



Success Factors For Lean Business Process Implementation



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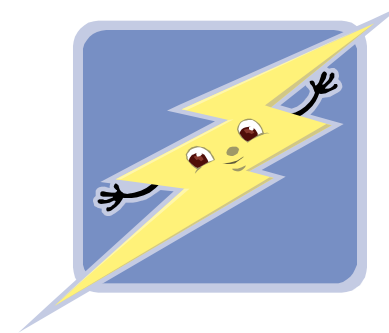
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Agenda

1. Process flow introduction
2. Business process complexity
3. Creating a lean business process
4. Key factors for success
5. Conclusion

Lean Business Process

- To remain competitive, organizations are finding that increasing process speed is critical to remaining competitive.
- In business processes, the critical element is very often speeding the processing of information.



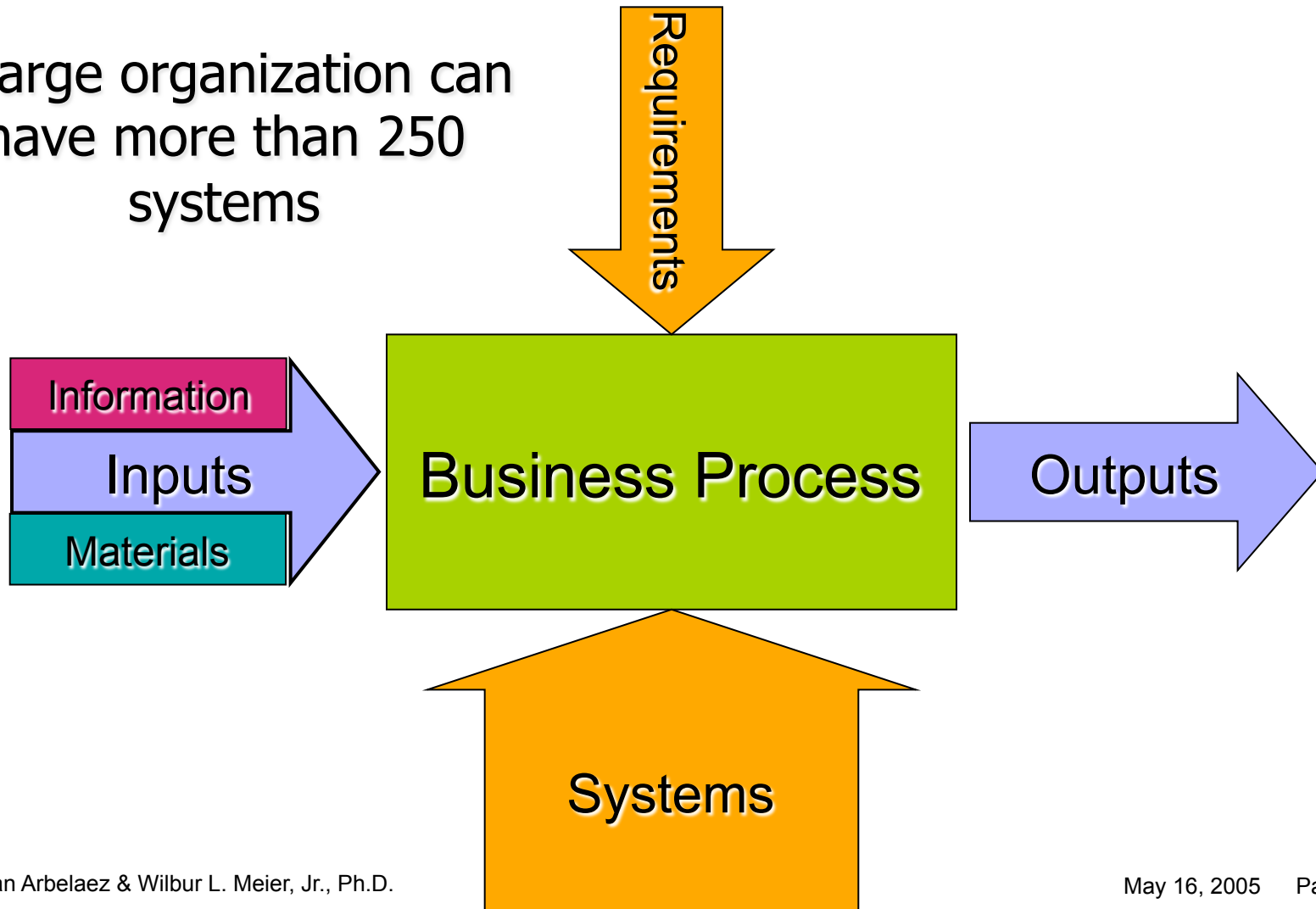
Process Inputs & Outputs

- While a product flow has a relatively small number of inputs and outputs, information flow has a large number of inputs and travels through multiple system structures such as:
 - Quoting
 - Available to promise
 - Master schedule
 - Engineering change
 - Accounts payable
 - Inventory control
 - Transportation & logistics
 - Others...



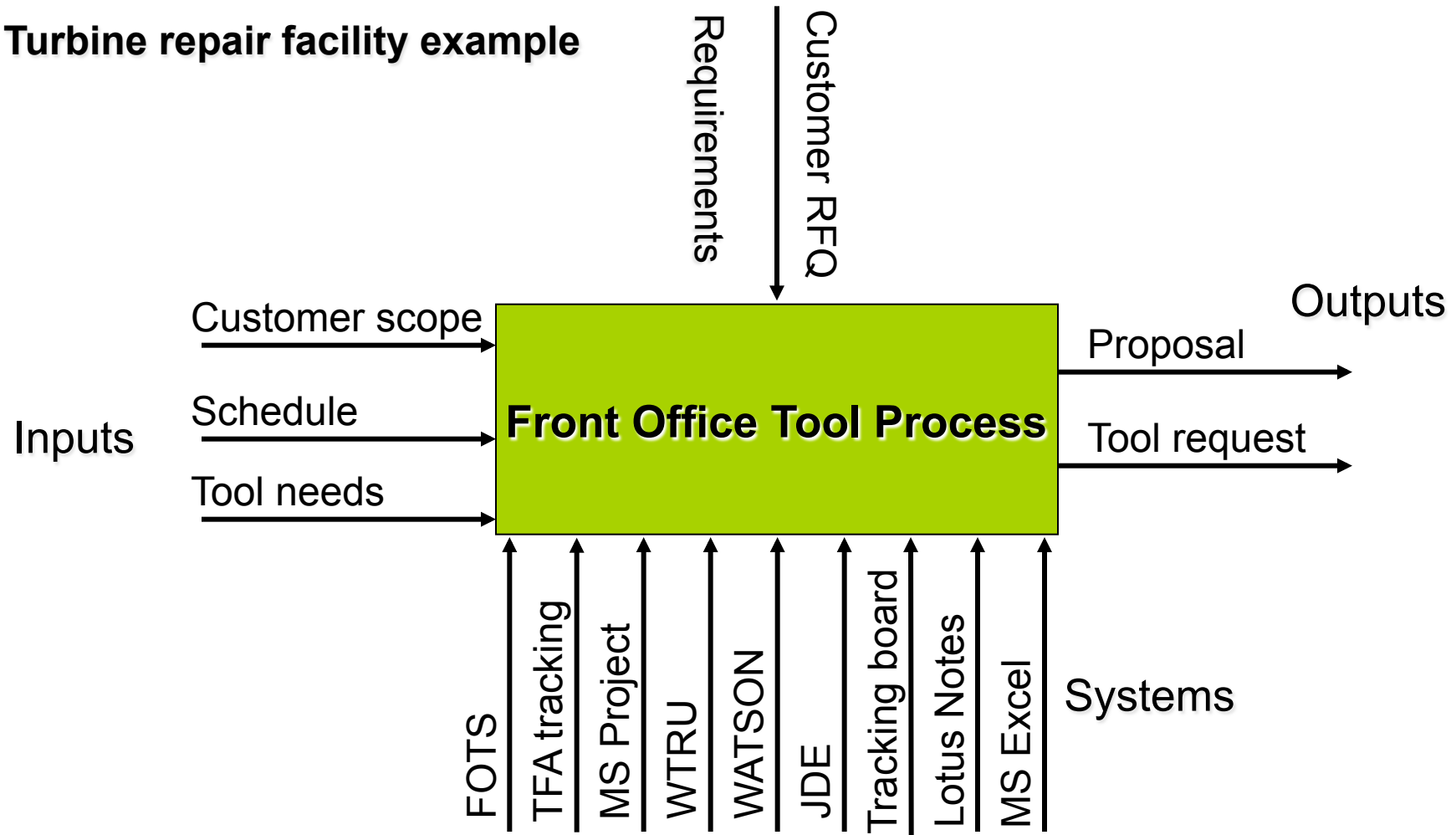
Typical Business Process Flow

A large organization can have more than 250 systems



Business Process Example

Turbine repair facility example

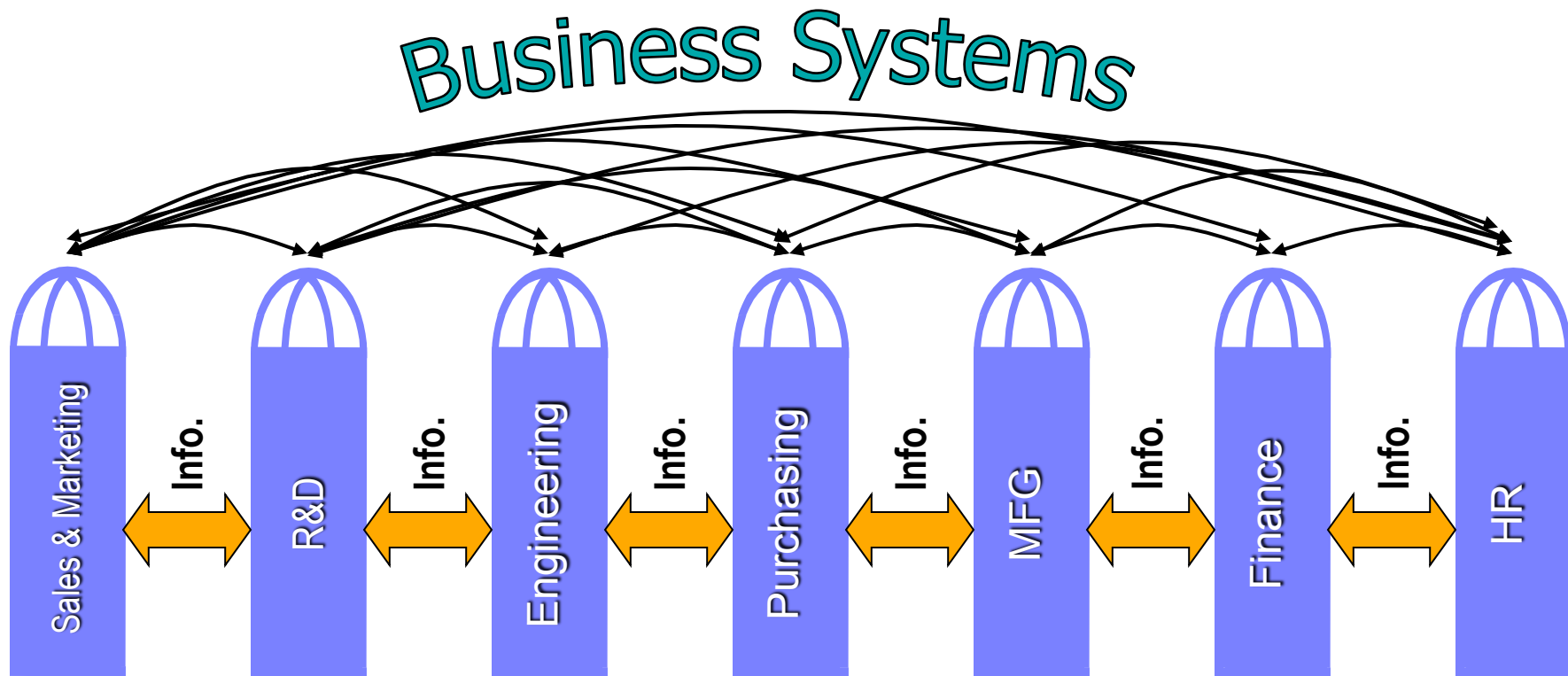


Understanding Business Processes

- Information flow is not clearly visible or easy to define
- Number of functional crossovers (white spaces)
- Number of decision points
- Number of process owners
- Duplication of information



Organization's Information Flow

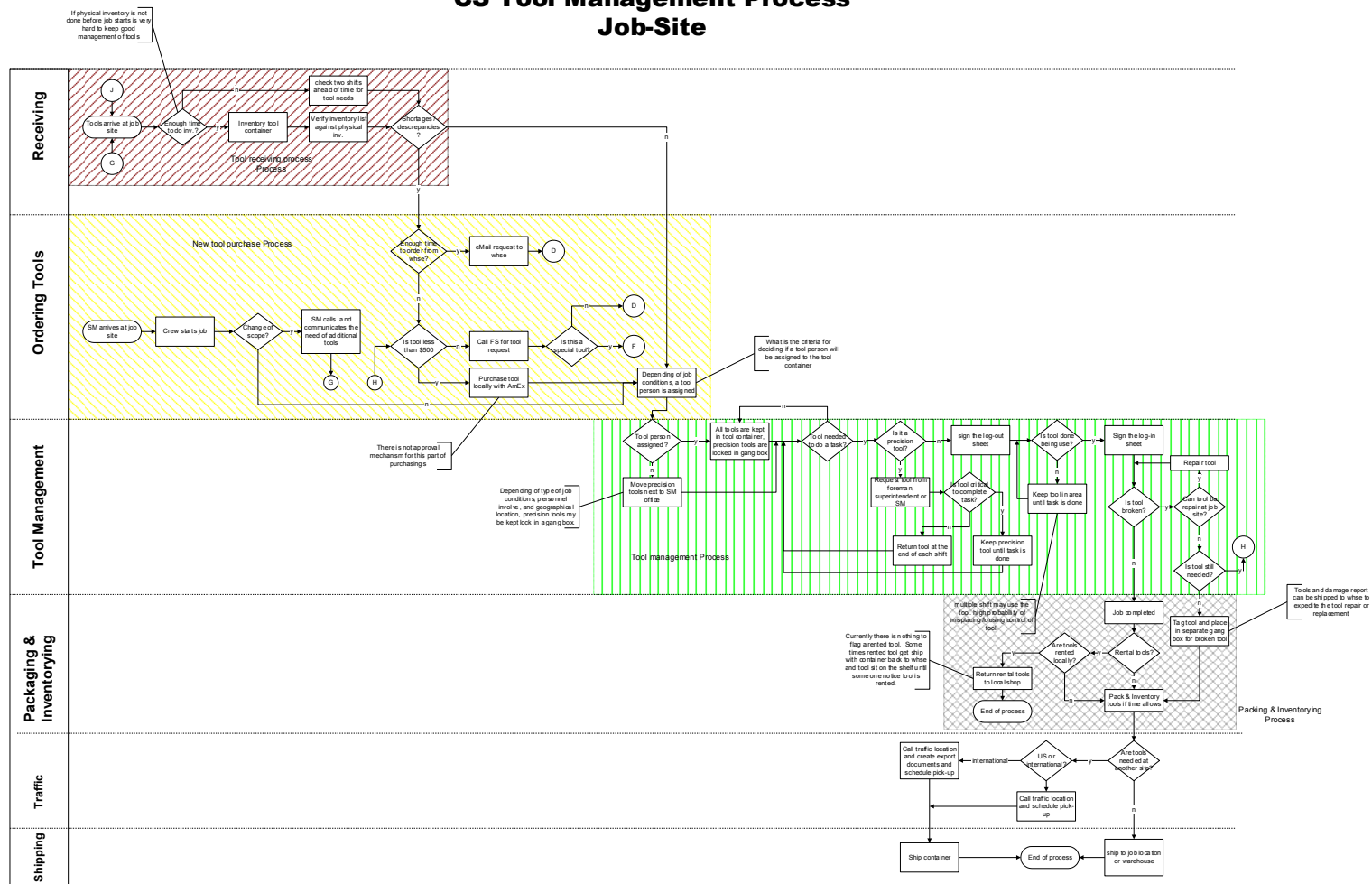


Information Flow Boundaries

- Information flow crosses over many functional boundaries
- Typical of functional areas:
 - Work is in isolation
 - Have different performance measures
 - May have conflicting objectives
 - Standards may differ
 - Decision loops causes delays
- Information can get trapped in these loops. Here is where we lose our speed.

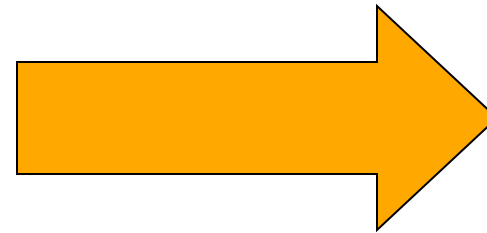
Information Boundaries

CS Tool Management Process Job-Site



Process Complexity Creates Waste

- Complexity translates into:
 - Errors
 - High costs
 - Work shortcuts
 - Delays
 - Aggravation
 - Poor customer service
 - Lost opportunity
 - Business risks
 - Inability to effectively deploy strategic plans



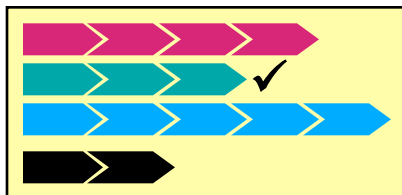
Loss of Speed

Steps in Creating Lean Business Processes

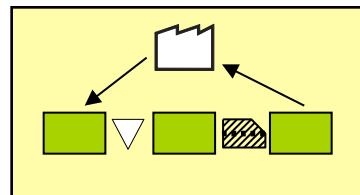
1. Work stream identification & prioritization
2. Value stream creation
3. Workflow segmentation & ranking
4. Workflow scope model
5. Detail mapping
6. Gap identification
7. Future state map
8. Improvement prioritization & deployment plan
9. Key performance indicators measurement



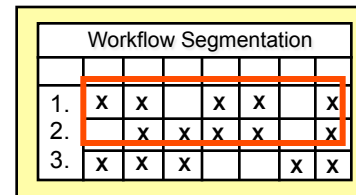
Creating a Lean Business Flow



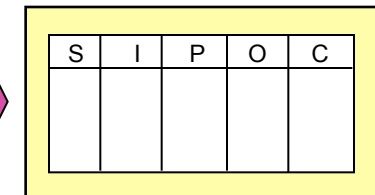
1. Work Stream ID & Prioritization



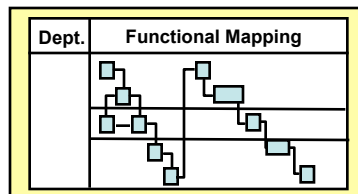
2. Value Stream Mapping



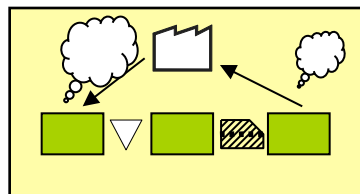
3. Workflow Segmentation



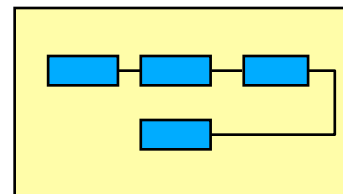
4. Scope model



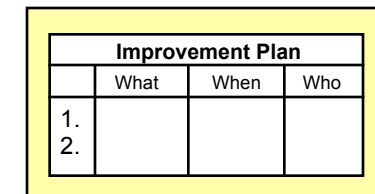
5. Detail Mapping



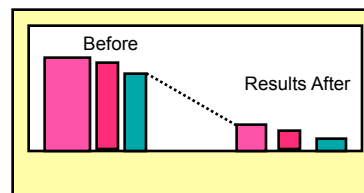
6. Gap Analysis



7. Future State

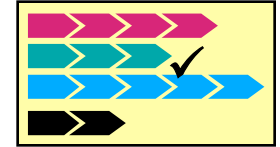


8. Deployment Plan

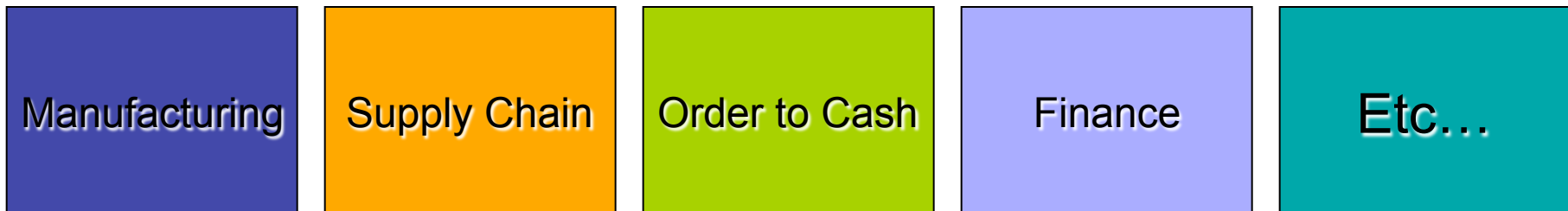


9. Performance Measures

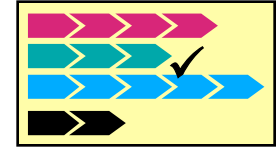
Business Processes



- Identification of work streams
 - A work stream contains multiple value streams
 - A work stream touches many functional areas
 - A work stream has hundreds of inputs and outputs



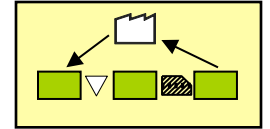
Selecting A Work Stream



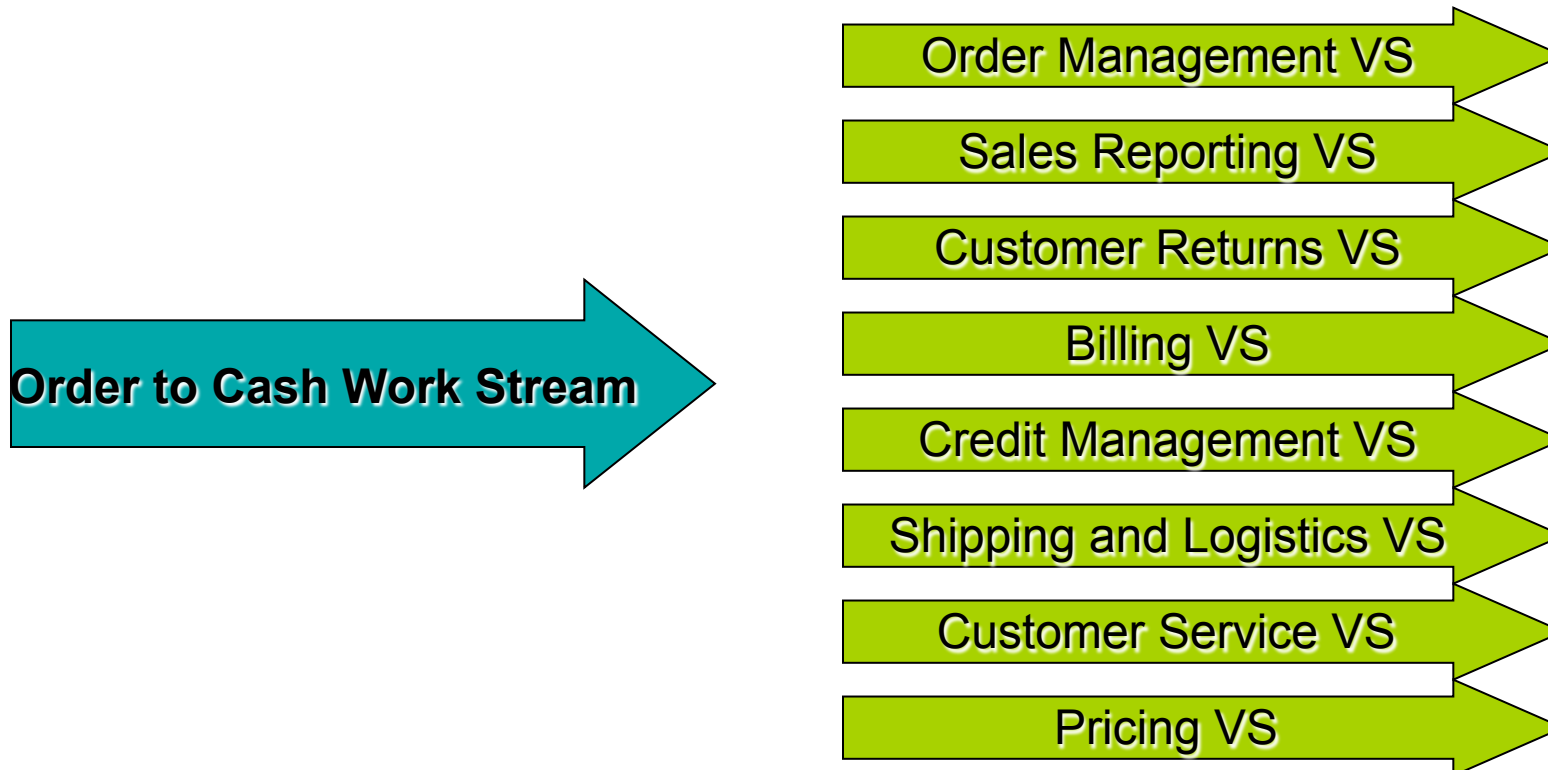
- Market drivers forcing strategic direction



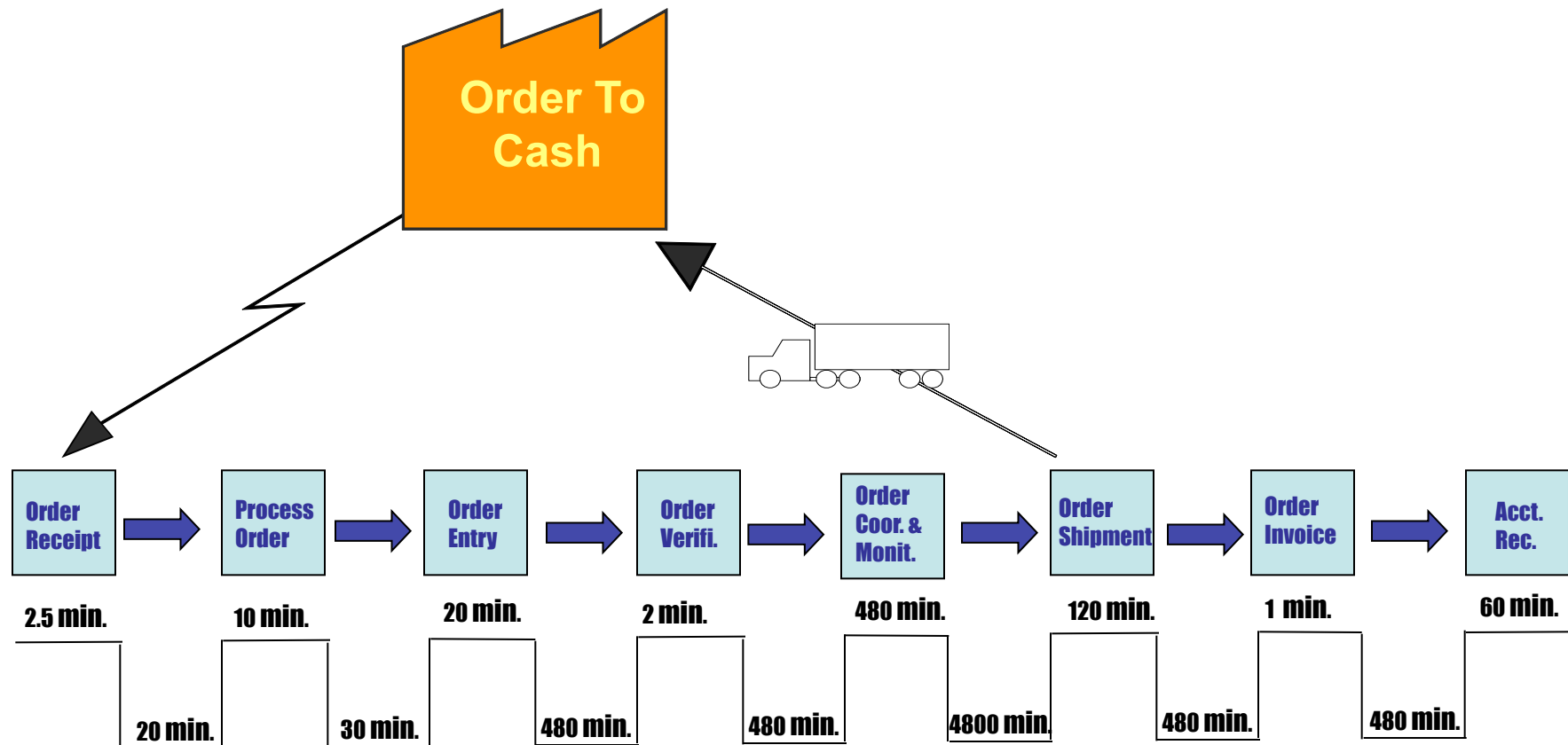
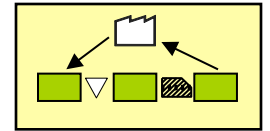
Creating Lean Business Processes



- Creating a current state value stream map



Creating Lean Business Processes



VA = 695.5 min. =
 NVA = 6530 min.
 TT = 7225.5 min.

$$\frac{72255 - 695.5}{72255} = 9.62\%$$

Workflow Segmentation

| Workflow Segmentation | | | | | | | | | |
|-----------------------|---|---|---|---|---|---|--|---|---|
| | | | | | | | | | |
| 1. | x | x | | | x | x | | x | |
| 2. | | x | x | x | x | x | | x | |
| 3. | x | x | x | | | | | x | x |

- Defining work flows that follow the same path
- Identification of similar work flows by volume will:
 - Help categorize / set priorities
 - Provide the highest impact to the organization
 - Provide highest impact to external customer
 - Achieve strategic objectives faster

Defining Workflows

| Workflow Segmentation | | | | | | | | | |
|-----------------------|---|---|---|---|---|---|--|---|---|
| 1. | x | x | | | x | x | | x | x |
| 2. | x | x | x | x | x | x | | x | x |
| 3. | x | x | x | x | | | | x | x |

Product Introduction Value Stream

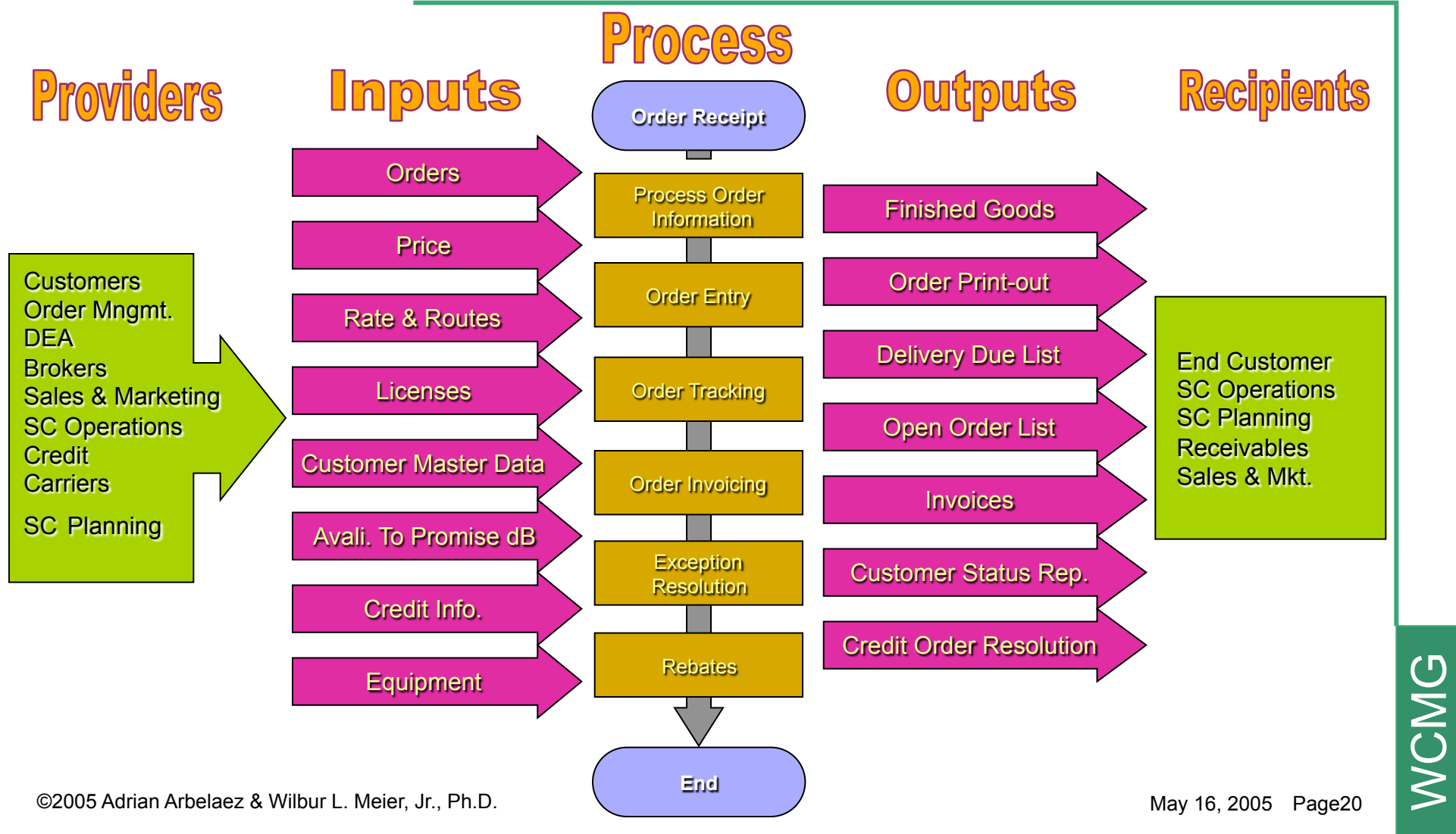


Product Introduction processes

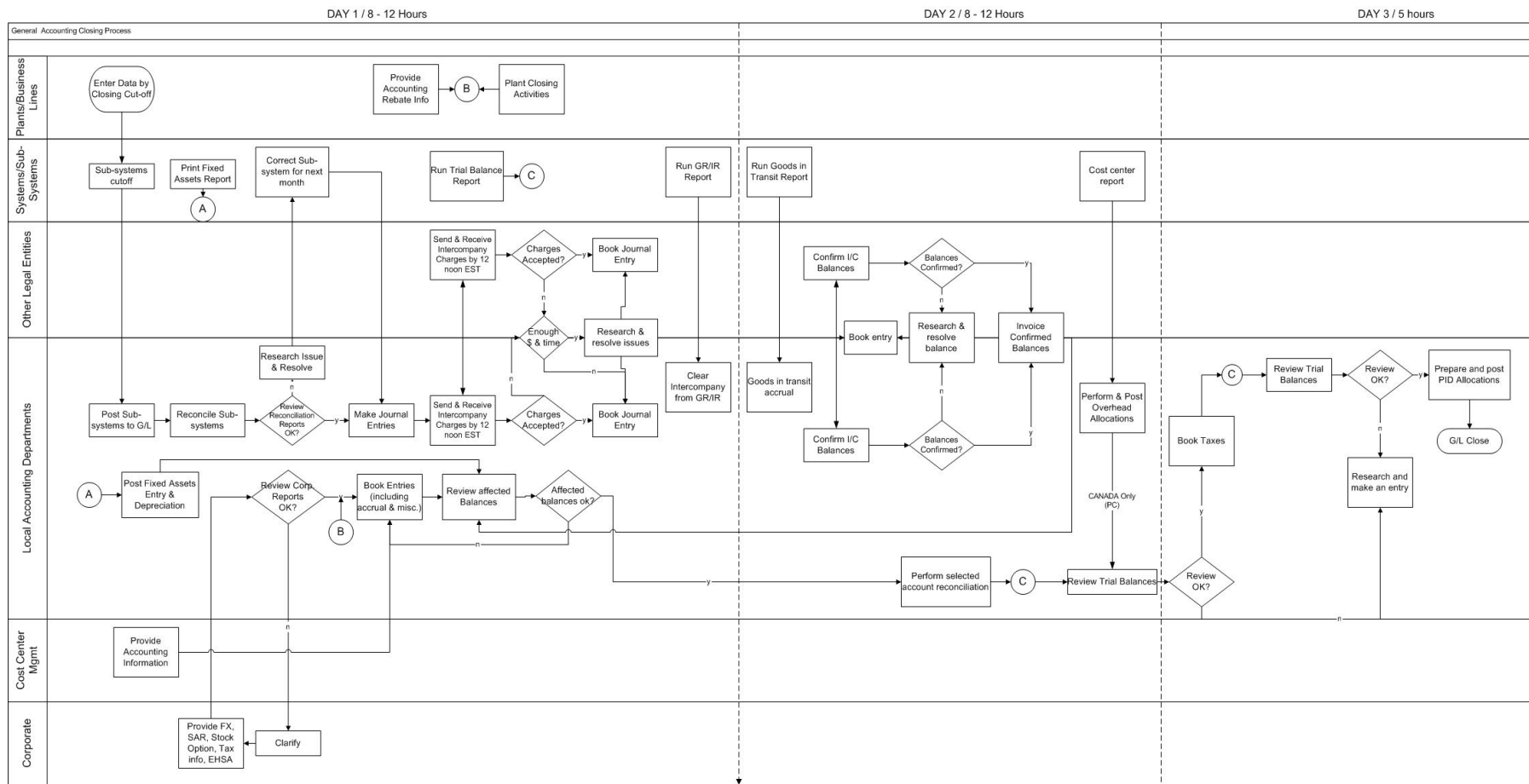
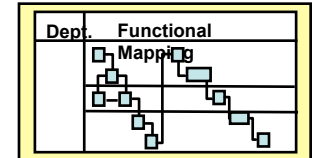
| Product / Service \ Process Steps | Process Verification | Coding a Raw Material | Issuing RM Specs | Molecule Assessment | New Introduction Announcement | Formula Documentation | Component Specification | Health Summary | Risk Assessment | Process Instructions | Ergonomics Assessment | Product Logistics | Sales Specifications | Material Safety Data Documents | Transportation | Label Management | FDA Status | Regulatory Status | Inventory Analysis | Workplace Mat'l handling | Manufacturing Approval | Purchasing & Logistics | Product Update | | Volume Breakdown |
|-----------------------------------|----------------------|-----------------------|------------------|---------------------|-------------------------------|-----------------------|-------------------------|----------------|-----------------|----------------------|-----------------------|-------------------|----------------------|--------------------------------|----------------|------------------|------------|-------------------|--------------------|--------------------------|------------------------|------------------------|----------------|------------|------------------|
| New Product | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| New Intermediate | X | X | X | X | | X | | X | | X | X | X | X | X | X | X | X | | X | X | X | X | | Workflow 1 | 8% |
| Code Modification | X | X | X | X | | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| New Model Number | | | X | | X | | X | | | X | | X | X | X | X | X | | X | | | | X | X | Workflow 2 | 82% |
| Name Modification | | | X | | X | X | | | | X | | X | X | X | X | X | | X | | | | X | X | | |
| New Name | | | X | | X | | X | | | X | | X | X | X | | X | | X | | | | X | X | | |
| Oversees Product | | | | | X | | X | | | X | | X | | X | X | X | X | X | | | | | X | Workflow 3 | 10% |
| Product Reallocation | | | X | | X | | X | | X | X | | X | X | X | | X | X | X | | | | | X | | |

Workflow Scope Model

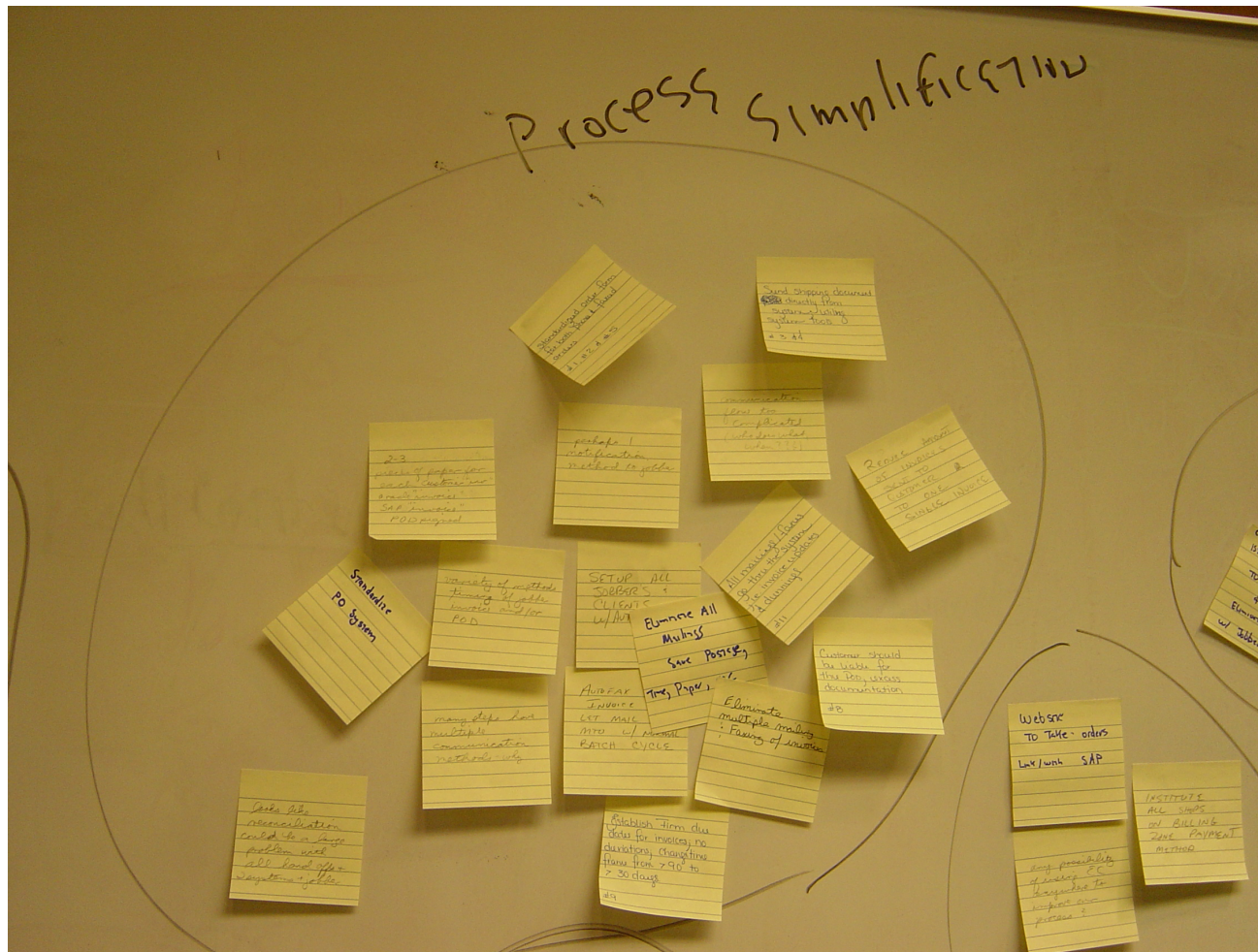
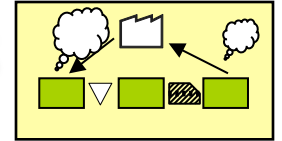
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| S | I | P | O | C |
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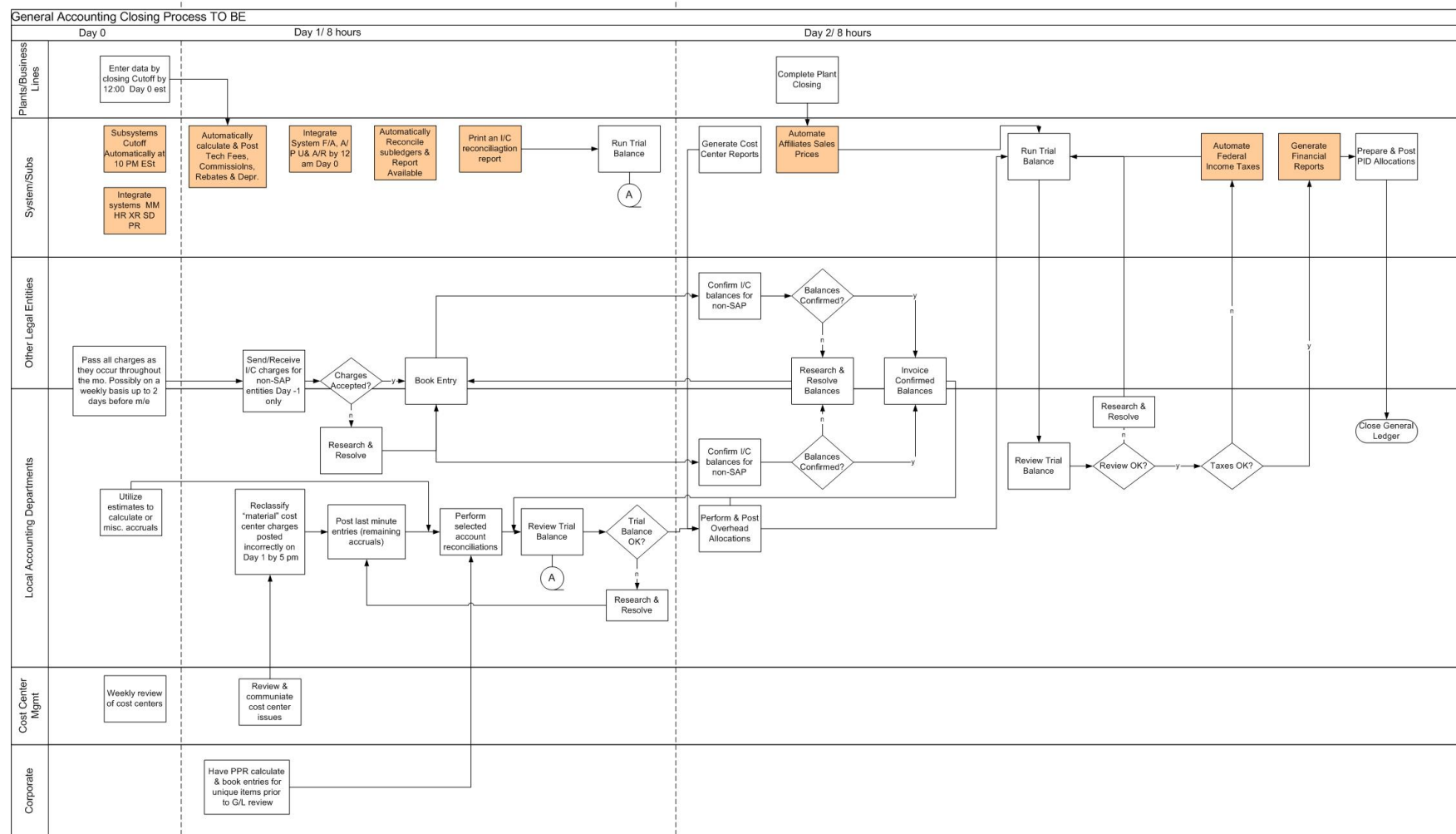
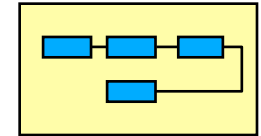
Multi-Functional Map



Gap Identification – Affinity Process



Future State Map



Improvement Prioritization

| Improvement Plan | | | |
|------------------|------|------|-----|
| | What | When | Who |
| 1. | | | |
| 2. | | | |

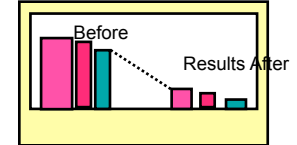
| Prioritization Matrix | | Criteria | | | | | 100% |
|-----------------------|--------------------------|----------------|-----------------|------------|------------------------|---------|---------|
| | | 35% | 23% | 15% | 7% | 20% | |
| No | Opportunity Description | SAP Transition | Customer Impact | Efficiency | Easy of Implementation | Benefit | Ranking |
| 1 | Invoice time frame | 9 | 9 | 9 | 1 | 9 | 8 |
| 2 | Eliminating Oracle | 9 | 3 | 9 | 3 | 9 | 7 |
| 3 | Credit | 9 | 3 | 9 | 9 | 3 | 6 |
| 4 | Invoice Follow up | 1 | 3 | 9 | 3 | 1 | 6 |
| 5 | Training | 1 | 9 | 3 | 9 | 9 | 5 |
| 6 | Jobber process ownership | 3 | 3 | 9 | 1 | 9 | 5 |
| 7 | Back orders | 3 | 3 | 9 | 9 | 3 | 4 |
| 8 | POD | 3 | 3 | 3 | 3 | 9 | 4 |
| 9 | Standard forms | 1 | 1 | 9 | 1 | 3 | 3 |
| 10 | E-commerce | 3 | 1 | 3 | 1 | 3 | 2 |

Implementation Plan

| Improvement Plan | | | |
|------------------|------|------|-----|
| | What | When | Who |
| 1. | | | |
| 2. | | | |

| | Opportunity (What) | Benefit (Why) | Metrics | Division | When Start | When Finish | % Complete |
|------|---|---|---|----------|------------|-------------|------------|
| | Sales/Marketing Forecast Every 6 Weeks | Decreased inventory levels & obsolete material, increase cash flow , better service to customer | Forecast Accuracy - ADC (75%), Valvoline (85%), ASC (60%) | DSC, ATU | | | |
| Item | Actions (How) | PPR (Who) | | | | | |
| 1 | Train Sales on 3 month report and forecast needed - ASC & ADC use ADC's form. Valvoline use current system. | Jay | | DSC | 1/25 | 3/26 | |
| 2 | Obtain ADC Forecast Form and document into process procedure. Valvoline use current system. | Frank | | DSC | 2/6 | 5/8 | |
| 3 | Hold Forecasting Event including Sales, Manufacturing, Customer Service. | Andrea | | DSC | 1/31 | 6/24 | |
| 4 | Develop performance metric to measure forecast accuracy. - Valvoline & ADC has one. ASC to model existing. | Antonio | | DSC | 5/14 | 7/25 | |
| 5 | ASC needs a system for forecasting. (Outcome of Kaizen Event) | Pat | | ATU | 8/10 | 9/24 | |

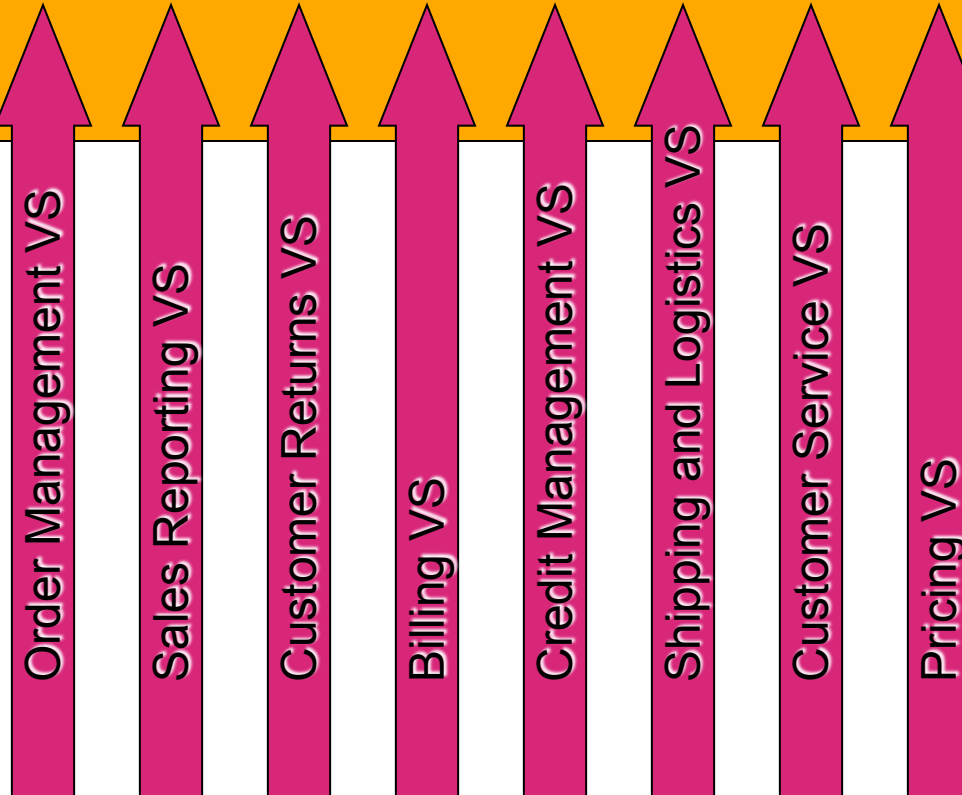
Key Performance Indicators



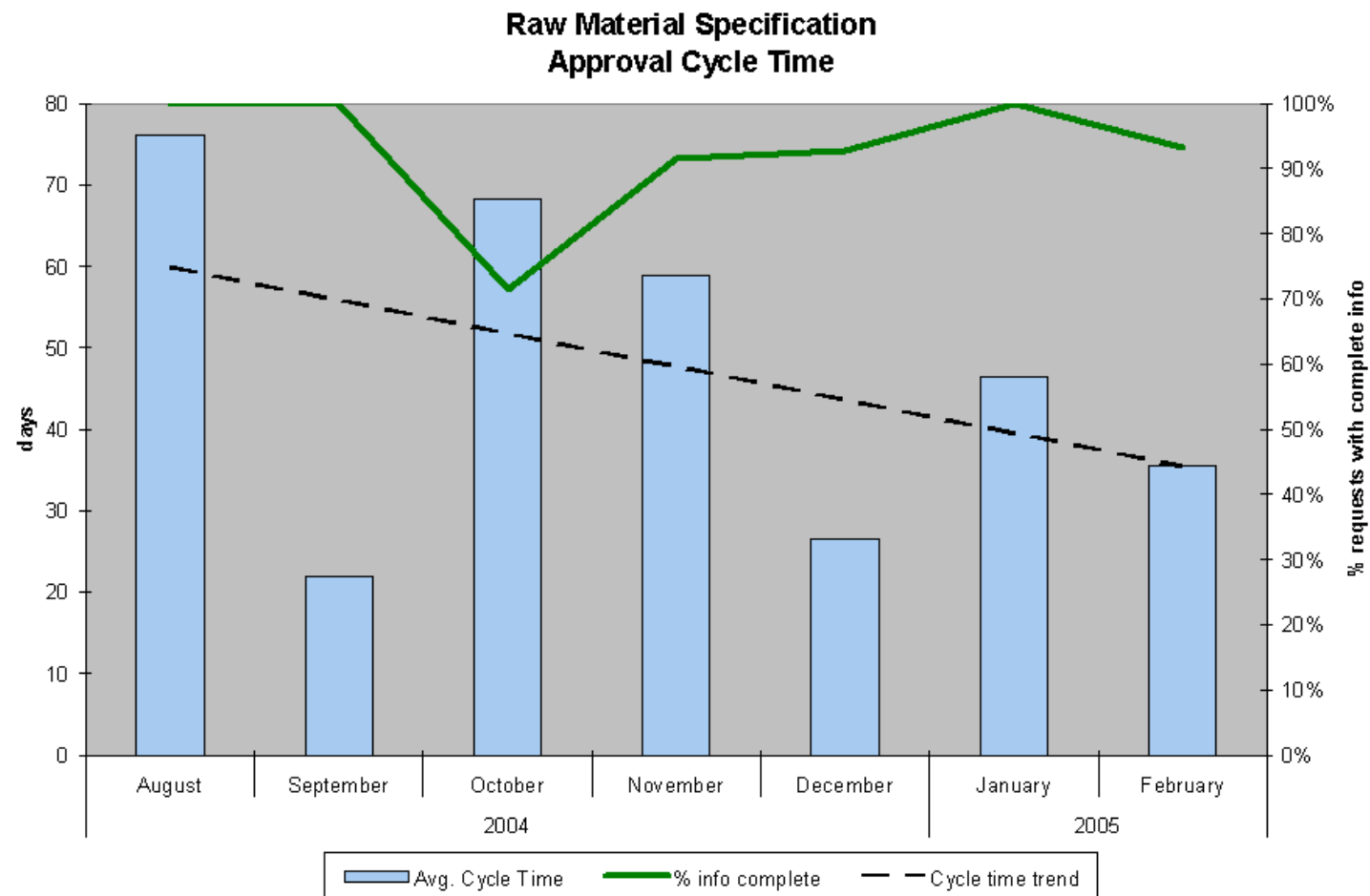
Performance



Workflow Standards



8 Months After Improvement



Success Factors

- Developing lean business processes is an increasingly important component of developing a lean enterprise.
- Due to complexity, organizations must follow a structure and systematic approach to learning the business process
- The great white elephant can only be eaten a bite at a time.
 - Aligning strategic objectives with lean activities is crucial. Prioritize based on it!

Success Factors

- From order entry to receipt of cash the majority of the time is consumed in transactional processes and not in operational processes.
- Difficulties in lean applications associated with such issues as defining information flows and accounting for business structural influences are described and highlighted.
- A proposed methodology is presented for dealing with these difficulties and overcoming them.
- Examples of the application of this approach are presented and used to illustrate its use.
- Elements for ensuring the success of the application are presented.

Conclusions

- Business processes are responsible for most of the total time (waste) taken to move from order entry to receipt of cash from the customer.
- In these processes, defining quantities and flows for products (usually information) present significant difficulties. Why?
- However, the tools useful in lean production applications on the production floor are also useful and capable of being applied to business processes.

Appendix

- Contact Information
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