elimination
  - Pull Systems
  - Cellular/Team Concepts
  - Equipment Reliability

Lean Thinking & Tools

- Standardized Work
  - Operations safely carried out with all tasks organized in the best known sequence, and followed by all employees.
    - Orders
    - Drawings
    - Invoices
    - All paperwork and “non-creative” work

Minimize variation in the process and process result!

Lean Thinking & Tools

- Quality at the Source
  - People must be certain that the product/information they are passing to the next work area is of acceptable quality.
  - People must be given the means to perform inspection at the source, before they pass it along.
  - Samples or established standards

Lean Thinking & Tools

- Workplace Organization
  - A safe, clean, neat, arrangement of the workplace which provides a specific location for everything, and eliminates anything not required.
  - Point-of-Use Storage for supplies, equipment (copiers, faxes, printers)

"A place for everything & everything in its place!"

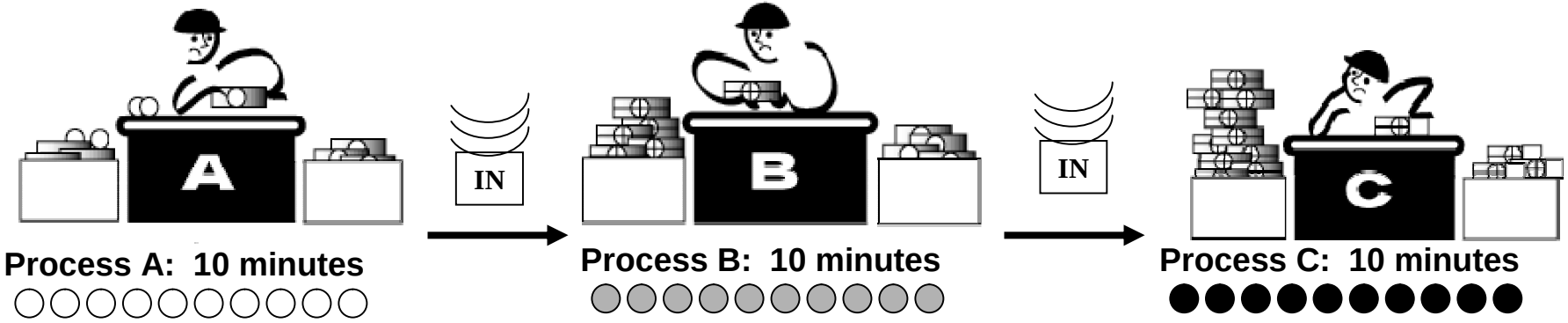
Lean Thinking & Tools

- Workplace Organization - the “5 S’s”
  - Sort - what is not needed, sort through, then sort out; “When in doubt, throw it out!”
    - Red tag strategy
  - Set-in-Order - what must be kept; make it visible and self-explanatory so everyone knows what goes where
  - Shine - everything that remains. Clean equipment and work spaces
  - Standardize - Set standards for the first 3 S’s
  - Sustain- requires discipline, stick to the rules and make them a habit

Lean Thinking & Tools

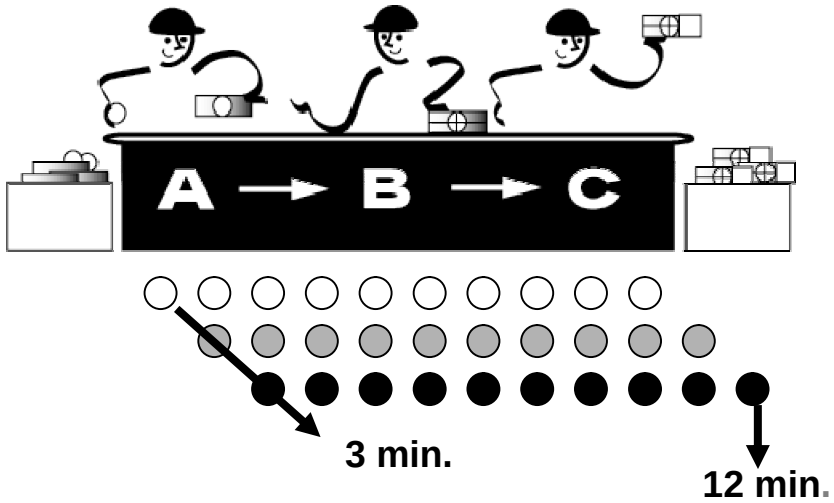
- Visual Controls and Management
  - Simple signals that provide an immediate understanding of a situation or condition. They are efficient, self regulating, and worker managed.
  - Examples:
    - Schedule or status boards
    - Color coded files, transactions
    - Good signage to direct people to areas, etc.

Lean Thinking & Tools (Batch Reduction or Elimination)



Overall Lead Time = 30 minutes + Queue Time

Small Batch Processing



What is the effect on quality and velocity??

Source: "Learning to See"

Lean Thinking & Tools

- People Involvement
  - Teams
    - With rotation of highly specified jobs
  - Cross trained and multi-skilled employees
    - Who can work many operations within an area and even operations in different areas
  - Expanded responsibilities and authority
    - Break down the old barriers & question the “rules”

Lean Thinking & Tools

- Reliability of office “tools” and equipment must be assured
  - Possible issues:
    - Limited software licenses (# of users)
    - Excessive system downtime
    - Slow system response time
    - Office Equipment downtime

Lean Thinking & Tools

- System impact of controls and administrative rules
  - What are the rules and assumptions that underlie the structure and performance of the current process?
  - Are the current rules and assumptions still valid?
  - Are the current controls appropriate and effective?
    - Beware the “illusion of control”.
    - Are controls implemented to avoid confronting unacceptable behaviors by one or a few?
  - What is the “cost” of the current rules and controls? What are the benefits – real or perceived?
  - Are there better ways to provide the desired control?
  - Is control even necessary? Why?

Lean Thinking & Tools

- Kaizen- Incremental Continuous Improvement
  - What is the ideal ordering of steps?
  - What is done differently or not at all?
  - Where should decisions be made?
  - What knowledge and skills are truly required to perform the step(s)?
  - Can the steps be simplified so that they are less dependent on knowledge and skills?

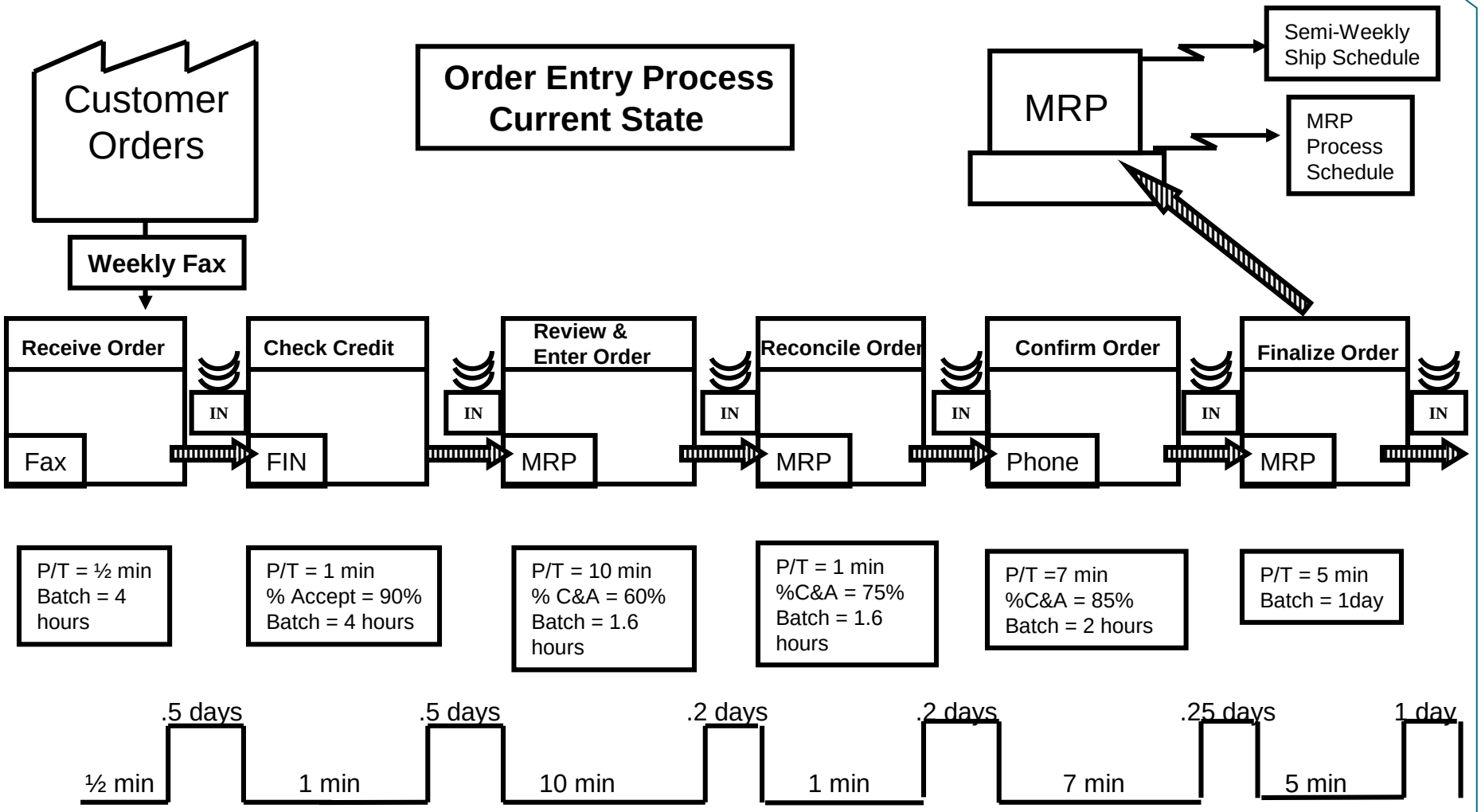
Lean Thinking & Tools

- Technology-based solutions
  - How can entire processes or steps be eliminated?
  - How can the time required for a process or step be reduced?
  - How can the dependency on knowledge and skill be reduced?

Future State Questions

1. What does the customer really need?
2. How often will we check our performance to customer needs?
3. Which steps create value and which are waste?
4. How can we flow work with fewer interruptions?
5. How do we control work between interruptions? How will work be prioritized?
6. Is there an opportunity to balance the work load and/or different activities?
7. What process improvements will be necessary to achieve the future state?

Order Entry Process Current State



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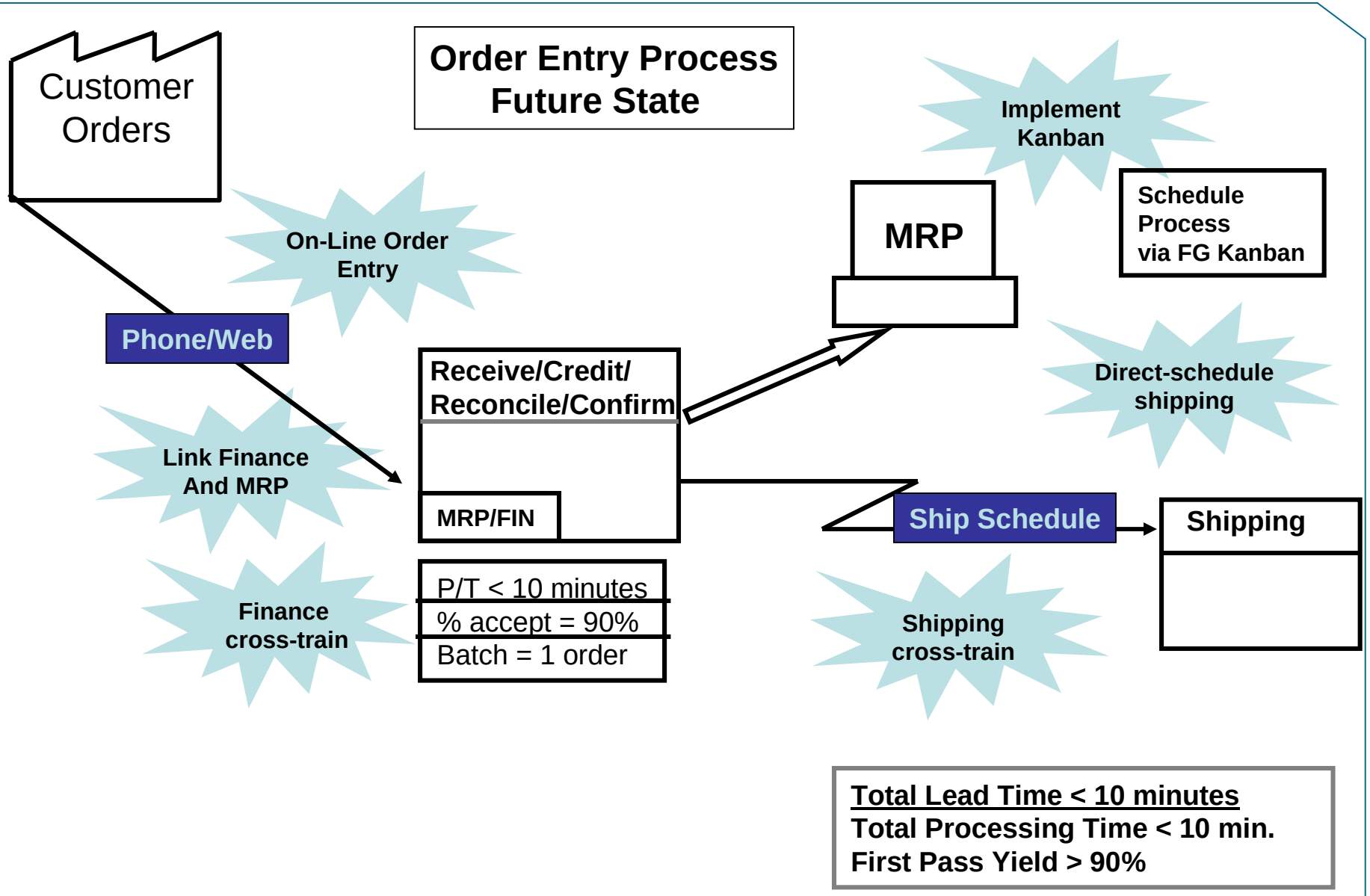
Order Entry Process
Future State
Customer Orders
On-Line Order Entry
Phone/Web
Link Finance And MRP
Finance cross-train
Receive/Credit/ Reconcile/Confirm
MRP/FIN
P/T < 10 minutes
% accept = 90%
Batch = 1 order
MRP
Implement Kanban
Schedule Process via FG Kanban
Direct-schedule shipping
Ship Schedule
Shipping
Shipping cross-train
Total Lead Time < 10 minutes
Total Processing Time < 10 min.
First Pass Yield > 90%

Lean Thinking

- Existing process designs may no longer be appropriate and cannot provide optimal results.
- Many processes were developed before the availability of important technologies.
- Continuously improving fundamentally flawed or outdated processes will yield limited results.
- Simply automating existing manual processes can also yield limited results.
- Seriously challenging old practices is required to achieve the desired, sustainable results.

Proven Benefits

- Burden reduction
- Reduction in operating costs
- Reliable quality outputs
- Positive environmental impacts
- Visual communication improvement
- Roles and Responsibility clarification
- Improved employee satisfaction

Questions

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