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  Non-Technology Improvement: Representative examples of analysis, insights and related improvement barriers

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**“Uniqueness,” The Skyline Analogy**
- Every city’s skyline is unique
- But buildings are comparable
- And most components are similar: doors, fixtures and more

**Improvement Implications**
- Every business is unique
- But operations are comparable
- And most improvements are similar: root causes, benefits and more
- 75% require no technology (page 10)

The Lab helps clients implement these similar, non-technology, business improvements.

**Improvement Templates**
The Lab’s database of improvement templates (pages 3 & 4) helps clients:
- Find more improvements
- Accelerate benefits
Opportunity

Describes The Lab’s Template-Based Advantage® for implementing valuable, overlooked Non-Technology Improvements
### The Lab’s Unconventional Approach

#### Three Fundamental Differences vs. Conventional Management Consulting

<table>
<thead>
<tr>
<th>Differences</th>
<th>Reasons</th>
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<tr>
<td><strong>1 Non-Technology Improvement®</strong></td>
<td>Roughly 75% of business operations improvements:</td>
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<tr>
<td></td>
<td>• Require no new technology</td>
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<tr>
<td></td>
<td>• Are similar and repetitive</td>
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<td></td>
<td>• Resemble a “long tail”</td>
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<tr>
<td><strong>2 Template-Based Advantage®</strong></td>
<td>The Lab’s templates take advantage of similarities:</td>
</tr>
<tr>
<td></td>
<td>• Find more improvements</td>
</tr>
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<td></td>
<td>• Achieve more benefits</td>
</tr>
<tr>
<td></td>
<td>• Accelerate results</td>
</tr>
<tr>
<td><strong>3 Self-Funding Business Improvement® – Guaranteed</strong></td>
<td>All businesses have similar, overlooked improvements:</td>
</tr>
<tr>
<td></td>
<td>Virtuous Waste</td>
</tr>
</tbody>
</table>

#### Popular Improvement Methods

The most effective improvement methodologies require no technology:

- Six Sigma
- Lean Improvement
- Lean Six Sigma
- Kaizen Methods
- Total Quality Management
- Quality Function Deployment
- Voice of the Customer
- and others

The Lab’s templates and project approach incorporate the most valuable aspects of these methods.

#### Virtuous Waste

Corrective work activities widely mis-perceived as unavoidable, valuable effort (page 5).
The Lab’s Database of Improvement Templates

Improvement Templates

Organization-based:
Broadly applicable to many companies and industries.

Industry-specific:
Unique to particular business segments and industries.

The Lab Maintains Templates in Two Major Groups

Organization-Based Templates

<table>
<thead>
<tr>
<th>Support Groups</th>
<th>General Line Groups</th>
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<tbody>
<tr>
<td><strong>Finance</strong></td>
<td>• Field Sales &amp; Support</td>
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<td>• Customer Service</td>
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<td>• Contact Centers</td>
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<td><strong>Supply Chain Operations</strong></td>
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<td>• Product Development</td>
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<td>• Order Management</td>
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<td>• Production</td>
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<td>• Distribution</td>
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<td>• Quality Management</td>
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</table>

Industry-Specific Templates

<table>
<thead>
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<th>Supply Chain</th>
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<tr>
<td><strong>Financial Services</strong></td>
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<td>• Insurance</td>
<td>• Oil &amp; Gas, Energy</td>
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<td>• Technology &amp; Communications</td>
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<td>• Retail Sales</td>
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<td>• Automotive &amp; Transportation</td>
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<td>• Chemical &amp; Natural Resources</td>
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<td>• Consumer Packaged Goods</td>
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<td>• Industrial Products &amp; Appliances</td>
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<td>• Food Production &amp; Processing</td>
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<td>• Print &amp; Mail</td>
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<td>• Paper &amp; Packaging</td>
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<td>• Telecommunications</td>
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<td>• Business &amp; Consumer Services</td>
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<td>• Utilities</td>
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<td>• Health Care</td>
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<td></td>
<td>• Leisure &amp; Hospitality</td>
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<td>• Media Services</td>
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</tbody>
</table>
Template Descriptions

The Lab’s Six Categories of Improvement Templates

**Business Process Map Templates**
The Lab maintains activity-level business process maps for thousands of organization-based and industry-specific processes.

**Improvement Opportunities**
The Lab documents and catalogs thousands of commonly recurring, activity-level operating improvements.

**Best Practices, or “Leading Practices”**
Use The Lab’s Leading Practices to evaluate your operational capabilities. Go “out-of-industry” for valuable practices.

**Benchmarking Metrics/Key Performance Indicators (KPIs)**
The Lab has more than 10,000 quantitative measures (metrics) covering processes, operations and organizations.

**Capacity Models (Activity Cube)**
Quantitatively link work activities to volumes, input and output to track productivity and forecast resource needs.

**Implementation Work Plans**
Standard “modules” define implementation tasks, time frames and milestones. Plans are configured for each client’s needs.

Broadly Defined
The Lab defines “templates” broadly, from business process maps through implementation work plans.
Conventional Tactics Overlook Virtuous Waste Activities

Virtuous Waste Defined
Tangible waste is an obvious improvement opportunity and conventional methods target its reduction.
- Scrap
- Returned goods
- Idle time
But intangible waste is not obvious and conventional methods overlook it.
- Incorrect orders
- Customer over-service
- Sales downtime
The avoidable work activities that correct intangible waste are mis-perceived as “virtuous.”
- Saving revenue
- Serving customers
- Helping the sales force
The Lab’s term for these mis-perceived, avoidable work activities:
Virtuous Waste
The cost of this waste erodes 20% of earnings for the Fortune 500 (page 30).

The Lab’s Tactics Identify Virtuous Waste Activities

**Conventional Tactics: “Big Rocks”**
- BRAINSTORMING & FLIP CHARTS
- **Issue-based scope**
  - Select improvement issue(s)
    - Generate improvement “long list”
    - Focus on a few – most valuable
  - Deeply analyze issues
    - Root causes
    - Implications
- **Multi-focus teams**
  Teams pursue all improvements:
  technology, strategic, non-technology
- **Macro-targeted**
  - A few major improvements
  - Technology-driven (90%)
  - Long term (>12 months)

**The Lab’s Tactics: “Long Tail”**
- WALL-TO-WALL PROCESS MAPPING
- **Organization-based scope**
  - Select group(s)
    - Business
    - Organization
  - Broadly analyze groups
    - Business processes (end-to-end)
    - Organization capacity (wall-to-wall)
- **Single-focus teams**
  Teams pursue only non-technology improvements
- **Micro-targeted**
  - Hundreds of small improvements
  - Non-technology (all)
  - Near term (<6 months)
Template-Based Advantage: Massive, Activity-Level Improvement

**Activity Improvements**
Affect Each Job Position

**Organizational Capacity**
Cumulative Impact

**Recoup and Redeploy**
Capacity Model Needed

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**The Challenge**
Virtuous Waste activities are pervasive, but overlooked.
- Full impact is “invisible”
- Root causes: “unavoidable”
- Remediation is “heroic”

**The Reward**
Virtuous Waste consumes 25-40% of organizational capacity.
- Operational rework
- Sales “downtime”
- Customer “over-service”

**The Solution**
The Lab’s methods recoup wasted capacity in 6 months.
- Full positions
- No “fingers and toes”
- Clients redeploy employees

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“Long Tail” Capability
The Lab’s template-based advantage makes it feasible to...
- Document
- Implement
...hundreds of activity-level improvements in months.
Frequently Asked Questions: Internal Teams

An Unusual Fact
Roughly two-thirds of The Lab’s new client relationships originate with internal improvement teams. Conventional consultants compete with, or displace, internal teams.

Q: What methodologies does The Lab use?
A: Any & all that work.


Q: Doesn’t The Lab find the same improvements?
A: No.

The Lab’s improvement templates identify 3-5x more Non-Technology Improvements than even the best internal teams.

Q: Does The Lab replace internal teams?
A: Never.

Internal teams provide roughly two-thirds of our new client introductions. The Lab can transfer templates to internal teams to increase effectiveness.

Q: Why would an internal team involve The Lab?
A: More improvements, benefits & speed.

Internal teams today face unprecedented demand for rapid results and increasingly valuable business benefits. The Lab helps internal teams achieve these capabilities.
Early-Stage Checkpoints Reduce “Launch Risk”

Fixed-Price Proposals
The Lab’s proposals are based on our labor costs. The scope is collaboratively and frugally designed with clients.

Opportunity Checkpoint
If The Lab discovers that a self-funding improvement opportunity is unavailable, we will provide a full refund by week number two.

Compatibility Checkpoint
During the first two weeks, clients may cancel the Phase I engagement for any reason and receive a full refund of fees.

Self-Funding Guarantees Reduce “Performance Risk”

Phase I: Analysis & Design
The Lab will deliver a set of “quick hit” Class I Improvements with financial benefits that exceed the Phase I fees and expenses. These can be implemented by client staff without The Lab.

Phase II: Implementation
If an improvement program we implement fails to deliver savings at least equal to our fees in the first year, The Lab will continue working without charge until it does or refund the difference.

Low Risk by Design
The Lab’s fixed-price proposals, checkpoints and self-funding, money-back guarantees reduce risk for clients.
Benefits Concentration
Inefficient business processes and customer over-service typically represent three-quarters of the Class I opportunity and benefit.

Root Causes of Virtuous Waste

Inefficient Business Processes
- Typically 25–40% of business process work steps represent Virtuous Waste.
  - Rework
  - Over-service
- 75% of these tasks can be eliminated
  - In six months
  - Without technology

Under-Managed Capacity
- Failure to document, quantify and manage work tasks and organizational capacity.
  - Inaccurate forecasts
  - Staffed for peaks

Measurement Imbalance
- Over-emphasized metrics:
  - Volume
  - Revenue
- Under-emphasized metrics:
  - Productivity
  - Quality
  - Unit Cost
  - Customers

Over-Served, Mis-Served Customers, Markets
- Organizations squander costly efforts on the wrong priorities:
  - High priorities are under-served
  - Low priorities are over-served
- Markets are similarly mis-served
The Lab’s Terminology: “Class I” Means Non-Technology

Class I® Improvements Outnumber Class II® by a 3-to-1 Margin

Class II Improvements
Technology dependent

25%

Class I Improvements
Technology neutral

75%

Class I Means No Technological, Strategic or Regulatory Change

<table>
<thead>
<tr>
<th>Technology</th>
<th>Product/Service</th>
<th>Business/Distribution Strategy</th>
<th>Physical Infrastructure</th>
<th>Regulatory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Class II</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Class I Improvement
The Lab’s term for non-technology reduction of the root causes of Virtuous Waste that erode value in multiple categories:

- Rework
- Sales downtime
- Service issues
  - Over-service
  - Under-service
  - Mis-service
- Intervention
- Cycle time delay
- Errors
- Misperception
### Class I, Non-Technology Improvement: Near-Term

**Rapid Results**
Most improvements can begin implementation immediately.

Even large-scale implementation projects can be completed in 6 months.

#### Improvement Opportunities by Implementation Timeframe

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>Complexity</th>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Immediate (1–2 months)</strong></td>
<td>Low</td>
<td>None</td>
</tr>
<tr>
<td><strong>Secondary (3–6 months)</strong></td>
<td>Moderate</td>
<td>None</td>
</tr>
<tr>
<td><strong>Long Term (6+ months)</strong></td>
<td>Varies</td>
<td>Minor, Major</td>
</tr>
</tbody>
</table>

#### Timeframe Complexity Technology

- **Immediate (Class I)**: 35% Immediate, None
- **Secondary (Class II)**: 43% Secondary, None
- **Long Term (Class I)**: 22% Long Term, Varies

*The chart indicates the distribution of improvements by timeframe and complexity.*
Methodology

Outlines The Lab’s two-phased, Self-Funding Business Improvement work plan for reducing Virtuous Waste®
Two-Phased, Self-Funding Approach to Implementation

Phase I: Analysis & Design Objectives

Identify improvements, develop a business case and a self-funding implementation work plan

Duration: 6 to 8 Weeks

Develop an improvement business case
- Ledger-line-item financial detail
- Work-group-level operating detail

Draft an implementation work plan
- Self-funding, non-technology
- Client-prioritized, multi-objective
- Immediate launch

Deliver supporting documentation
- Process maps, “Current-State”
- Benchmarks, leading practices
- Detailed improvement opportunities

Phase II: Implementation Objectives

Implement improvements, achieve payback and sustain ongoing improvement

Duration: 4 to 6 Months

Launch Immediate Action improvements
- Simple operations changes
- Lead time: 6-8 weeks

Install Non-Technology improvements
- Complex process change
- Lead time: 3-6 months
- Capacity model development

Optimize Future State processes
- Job position/skills realignment
- Management Operating Reports (MORs)
- Desk-level standards (Placemats)

Implementation: The Lab’s Core Business

The Lab’s teams work full time, on site, with client executives, managers and front-line employees to implement improvements and document results.

LEGEND

- Indicates client decision point for Phase II Implementation Launch.
- Indicates self-funding performance guarantee, Phase I and Phase II.
Self-Funding Business Improvement: From “Start to Finish”…

Analysis & Design, Phase I

Phase I is the business equivalent of a wall-to-wall X-Ray or CT scan of operations.

Templates help document end-to-end business processes at an activity level of detail, creating an unprecedented, consensus-driven, fact-based view of improvement opportunities.

Combined with the ledger-line detail of the business case, the Phase I findings and documentation create an almost irresistible, organizational groundswell for action toward change.

Project Development

STEP 1
Project Sponsorship
Obtain commitment from an executive who can ensure success. Identify the organizational scope.

STEP 2
Proposal Design
Detail the “frugal analytical footprint” to deliver the greatest benefit for the organizational scope.

STEP 3
Operations Analysis
Analyze and benchmark performance data, map processes and document improvements.

STEP 4
Benefits Case & Work Plan
Document improvement benefits in a self-funding business case. Design the implementation plan.

Non-Disclosure Agreement
The Lab signs client NDAs without edits.

Organization Charts – Existing
The Lab reviews charts to identify a frugal analytical scope for Phase I.

Analysis Design Workshop
The Lab meets with clients to jointly finalize Phase I scope.

Process Map Coverage
The Lab’s templates map 80% of the organizational scope at the activity level.

Client Time Requirements (Page 16)
The Rule of Thumb: No more than one hour per client employee each week.

Self-Funding Work Plan & Benefits Case
The Lab’s non-technology implementation plans are typically complete and self-funded in 6 months.
...An Unconventional “Engineering/Construction” Approach

Phase II: Implementation – Typically 6 months

STEP 5  Improvement Implementation
Establish a “lather, rinse, repeat” cycle for installing changes. Monitor and refine new processes.

STEP 6  Capacity Reconciliation
Model organizational capacity and reconcile to newly-standardized processes, work products and required activities.

STEP 7  Desk-Level Standardization
Develop desk-level job instructions (“Placemats”) to standardize work methods and document goals.

STEP 8  Performance Tracking
Create concise visual management dashboards to measure performance against goals.

Process Improvement Records (PIRs)
Consolidate activity-level improvements into manageable groups with these operational “change orders.”

Implementation Cycle
Begin installation of change with small groups of PIRs. Review, refine and continue this “lather, rinse, repeat” cycle.

Capacity Model – Activity Cube (Page 20)
Use the Activity Cube to reconcile workload and staff needs. Generate goals & reports: productivity, quality and service.

Redesign Jobs & Organizations
Standardize and document job tasks and accountability. Redesign job positions & organizations as required.

Desk-Level Guides – Placemats
Define easy-to-follow performance goals to ensure productivity and reduce variance.

Management Operating Reports
Design simple area reports – typically 5-7 metrics – of operations performance: units, volumes, backlog, errors.

Implementation, Phase II

Phase II resembles a construction project more than a conventional management consulting engagement.

Operational “change orders” (PIRs) rapidly align hundreds of activities with customers’ top priorities and the most valuable sources of revenue. Lower-value tasks are eliminated or reduced.

Just like a construction project, progress is tangible and measurable daily.

LEGEND

Indicates client decision point for Phase I & Phase II Launch.
Indicates self-funding performance guarantee, Phase I and Phase II.
Phase I Work Plan; Minimal Client Time Is Required

More Templates, Less Time

The Lab’s templates reduce the time required from clients to develop findings and documentation.

The Analysis and Design phase is designed to use the client’s time both frugally and effectively.

<table>
<thead>
<tr>
<th>Description</th>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
<th>Week 5</th>
<th>Week 6</th>
<th>Week 7</th>
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</table>

1 Applicable for projects covering a total of 250–2,000 employees.
2 Process Map Fair—a group review of maps.
### Phase I: Client Activities – Description

#### Client Participation Tasks, Time Requirements

<table>
<thead>
<tr>
<th>Week One</th>
<th>Week Two</th>
<th>Week Three</th>
<th>Week Four</th>
<th>Week Five</th>
<th>Week Six</th>
<th>Week Seven</th>
<th>Week Eight</th>
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<tbody>
<tr>
<td><strong>Conduct Interviews, Existing Data Analysis</strong></td>
<td><strong>Map Business Processes, Develop Findings &amp; Validate Improvements</strong></td>
<td><strong>Finalize Implementation Plan</strong></td>
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<tr>
<td><strong>Internal Perception Interviews</strong></td>
<td><strong>Process Map Development (3 steps)</strong></td>
<td><strong>Financial &amp; Operational Benefits</strong></td>
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<tr>
<td>- 45-60 minutes each</td>
<td>- 1. First Draft — Two-hour session per map develops “skeleton” work flow (1-2 client staff)</td>
<td>- Financial validation</td>
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<tr>
<td>- Informal, confidential</td>
<td>- 2. Refine/Validate — Multiple, brief reviews add detail (15-30 minutes each review)</td>
<td>- Performance goals</td>
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<tr>
<td>- Semi-structured</td>
<td>- 3. Map Fair — Group validation of maps and improvements</td>
<td>- Timeline, Milestones</td>
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<td><strong>Existing Data Assessment</strong></td>
<td><strong>Benchmarks, Leading Practices &amp; Customer Interviews</strong></td>
<td><strong>Implementation Planning</strong></td>
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<td>- Prior analysis, reports</td>
<td>- Data gathering, observations</td>
<td>- Resource needs</td>
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<td>- Findings review and validation</td>
<td>- Sponsorship</td>
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#### Brief Access vs. Duration

In Phase I, client-participants contribute their time in brief increments, typically in sessions lasting less than 60 minutes. Brief, informal access to clients is more valuable than lengthy periods of contributed time.

*Applicable for projects covering a total of 250–2,000 employees.
Phase II Improvement Objectives & Self-Funding Payback

Typical Milestones
Each work plan is unique, but several characteristics are common to every implementation:
- Rapid completion (6 months or less)
- Rapid break-even (6 months or less)
- Substantial payback (2–5x by month 12)

Multiple Objectives — Six-Month “Break-Even” Point

Improvement Objectives

- **Labor Savings**
  Achieve and sustain 20-30% labor savings

- **Revenue Productivity**
  Increase uptime (selling tasks) for producers

- **Service Improvement**
  Reduce customer over-service

- **Operational Standardization**
  Limit needless variation and rework

Projects “Self-Fund” by Month 6

12-month payback
Typically 2-5x investment

The Lab has ‘Self-Funded’
Maximum out-of-pocket
Project break-even
The Activity Cube

Describes how The Lab’s Activity Cube calculates and reconciles four essential views of operations – and why that’s essential
The Lab’s Activity Cube: How It Works

“The Cube” Reconciles Four Views of Operations

I. Organization View: Provides the baseline of organization capacity – net available work time. It is compiled in the Activity Cube and generates three additional, reconciled “views” of capacity.
- Business Process
- Work Product
- Activity-Based

II. Business Process View: The Lab’s business process maps deliver activity-level detail of processes and organization capacity.

III. Work Product View: Work products are the output of business processes. These enable unit-based management of operational efficiency and effectiveness.

IV. Activity-Based View: The activities on the business process maps help calculate the resources devoted to business processes and work products. Activities average less than 15 minutes each. The Lab uses a directory of 20 universal work activities.

Why Reconciliation Matters
Unless organizational capacity is allocated and reconciled with work product volumes, business processes and work activities, benefits are:
- General, not specific
- Fragmented, “fingers and toes”
- Soft dollar, not hard dollar
- Not sustainable
The Lab’s Process Maps Link Activities to Organization Capacity

The Lab’s Activity-Level Process Maps

Organization Capacity: Activity-Level

1,757 Total Employees

1,564 Employees (Net)

A. Organization Capacity: Net Deductions

- Paid Time Off (PTO)
- Lunch
- Breaks
- Training
- Meetings
- EOD Activities
- Offline (Various)

B. Organization Capacity: Virtuous Waste Activity¹

- No Benefit Available
- Reducible Errors
- Excess Capacity
- Inconsistent Procedures
- Non-Standard Work
- Reducible Inbound Volume
- Built-In Rework

C. The Lab’s Universal Work Activities

1. Receive: Electronic File
2. Receive: Email
3. Receive: Phone Call
4. Receive: Physical Copy
5. Review: Prepare
6. Review: Preview
7. Review: Validate
8. Review: Decide
9. Review: Terminate
10. Perform: Update
11. Perform: Correct
12. Perform: Create
13. Perform: Enter
14. Perform: Move
15. Attend: Meeting
16. Attend: Communication
17. Send: Electronic File
18. Send: Email
19. Send: Phone Call
20. Send: Physical Copy

Note:

¹ Identifies only the Virtuous Waste targeted for removal by the client-designed work plan. See page 5 for more on Virtuous Waste.
The Activity Cube’s 4-Way Match Reconciles Organization Capacity

**Organization: 1,757 Total Employees**

1. Sales & Distribution • 937 Employees
   - Channel 1 .............. 790
   - Channel 2 .............. 147

2. Service • 576 Employees
   - Client Service ........ 442
   - Contact Center ......... 134

3. Operations • 51 Employees
   - Core .................... 42
   - Claims ................. 4
   - Other

**Total Capacity by Process:**
1,200 Employees

**Organization: 1,757 Total Employees**

**Total Net Capacity by Organization Chart:**
1,564 Employees

**Needed Capacity (See Views II, III, and IV):**
1,200 Employees

**23% Capacity (Virtuous Waste Activity):**
364 Employees

**II. Business Process View**

<table>
<thead>
<tr>
<th>Processes</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sales – Contact Center</td>
<td>291</td>
</tr>
<tr>
<td>2. Sales – Channel 1</td>
<td>262</td>
</tr>
<tr>
<td>3. Sales – Channel 2</td>
<td>243</td>
</tr>
<tr>
<td>4. Product Fulfillment</td>
<td>229</td>
</tr>
<tr>
<td>- Core Products</td>
<td>140</td>
</tr>
<tr>
<td>- Other Products</td>
<td>89</td>
</tr>
<tr>
<td>5. Payments Processing</td>
<td>124</td>
</tr>
<tr>
<td>6. Other Processing</td>
<td>51</td>
</tr>
</tbody>
</table>

**Total Capacity by Process: 1,200 Employees**

**III. Work Product View**

<table>
<thead>
<tr>
<th>Products</th>
<th>Volume</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Product A</td>
<td>91K</td>
<td>267</td>
</tr>
<tr>
<td>2. Product B</td>
<td>71K</td>
<td>108</td>
</tr>
<tr>
<td>3. Product C</td>
<td>68K</td>
<td>100</td>
</tr>
<tr>
<td>4. Product D</td>
<td>0.7K</td>
<td>99</td>
</tr>
<tr>
<td>5. Product E</td>
<td>1.0K</td>
<td>61</td>
</tr>
<tr>
<td>6. Product F</td>
<td>17K</td>
<td>57</td>
</tr>
<tr>
<td>7. Statement Batch</td>
<td>366K</td>
<td>56</td>
</tr>
</tbody>
</table>

(116 Total Work Products)

**Total Capacity by Work Product: 1,200 Employees**

**IV. Activity-Based**

<table>
<thead>
<tr>
<th>Receive</th>
<th>Freq</th>
<th>FTEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Electronic File</td>
<td>123</td>
<td>39</td>
</tr>
<tr>
<td>2. Email Message</td>
<td>30</td>
<td>23</td>
</tr>
<tr>
<td>3. Phone Call</td>
<td>23</td>
<td>57</td>
</tr>
<tr>
<td>4. Physical Copy</td>
<td>103</td>
<td>149</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Review</th>
<th>Freq</th>
<th>FTEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Prepare</td>
<td>15</td>
<td>42</td>
</tr>
<tr>
<td>6. Preview</td>
<td>42</td>
<td>26</td>
</tr>
<tr>
<td>7. Validate</td>
<td>42</td>
<td>26</td>
</tr>
<tr>
<td>8. Decide</td>
<td>83</td>
<td>68</td>
</tr>
<tr>
<td>9. Terminate</td>
<td>96</td>
<td>52</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perform</th>
<th>Freq</th>
<th>FTEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Update</td>
<td>20</td>
<td>47</td>
</tr>
<tr>
<td>11. Correct</td>
<td>34</td>
<td>46</td>
</tr>
<tr>
<td>12. Create</td>
<td>76</td>
<td>93</td>
</tr>
<tr>
<td>13. Enter</td>
<td>67</td>
<td>80</td>
</tr>
<tr>
<td>14. Move</td>
<td>69</td>
<td>97</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Attend</th>
<th>Freq</th>
<th>FTEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. Meeting</td>
<td>120</td>
<td>74</td>
</tr>
<tr>
<td>16. Communication</td>
<td>89</td>
<td>23</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Send</th>
<th>Freq</th>
<th>FTEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>17. Electronic File</td>
<td>102</td>
<td>11</td>
</tr>
<tr>
<td>18. Email Message</td>
<td>105</td>
<td>63</td>
</tr>
<tr>
<td>19. Phone Call</td>
<td>122</td>
<td>45</td>
</tr>
<tr>
<td>20. Physical Copy</td>
<td>289</td>
<td>139</td>
</tr>
</tbody>
</table>

**Total Capacity by Activities: 1,200 Employees**

**Note:**
1 Net of capacity deductions for Paid Time Off (PTO), Training, etc.
2 Identifies only the Virtuous Waste (page 5) targeted for removal by the client-designed work plan.
Operating Reports: By Process, Organization & Work Product

**Chief Marketing Officer**
Enterprise Marketing • Employees: 707

**A Marketing Operations Performance**
Operations Dashboard
- Tracks volume and:
  - Productivity
  - Unit cost
  - Service
  - Quality
- Compares actual performance to targets

**B Marketing Effectiveness**
Management Dashboard
- Campaign ROI
  - Campaigns
  - Events
- Overall positions
  - Market share
  - Brand awareness

**Vice Pres. of Communications**
Employees: 245
- Targeted Marketing
- Campaigns, Development & Mgmt
- Real Time Marketing
- Creative Services
- Media Strategy

**Enterprise Customer Data**
Employees: 194
- Targeting & Measurement
- Analytic Services
- Enterprise Customer Info
- Enterprise Advanced Initiatives

**Global Brand/Customer Exp**
Employees: 183
- Customer Experience
- Sponsorship Support
- Innovation Trends
- Environment & Community
- Corporate Brands

**Business Marketing Planning**
Employees: 85
- Marketing Operations
- Personal Markets
- Retail/Wholesale
- Strategy Initiatives
The Activity Cube Generates Capacity & Management Reports

Organization View
(Net Capacity)

Business Process View
(Activity Workflows)

Activity View
(Observed, Validated Times)

Work Product View
(Volumes)

Capacity Utilization Reports
- Provides volume forecasts
  - Hourly
  - Daily
  - Weekly
- Calculates staffing needs
- Sets productivity targets

Management Operating Reports (MORs)
- Tracks volume and:
  - Productivity
  - Unit Cost
  - Service
  - Quality
- Compares actual to targets

Placemats (Job Guides – Standardization)
- Serves as “dashboard”
- Defines job-level detail
- Sets expectations (metrics)
- Reports against metrics
Knowledge Work: Squandered Assets

The business practices and methods — the activities — of knowledge workers represent a form of intangible asset called “competencies.” These knowledge work assets are:

- Highly valuable
- Inconsistent
- Under-productive

The Lab’s Activity Cube increases the consistency and productivity of these assets by enabling application of conventional “shop floor” standardization methods.

The Lab’s Term: “Industrialization of Knowledge Work” (page 26)
Knowledge Work Industrialization®

Understand how two-thirds of knowledge workers’ activities can be “industrialized” to recover the business value lost to Virtuous Waste
“Our group’s work is unique.”

**Perception:** Non-Routine Work

Common perception holds that Knowledge Workers “solve non-routine problems… that require creative thinking.”

**Reality:** Repetitious Work

However, observations show that two-thirds of Knowledge Workers’ tasks are mundane and repetitious—ideal for “industrialization.”

**Penalty:** Virtuous Waste

Without industrialization, knowledge workers spend 25-40% of their time on avoidable activity—Virtuous Waste. (page 5)

“*My job is so different every day.*”

**Knowledge Work Tasks**

- **33%** non-routine
- **67%** similar, repetitive

---

**Knowledge Work: Intangible Assets**

Knowledge work activities (or competencies) are valuable, overlooked and under-productive assets. This under-productivity erodes 20% of earnings (page 30).

Industrialization can recoup these lost earnings.

**“Knowledge Work Industrialization”**

The Lab’s term for the centralized design and management of work activities to achieve:

- Simplification
- Standardization
- Design for automation

---


3 The Lab’s analysis & experience.
Intangible Assets: Dominant Value, Under-Productive Spending

Intangible Assets: High Spend, Low Return

U.S. business spends heavily on its intangible assets (or, intangible capital) — more than any other economy. Historically, this spending increased productivity.³

Labor productivity growth remains slow.

Knowledge workers have grown to represent the majority of employees in advanced economies like the U.S.

---

**Intangible Assets Now Dominate S&P Market Value**

**Business Spending on Intangible Assets: Under-Productive**

---

1. Annual Study of Intangible Market Value, 2015, Ocean Tomo, LLC.
4. The Lab’s analysis.
Knowledge Work “Competencies”: The Majority of Intangible Assets

Intangible Assets by Category: U.S. Publicly Traded Companies

Intellectual Property: The Misinterpretation
Most executives believe that patents, trademarks, copyrights and goodwill represent the entirety of intangible assets.

But knowledge work activities comprise over 70%.

Knowledge Work: The “Expense Stigma”
Accounting rules require that valuable knowledge work competencies be recorded as expenses.

Managers view expenses as targets for reduction, not as “assets” needing investment for productivity improvement – industrialization.

That’s why knowledge work organizations are routinely starved for productivity management and investment.

1 K.A. Hassett, R.J. Shapiro, Ibid.
2 C. Corrado, et al., Ibid.
Under-Productive Intangible Assets = Costly Virtuous Waste

Knowledge Work, Virtuous Waste & The Fortune 500

Virtuous Waste Squanders $3 Trillion in Shareholder Value

- 10 million\(^1\)\(^2\) total knowledge workers are employed in the Fortune 500
- 30 percent of their work activities are avoidable Virtuous Waste
- 3 million\(^3\) full-time equivalent workers perform avoidable Virtuous Waste activities
- $180 billion\(^3\) is spent on compensation to these Virtuous Waste workers
- 20% of earnings are diverted to this Virtuous Waste compensation
- $3 trillion\(^4\) in value to shareholders is lost to Virtuous Waste

Virtuous Waste Is Concentrated in Knowledge Work Business Processes

<table>
<thead>
<tr>
<th>Business Process</th>
<th>Percentage</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inefficiency</td>
<td>55%</td>
<td>(1.65M)</td>
</tr>
<tr>
<td>Customer Over-Service</td>
<td>20%</td>
<td>(0.60M)</td>
</tr>
<tr>
<td>Under-Managed Capacity</td>
<td>15%</td>
<td>(0.45M)</td>
</tr>
<tr>
<td>Measurement Imbalance</td>
<td>10%</td>
<td>(0.30M)</td>
</tr>
</tbody>
</table>

>2 × [Apple + Microsoft + Google] = Virtuous Waste Lost Value

More than double the combined market value of Apple, Microsoft and Google was lost to Virtuous Waste in the Fortune 500 during 2015.

1 Excludes service workers (e.g. food, retail, hospitality)
2 Based on The Lab’s experience, analysis and benchmarks
3 $60K annual compensation & benefits
4 Based on Fortune 500 P/E of 16; Source: Fortune Magazine
Appendix

Non-Technology Improvement: Representative examples of analysis, insights and related improvement barriers
Typical Mismatch of Perceptions: Management vs. Customers

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Prompt first payment</td>
<td>“Sooner!”</td>
<td>Customer Needs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. General information</td>
<td></td>
<td>1. Investment security</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Courteous service</td>
<td></td>
<td>2. Admin. quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. One-stop shopping</td>
<td></td>
<td>3. Personalized service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Admin. quality</td>
<td></td>
<td>4. General information</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ClientCo’s Internal Improvement Team

- ClientCo: “Retirees want their first check sooner.”
- Purchased a technology upgrade
  - Cost: $2.7 million
  - Lead time: 26 months
- The upgrade reduced check issue cycle time by two-thirds.

The Lab’s Customer Value Model (CVM)

- Customer: “Nobody told me when to expect the first check.”
- ClientCo: “Retirees never listen. The info is in their pocket folder.”
- Pocket folder – user-unfriendly:
  - More than one-inch thick
  - 60 loose-leaf pages
- The Lab’s non-technology solution:
  - Placed Post-it® note on pocket folder
  - Eliminated 60% of “1st check” inquiries

Contact Center Example

The Lab’s Customer Value Model (CVM) identifies errors of perception, which produce customer “over-service” or “mis-service.”

Inbound Call Issue

Recent retirees called the ClientCo Contact Center and asked, “When will I receive my first pension check?”

Executives mis-perceived the root cause that generated these retirees’ inbound calls.
Executive Misbeliefs

During interviews, ClientCo senior executives identified their perceptions of the top 5 purchase-related customer needs.

**Result:** Mis-perceived needs, priorities and satisfaction scores (%).

Improvement Strategy

Executives directed ClientCo's marketing group to develop a new strategic plan to increase ad revenue, targeting what ClientCo mis-perceives to be their customers' top three needs.

**LEGEND**

- Indicates a *mis-match* between management and customer perception.
- Indicates a *match* between management and customer perception.
- Indicates a "blind spot" based on ClientCo internal perception of customer needs.
- Indicates a "purchase need" targeted as a "high priority" by ClientCo strategy.

---

**Customer Value Model Analysis**

**Market-Level Example (Part I of II): Executive Misperceptions**

### A ClientCo Perceptions
Senior Executives’ Misbeliefs

| Customer Needs & Priorities |  
|------------------------------|-----------------|
| 1. Quality (of print) . . . . 83%* | 
| 2. Cost/Price . . . . . 65% | 
| 3. Timeliness . . . . N/A | 
| 4. ROI . . . . . . 80% | 
| 5. Customer Service. . . . 74% | 

* Management perception of customers’ satisfaction

### Customer Perceptions
“True” Purchase Needs, Priorities

- Amount of response advertising receives . . . . . . . . . 63%
- Quality (of advertising operations) . . . . . . . . . . 82%
- Amount spent vs. response received (ROI) . . . . . 53%
- Efficiency in delivering demographic targets . . . . . 86%
- Ability to choose ad position . . . . . . . . . . . . . . . . 51%

ClientCo’s executive view is poorly aligned with its customers’ purchase priorities...

...and its customers’ perceptions of satisfaction levels (%).

**ClientCo’s Response**
New, Misdirected Sales Strategy

- Easy to do business with . . . . . . . . . . . . . . . . . . . . 88%
- Rep’s ability to act as a partner to my business. . . . . . 93%
- Portfolio of products & multimedia packages . . . . . 110%

ClientCo created a “new” strategy for improvement. But it only “doubles down” on 3 existing mis-perceptions (next page).

---

**B 3 “New” Priorities**
Already Over-Served

- 6. Easy to do business with . . . . . . . . . . . . . . . . . . . . 88%
- 7. Rep’s ability to act as a partner to my business. . . . . . 93%
- 11. Portfolio of products & multimedia packages . . . . . 110%

ClientCo’s executive view is poorly aligned with its customers’ purchase priorities...
# Market-Level Example (Part II of II): Mis-Perceived Market Segments

## Customer Value Model Analysis (Cont.)

### ClientCo – Marketplace “Sweet Spot”

<table>
<thead>
<tr>
<th>Customers’ Purchase Criteria</th>
<th>Segment Average (1-10)</th>
<th>1 Dept. Stores</th>
<th>2 Wireless</th>
<th>3 Real Estate</th>
<th>4 Banks</th>
<th>5 Discounters</th>
<th>6 Travel</th>
<th>7 Jewelry</th>
<th>8 National Auto</th>
<th>9 Fashion</th>
<th>10 Home Furnishings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Amount of response advertising receives</td>
<td>-37%</td>
<td>-51%</td>
<td>-37%</td>
<td>-35%</td>
<td>-26%</td>
<td>-37%</td>
<td>-47%</td>
<td>-18%</td>
<td>-44%</td>
<td>-46%</td>
<td>-30%</td>
</tr>
<tr>
<td>2 Quality of advertising environment</td>
<td>-18%</td>
<td>-50%</td>
<td>12%</td>
<td>15%</td>
<td>7%</td>
<td>+11%</td>
<td>-17%</td>
<td>-45%</td>
<td>6%</td>
<td>+19%</td>
<td>-32%</td>
</tr>
<tr>
<td>3 Amount spent vs. response received (ROI)</td>
<td>-47%</td>
<td>4%</td>
<td>-51%</td>
<td>-59%</td>
<td>-21%</td>
<td>-33%</td>
<td>-64%</td>
<td>-74%</td>
<td>-57%</td>
<td>-52%</td>
<td>-46%</td>
</tr>
<tr>
<td>4 Efficiency in delivering demographic targets</td>
<td>14%</td>
<td>-33%</td>
<td>0%</td>
<td>13%</td>
<td>26%</td>
<td>+25%</td>
<td>-31%</td>
<td>6%</td>
<td>1%</td>
<td>-23%</td>
<td>-27%</td>
</tr>
<tr>
<td>5 Ability to choose ad position</td>
<td>-49%</td>
<td>-32%</td>
<td>-51%</td>
<td>-64%</td>
<td>-37%</td>
<td>-67%</td>
<td>-58%</td>
<td>-54%</td>
<td>12%</td>
<td>-63%</td>
<td>-53%</td>
</tr>
<tr>
<td>6 Easy to do business with</td>
<td>12%</td>
<td>+33%</td>
<td>-50%</td>
<td>+5%</td>
<td>+7%</td>
<td>-19%</td>
<td>10%</td>
<td>-36%</td>
<td>+1%</td>
<td>4%</td>
<td>13%</td>
</tr>
<tr>
<td>7 Rep’s ability to act as a partner to my business</td>
<td>7%</td>
<td>-28%</td>
<td>8%</td>
<td>7%</td>
<td>+7%</td>
<td>2%</td>
<td>+8%</td>
<td>-31%</td>
<td>1%</td>
<td>0%</td>
<td>4%</td>
</tr>
<tr>
<td>8 Ability to target by geography</td>
<td>4%</td>
<td>+100%</td>
<td>-35%</td>
<td>14%</td>
<td>13%</td>
<td>-51%</td>
<td>9%</td>
<td>+20%</td>
<td>+20%</td>
<td>+6%</td>
<td>10%</td>
</tr>
<tr>
<td>9 Sheer size of overall audience reached</td>
<td>+9%</td>
<td>4%</td>
<td>-36%</td>
<td>-25%</td>
<td>0%</td>
<td>+13%</td>
<td>+33%</td>
<td>+11%</td>
<td>9%</td>
<td>8%</td>
<td>N/A</td>
</tr>
<tr>
<td>10 Lowest out-of-pocket cost</td>
<td>-73%</td>
<td>-34%</td>
<td>-100%</td>
<td>-67%</td>
<td>-78%</td>
<td>-77%</td>
<td>-66%</td>
<td>-60%</td>
<td>-88%</td>
<td>-76%</td>
<td>-80%</td>
</tr>
<tr>
<td>11 Portfolio of products &amp; multimedia packages</td>
<td>+10%</td>
<td>-63%</td>
<td>+22%</td>
<td>+6%</td>
<td>+36%</td>
<td>+300%</td>
<td>-37%</td>
<td>-37%</td>
<td>-37%</td>
<td>+99%</td>
<td>+16%</td>
</tr>
</tbody>
</table>

Legend:
- Red Diamond ▲ Indicates a **mis-match** between management and customer perception.
- Green checkmark ✔ Indicates a **match** between management and customer perception.
- Lightbulb Idea Indicates a “blind spot” based on ClientCo internal perception of customer needs.
- Green checkmark ✔ Indicates a high-priority “purchase attribute” targeted by ClientCo strategy.

To succeed, ClientCo must redirect efforts to these under-served customer priorities.

### Customer Perceptions of ClientCo Performance Levels:

- Under-Served (-15% or more)
- Approximate parity/ minor shortfall (0 – 15%)
- Over-Served (+5% or more)
The Lab’s Periodic Table of Business Improvements...

INBOUND

Transit

1

Transit

2

Arrive

3

Good Order

Receive

Evaluate, Eliminate & Redesign the Work

4

Routine

5

Non-Eliminable

6

Non-Reducible

7

Instructions

8

Relevant Instructions

55% of Improvements

The Knowledge Work Factory

35% of Improvements

“IN SHOP”

Never sent
Wrong location
Lost in transit
Delayed

Not Arrive

NIGO

Not Routine

Eliminable

Reducible

No Instructions

Irrelevant Instructions

Wrong data
Excess data
Missing data
Incomplete

Over service
Scope error

Rework
Over work
Error correct
Parallel processing

Frequency
Duration
Size
Complexity
Variance

Under investment
Capacity issue

Out of date
Not available
Incomplete
Lack of detail

Causes: Top Four
(page 37)
...Helps Target Predictable Causes & Effects

Perform the Work & Optimize Processes

<table>
<thead>
<tr>
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<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processable</td>
<td>Process Plan</td>
<td>Plan Followed</td>
<td>Meet or Exceed Plan</td>
<td>Complete</td>
<td>Pass Review</td>
<td>Transit</td>
</tr>
</tbody>
</table>

Decision Point: Yes/No

- Processable
  - YES
  - NO
- Not Processable
  - No Process Plan
    - Plan Not Followed
    - Below Plan
    - Incomplete
    - Not Pass Review
    - Not Sent

Causes: Top Four
- Operator skill
- Backlog
- Capacity issue
- No process
- No plan
- Backlog
- Capacity issue
- Operator skill
- Backlog
- Capacity issue
- No metrics
- Operator skill
- Backlog
- Capacity issue
- No audit
- Operator skill
- Backlog
- Capacity issue
- Internal error
- Low quality
- Operator skill
- Backlog
- Capacity issue

INBOUND
35% of Improvements
OUTBOUND
10% of Improvements

"IN SHOP"
The Knowledge Work Factory 55% of Improvements

Receive
Perform the Work & Optimize Processes
Evaluate, Eliminate & Redesign the Work

Yes
No

YES
NO

Causes: Top Four (page 37)

Helps Target Predictable Causes & Effects
A Typical Improvement: Documentation
Methodology: Failure Mode & Effects Analysis (FMEA)

**Mode:**
- NIGO*: Wrong Data
  - 50% wrong data
  - 70% exception review

**Effect:**
- Processing Delay
  - 4-5 days
  - 35% of staff time

**Cause:**
- Mandatory fields not identified/enforced
  - Ambiguous requirements for certain fields

* NIGO = Not in Good Order

Half of import fees for Accounts Payable groups have errors; 70% have exceptions that require research and resubmission. Poor documentation and errors cause rework that consumes 35% of staff time.

Root Causes & Effects
Averages for All Improvements (Knowledge Work)

1. **Causes: Top Four**
   - Not in Good Order (NIGO): 25%
   - No Process Plan: 25%
   - No Instructions: 20%
   - Non-Routine: 20%
   - All Others: 10%

2. **Effects: Top Five**
   - Rework: 32%
   - Processing Delay: 21%
   - Unbalanced Work: 18%
   - Poor Customer Service: 12%
   - Reduced Throughput: 12%
   - All Others: 5%

“Class I” means Non-Technology (page 10)

Improvement Number

"1.270" means - 1

The root cause of the failure

The adverse consequence of the failure

a. Direct effect of the failure on the work flow
b. Frequency and severity of the effect