

BRINK'S LEAN HANDBOOK

CENTER OF OPERATIONAL EXCELLENCE

This Handbook was prepared by the Brink's Global Center of Operational Excellence. The content highlights the basics of Lean and serves as a guide to all our employees.

Contents

Introduction to Lean	1
LEAN Management	1
Core Values of LEAN Management	2
Basic pillars of LEAN management.....	2
Five essential steps of LEAN management.....	3
Plan,Do,Check,Act (PDCA)	4
The Eight Forms of Waste	5
Process Improvement Steps	6
Brink’s Transformation Model	7
Tools.....	8
A3	8
Value Stream Mapping.....	9
5S	10
Total Productive Maintenance (TPM)	12
Job Instruction.....	13
Visual Management	15
5 WHYS.....	17
Fishbone Diagram.....	18
Pareto	19
Gap Analysis	20
Goal setting.....	21
Kaizen Event	22
Organizational Culture Change	22
Kaizen framework	22
Targets and Goals.....	22
Define the problem.....	23
Select the team	23
Train the team.....	24
Execution	24
Setting the Agenda.....	26
Appendix	27
Kaizen Checklist	27
Project Charter Sample	29

Introduction to Lean

Lean in the industry, is an approach to running an organization that supports the concept of continuous improvement, a long-term approach to work that systematically seeks to achieve small, incremental changes in processes in order to improve efficiency and quality.

These principles apply in every business and every process. It is not a tactic or a cost reduction program, but a way of thinking and acting for an entire organization.

To achieve LEAN, Brink's needs a set of management skills as well as a methodology to question the process, examine the current state, identify problems and create solutions to fix those problems. We aim to use LEAN to better serve our customers and make our company stronger.

LEAN Management

As leaders, we must change the way we manage processes, people and products or LEAN will not succeed. Additionally, it's important to think of the process in a holistic manner. If you only use the tools without proper guidance and leadership, we will not be able to move to the next level. A management system that specifically meets the needs of a transforming organization is essential.

LEAN is about customer focus. Value is defined by the customer and we develop and maintain processes to provide value.

Processes are run by people. Support, leadership and guidance can drive employees to continuously improve the processes that add value to the customer. The management system that helps you achieve this is a LEAN Management system.

This methodology uses various tools to connect the purpose (*providing value to the customer*) to the process and people. Some of the more commonly used management tools include: Leader standard work, visual control boards and daily accountability.

The tools alone are not effective unless used with the right mindset. To begin, we need to develop managers into becoming *LEAN Managers*.

Core Values of LEAN Management

Continuous Improvement

A LEAN manager is focused on solving problems incrementally. Each solution is an experiment, which helps in the learning process and paves the path to the next level. Small improvements followed by a period of stability and then another small improvement, is a cycle that is preferred in a LEAN environment. These forms of small changes are easier to manage without a lot of disruption.

Respect to People

As easy as it seems, this is the most difficult thing to understand. It has been described as an important quality that any manager should possess. A LEAN manager respects people by giving them the authority to solve their problems. The LEAN manager uses the knowledge of the employees who add value to the process and is also able to get buy in by engaging all employees. This does not mean that a LEAN manager completely disconnects himself from problem solving. He guides his people to solve their problems by asking the right questions, until they find the root cause.

Basic pillars of LEAN management

1. **Go see** - data and reports are good, but the real story is found at the place where the work is done.
2. **Ask why** - not who, but why. Ask good questions for clarification, not blame.
3. **Show respect** - respect for employees is paramount. Show respect by going to the employees' work environment—asking why for clarification is a sign of respect. In a culture of Lean, the leader is not expected to know all the answers to the organization's problems. The leader should be able to ask good questions that cause employees to think deeply about the problems and discover for themselves good countermeasures to reduce the impact of the problems.

Five essential steps of LEAN management

LEAN focuses on the removal of waste, which is defined as anything not necessary to deliver the service:

- 1. Identify value.** The determination of which features create value is made from the internal and external customer standpoints. *Value is expressed in terms of how the specific solution meets the customer's needs, at a specific price, at a specific time.* Specific services are evaluated on which features add value. The value determination can be from the perspective of the ultimate customer or a subsequent process.
- 2. Identify the value stream.** Once value is identified, activities that contribute to the value are identified. *The entire sequence of activities is called the value stream.* Then, a determination is made as to whether activities that do not contribute value to the service are necessary. Necessary operations are defined as being a prerequisite to other value added activities or being an essential part of the business. An example of a non-value add, but necessary process, is payroll. After all, people need to be paid. Then, the impact the non-value added activities have on the process is reduced to a minimum. Finally, all other non-value added activities are transitioned out of the process.
- 3. Improve flow.** Once value added activities and necessary non-value activities are identified, improvement efforts are directed toward making the activities flow. *Flow is the uninterrupted movement of a product or service through the system to the customer.* Major inhibitors of flow are work in queue, batch processing and transportation. These buffers slow the time from product or service initiation to delivery. Buffers also tie up money that can be used elsewhere in the organization and cover up the effects of system restraints and other wasted activities.
- 4. Allow customer pull.** After waste is removed and flow established, efforts turn to letting the customer pull product or service through the process. *The company must make the process responsive by providing the product or service only when the customer needs it -- not before, not after.*
- 5. Work toward perfection.** This effort is the repeated and constant attempt to remove non-value activity, improve flow and satisfy customer delivery needs. While LEAN focuses on removing waste and improving flow, it too has some secondary effects. Quality is improved. The product or service spends less time in process, reducing the chances of damage or obsolescence. *Simplification of processes results in reduction of variation.* As the company looks at all the activities in the value stream, the system constraint is removed, and performance is improved.

Plan,Do,Check,Act (PDCA)

The management of continuous improvement is enhanced when the elements of an improvement loop work together to improve the entire business management system. The aim of using an improvement loop is overall optimization of the entire system.



The Shewhart/Deming Cycle (Plan, Do, Check, Act), as illustrated, forms the basis of a commonly used effective improvement loop.

The improvement loop within a business management system may consist of the following processes:

Plan

Set business policy and strategies. The business policy is strategic in nature and normally includes the quality policy, organizational goals and values, and a focus on customers' and other stakeholders' expectations. Each time an organization embarks on reorganization, maintenance of the business management system must be a consideration.

Do

Align the organization and complete action plans. Policy deployment can be used to align the organization to the business policy and objectives. Top management must provide the resources needed to satisfy the business policy, objectives, and action plans.

Check

Measure performance results. Performance results measure the status of all aspects of the business. This may include results of self-assessments, internal and external audits, data collected on internal processes and field results, customer results, financial and market measurements, human resource results, supplier and partner feedback, environmental and societal results, and organizational effectiveness results.

Act

Perform corrective and preventive actions. Corrective and preventive actions refer to the implementation of improvements as a result of the analysis of information.

- › *Corrective actions* are used to eliminate the root causes of undesirable situations in order to prevent their recurrence.
- › *Preventive actions* are used to eliminate the root causes of potential undesirable situations in order to prevent their occurrence.

The Eight Forms of Waste

1. **Overproduction:** Producing a product or service before the customer wants it or producing more than the customer ordered.
2. **Waiting:** Creating idle time when material, information, people, or equipment is not ready.
3. **Transportation:** Unnecessarily moving materials, documents, supplies, etc. from one location to another.
4. **Processing:** Adding process steps that do not add value from the customer's view (or over-processing beyond the customer's specifications).
5. **Inventory:** Having more supplies, material, or work on hand than is currently needed.
6. **Motion:** Unnecessarily moving a person that does not add value to the product or service.
7. **Defects:** Doing work that contains errors, mistakes, needs to be reworked or lacks something necessary.
8. **Underutilized creativity:** Lack of tools and training or inability of people who work in the process and know the process best (strengths and weaknesses) to systematically improve their process.

Process Improvement Steps

1. **Select the process to be improved and establish a well-defined process improvement goal.** The team may establish the goal. What do we want to improve? Use the SMART formula to help describe your goal: **S**pecific, **M**easurable, **A**ttainable, **R**ealistic, and **T**imeframe.
2. **Organize a PI team to improve the process.** This involves selecting the right people to serve on the team and identifying the resources available for the improvement effort, such as people, time, money, and materials.
3. **Define the current process using a *process map*.** This tool is used to generate a step-by-step map of the activities, actions, and decisions, which occur between the starting and stopping points of the process.
4. **Simplify the process by removing redundant or unnecessary activities.** People may have seen the process on paper in its entirety for the first time in Step 3. This can be a real eye-opener and provides preparation for taking the first steps in improving the process.
5. **Develop a plan for collecting data and collect baseline data.** This data will be used as a yard stick for comparison later.
6. **Assess data trends.** The team creates a graph from data collected in Step 5 to gain a better understanding of what is happening in the process. The follow-up actions of the team are dictated by whether cause variation is found in the process.
7. **Identify the root causes** that prevent the process from meeting the objective. The PDCA cycle starts here using brainstorming and root cause analysis to generate possible reasons why the process fails to meet the desired objective.
8. **Develop an action plan for implementing a change** based on the possible reasons for the process's inability to meet the objective set for it. These root causes were identified in Step 7. The planned improvement involves revising steps in the simplified process map created in Step 4.
9. **Modify the data collection plan** developed in Step 5, if necessary.
10. **Test the changed process** and collect data.
11. **Assess where change improved the process.** Using data collected in Step 10, the team determines whether the process is closer to meeting the process improvement goal established in Step 1. If the goal is met, the team can determine if spread is feasible; if not, the team must decide whether to keep or discard the change.

Brink's Transformation Model



The purpose (spelled out above) is our *True North that guides all our actions*. There are two pillars that drive our continuous improvement transformation. The first, is to improve our processes by constantly removing waste and the second, is to build the capabilities and skills of our people. Our values are at the center of everything we do. LEAN is about reinforcing our values in a concrete, specific way. These processes set the stage for a safer work environment, consistency across the organization and a chance for your voice to be heard. The key message behind it is *driving excellence and customer value—the faster we change and improve our processes to deliver quality services the more value we can offer to our customers*.

Here are the guiding behaviors for our transformation. These steps will help us transform our company:

We will...

- ✓ Follow standardized work on all processes. When we cannot follow the standard, we will expose problems.
- ✓ Respond immediately and support any improvements.
- ✓ Follow up daily wherever the work is done.
- ✓ Use our problems as people-development opportunities.
- ✓ Learn from our process failures, without blaming others.
- ✓ Implement small improvements every day.
- ✓ Challenge the status quo every day.
- ✓ Create value for our customers every day.

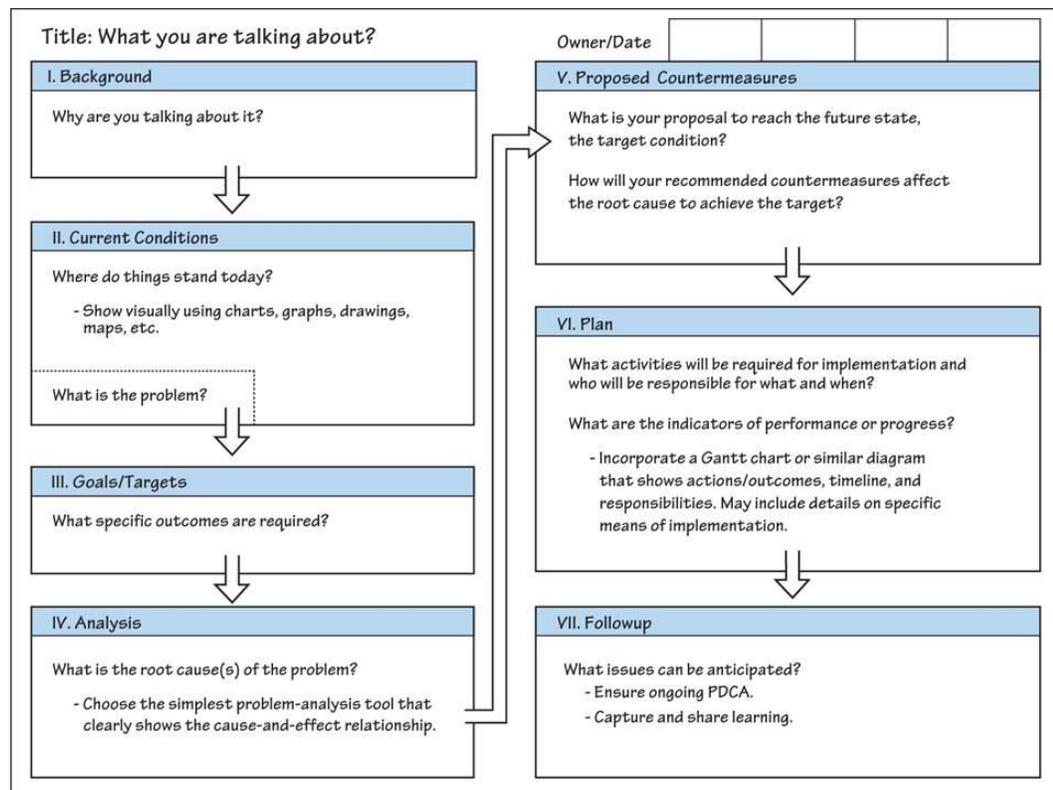
Tools

A3

A3 is a structured problem solving and continuous improvement approach, first employed at Toyota and typically used by lean manufacturing practitioners. A3 is simple and strict approach systematically leading towards problem solving over structured approach. A3 is based on the principles of PDCA (Plan-Do-Check-Act).

As a standard process, the A3:

- makes it easier for you to engage others, and to understand others
- fosters dialogue within the organization
- develops thinking problem-solvers
- encourages front-line initiative
- encourages PDCA
- serves as an organizational learning tool
- clarifies the link between true problems and countermeasures
- leads to effective countermeasures and solutions based on facts and data
- structures effective and efficient dialogue
 - enables mentoring, problem analysis and more
- fosters understanding followed by agreement
 - enables problem-solving, decision-making, execution and more
- Does all of these things through engaging the thinking of the people touched by the problem.



5S

The 5S program is designed to continuously improve the order, Cleanliness and Safety, as well as to offer an important key measure in the matter of Safety for Standard Work Groups.

- **SORT**
The first step in making things clean and organized
- **SET IN ORDER**
Organize, identify and arrange everything in a work area
- **SHINE**
Regular cleaning and maintenance
- **STANDARDIZE**
Make it easy to maintain - simplify and standardize
- **SUSTAIN**
Maintaining what has been accomplished

This process will be used by the Standard Work Groups with the assistance, if necessary, of the Internal Consultant and the Business Unit. The 5 'S' program will be graded by the Business Unit using the standardized forms for branch visits.

The implementation of the 5 'S' program begins with a visit prior to grading and will progress in stages, approximately two (2) weeks for each 'S'. Under each 'S', the Standard Work Groups will create a Plan and an Implementation Schedule using the Organization and Implementation form (Yellow form)

Once the four (4) plans have been completed another audit will take place. The marks obtained in the visit will be used by the Standard Work Group to establish an objective to achieve before the following programmed visit.

The last S will be achieved once the people have incorporated the methodology of all the staff and there is a fair conscience of the benefits of the program.

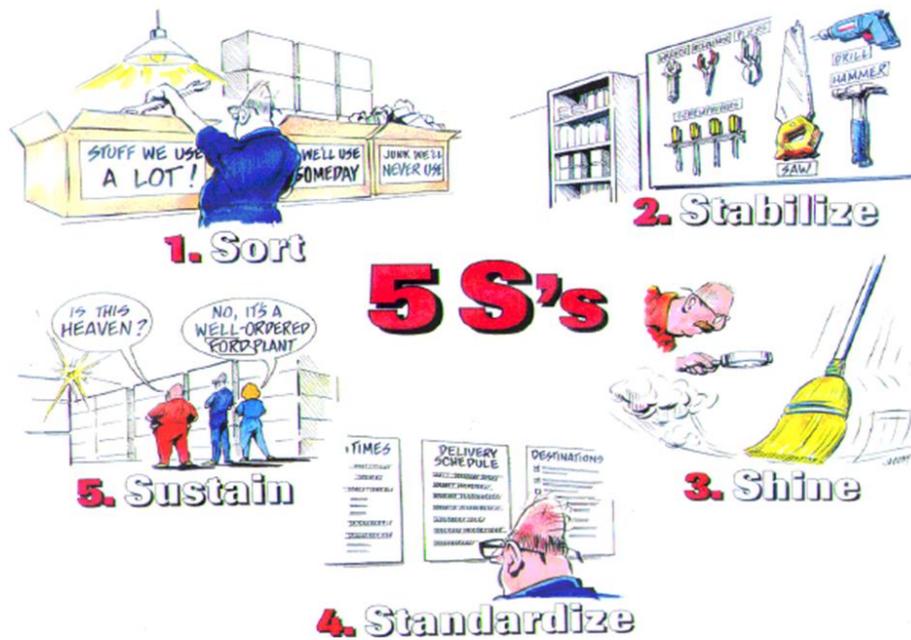
Benefits of the 5S program

- Improving efficiency at work
- Improving the image of the facility
- Improving quality: fewer flaws
- Improving costs: less waste (time, materials, ...)
- Improving security: fewer accidents
- Having a more pleasant workplace
- Improves MORALE
- Continuous Improvement of work setting
- Turning the workplace into a real show room for our customers

How to begin a 5S event

Preparations:

- Lead by example. Make sure your workspace is 5S'd before encouraging others to do so
- Choose an area to 5S
- Schedule a date and reserve a room for training
- Invite participants
- Advertise! Here are a few suggestions:
 - Post flyers to explain what 5S is and how it can improve work processes
 - Ask management to encourage their staff to participate
 - Post an announcement on your organization's intranet
 - Post invite in a high traffic area of the office
- Gather the following:
 - cleaning supplies
 - markers
 - labels
 - colored stickers
 - paper
 - tape
 - boxes or bins for excess office supplies
 - garbage cans
 - recycling bins
 - other supplies needed for cleaning and implementing a visual management system
- Designate a "red tag" area for red tagged items



Total Productive Maintenance (TPM)

The Goal of TPM is to:

- Regain confidence in our equipment:
 - Capability (make quality parts)
 - Effectiveness (eliminate delays)
- Provide the operators with a machine environment that enables them to produce good parts more easily

Step 1: Announcement of TPM. Top management needs to create an environment that will support the introduction of TPM. Without the support of management, skepticism and resistance will kill the initiative.

Step 2: Launch a formal education program. This program will inform and educate everyone in the organization about TPM activities, benefits and the importance of contribution from everyone.

Step 3: Create an organizational support structure. This group will promote and sustain TPM activities once they begin. Team-based activities are essential to a TPM effort. This group needs to include members from every level of the organization – from management to the shop floor. This structure will promote communication and will guarantee everyone is working toward the same goals.

Step 4: Establish basic TPM policies and quantifiable goals. Analyze the existing conditions and set goals that are SMART: Specific, Measurable, Attainable, Realistic and Time-based.

Step 5: Outline a detailed master deployment plan. This plan will identify what resources will be needed and when for training, equipment restoration and improvements, maintenance management systems and new technologies.

Step 6: TPM kick-off. Implementation will begin at this stage.

Step 7: Improve the effectiveness of each piece of equipment. Project teams will analyze each piece of equipment and make the necessary improvements.

Step 8: Develop an autonomous maintenance program for operators. Operators' routine cleaning and inspection will help stabilize conditions and stop accelerated deterioration.

Step 9: Develop a planned or preventive maintenance program. Create a schedule for preventive maintenance on each piece of equipment.

Step 10: Conduct training to improve operation and maintenance skills. The maintenance department will take on the role of teachers and guides to provide training, advice and equipment information to the teams.

Step 11: Develop an early equipment management program. Apply preventive maintenance principles during the design process of equipment.

Step 12: Continuous improvement. As in any lean initiative, the organization needs to develop a continuous improvement mind-set.

Job Instruction

How to teach an employee to do a particular job:

- Safely
- Correctly
- Conscientiously

The Purpose of Standardized Work and Job Instruction

- Standardized work highlights abnormal conditions
 - Auditing tool for the leader
 - Same outputs
- JI is to train people on standardized work
- Standardized work is the foundation of continuous improvement
- JI trains your people on this foundation

Both are essential if you want to drive continuous improvement in your operation

	Jl Steps	Instructions
1 - Prepare the Learner	<ul style="list-style-type: none"> • Put the learner at ease • State the job • Find out what they already know • Get the team member interested in learning • Put the learner in the correct position 	Create an informal atmosphere conducive to learning. Motivate the learning to master the contents.
2 - Present the Operation	<ul style="list-style-type: none"> • Instructor does the job and describes the operation one Major Step at a time • Instructor does the job, states the Major steps, and stresses each Key Point • Instructor does the job, states the Major Steps, Key Points, and explains the Reasons 	Instruct clearly, completely, patiently. Present only what the learner can master
3 - Tryout Performance	<ul style="list-style-type: none"> • Learner does the job silently. Instructor corrects errors as needed. • Learner does the job - explains each Major Step • Learner does the job - explains the Major Steps, & Key Points behind each step • Learner does the job - explains the Major Steps, Key Points, & Reasons Why 	The learner demonstrate the operation 4 times for a combined total of 7 repetitions overall
4 - Follow Up	<ul style="list-style-type: none"> • Put learner on own • Encourage questions by the learner • Designate for whom to go for help • Check back frequently at first • Taper off and provide coaching as needed 	If the employee has not learned, the instructor has not taught!

No. 143-Battery

Date: 7/14/09

Job Instruction Breakdown Sheet

Operation: Install Battery**Parts: Battery, bolts, washers****Tools & Materials: Loctite, cutters, combination wrench, torque wrench, IPA, pads**

Important Steps	Key Points	Reasons
A logical segment of the operation when something happens to advance the work.	Anything in a step that might- 1. Make or break the job. 2. Injure the worker. 3. Make the work easier to do, i.e. "knack", "trick", "special timing"	Reasons for the key points.
1. Lubricate washers	1. Count out and assemble 20 bolts washers	1. Ensure no extras are left in the assembly
2. FOD Roll	1. 3 times both ways	1. To listen for anything banging around
3. Clean battery	1. Wipe back with IPA 2. Enter battery number	1. Good clean surface for adhesion 2. To track if needed later
4. Prep harness	1. Remove tie straps - black 2. Remove caps from connectors on battery/FPC side	1. Only the black - others still needed 2. Will be working on this side only
5. Install battery	1. Remove blue pad 2. Insert on angle 3. Pull slightly in with big bolts first 4. Retorque after 10 min	1. Will not fit with it on 2. Easier to align 3. Just enough to hold in place 4. The torque relaxes

Visual Management

A system of planning, control, and continuous improvement that integrates simple visual tools that enable understanding at a glance and management standard work that ensures process adherence and continuous improvement.

Attributes of Visual Management Tools

- Provides “understanding at a glance”
- Emphasize graphics rather than numbers and words
- Clear information actionable at the point of communication
- Maintained by those carrying out the work
- Those performing the work are the first to detect abnormalities
- Linked to high level business metrics and objectives

Information must be highly visible and used to take action when necessary by everybody

Gemba Walks

Visual tools should answer the following at a glance:

- What is the work that’s being done here?
- What is the process?
- Is it being adhered to?
- Are the business results being achieved?
- What is the next improvement that has been identified?

Visual tools communicate process abnormalities and business performance

Management Standard Work assures the proper response

In a lean world, management (leadership) engages in repetitive activities that are designed to identify abnormal situations such as:

- Non-standard work
- Non-standard labor
- Non-standard inventory
- Non-standard output, etc

Visual management systems are based on the value stream map and determining which questions need to be answered at each pulse point

- Management standard work is based on walking the gemba, observing abnormalities, asking questions, and supporting the improvement process
- Visual management without management standard work turns into wallpaper
- Management standard work without visual management turns into a social event!

6.0' or 72.0" 13.0"

Commercial Deposit Control Board (1 tote per hr)

3.5"

Shift 1: Goal = HCx(Shift HR - 1)

Shift 2: Goal = HCx(Shift HR - 1)

Shift Goal = ?

Shift 2: Goal = HCx(Shift HR - 1)

Shift 1: Goal = HCx(Shift HR - 1)

Shift Goal = ?

STN CNT												
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
Total												

Shift 1 Total Actual =

Shift 2 Total Actual =

Date:

3.0"

2.0" x 28

2.5" x 17

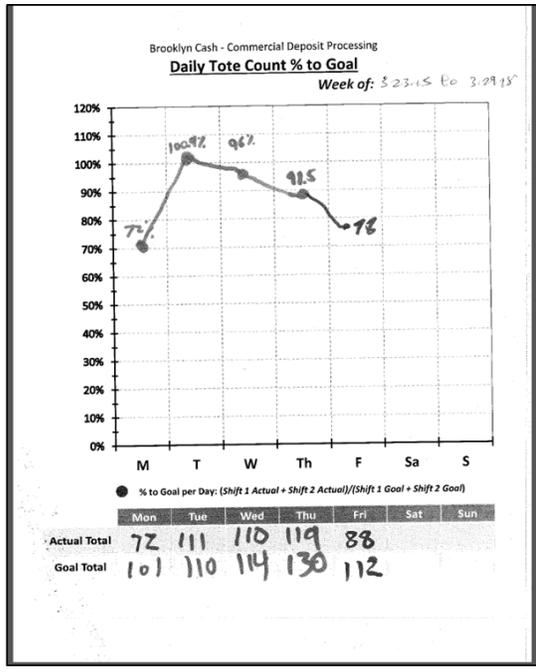
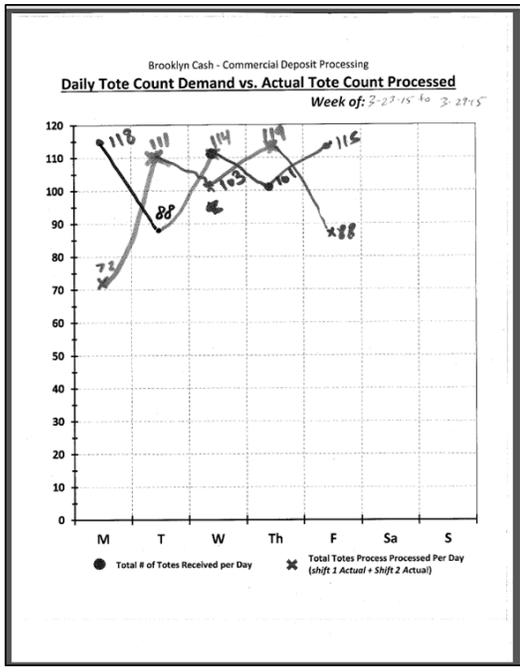
4.0' or 48.0"

Daily Volume

Daily received vs processed chart
(transparent bag at letter size)

Daily % to Goal

Daily Processed as % to Goal Chart
(transparent bag at letter size)



5 WHYS

The *5 Whys* is a systematic process for identifying the most basic factors/causes that underlie variation in performance. It helps teams determine what happened, why it happened, and how to reduce the likelihood of it happening again.

First, the team must identify the underlying cause of a problem before members can identify effective interventions that can be implemented to make improvements. Focus on systems and processes, not individual performances. Individual blame never serves the process improvement well.

One root cause analysis (RCA) technique is the **5 Whys Tool** that helps promote deep thinking about a specific problem. First, accurately state the complete problem. Second, ask why this problem is taking place. Record all answers. For each of the broad answers given, ask a series of “whys” until there is no further new information provided or the information provided by the team becomes redundant. Encourage complete honesty, and be determined to get to the bottom of the problem and resolve the issue.

THE PROBLEM

DIRECT CAUSE

WHY

WHY

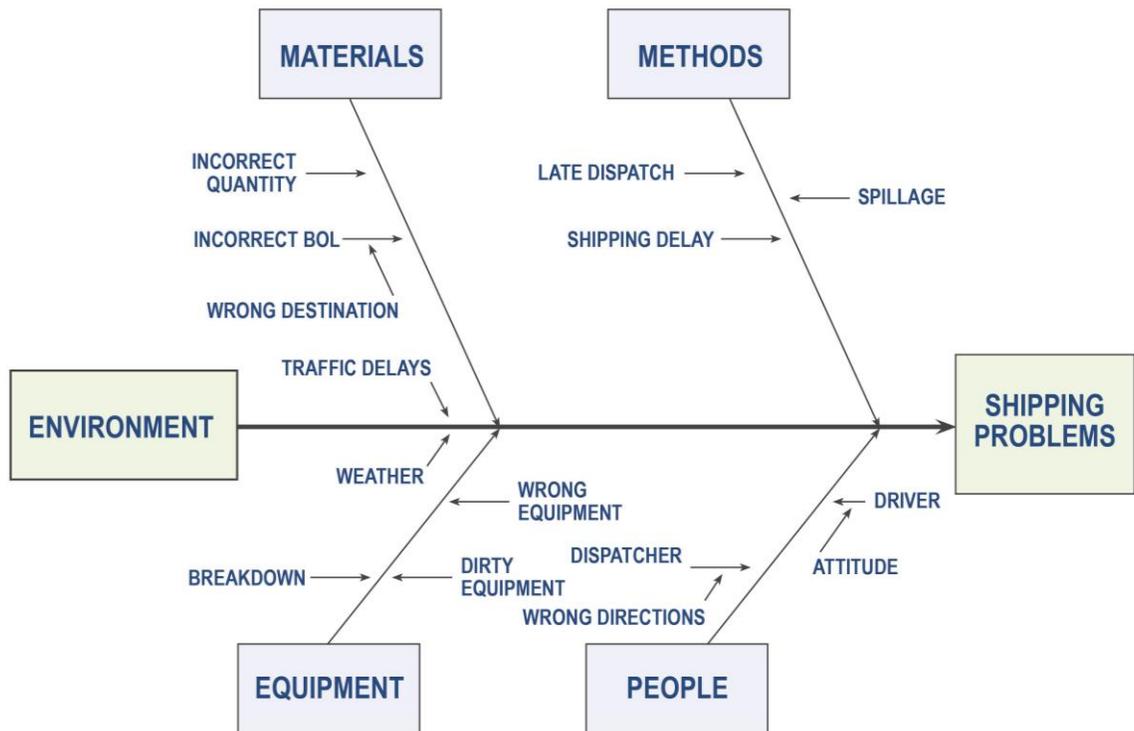
WHY

WHY

Continue with as many 'Whys' as you need.

Fishbone Diagram

Another method to guide and document the RCA process is the **Fishbone Diagram**. It helps the team identify, sort, display, and analyze possible causes of a specific problem. The problem or adverse event is written in the box on the right. Boxes at the end of the larger bones are general categories used to guide the discussion. For example, in nursing homes the categories would be staff, care methods, environmental factors, and equipment factors. These categories, however, can be adapted as needed. List causes for each category, filling in the smaller bones of the fish. Begin with the most obvious cause. Then keep asking why to determine all of the underlying causes and produce the detail needed for future critical thinking about solutions.



Pareto

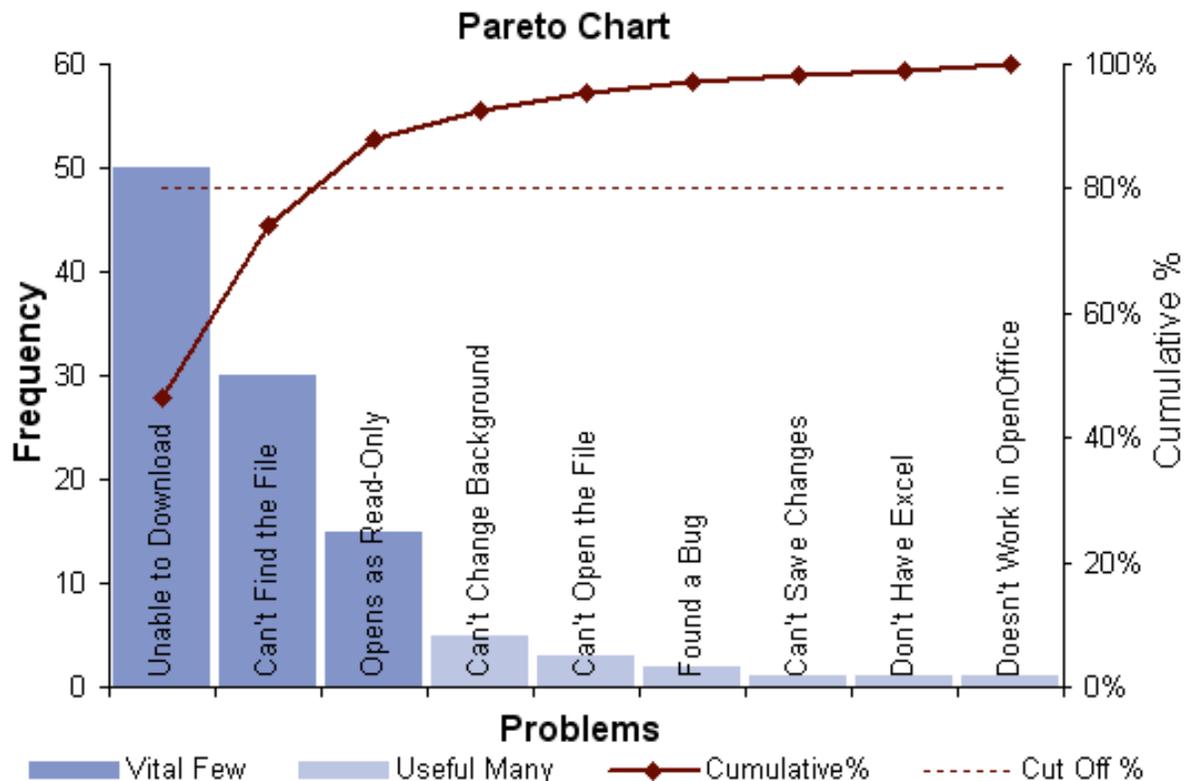
Pareto analysis is a simple technique that helps you focus efforts on the problems that offer the greatest potential for improvement by showing their relative frequency or size in a descending bar graph. Pareto's 80/20 principle asserts that a minority of causes, inputs or effort usually lead to a majority of the results, outputs or rewards.

The 80/20 rule should serve as a daily reminder to focus 80 percent of your time and energy on the 20 percent that really makes a difference.

When analyzing the causes of a problem, this tool will quickly identify the major causes so resources can be directed accordingly.

How to use it:

- Collect and analyze data to verify the causes you have identified.
- Choose the most meaningful unit of measurement that relates to your problem: usually frequency or cost.
- Rank the causes / delays from largest to smallest, i.e., comparing the relative frequency of the causes.
- Draw a Pareto graph to illustrate the findings by listing the problem categories on the horizontal axis and the frequency or cost on the vertical axis. This simple bar chart will help ensure your findings are quickly and easily understood.



Gap Analysis

This simple tool helps you identify the gap between your current situation and the future state you want to reach, along with the tasks you need to complete to close this gap. Gap Analysis is useful at the beginning of a project when developing a business model and it's essential when you're identifying the tasks you need to complete to deliver your project.

First, identify the objectives you need to achieve. This provides your future state - the "place" where you want to be once you've completed your project.

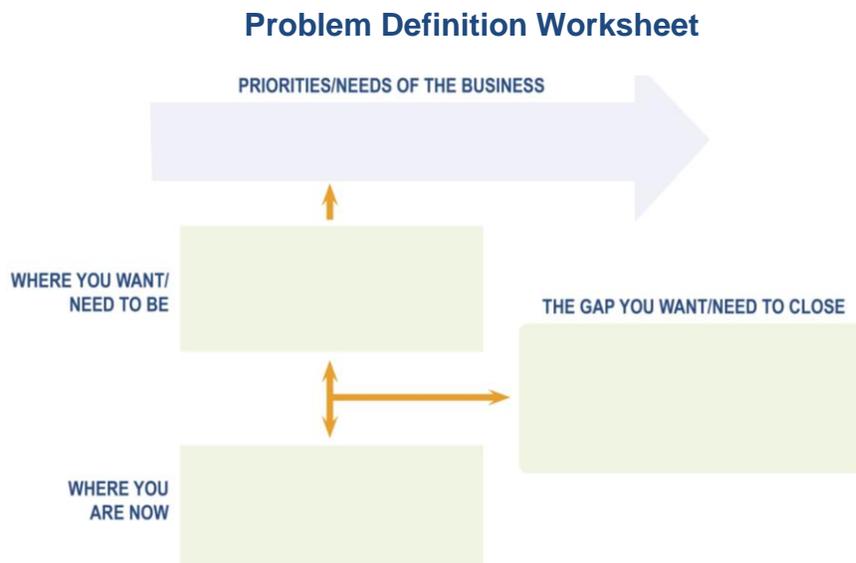
For each objective, analyze your current situation. To do this, consider the following questions:

- Who has the knowledge you need? Who will you need to speak with to get a good picture of the current situation?
- Is the information documented in writing or does it reside in collective memories and experiences?
- What's the best way to get this information? Through brainstorming workshops or one-on-one interviews? By reviewing documents? By observing project activities such as design workshops? Or in some other way?

Once you know your current situation and future state, you can think about what you need to do to bridge the gap and reach your project's objectives.

Pitch your Gap Analysis to provide an appropriate amount of detail. If you present too much detail, people will be overwhelmed, but if you don't give enough detail, you won't tell them what they need to know to sign off on the project.

When you analyze your future situation and current state, use metrics where information can be quantified (such as *costs of the product*) and general statements when metrics aren't available (such as *creativity*).



Goal setting

Goal setting is important for any measurement related to performance improvement. This worksheet is intended to help teams establish appropriate goals for individual measures and also for performance improvement projects. Goals should be clearly stated and describe what the organization or team intends to accomplish. Use this worksheet to establish a goal by following the **SMART** formula outlined below.

Note: Setting a goal does not involve describing what steps will be taken to achieve the goal. Post the goal somewhere visible and regularly communicate the goal during meetings to stay focused and remind employees that everyone is working toward the same goal.

SPECIFIC: Describe the goal in terms of three “W” questions.

What do we want to accomplish?

Who will be involved and who will be affected?

Where will it take place?

MEASURABLE: Describe how you will know if the goal is reached.

What is the measure you will use?

What is the current data figure (i.e., count, percent, and rate) for that measure?

What do you want to increase/decrease that number to?

ATTAINABLE: Defend the rationale for setting the goal measure above.

Did you base the measure you want to attain on a best practice, average score or benchmark?

Is the goal measure set at the right mark to be challenging without being unattainable?

RELEVANT: Describe how the goal fits into your QI Plan.

Briefly describe how the goal being set will address the problem stated above.

TIME-BOUND: Define the timeline for achieving the goal.

What is the target date for achieving this goal?

Goal statement example:

Increase the number of stops per hour for trucks servicing retail customers from 3.5 to 4 by Dec. 31, 2015.

Kaizen Event

Kaizen means to change for the better. Taking it a bit further, with Kaizen, there's actually a sense of breaking down the current process, removing the unnecessary parts, and putting it back together in an improved manner.

Organizational Culture Change

When implementing Kaizen, it is necessary to treat organization culture as a factor that influences ease of implementation and as an outcome variable. An effective Kaizen implementation needs to cope with the cultural barriers to adoption and also change employee expectations, beliefs and behaviors.

As continued success of the LEAN initiative requires a cultural change within the organization, this may require continuous organizational learning. Kaizen events support this learning, enhance people skills and act like a sparkle to keep the momentum towards excellence.

Kaizen framework

This rapid improvement event involves:

- Defining the scope and goals of the event (management/project sponsor)
- Naming and gathering a team in one place
- Providing basic LEAN and Kaizen training to team members
- Mapping existing process
- Using analytical techniques to identify improvements and eliminate waste in targeted process areas
- Making changes to the process by implementing proposed solutions and simulating the new process
- A final presentation to management and staff on the opportunities identified and the improvements made to the process (did the improvement effort achieve the goals established at the beginning?)
- Setting 30-60-90 day check-ins to sustain the improvements

Kaizen Event				
Preparation		Execution		
Define the problem	Select and Train the Team	Measure and Analyze	Develop Countermeasures	Implement and Monitor

Targets and Goals

- Eliminate waste, improve workflow
- Improve efficiency, productivity and/or quality
- Foster a culture of change where employees are empowered to identify and solve problems
- Improve employee satisfaction by removing redundant, frustrating or confusing process steps
- Present bottom line tangible results that support company's business priorities and strategy

Define the problem

When looking to select potential Kaizen projects, nearly every business process will benefit from a Kaizen event. However, when developing a priority of the best places to start, consider the following elements:

Impact

- It's a process that affects a large number of stakeholders/customers
- It's a process that consumes a lot of internal resources
- It's a highly visible process to stakeholders and/or customers

Need

- It's a process that clearly is not working as well as it should (lots of complaints, rework, defects, unhappy employees, etc.)
- It's a core business process that affects many other processes or programs

Willingness

- Manager of the affected area has an interest in supporting and making needed changes
- Workers are open to change, and would be able and willing to participate in an improvement event

Select the team

A team of people (within the targeted activity or process of the company) who know the current process and are empowered to propose and make improvements.

This team may include:

Kaizen Team Leader

This person's main responsibility is to facilitate the event while also developing people. The Kaizen team leader manages the team's activities and ensures the team is using the right tools for the job. The Kaizen team leader helps the team stay focused on the objective of the event. Finally, the team leader helps the team prepare for all event *report outs* which will be covered later in the course.

Process Owner

This is the person responsible for the area where the event is scheduled. This might be the ops manager in a branch or a supervisor responsible for that area of the branch or department. No matter who the process owner is they must be an integral part of the Kaizen team.

Senior Manager

The senior manager must be involved in the planning and execution of the event. This might be the general manager or any other designated senior executive.

Kaizen Coach

This person's job is to teach and coach continuous improvement techniques during the event while also challenging the team by asking things like "why?" and "what if...?" over and over. The Kaizen coach will also help the team remove major obstacles and barriers by working closely with the team leader, process owner, and senior manager. The Kaizen coach will also serve as the team

leader's support system before, during, and after the event. Mainly, the region will support this role.

Kaizen Team Members

Finally, team members including direct and indirect labor. are the last and most important roles of the Kaizen event.

Train the team

Developing our people should be one of the highest priorities of the event. Training the Kaizen event team, especially on the basics like Value Stream mapping, 7 Wastes, problem solving tools, workflow, and visual management will also help ensure the event is successful. Once the team is trained and ready to get started, it's time to go to the workplace, which is what happens on the second and third day of the Kaizen event. All team members should become deeply engaged in activity during the first and second day of the event. They'll also begin to see changes happen, which will motivate them to continue.

Execution

When we do Kaizen, we must go to the *gemba*, which literally means the actual place. In other words, it's the place the work is done. The *gemba* might be the money processing room, the check-in area, or the accounting department. The chance of Kaizen success is much higher when we go to *gemba* instead of spending all our time in a board room drawing on flip charts and white boards. In the same spirit, rather than looking at drawings or other forms of documentation, it helps if we look at the actual work taking place. Finally, we need to gather facts that either prove or disprove our ideas. This will help us understand what's really happening. Often, when we get the facts we see that something else is causing the problem, or we realize that the problem may be bigger or smaller than we thought. Once our team is armed with the facts, it will be easier to convince people of the changes we hope to implement.

Coordinate Activities

It's extremely important for the Kaizen team leader to coordinate the activity with the help of the Kaizen coach. Some Kaizen team members will be natural Kaizen experts while others may need a small nudge from time to time.

Another facilitation technique for the team leader is to write down the daily goals and objectives for the Kaizen team. The team should review this list at the start of the day, before lunch, and then once again at the end of the day. If this happens from the start of the event to the end, you'll have an excellent history of what was accomplished, which then helps you prepare for the end of the event—the *report out*.

Senior Leadership Involvement

The most powerful energizer for a Kaizen event is when a senior executive joins the team during the improvement phases of the event. The energy of the team will be high and the results will be excellent.

Long Hours Required

There may be a need to work longer than normal hours during a Kaizen event; this should be explained to the Kaizen team at the start of the event. Additionally,

we'd encourage the Kaizen team leader to exhibit a strong sense of urgency throughout the week, but most especially during the first three days of the event. It is best to aggressively meet and exceed your goals as early in the week as possible. The final few days of the event should be focused on smaller tweaks and adjustments while also thoroughly testing new processes.

The Report Out

The final *report out* process is an extremely important aspect of the Kaizen event. This is where the Kaizen team will report their results to the rest of the company and receive recognition for their efforts.

Setting the Agenda

Date	Start Time	End Time	Activities & Tasks
Pre-Meeting (2-3 hours)			<ul style="list-style-type: none"> • Introductions • Finalize Project Plan/Team Charter
Kaizen Event – Day 1	9:00 a.m.	5:00 p.m.	<ul style="list-style-type: none"> • Learning: Training • A3, Value stream mapping, 7 Wastes, problem solving tools, workflow, and visual management
Kaizen Event – Day 2	9:00 a.m.	5:00 p.m.	<ul style="list-style-type: none"> • Learning: <i>Training</i>- Value stream mapping • Visit gemba, observe, measure • Current state
Kaizen Event – Day 3	9:00 a.m.	5:00 p.m.	<ul style="list-style-type: none"> • Future state • Prepare Action Plan • Implementation
Kaizen Event – Day 4	9:00 a.m.	5:00 p.m.	<ul style="list-style-type: none"> • Observation and adjustment • Prepare report out final presentation
Kaizen Event – Day 5	9:00 a.m.	5:00 p.m.	<ul style="list-style-type: none"> • Present results • Discuss and agree on changes suggested by users/stakeholders • Agree on follow up
Days 1-4	5:00 p.m.	5:30 p.m.	<ul style="list-style-type: none"> • Progress meeting between Sponsor(s), Team Leader, and Facilitator(s) – Have all leaders sign off on recommended changes before finalizing the future swim lane map and Action Plan

Appendix

Kaizen Checklist

Two weeks or more before the project:

- Identify Kaizen team leader and management sponsor (senior manager).
- Choose team members and confirm availability with their managers.
- Prepare a Project Approach and collect any historical data required to support the project.
- Reserve a team room for the project.

One week before the project:

- Sponsor - review and approve the Project Approach.
- Notify team members that they are on the team (do this early in the week).
- Arrange to provide lunches for the team during the project.

One to two days before the project:

- Hold a 10-minute team meeting to gain commitment from each team member.
- Assure the project area is properly scheduled to support planned time observations (representative parts).
- Gather any supplies required for the project (flipcharts, post-it notes, area maps/layouts, area schedules, etc.).
- Print out copies of the Project Approach for the team.

Project Day 1:

- Team training** – LEAN tools.
- Review the Project Approach with the team.

Project Day 2:

- Team training** – LEAN tools.
- Discovery** – Conduct observations in the project area.
- Analysis** – Quantify observations and use team tools to do a “before” analysis.
- Design the current state of the process** – Value Stream Mapping (VSM).

Project Day 3:

- Future state of the process** – apply LEAN tools, eliminate waste, create flow, VSM.
- Implementation** – Team members may work in sub-teams or independently for part of the day, but the team should regroup every two hours to make sure they are still on track and not running into problems. Machine moves or other maintenance requests may be scheduled for overnight completion.

Project Day 4:

- Observation and adjustment** – Repeat similar time observation studies to measure improvements, and make adjustments (or continue implementation) as required.
- Prepare *report out* final presentation.

Project Day 5:

- Present Results** – Team presents project results to management team and areas impacted.
- Discuss and agree on changes suggested by users/stakeholders.
- Agree on follow up.

Project Follow-up:

- Kaizen Team Leader and Management Sponsor
- Regular / weekly update of the 30-day-action list – ensuring team members are meeting their assigned obligations.
- Regular / weekly audit of project area to ensure conformance to implementation.

Project Charter Sample

1. Project Name

2. Event Dates

3. Event Location

4. Issues/Factors & Implications *(What prompted this project?)*

Identify the issues/challenges/problems (i.e., where the pain is) within the current process and how it may be impacting customers, staff, and stakeholders (e.i., partners, taxpayers).

5. Scope *(What is the start and end point for this project?)*

Be specific about what is included in the scope of the project. It may also be helpful to document what is not in scope. The scope of the project should be what can be completed and implemented within the LEAN project timeframe.

- Starting point:
- Ending point:

6. Goals *(What specific, measurable, audacious - yet realistic, time-bound goals do you want to achieve?)*

Identify at least one or more specific, measurable, bold - yet realistic, time-bound (SMART – Specific, Measurable, Attainable, Result-oriented, Time-limited) goals for the project. If possible, identify how the project links to the organization, division, or unit's strategic plan objectives.

7. Participant Information *(Whose involvement is necessary to understand and address project issues?)*

Provide the contact information for the people you want to involve in the project and identify why they were selected (i.e., the perspective they will bring). Teams typically include 5-8 members.

Name	Why Selected?	Email Address

8. Materials/Resources Needed

Kaizen and facilitation materials (e.i., markers, Post-It notes, swim lane paper, sticky wall) will be provided by LEAN facilitator(s). Identify and bring any additional materials needed for the project (e.i., forms, policies, rules, procedures, etc).

9. Pre-work Information

- Data about current process
- Cycle time(s)
- Volume of work
- Forms used
- Process steps
- Etc.

10. Ground Rules *(How we will conduct ourselves and work with each other)*

- Keep an open mind to change.
- Voice your concerns – do not leave in silent disagreement.
- Set cell phones on silent and check messages only during breaks.
- Start and end meeting(s) on time.
- Fulfill roles and responsibilities.

11. Time Commitment

The time commitment varies based upon the project. If it is determined that a Kaizen event (short-term process improvement approach) is the most appropriate approach, then the time commitment will be three to five days.

12. Communication Requirements

Complete Communication Plan. Additional communication deliverables typically include:

- Project Plan/Team Charter
- Progress Reports – document team members' decisions and questions
- Report Out presentation – prepared and delivered by team members
- Others

13. Project Implementation and Continuous Improvement

Teams will be expected to complete an action plan for the project. The action plan should include a task for gathering input from implementers two to eight weeks after project implementation to see how things are going and to make any needed adjustments. The action plan should also include a task for reviewing and adjusting the process on a periodic basis (i.e., sustaining improvement).

Title: What change or improvement are you talking about?

Owner/Date

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1. Background: What are you talking about and why?

What is the purpose, the business reason for choosing this issue?
What specific performance measure needs to be improved?
What is the strategic, operational, historical, or organizational context of the situation?

2. Current Conditions: Where do things stand now?

What is the problem or need—the gap in performance?
What is happening now versus what you want or needs to be happening?
Have you been to the gemba?
What facts or data indicate there is a problem?
What specific conditions indicate that you have a problem or need?
Where and how much? Can you break the problem into smaller pieces?
→ Show facts and processes visually using charts, graphs, maps, etc.

3. Goal: What specific outcome is required?

What specific improvement(s) in performance do you need to achieve?
→ Show visually how much, by when, and with what impact.
→ Don't state a countermeasure as a goal!

4. Analysis: Why does the problem or need exist?

What do the specifics of the issues in work processes (location, patterns, trends, factors) indicate about why the performance gap or need exists?
What conditions or occurrences are preventing you from achieving the goals?
Why do they exist? What is (are) their cause(s)?
→ Use the simplest problem-analysis tool that will suffice to show cause-and-effect down to root cause. From 5 Whys to 7 QC tools (fishbones, analysis trees, Pareto charts) to more sophisticated SPC, 6 Sigma, and other tools as needed.
→ Test the cause-and-effect logic by asking "why?" downward and stating "therefore" upward.

5. Recommendations: What do you propose and why?

What are the options for addressing the gaps and improving performance in the current situation?
→ Always start with two or three alternatives to evaluate.
How do they compare in effectiveness, feasibility, and potential disruption?
What are their relative costs and benefits?
Which do you recommend and why?
→ Show how your proposed actions will address the specific causes of the gaps or constraints you identified in your analysis. The link should be clear and explicit!

6. Plan: How will you implement? (4W's, 1H)

What will be the main actions and outcomes in the implementation process and in what sequence?
What support and resources will be required?
Who will be responsible for what, when, and how much?
How will you measure effectiveness?
When will progress be reviewed and by whom?
→ Use a Gantt chart (or similar diagram) to display actions, steps, outcomes, timelines, and roles.

7. Followup: How will you ensure ongoing PDCA?

How and when will you know if plans have been followed and the actions have had the impact planned and needed?
How will you know if you meet your targets?
How will you know if you reduced the gap in performance?
What related issues or unintended consequences do you anticipate?
What contingencies can you anticipate?
What processes will you use to enable, assure, and sustain success?
How will you share your learnings with other areas?

Title: Optimize ISA use to support MPC operations

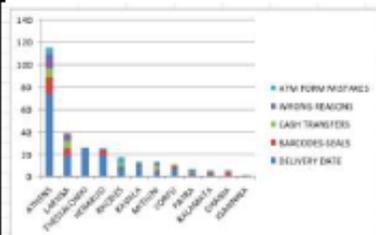
Date:	Owner: EP
Approval date:	Approved by:

Background

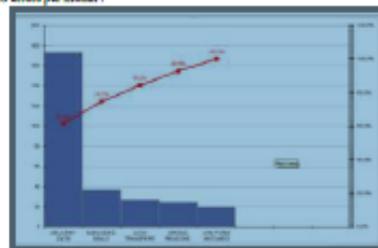
The new money processing system implemented in all our branches (Inventory Supply Accounting) can produce automatically reports that we sent to our customers. However, user's errors lead to mistaken ISA reports and we are forced to return back to excel spreadsheets.

Current Condition

From May until July there have been 281 errors which can be translated to 93.6 errors per month.



Analysis of errors per branch, which branch does which error more often?



The errors that users do and cause the mistaken reports.

The same period 6.746 reports were sent to customers and 13 of them were wrong (99.8%). The time spent to fix the errors is 281h/year with a related cost of 1.5k.

We have to take into account the user's re-work, the time we spent to make the old excel next day in case of sending wrong report and the time that ISA admin spends to solve the problems with the users (hide cost).

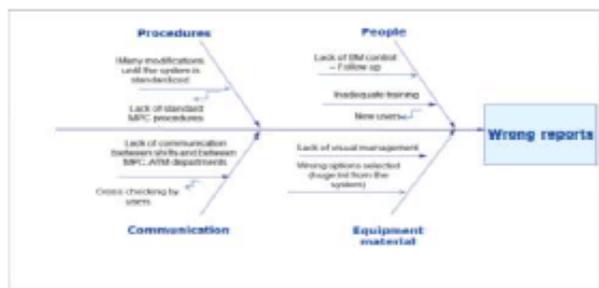
PROBLEM STATEMENT:

The current way of using the system either the system functionality either the way that users manage the system, leads to many mistakes by the users which affects the quality of the reports sent to customers and provokes the re-work of users to correct the errors.

Target

- Elimination of errors <10 errors per month
- Improve quality/accuracy on reporting 99.9% ⇨ (this customer's confidence)
- Increase capacity
- Happy personnel
- More time available for ISA admin to improve the system

Analysis



Countermeasures

CONTRIBUTORS	COUNTERMEASURES	EXPECTING RESULTS	OWNER	PRIORITY
Equipment Material	<ul style="list-style-type: none"> • Make the delivery date more visible on the report. • Make the reasons not important to select 	<ul style="list-style-type: none"> • Quality • Cost 	ZERVOS- ELENA	HIGH
Communication	<ul style="list-style-type: none"> • Board to Team that refers to the ATM replenishments, which are done and which are not • Monthly report to each BM • Monthly consolidated errors report to all branches. 	<ul style="list-style-type: none"> • Quality • Cost 	MPC-BM	MEDIUM
People	<ul style="list-style-type: none"> • Define a key-person per branch- ad hoc training (new users-new procedure) • BM- MP Supervisor control-follow up • Refresh training where it's needed (small branches) 	<ul style="list-style-type: none"> • Quality • Cost • Morality 	BM-MP Supervisor- ELENA	MEDIUM
Procedure	<ul style="list-style-type: none"> • Video for each standardized procedure in ISA. • New closing procedure-check ATM report(reconciliation per day) 	<ul style="list-style-type: none"> • Quality • Cost 	ELENA-MPC	LOW

Plan

DELIVERABLES	TIMELINE												OWNER
	SW	TH	FR	SA	SA	TH	FR	SA	SA	TH	FR	SA	
Make the delivery date more visible on the report													ZERVOS- ELENA (BOARD)
Make the reasons not important to select													MPC-BM (COMMUNITY)
Board of the team that refers to the ATM replenishments, which are done and which are not													MPC-BM
Monthly report to each BM													ZERVOS
Monthly consolidated errors report to all branches.													ZERVOS
Define a key-person per branch- ad hoc training (new users-new procedure)													MPC-BM (ELENA)
BM- MP Supervisor control-follow up													MPC-BM (ELENA)
Refresh training where it's needed (small branches)													ZERVOS
New closing procedure-check ATM report(reconciliation per day)													ZERVOS
Video for each standardized procedure in ISA.													ELENA-MPC

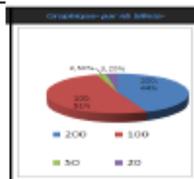
Review

- DAILY: track data errors
- MONTHLY: KARAVIDAS-VOURVAHAKIS-BM
- EVERY 3 MONTHS : COO

PROBLEM: The shifts for the treatment of funds in Casablanca Branch are inadequate for the requirement regarding in time service / cost reduction

Background

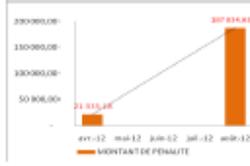
- Contractual obligation to complete the fitness sorting early in the morning on D + 1 (Fit / unfit blocs)
- Treatment by hand on small denomination notes (20 and 50 DRH)
- There are delays in finishing the treatment within the contractual timing → Unsatisfied customer → Potential loss of market share



Current Condition

- Incapacity of treating the increased volumes during the pick periods

- Delays in treatment create badges finished days later resulting in high penalties

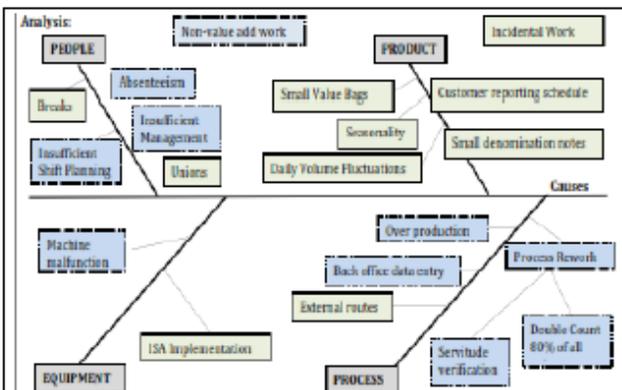
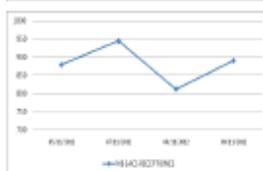
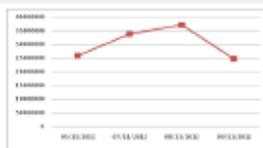
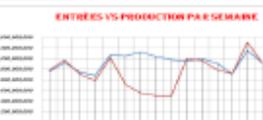


- Current organization plan:

- 3 shifts:
 - From 19h30 to 05h30 of 24 Counting agents 14 Sorting agents 29 Others
 - From 06h00 to 15h00 of 11 Counting agents 9 Sorting agents 27 Others
 - From 16h00 to 01h00:05 Others

- Bad synchronization between the hours of availability of funds and the availability personell

- AVs have to return to the Branch for the orders not prepared on time.
 - Equivalent cost of 20 Vehicle hours per day.
- We are having difficulties in implementing 100% ISA project because we don't have the capacity to keep the segregation of stocks



- Goals:**
- Prepare 1800 blocs per day before 6h00 in the morning .
 - Prepare 500 blocs between 6h00 and 11h00 during the days of the pick.
 - reduce the Labor cost by 7%.
 - Finish the implementation of projet ISA.

Owner:	Harouroud Rachid	Date:	15/11/2013	Approved:		Date:	
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Plan:					
Type	Cause	Action	Benefit	A3 Responsible	A3 date fin d'action
Processus	Double counting : - servitude bags - Big Bags	Implement the new process	- Increase the capacity of the production by 10% (new business of 200K€ Revenue annually) - Reduce the Labor cost by 5% (annual savings of 60K€)	Hicham DOUMA Assisté par Mounir HARTOUT	14/12/2012 31/01/2013
Processus	Rework during the transfer of the bags in the prevault area	-Implement the new process for the reception and registration of the bags - Implémentation of 5S	- Reduce the delays at the reception - Increase the availability of the bags for treatment - Reduce the Labor cost by 8K€ annually	Samir NAJI Mohammed HAMAMA	14/11/2012 28/12/2012
Processus	Rework during the data entry	-Stop the use of the excel files -Use exclusively data from ISA	- Reduce the Labor cost by 7K€ annually	Abdellah ANBA Assisted by Mehdi AHFER	1/12/2012
Processus People	Insufficient shift planning	- Establish a new shift planning - Communicate the planning with the Social partners - Adapt the transportation plan for the personnel according to the new working hours shifts - Put in place the new planning	CIT Increase the capacity by 10% (new business 300K€ annual revenue) ATM Increase the capacity by 10% (new business 40k€ annual revenue) Reduce the penalties by 30% (annual savings of 70k€) Improve the quality of the service	Rachid HAROUROUD Norddine LOUALI Mohamed ACHOUBI Hicham DOUMA	31/01/2013 08/01/2013 15/01/2013 15/01/2013
processus	Partial segregation of the customers funds	- Treat the funds by customer - Follow all the steps treating through ISA	Terminate the ISA project	Samir NAJI Assisté par Hicham DOUMA	31/12/2012

Follow Up: Weekly report to M. HAROUROUD
Monthly review by MM. HAMAMA/HAROUROUD/GEORGOPULOS

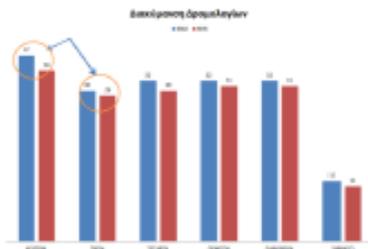
TITLE: Customer Schedule Balance

1. Background

CIT Athens Branch has 97 frontline employees to cover routing demands, leaves, days off, spare crews, trips out of base, sickness etc. There is continuous effort to improve routes performance. There is an unbalance of route number within the week days which create surplus of staff.

2. Current condition

After statistical analysis of the routing program, it was founded that:
 Monday requires 37 routes
 Tuesday requires 29 routes
 This number can vary depending to the number of banks orders.



Monday routing demand creates surplus of staff for the remaining days of the week which is WASTE and EXTRA COST.

3. Goal

The balance of customer program with in the week days and reschedule of 10% customers from Monday to Tuesday
 Cost Saving: 110.000 – 140.000€ per year.

4. Analysis

Although day offs and Trips are planned, excluding Monday the absolute difference is 16 employees.



Most of the customers have a Monday-Wednesday- Friday schedule.

There is no trucking of customer schedule by the Commercial Department to Balance routes demands.

Owner/date

MP

22/04/2011

5. Recommendations

Cause	Countermeasure	Benefit	Responsible
Luck of Communication OPS vs COMM	Truck of customer schedule by COMM with the cooperation of OPS	Operations excellence	COMM/OPS
Unbalance schedule	Communicate with clients to improve the program	Cost	COMM
	Provide financial incentives to Customers (lower costs)	Cost	COMM
Staff Management	Part-time staff, 4 working days	Cost	OPS/HR/PAYROLL

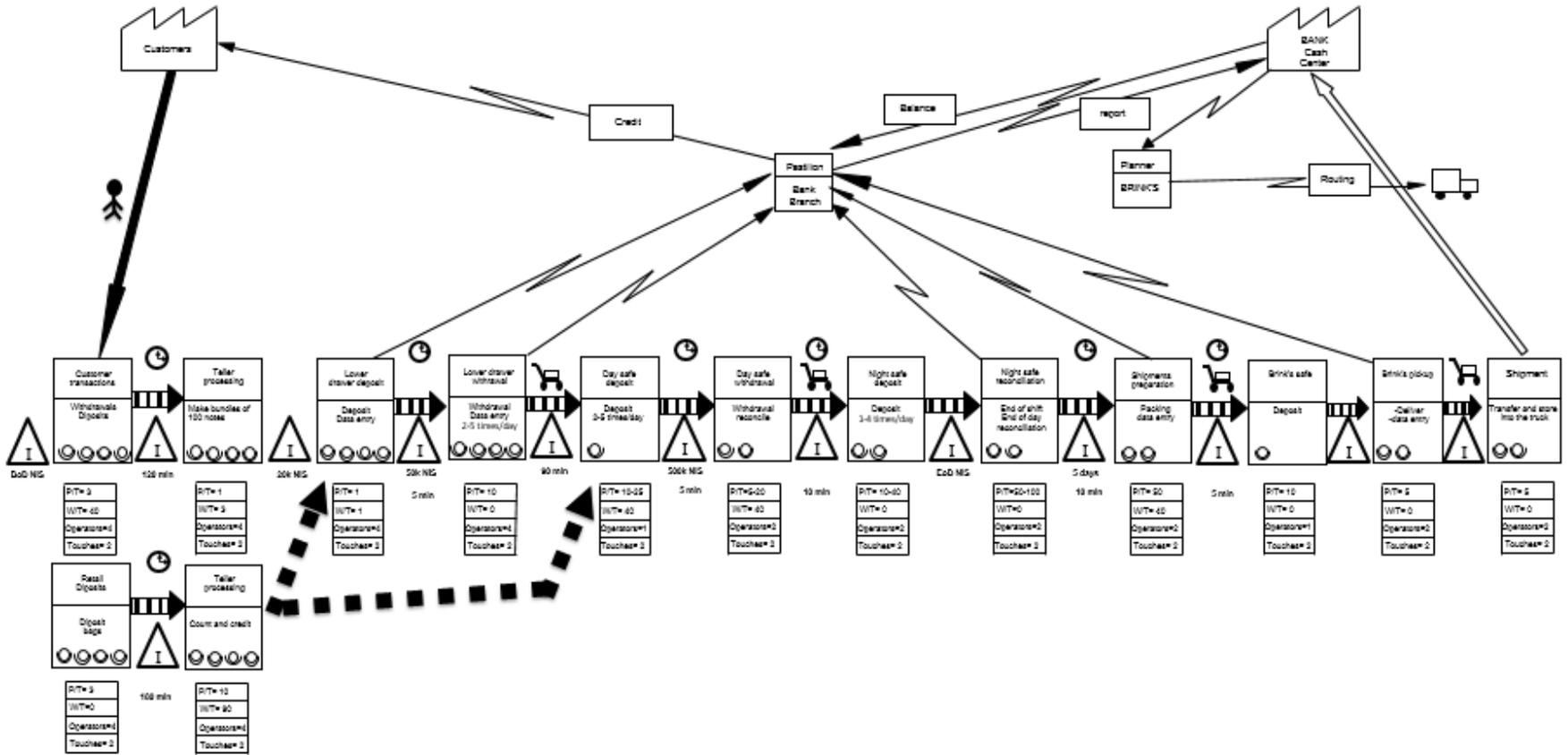
6. Plan

Countermeasure	Action Plan	Responsible
Truck of customer schedule by COMM with the cooperation of OPS	Create a customer database and truck schedule. (4 weeks)	COMM/OPS
Communicate with clients to improve the program	8 weeks	COMM
Provide financial incentives to Customers (lower costs)	8 weeks	COMM
Part-time staff, 4 working days	Depending on the results of rescheduling.	OPS/HR/PAYROLL

7. Follow up

- Weekly review of rescheduling by COMM/OPS
- Monthly Report to Management

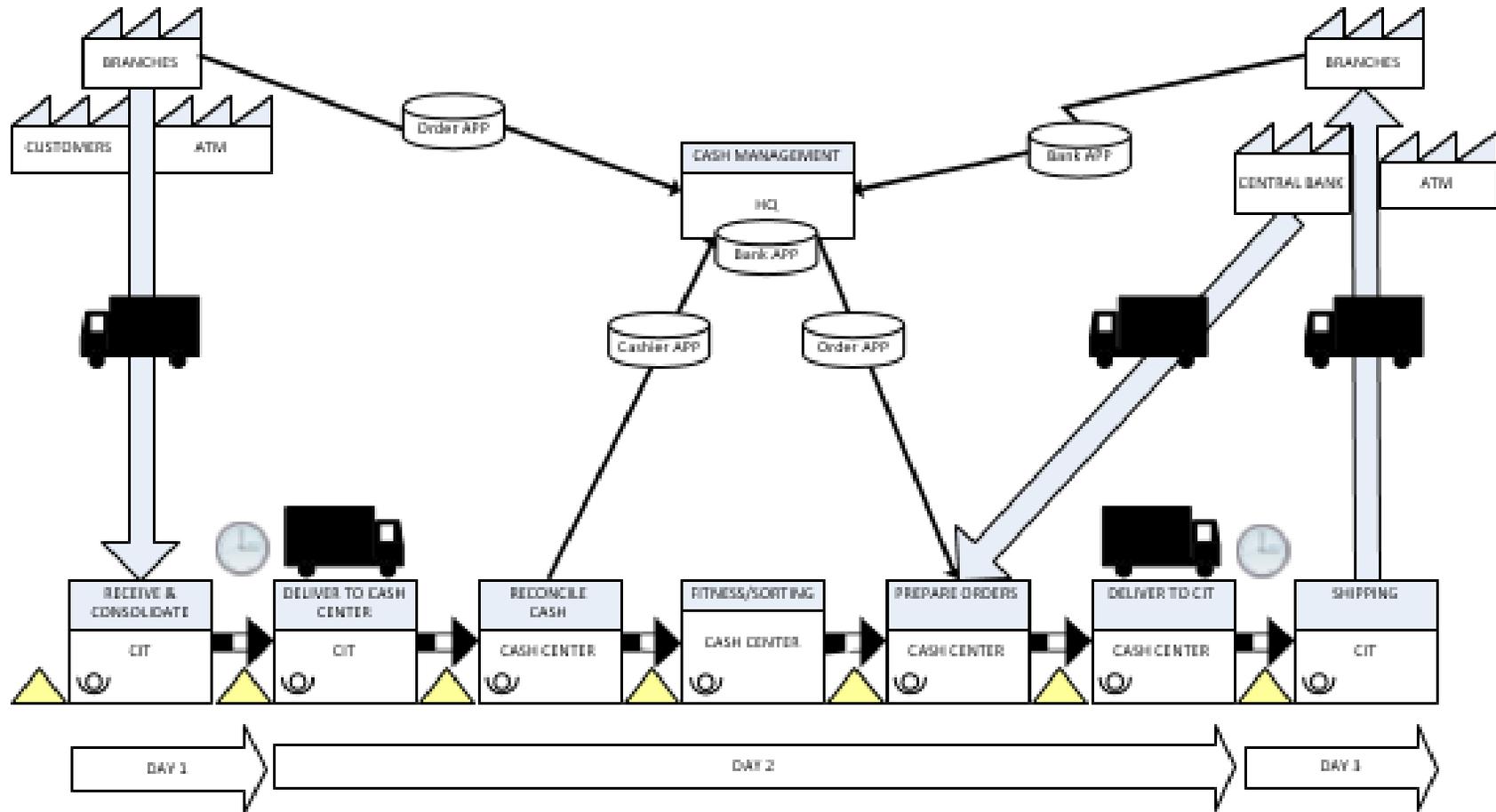
Current State Bank Leumi - Branch Cash Handling



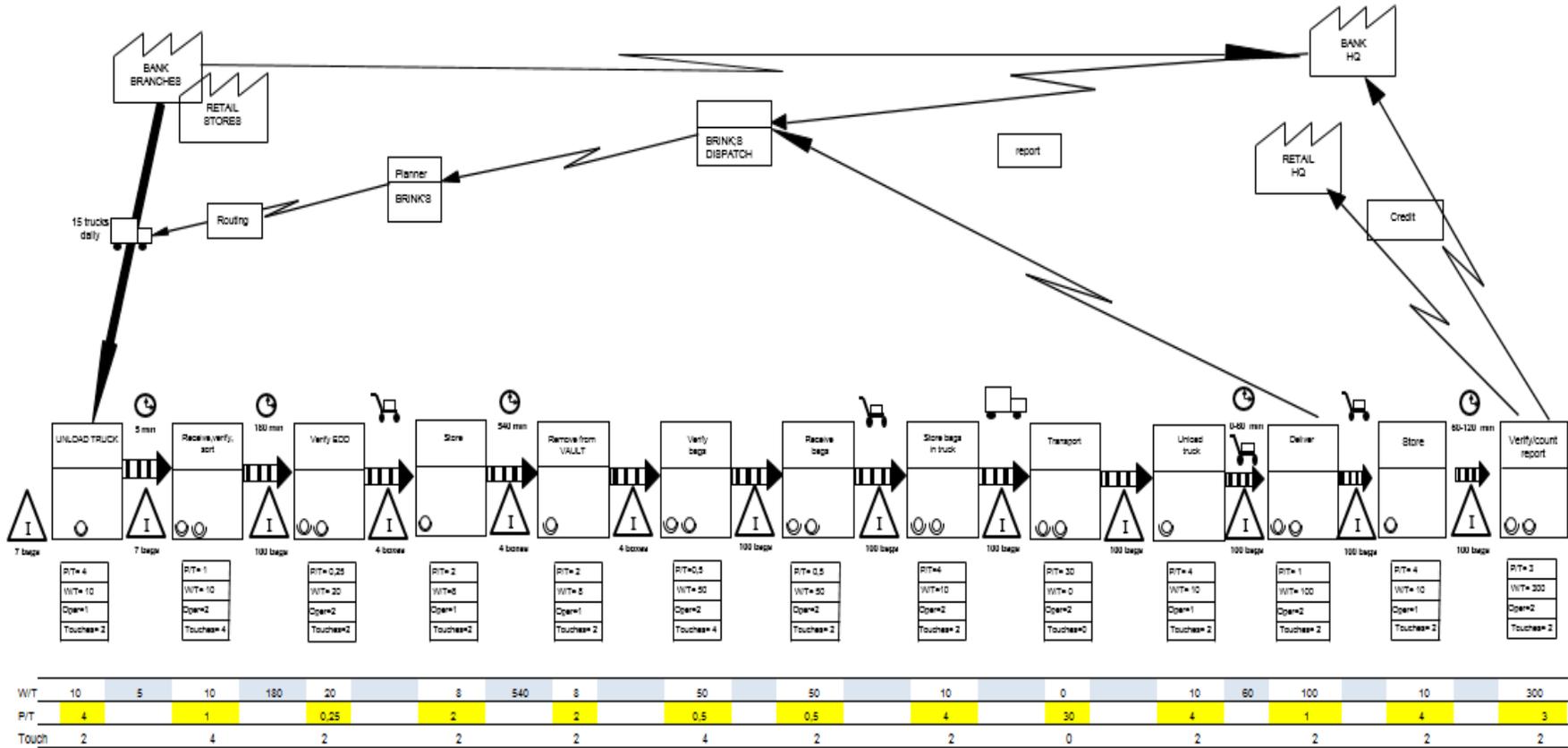
W/T	180	22	1	5	20	20	10	7210	50	6								
P/T	6	11	1	10	25	20	40	100	50	10	5	5						
Touch	4	4	2	2	2	2	2	2	2	2	2	2						

Totals
7625
283
28

PIRAEUS BANK CASH CENTER CYCLE – HIGH LEVEL VALUE STREAM MAP



Current State - bags handling



Totals
1371
56.25
28

Notes: