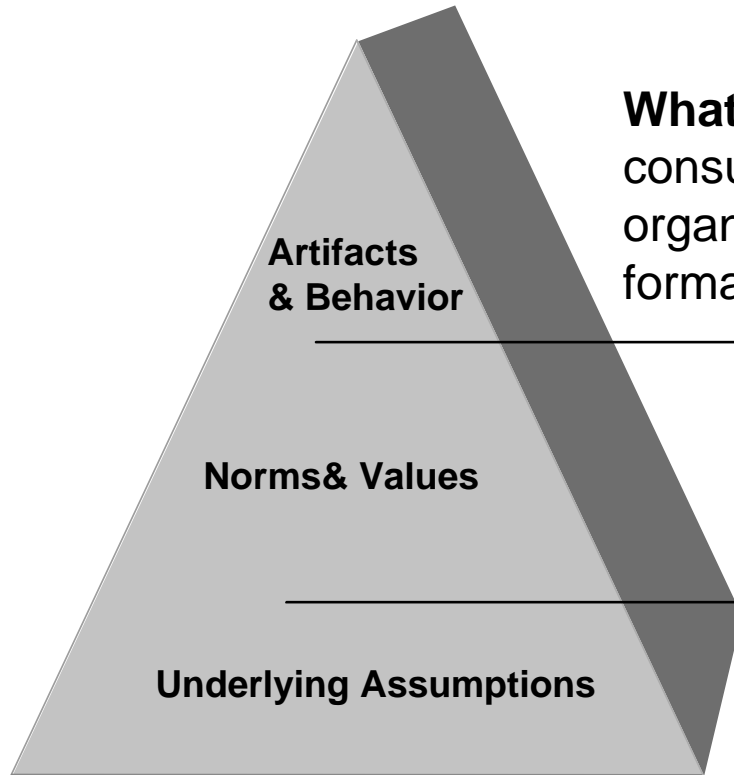


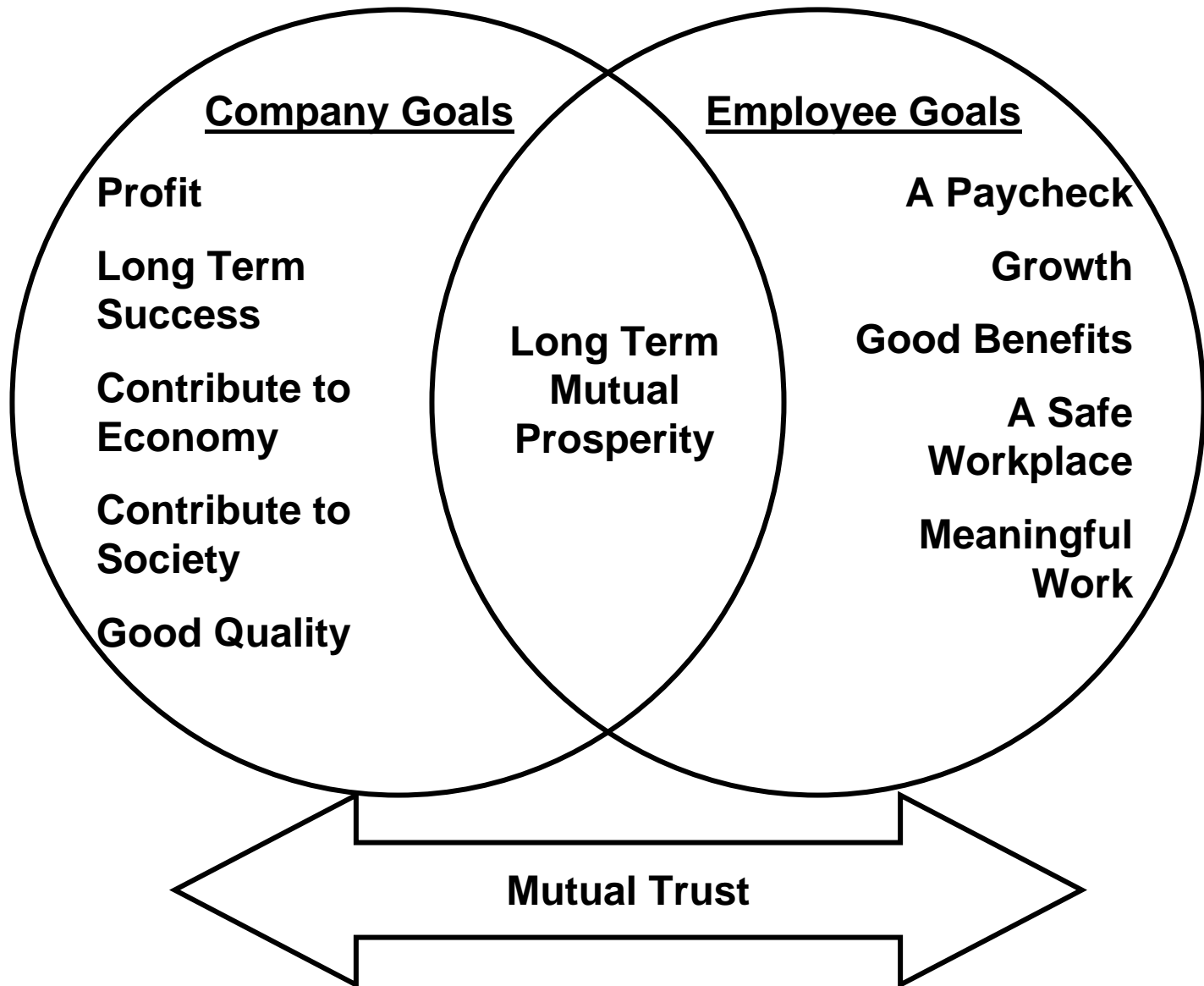
Three Levels of Culture



What we see, what a newcomer, visitor or consultant would notice (e.g., dress, organization charts, physical layout, degree and formality, logos, and mission statement.

What they say, What we would be told is the reason things are the way they are and should be. Company philosophy, norms and justifications.

What they deeply believe in and act on
Unconscious, taken for granted beliefs about the organization and its work/purpose, about people, rewards etc.



A Partnership between an Organization & its Employees

Organization provides Stable Employment & Sustains or Improves Working Conditions

Organizational Prosperity is achieved through Continuous Improvement

Respect Partnership
Mutual Trust
Continuous Improvement

Employees Satisfaction is experienced through the Continuous Improvement Process

Employees Contribute Efforts to Realize Company Objectives

TPS=

Make problems and opportunities for kaizen visible.

Safety	Quality	Productivity	Cost	HR
Standardized Work, 5-S				
Visual Control (Andon, Line-stop, Visual Management)				
Problem Solving (Daily Activities, QC Circle, Suggestions)				

Setup Standard

Check Abnormality

Kaizen

PDCA

The Toyota Way

THE TOYOTA WAY

Respect
for People

Teamwork

Respect

Continuous
Improvement

Challenge

Genchi
Genbutsu

Kaizen

Values

Toyota Basic Business Practices

by concentrating knowledge
of each & every employee

for the benefit of all
customers & stakeholders

we strive to realize
ambitious goals

through steady, fact- driven
progress

pursuing highest standards of
excellence guided by best
possible course of action

Identifying Lean Core Competencies

Thinking and Operational Abilities

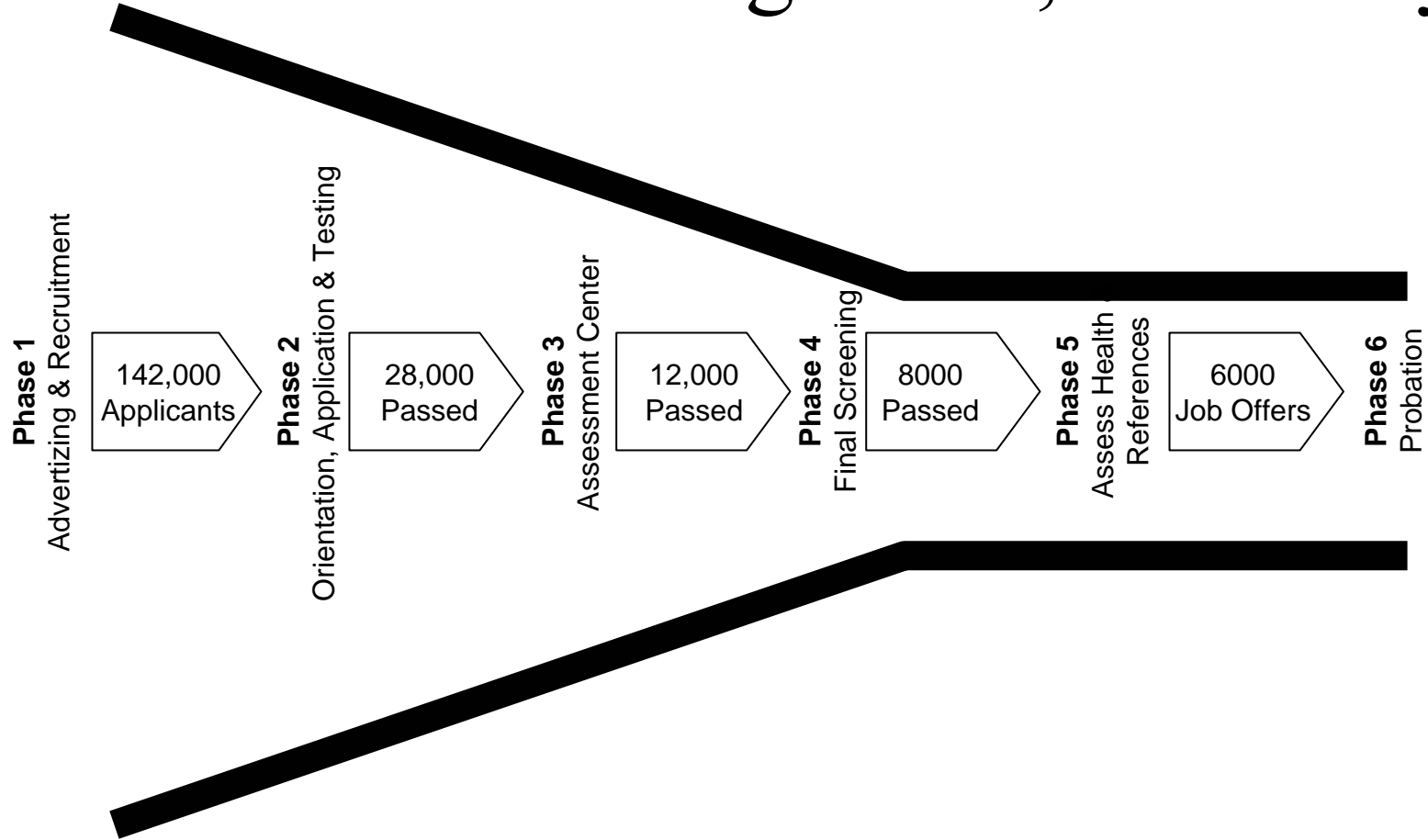
- Grasp the Situation
- Problem Solving
- Process Management
- Company Business Perspective
- Development
- Operational and Technical Skills

Identifying Lean Core Competencies

Leadership & Teamwork Abilities

- Coordinate and Communicate
- Collaborate and Cooperate
- Initiate and Influence
- Build and Maintain Relationships

Original Recruitment to Selection Process for Georgetown, Kentucky



Example on-line Simulation for Second Phase Testing

The screenshot shows a web browser window titled "CB - Microsoft Internet Explorer" with the address bar displaying "http://selectintl.be/centralonline.com/courseware/select/development/start_ceno.html". The main content area features the "SELECT INTERNATIONAL" logo at the top left. Below the logo is a simulation interface with several gauges and a control panel.

The gauges are:

- RIE GAUGE
- MUCKITY GAUGE
- OSCHNIZZLE GAUGE
- DIGGITY DCG GAUGE
- ATVÖSFI-ERIC VIRE GAUGE
- WHAT'S TH'S GAUGE

The control panel on the right contains the following elements:

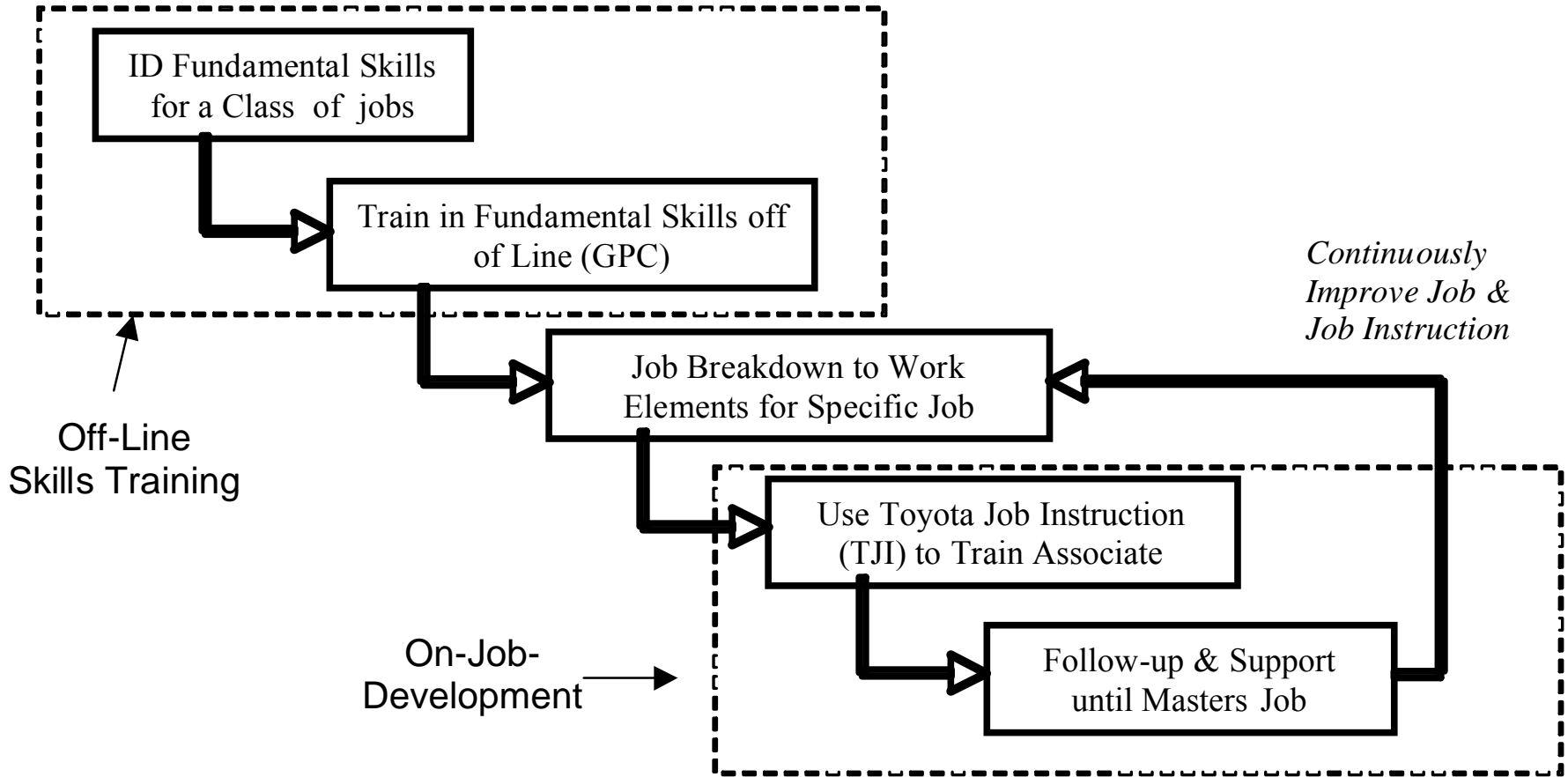
- Instructions: "Keep the pointers of all 5 gauges OUT OF THE RED ZONE. Click the button once to change the direction of a dial. Also, compare numbers and click SAME or DIFFERENT."
- Number display: 6325314
- Number display: 6325374
- Buttons: SAME, DIFFERENT
- Timer: 01:24

At the bottom of the simulation area, there are three buttons: INSTRUCTIONS, REFRESH, and NEXT. The browser's status bar at the bottom shows the date "Date" and the time "1:24:24".

Applicant doing simulated “welding” exercise in the Assessment Area



Step-by-Step Progression to Stable Job Performance



Example Video Manual



Example Simulated Jobs



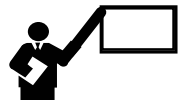
**Painting requires rhythm
and precision**



**Simulations and Image
Training make hidden
work visible**

THE OBJECTIVES OF STANDARDIZATION

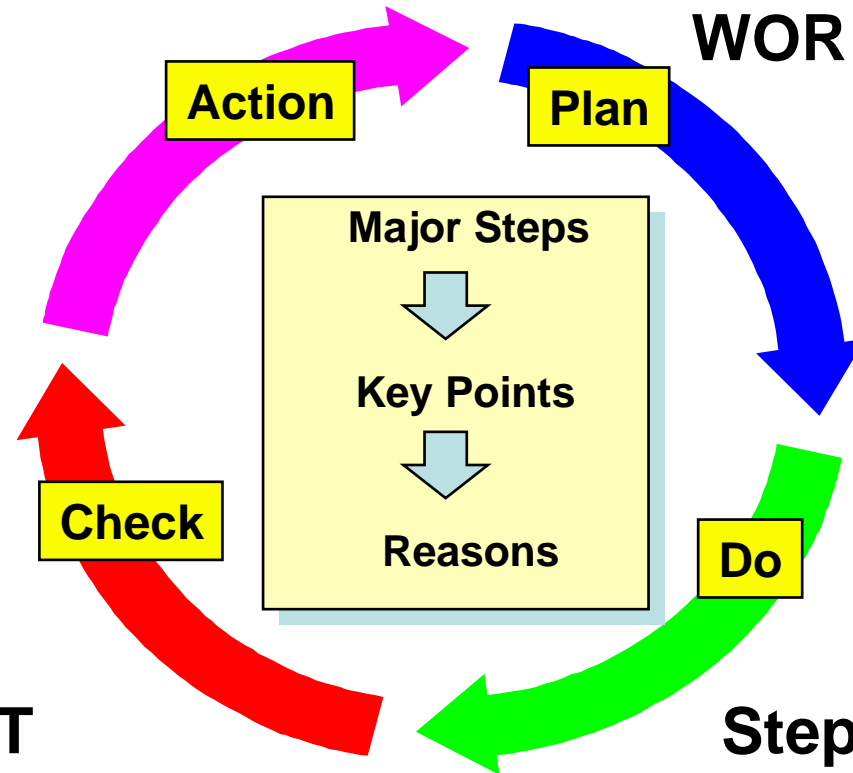
- *Reduce variability, increase predictability*
- *Enhance repeatability, confidence, consistency*
- *Clarify procedures*
- *Enhance communication*
- *Improve Problem Solving*
- *Set good discipline*
- *Develop awareness*
- *Establish “Problem Consciousness”*
- *Establish a basis for education and training*
- *Establish a baseline for performance*
- *Improve Quality, Safety, Delivery, Cost*
- *Provide the basis for Improvement*



The Four Steps of JIT

Step 4: FOLLOW UP

**Step 1: PREPARE
WORKER**

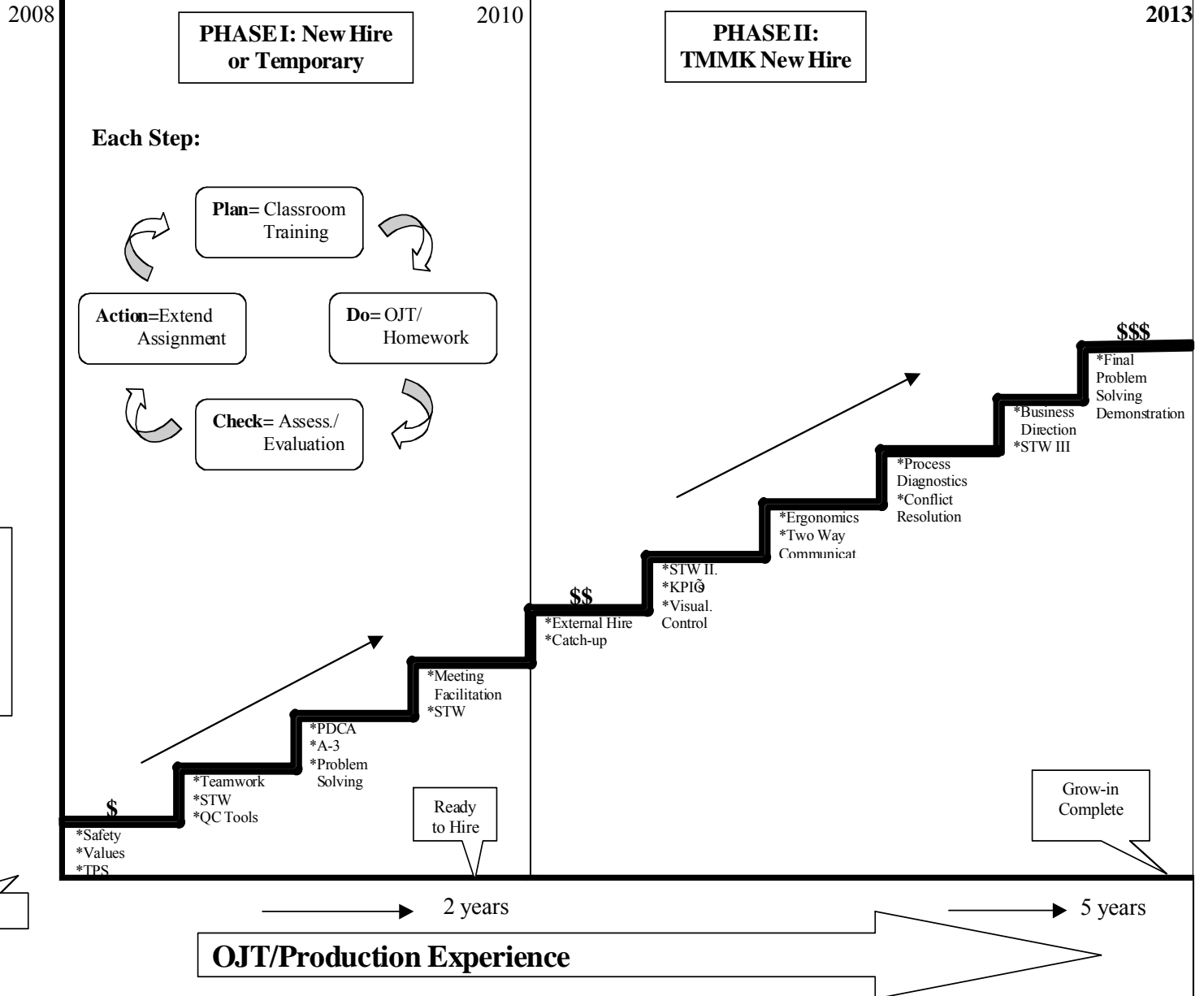


**Step 3: TRY OUT
PERFORMANCE**

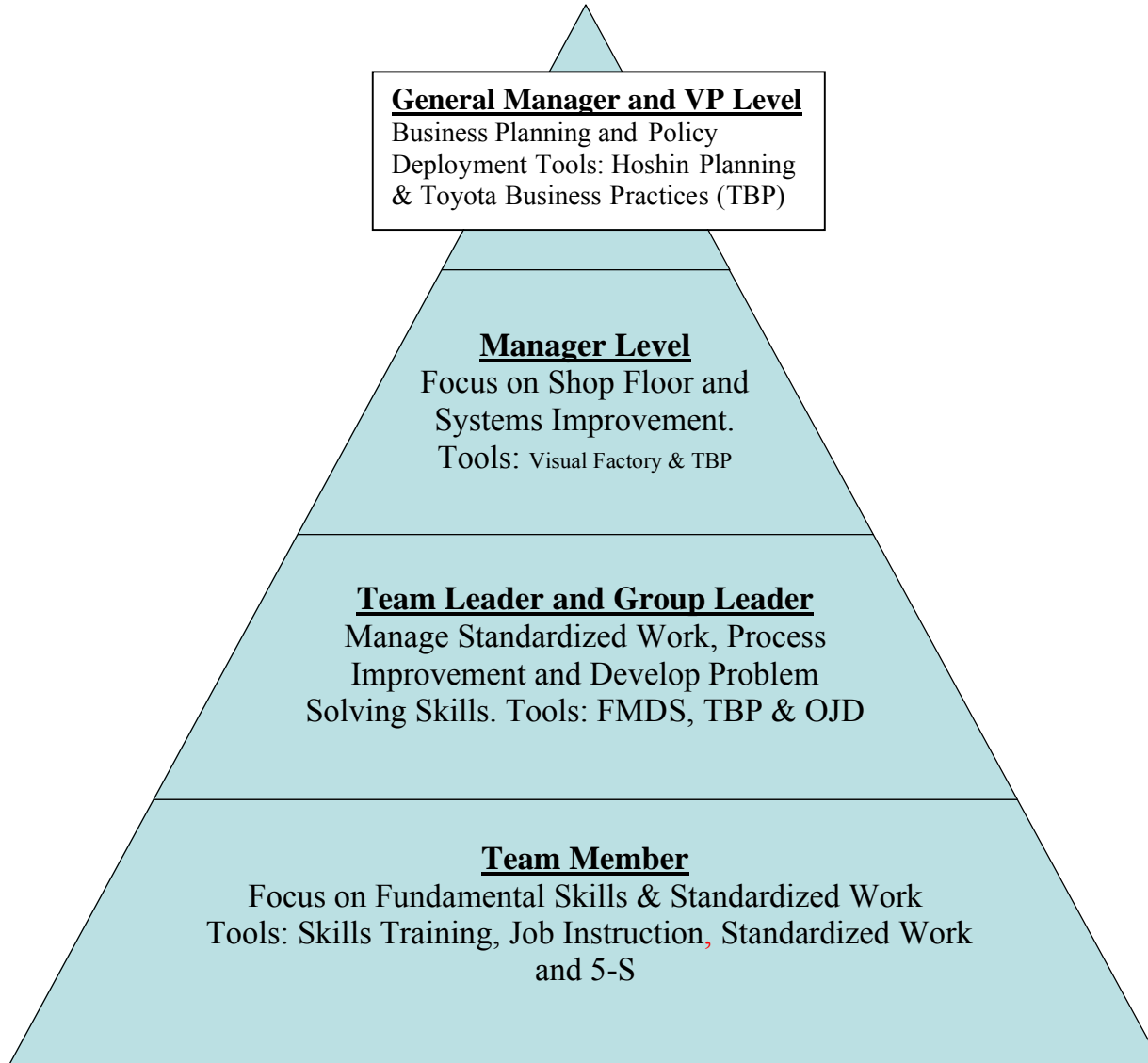
**Step 2: PRESENT
OPERATION**

Sample TMMK New Hire Training Program

Overview:



Toyota Training and Development



What is a problem in lean?

In Lean, we appreciate problems! They are considered opportunities for Kaizen. We need to aggressively uncover them.

Finding problems is the first step for problem solving. Otherwise there will be neither Kaizen ideas nor evolution in the future.

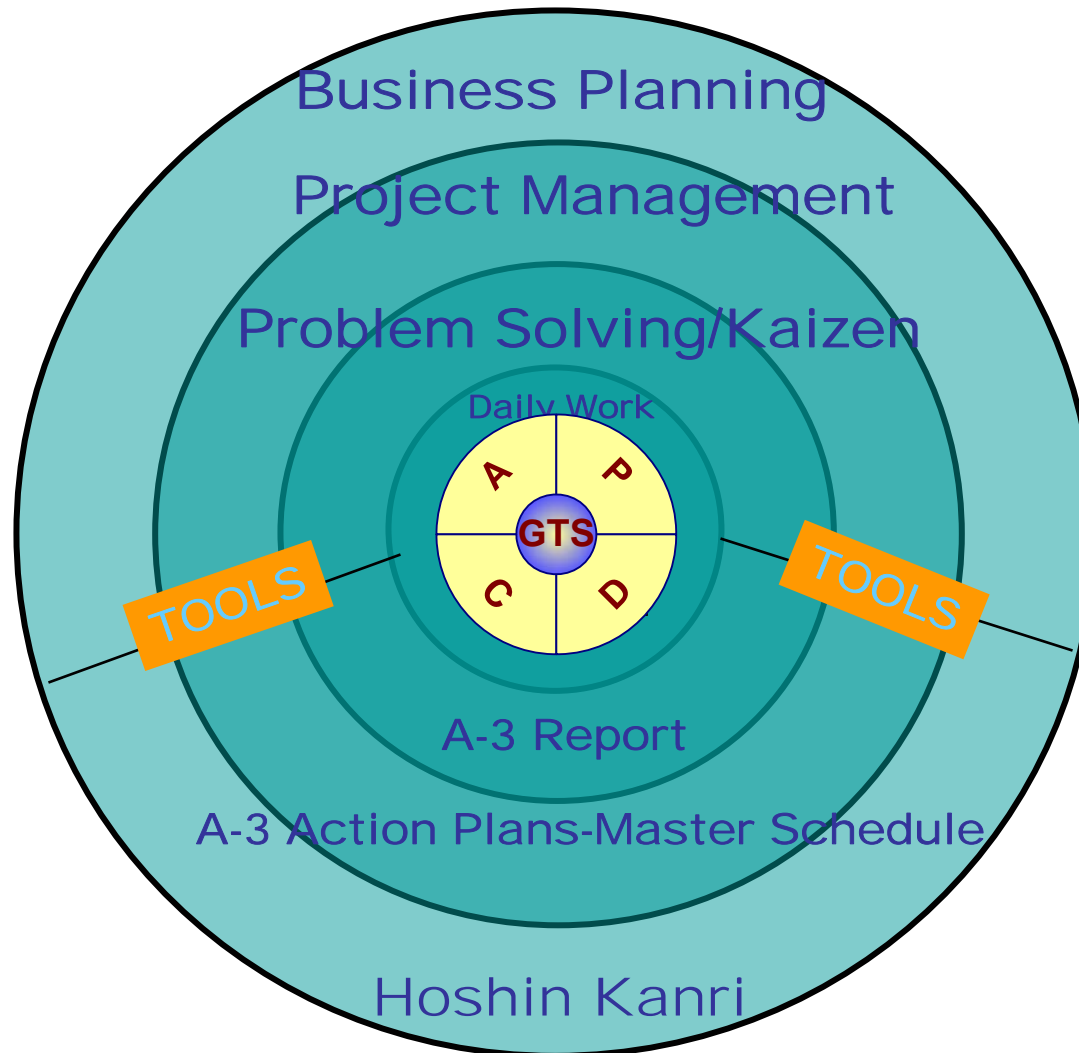
At times it is our tendency to ignore or mask problems, in hopes they will disappear. This action could lead to increasing costs and muda.

*"No one has more trouble
than the person who claims to have no trouble."
(Having no problems is the biggest problem of all.)
Taiichi Ohno*

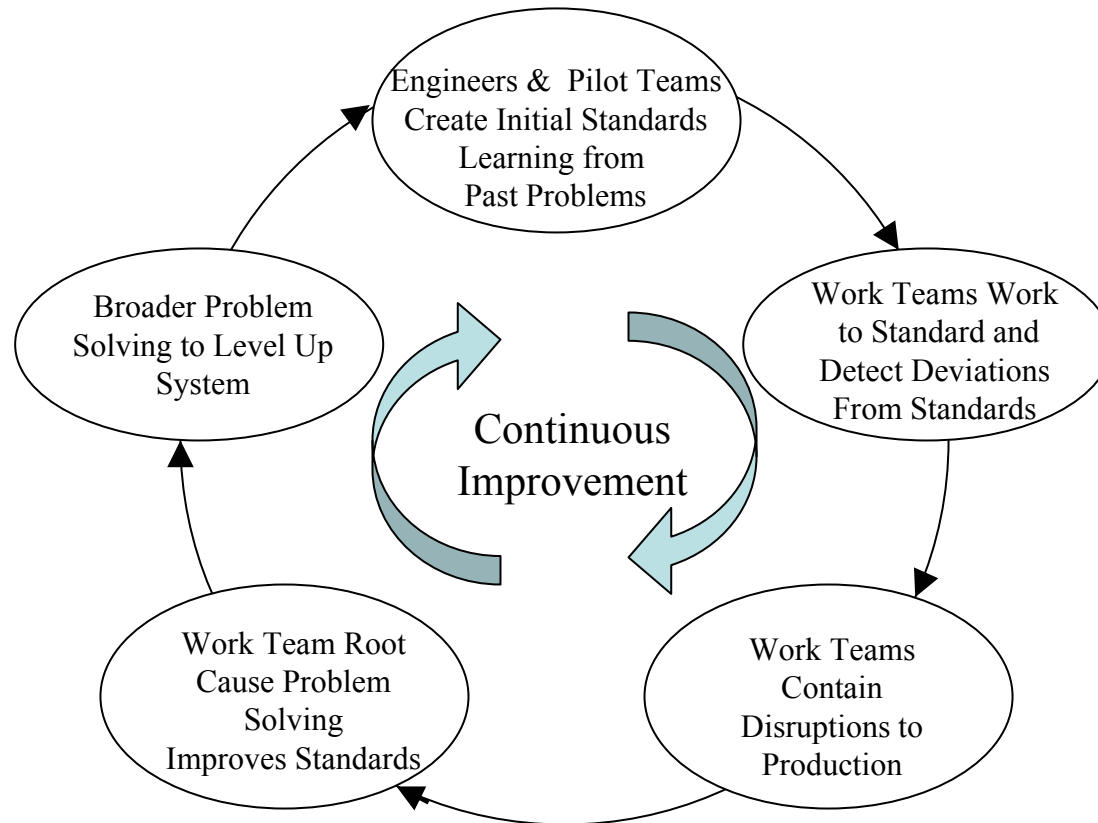
Western versus Toyota View of Problems

	Traditional Western	Toyota
What is a problem?	Result of someone messing up	Deviation from standard
What is the cause?	Individual (5 Whos)	System (5 Whys)
Who is responsible?	Person who makes mistake	Management
What should individual who makes mistake do?	Solve problem on own if possible	Call attention to problem for assistance and to avoid the problem in the future
Assumptions about People	They will not accept blame unless forced to	They will feel empowered if they get positive support for solving problems
Problem solving skill	Some have it, some don't	It can and must be taught

PDCA in our Daily Work



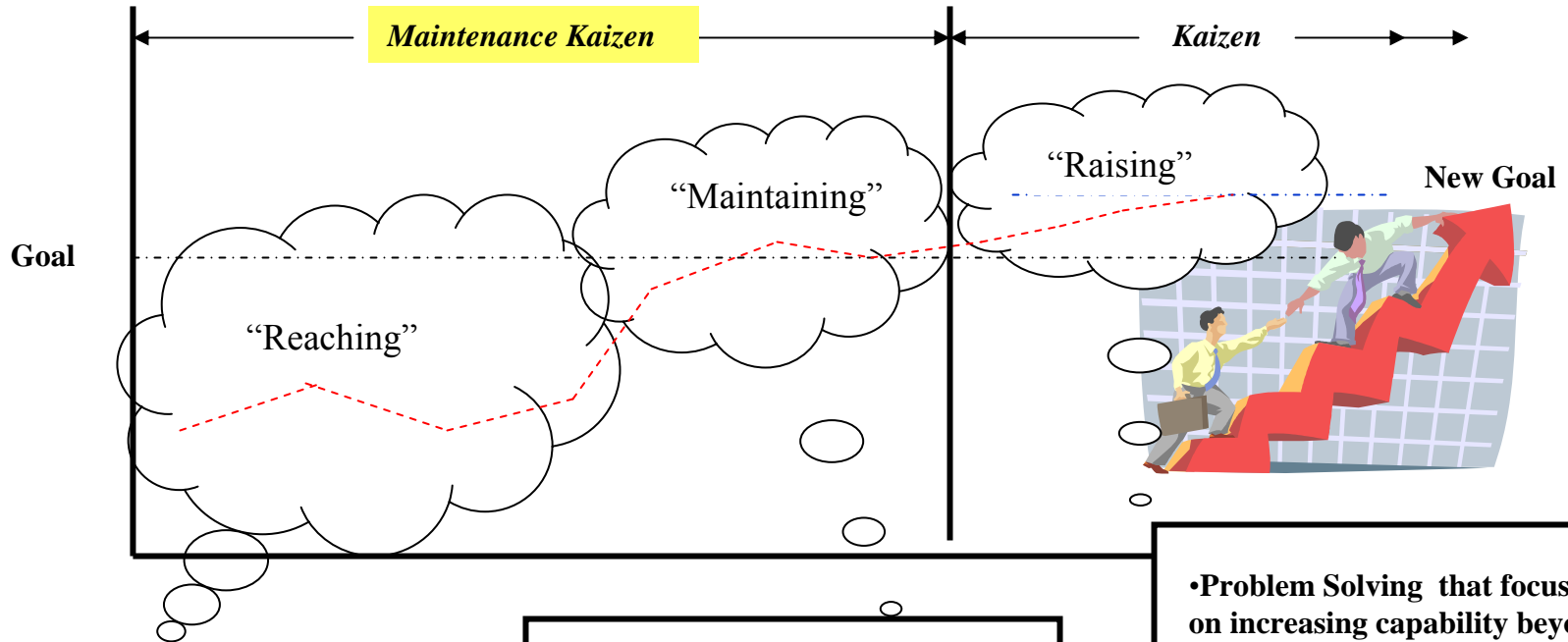
Toyota Continuous Improvement Culture



Underlying Assumption: Human and Technical Processes are interrelated and dynamic so initial designs are only a rough starting point which must be continuously improved by every team member.

Results: High levels of engagement at all levels in the actual process leads to continuous strengthening of the system and high congruence between expectations and reality.

Three Stages of Problem Solving



- **Problem Solving** that results in getting to the goal.
- Must establish standards and train to the standards. **Strict follow-up.**

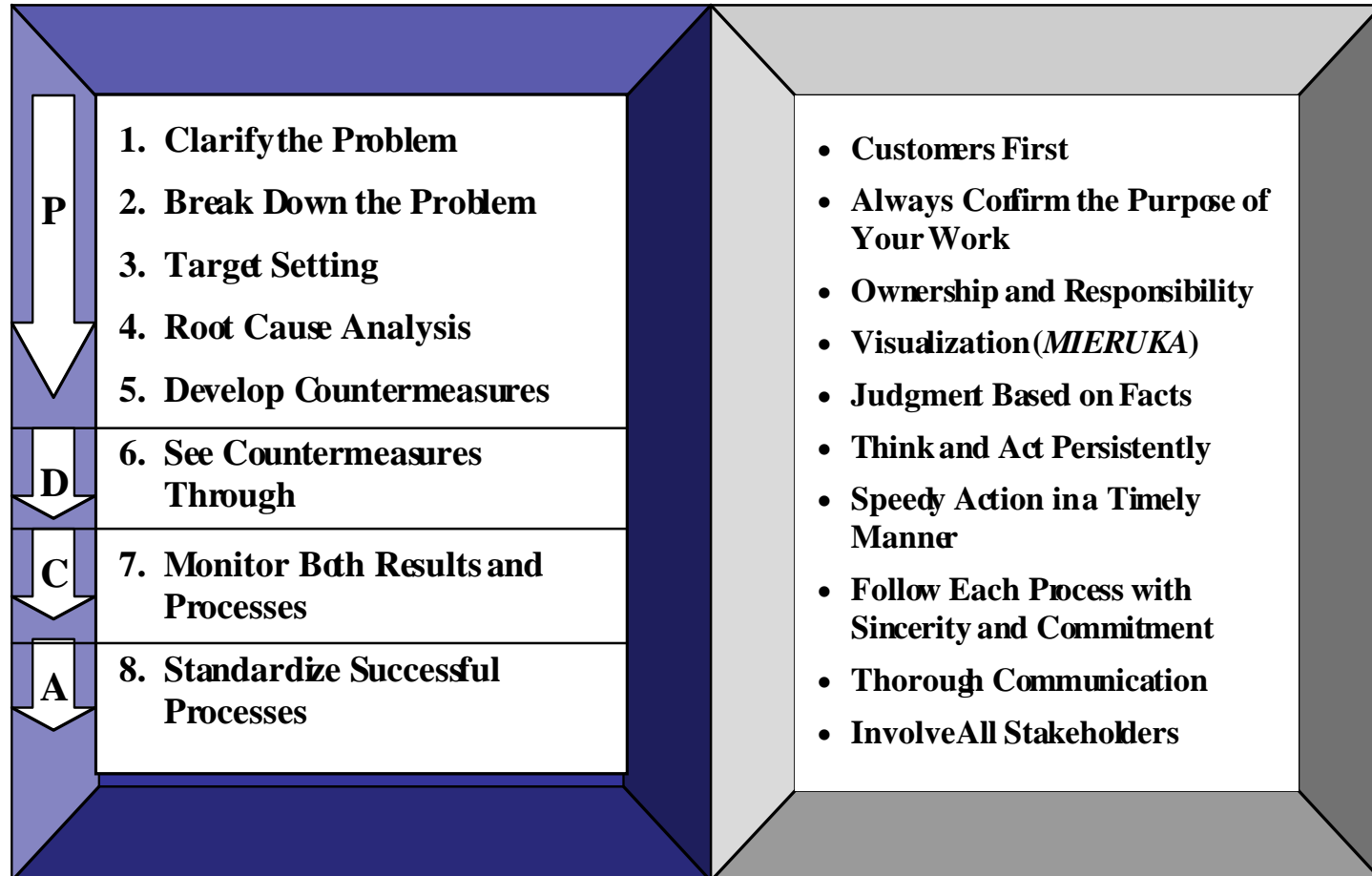
- **Problem Solving** that focuses on maintaining the goal.
- Establish system / procedures to maintain the standards

- **Problem Solving** that focuses on increasing capability beyond the goal or to achieve a new goal- "**Kaizen**".
- Make efforts to challenge and improve upon the standards.

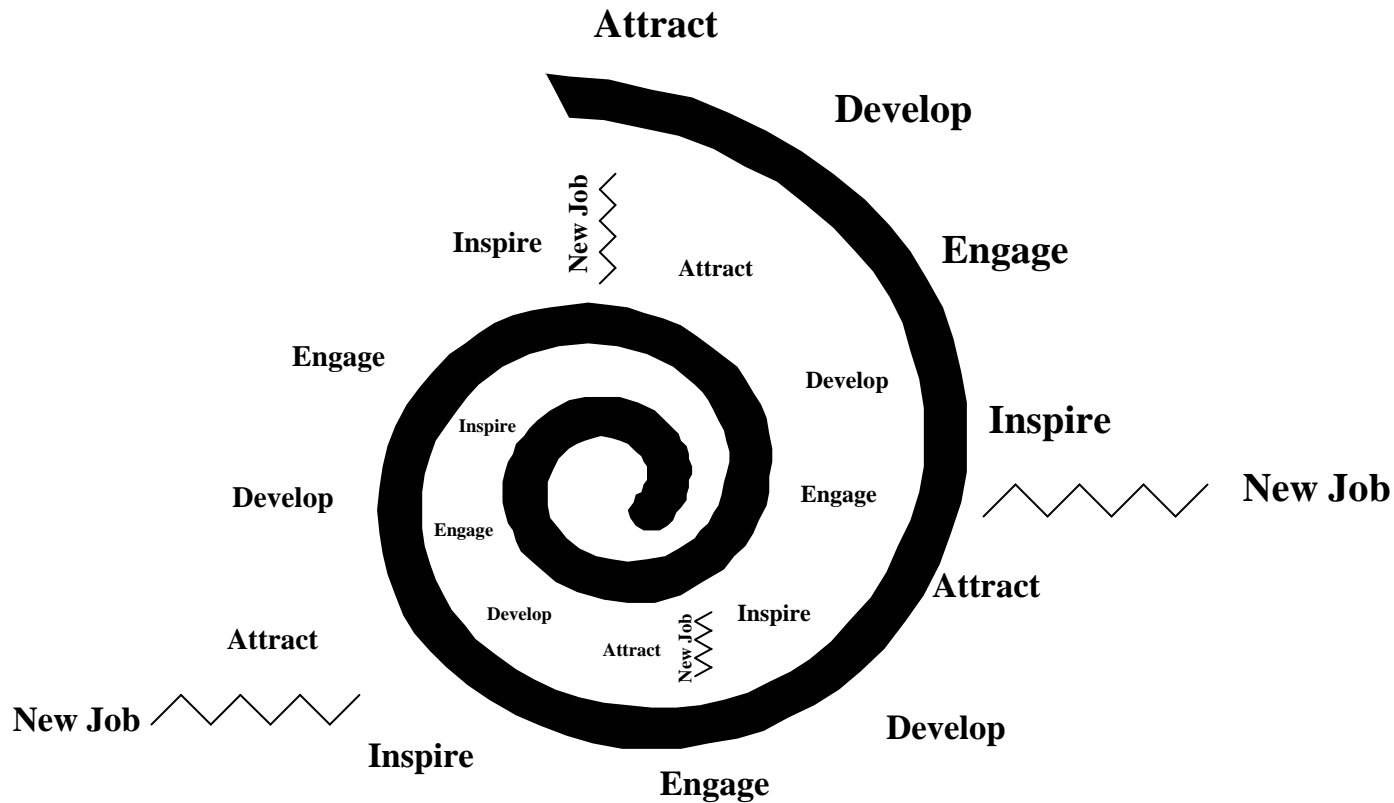
Toyota Business Practices (TBP)

Concrete Actions and Processes

Drive and Dedication



Deepening Cycle of Learning and Commitment



Family and Community Focus
Relationship with Members &
The Company

- **A Caring Company**
 - ✓ Flower Fund
 - ✓ Grief Committee
 - ✓ Birthday Cards

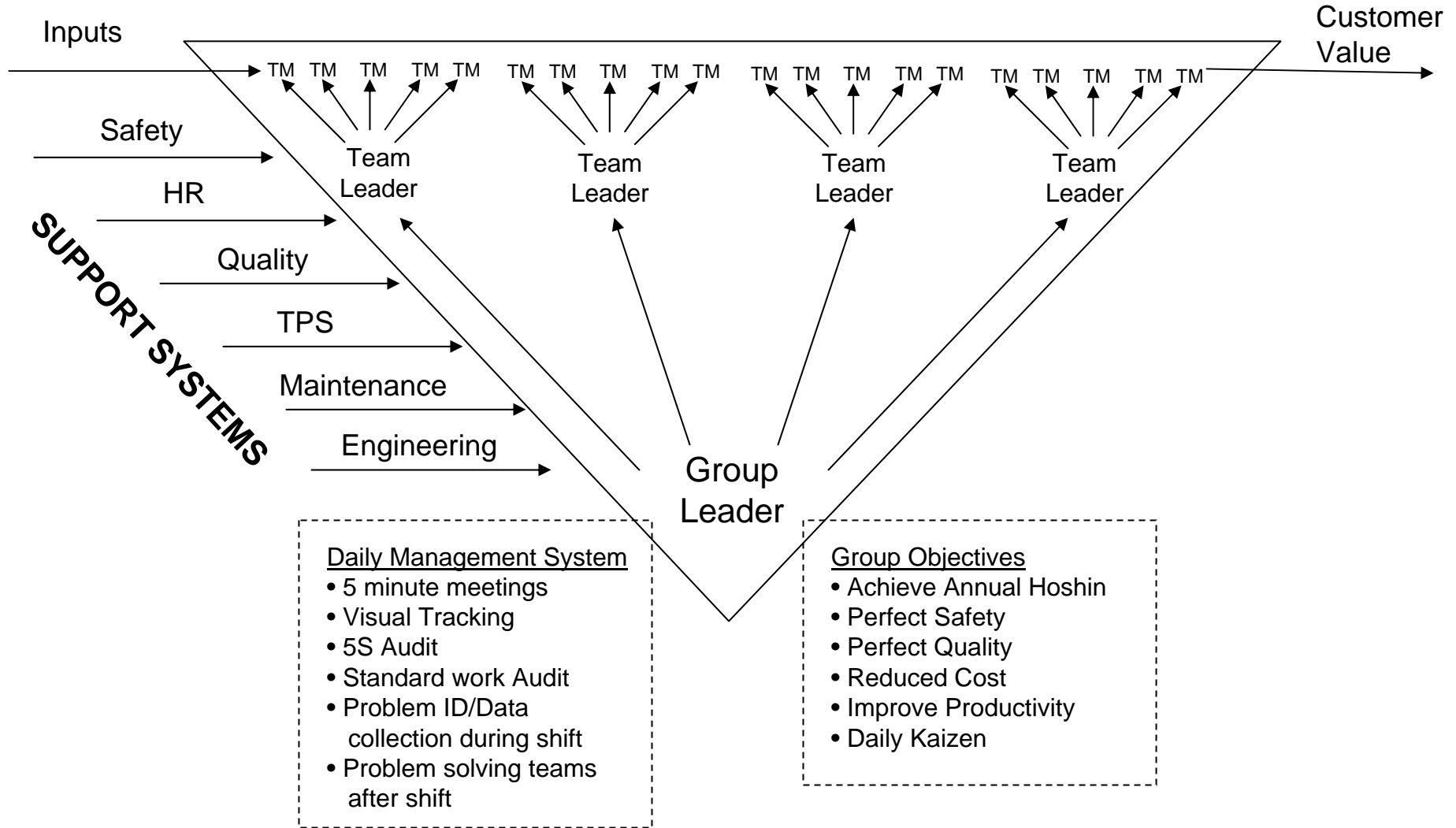
Family and Community Focus **Relationship with Members &** **The Company**

- **Eliminating Social Distinctions**
 - ✓ Same Dress Code (Uniforms)
 - ✓ Same Parking Lot
 - ✓ Same Restrooms
 - ✓ Same Lunch Room
 - ✓ Open Offices

Teamwork

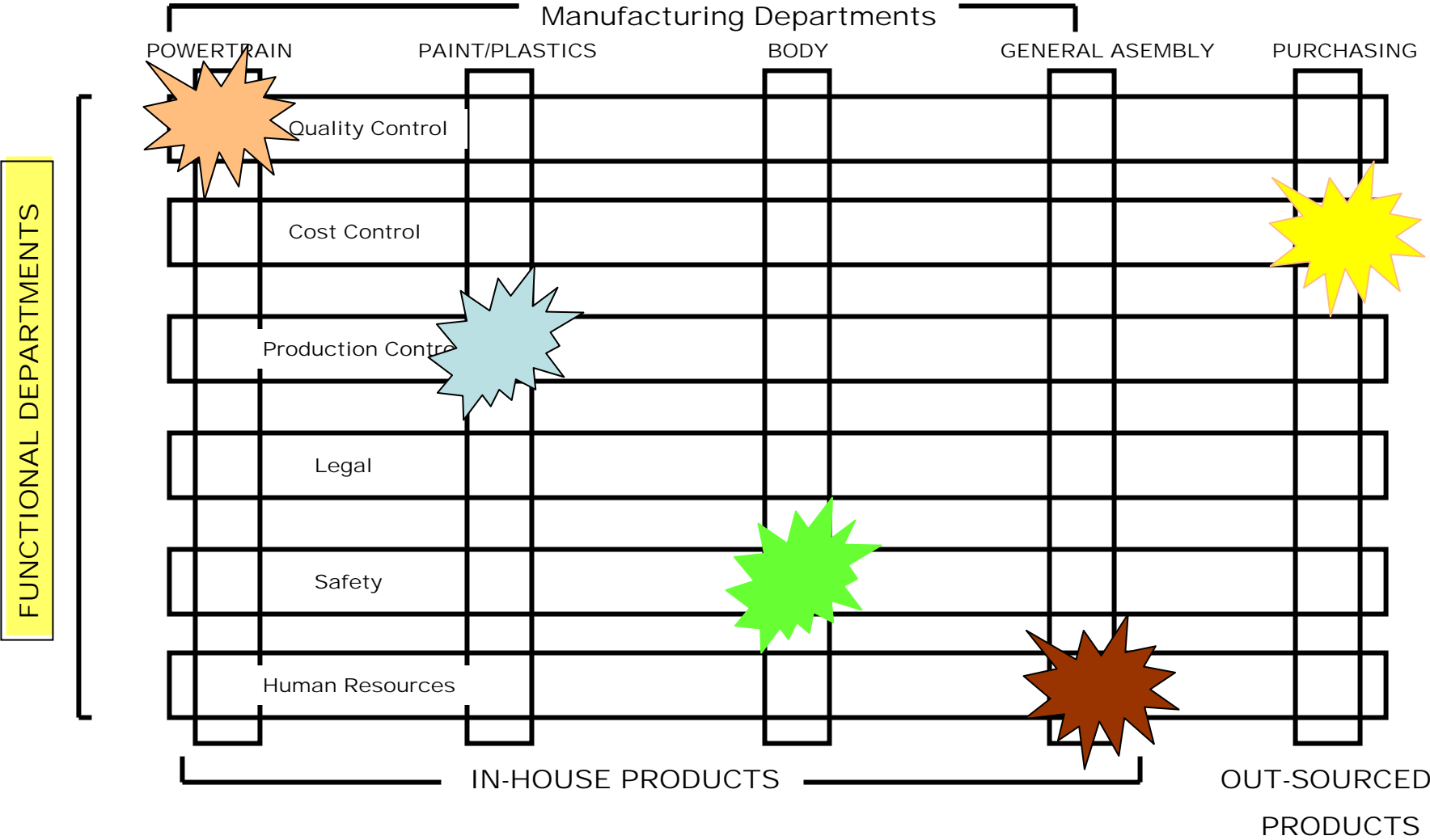
- Organizational Structure
- Span of Control
- Horizontal and Vertical Alignment

Teams and Work Groups are Basic Unit of Toyota Organization



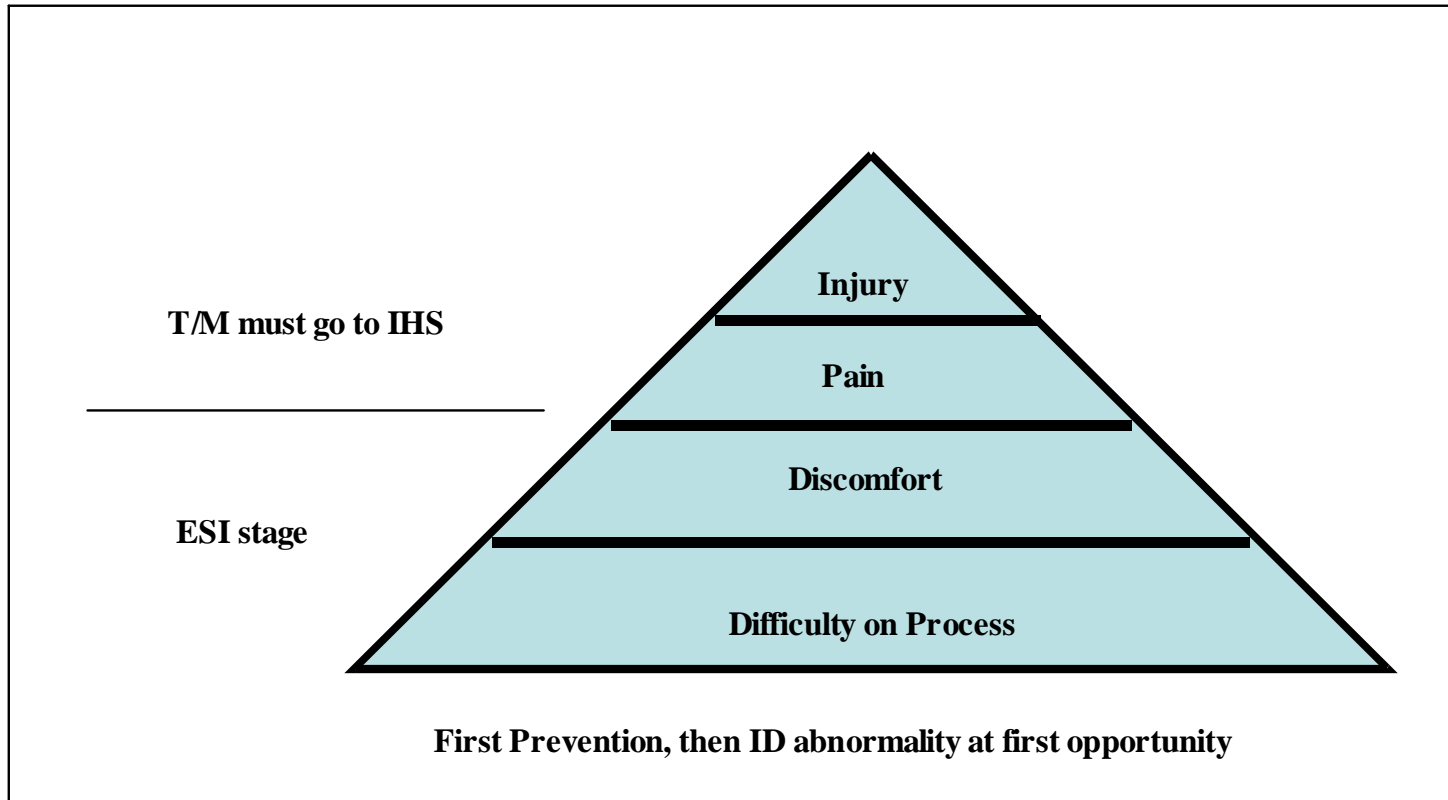
Matrix Organization

(PRODUCTS X FUNCTION)



ESI PROGRAM


Early Symptom Intervention





Example symptoms in hands and wrist

Symptoms	Postures/ movements	Forces/loads	Check for
Pins & needles/numbness to the medial aspect (little finger side) of the hand/finger	Prolonged flexion or extension of the wrist	Hammering with hand pressure around the base of the thumb or side of hand	Poor parts fit Tool not used or unavailable No fixtures to hold work steady e.g. pushing in fuses while holding box

Example Ergonomic Guideline for Push Force for Part Assembly

Item	Sketch	Criteria	Purpose	Design Application
Push with thumb		Pushing with thumb where surface area <math><30\text{mm}^2</math> (approx area of a finger tip). <u>If a digit cannot be supported, a limit of 1 kg push is recommended.</u>	The structure of the finger/thumb tips is not suitable for absorbing high contact stresses, which can result in injury to the nerves, tendons and ligaments	Where forces exceed guideline alternatives may be to reduce the required force or to improve the grip or surface area so greater force may be generated safely.

Should Not Exceed 	Ideal Value 	Typical Part/Example	Measurement Criteria
$\frac{3}{4}$ 3 kg	≤ 1 kgf	Single clip Grommet	Measured using a push/pull gauge or load cell. Measure should reflect as closely as possible production conditions such as time required to complete & line of force

ESI Operating Guideline

Summary of Key Steps	Timing	Lead	Support
T/m first report of discomfort/difficulty		T/M	
Initiate New Case and gather basic information	≤ 24 hours	G/L	T/M
Investigation	≤ 2 working days	G/L	ESI
Countermeasure Plan	≤ 5 working days	G/L	ESI
Countermeasure Implementation – Short term/temporary	≤ 10 working days	G/L	Sect Mgmt
Assessment by Rehab Consultant for all cases open >10 days completed by no later than Day 15*	>10 ≤ 15 working days	Rehab	ESI
Countermeasure Implementation	≤ 20 working days	G/L	Sect Mgmt
Countermeasure Confirmation	≤ 20 working days	T/M	ESI/G/L

* Up to the 10th day assessment by the Rehab Consultant is optional. All cases open greater than 10 days must be assessed before the 15th day.

Definitions

ESI Case – T/M who has reported signs of discomfort/difficulty as the result of cumulative stresses.

ESI Team – A t/m or t/m designated by a section management to support the ESI Program.

Rehab Consultant – A medical provider assigned to support the ESI Program.

Cumulative Injury – Injury or disorder arising over time from repeated exposure to physical stressors.

Acute Injury – Injury resulting from a single traumatic event.

(Source: Internal TMMK Document on Operating Procedures for ESI)

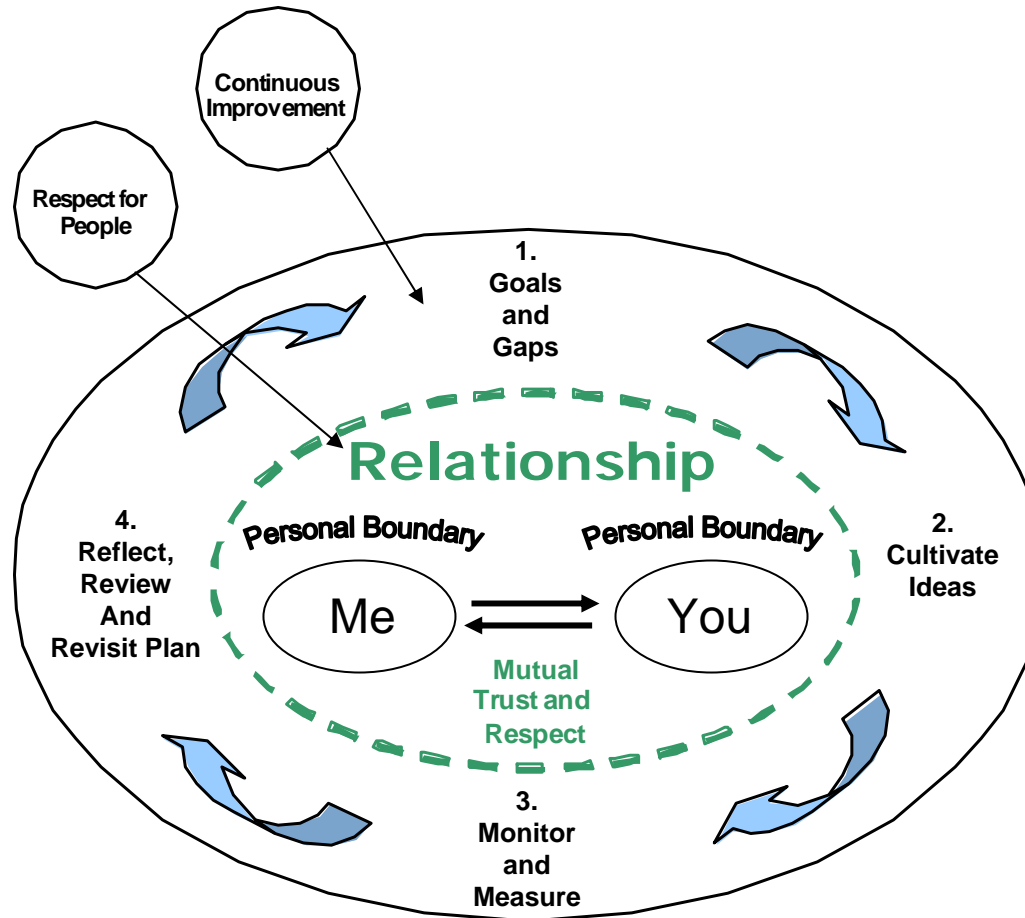
Two Way Communication

- Company Communicating to Members
- Members Communicating with the Company
- Members Communicating with each other

Types of Meetings and Standard Frequency and Length

Management Level	Meeting Type	Frequency/Length	Purpose
TL	KYK	Daily/5 minutes	Safety
GL	Huddle	Daily/5 minutes	KPI's & discussion
GL	Lunch Box	Monthly/1 hour	Identification and PDCA of group issues with assignment and tracking
Asst. Manager and Plant Manager	Town Hall	Monthly/1 hour	State of the Department and open discussion, with tracking the countermeasures of identified issues
Asst General Manager and General Manager	Lunch Box	Monthly/45 mins	A random selection of 5-6 team members at a time to build relationships and ID and resolve issues.
VP and President	Roundtable	Quarterly/90 minutes	A random selection of all team members, with 25-30 members at a time, meeting with the President for sharing of company information and open discussion to ID member issues

Model of Effective Two-Way Communication

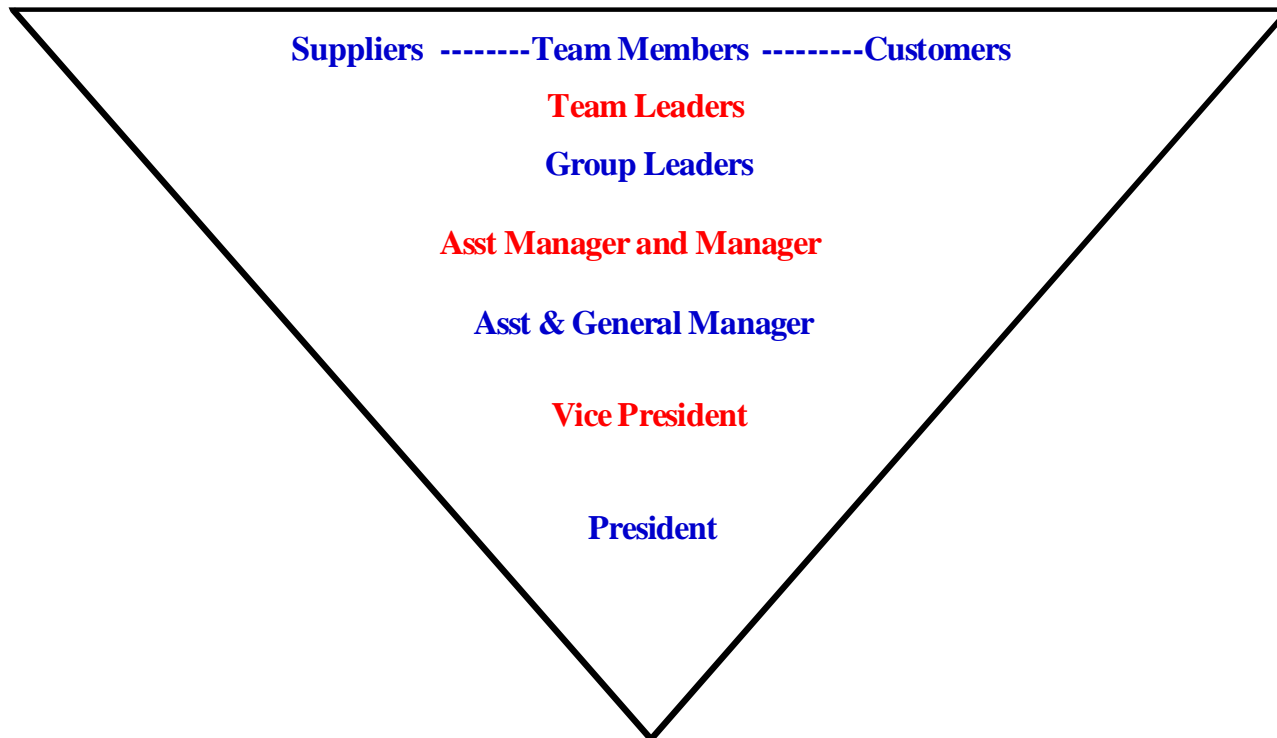


Toyota Way Leadership

- Servant Leadership
- System of Checks and Balances
- Values Report Card
- Peer Review Process

Servant Leadership

Leadership develops the capacity that allows team members to improve what needs to be done



Manpower/Philosophy

The purpose of Human Resources is to *embody* management, that respects people creating continuous prosperity, for the company.

Role of HR

Fair & Consistent Policies and Practices

- Ensure no favoritism
- Maintain work discipline
- Consistent and Fair discipline
- Controlled attendance
- Check Action – Trust Audit

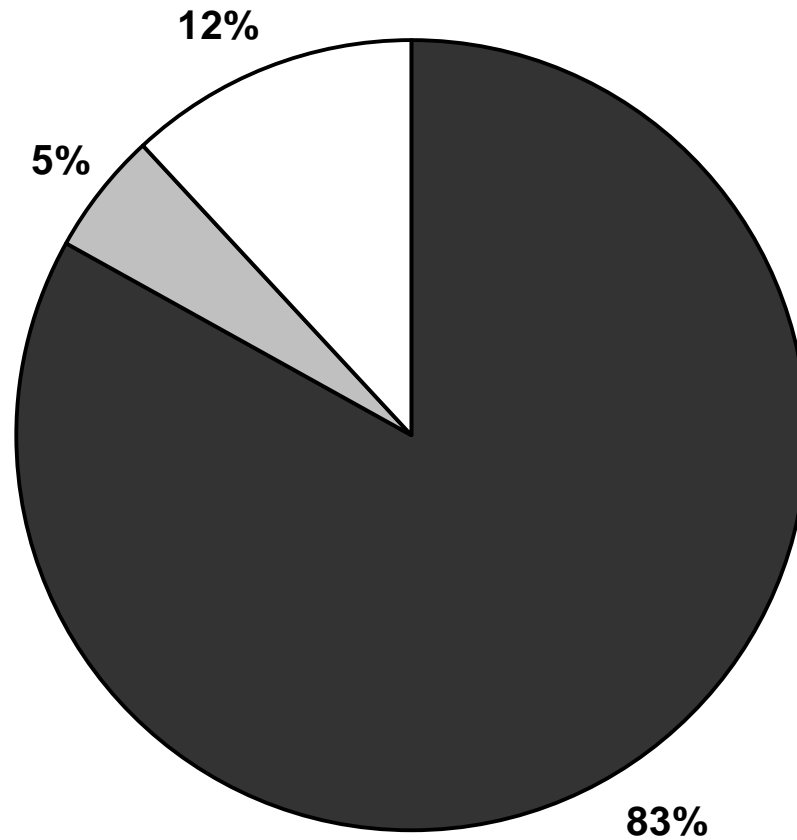
Recognition & Corrective Action

- Company and supervisor recognizing quality work
- Trust economy vs. Entitlement Economy
- Company recognizing sub standard work or unfair work practices and addressing it
- Members having the ability to recognize sub standard performance and unfair work practices and getting it addressed (checks and balances)

Wage & Benefit Philosophy

- Support employment security
- Stable pay program – avoid fluctuations
- Remain competitive within the industry
- Reflect overall company performance
- Promote & reward continuous improvement

Compensation Graph



■ Base □ Bonus □ Performance Award

Comparison between MBO and Hoshin Kanri

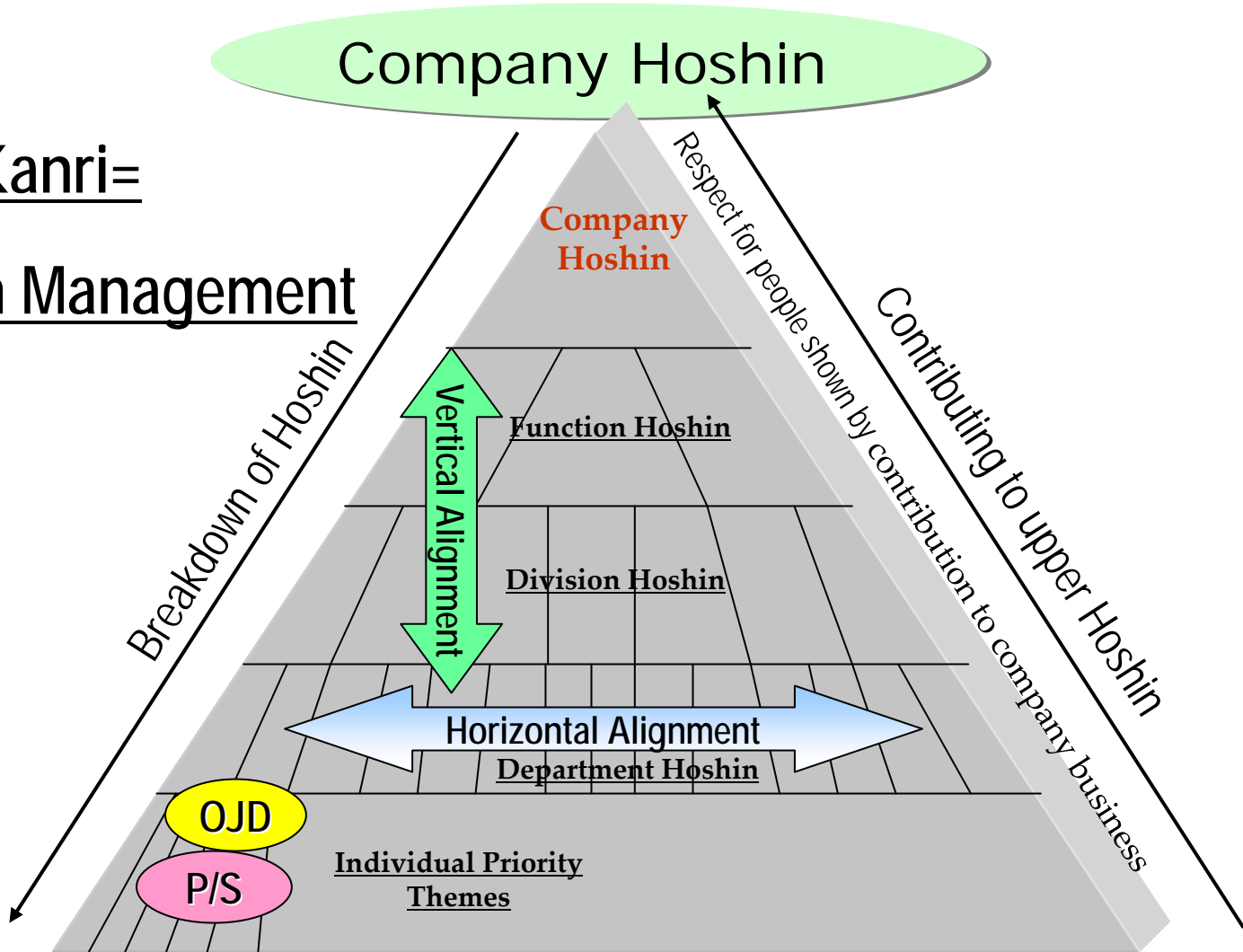
Management by Objectives	Hoshin Kanri
•Results Oriented Evaluation of Effort	•Concerned with both Results and Process of getting those Results
•Top down Communication	•Top down Direction Setting and Bottom-up flow of Information and means
•Directive	•Participative
•Primarily Authority Oriented	•Primarily Responsibility Oriented

Comparison between MBO and Hoshin Kanri (cont.)

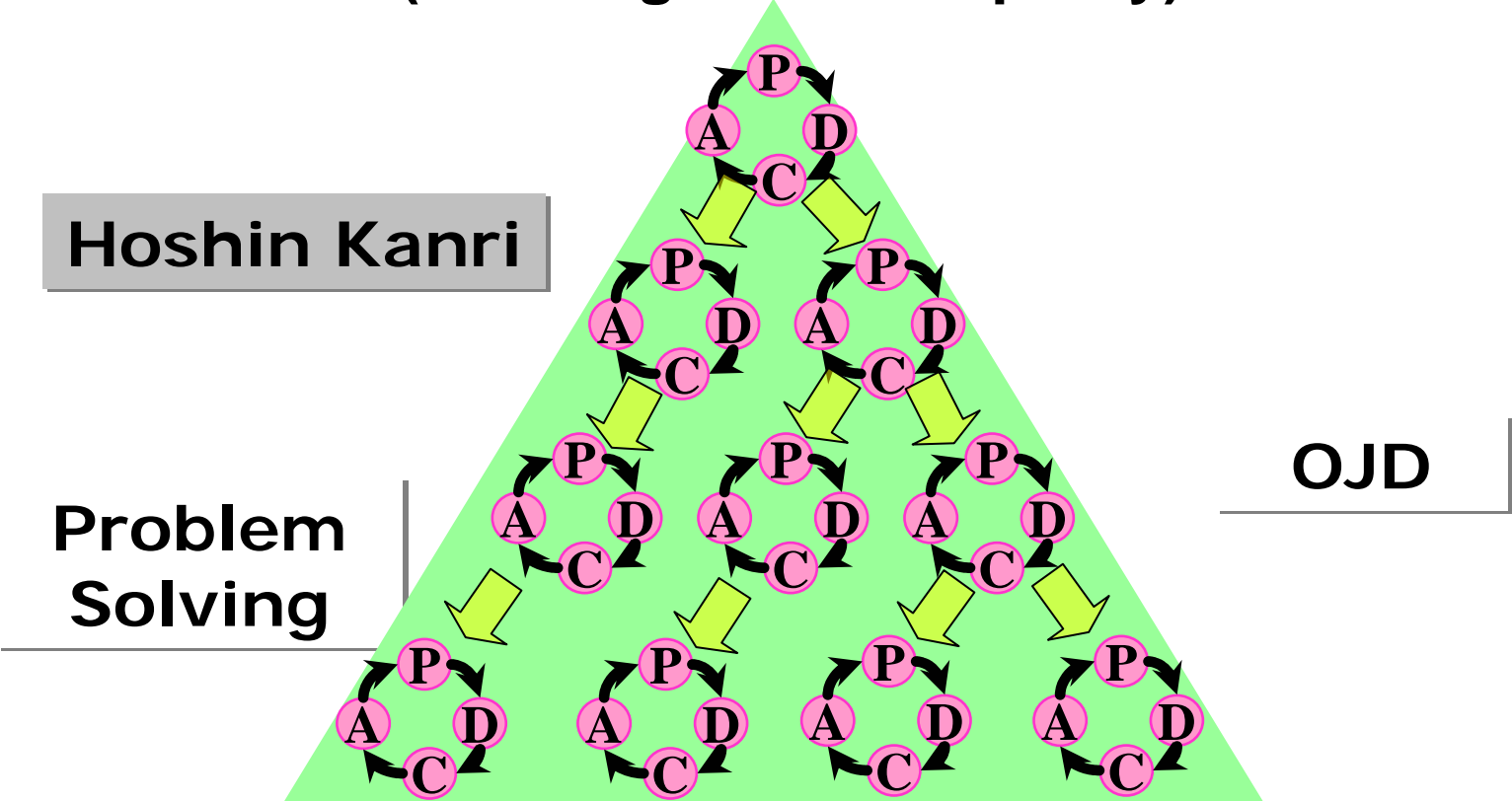
Management by Objectives	Hoshin Kanri
<ul style="list-style-type: none"> • Linear-A one shot Image of effort to reach the Goal (No feedback, no second chance, just start over from scratch each time) 	<ul style="list-style-type: none"> • Circular/spiral image of how to reach a Goal (Add feedback loop and chance for improvement)
<ul style="list-style-type: none"> • Focus primarily on Targets 	<ul style="list-style-type: none"> • Consider entire situation (Target and Means)
<ul style="list-style-type: none"> • Focus on Control of Resources, People, and Results 	<ul style="list-style-type: none"> • Focus on checking on Process, Control of Resources and Development of People to get Results
<ul style="list-style-type: none"> • Seeking Information relating to Outcomes when checking 	<ul style="list-style-type: none"> • Seeking Information relating to what has happened when checking

Hoshin Kanri

Hoshin Kanri=
Direction Management



Company Hoshin (for Long-term Prosperity)



The Origin of Toyota's Strength

Visual Management System

- **A comprehensive system that aligns floor management and development activities to achieve company targets by:**
 - **Aligning Hoshin shop floor activities with Hoshin goals/objectives**
 - **Visually demonstrating:**
 - ◆ The management condition of the shop.
 - ◆ Alignment of daily activities to Hoshin targets.
 - **Promoting two-way communication, creating the environment to:**
 - ◆ Address abnormal conditions through targeted problem solving.
 - ◆ Determine needed support and resources.
 - ◆ Develop team members.

VMS Components

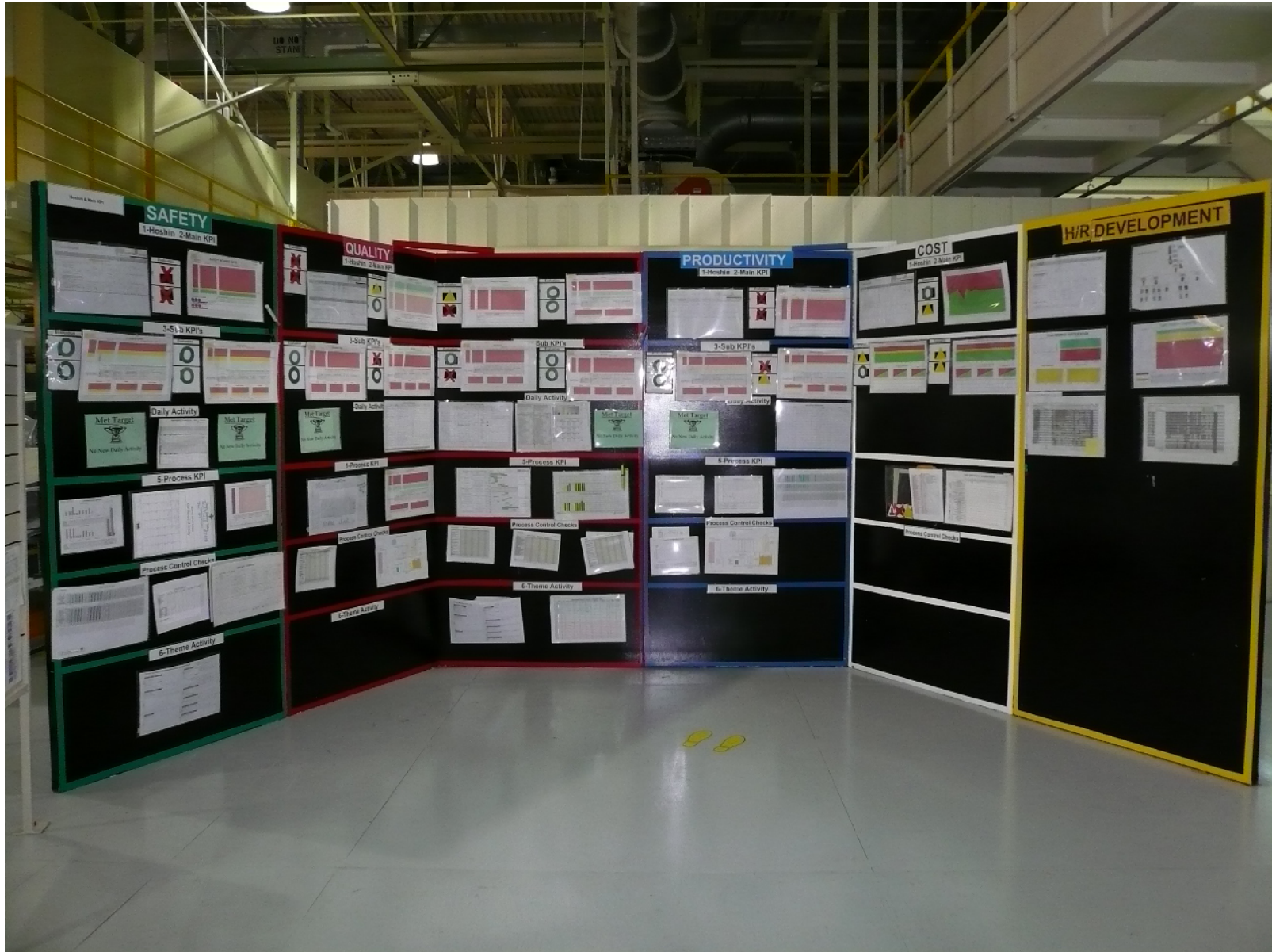
• Effective Shop Floor Management

- Focuses on building an effective, visual management system to help the group achieve Hoshin targets.

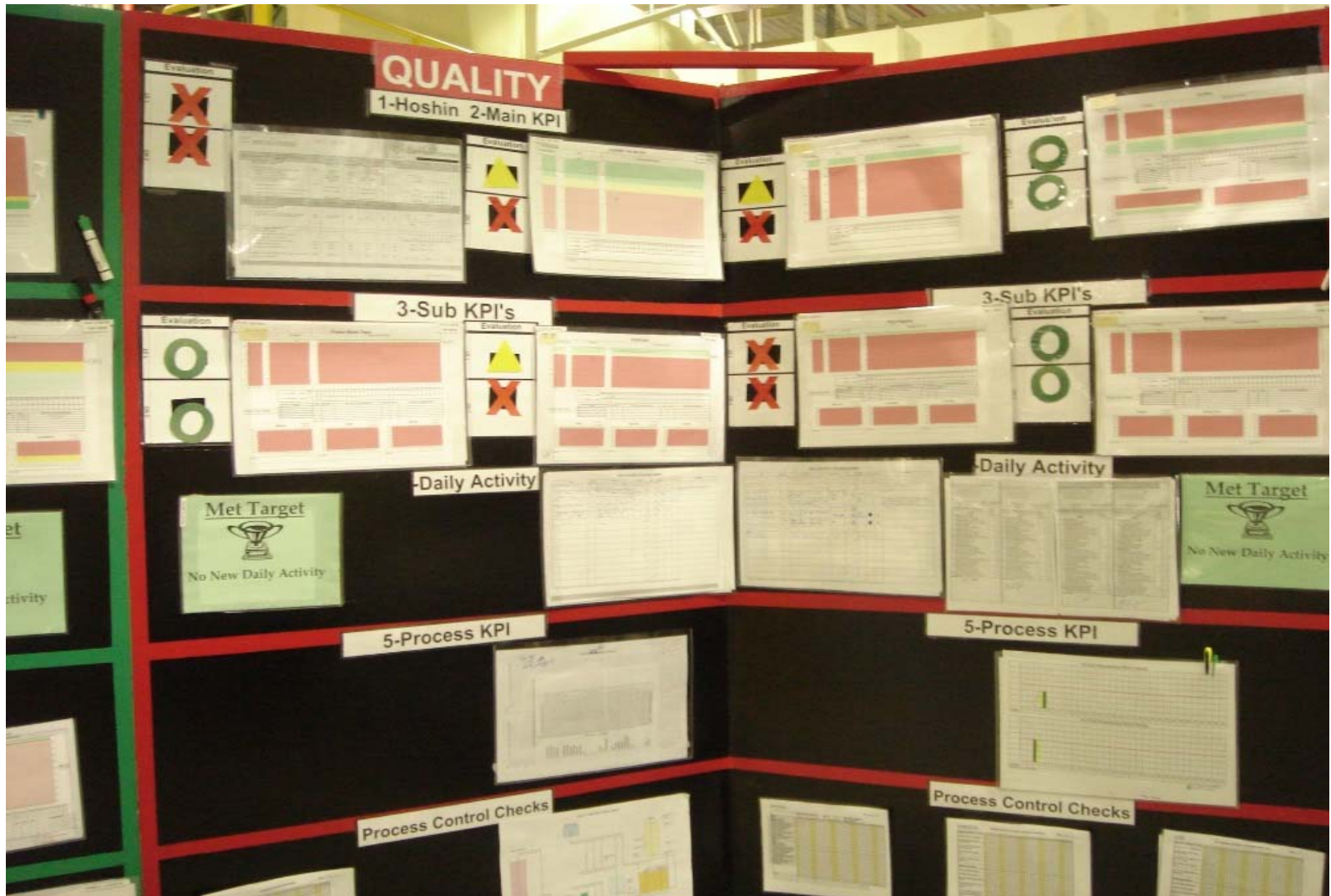
• Team Member Skill Development

- Activities and tools to help develop TMs capabilities to perform STW and achieve daily production goals with safety and quality.

Team Board for Floor Management Development System



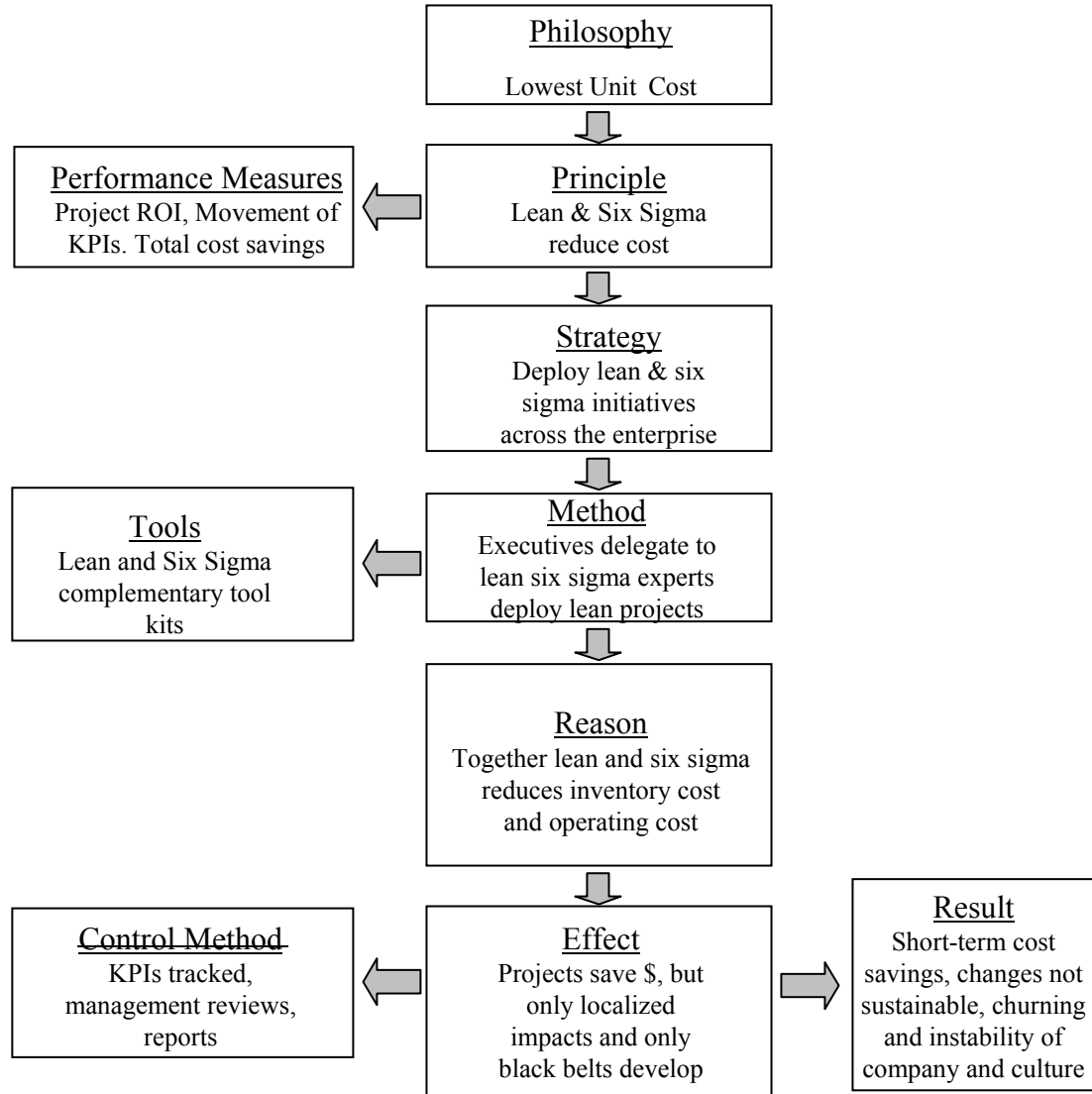
Quality Section of Team Board for Floor Management Development System



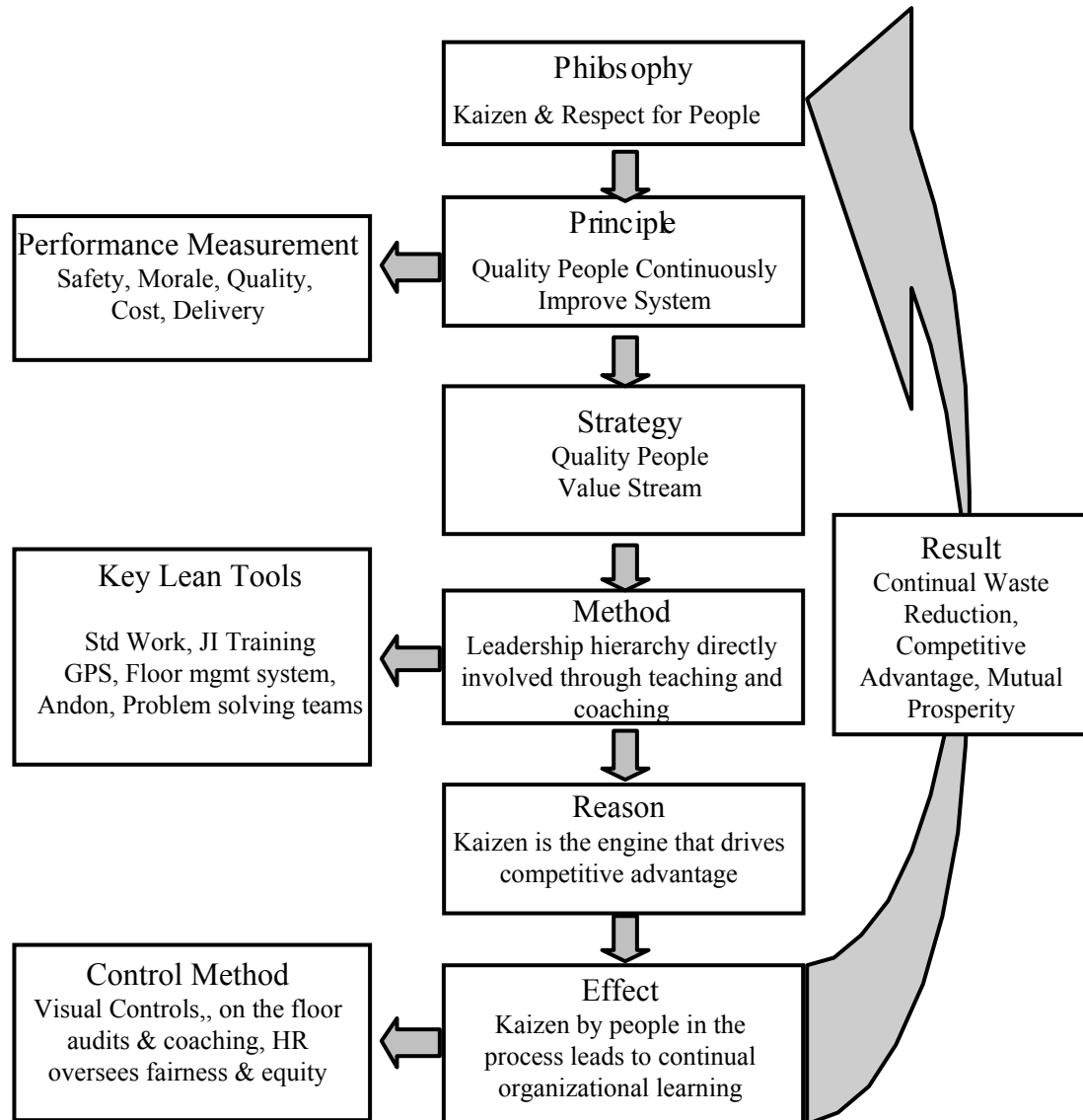
Building the human system model in your organization

What	How
Use Lean Projects as a Vehicle for Developing People and Culture	Sensei role is to challenge, support and teach by challenging student, not doing the projects. Projects must be viewed as teaching tool, not simply ROI.
Build deep models, while spreading tools broadly	Must commit to certain processes or mini-value streams to go deep building a system and developing people, while applying tools more broadly.
Senior leaders take a serious look at themselves and their motives	Senior leaders must change before they can expect others to change--requires reflection, offsites, leadership coaching.
Develop Daily Management Systems starting in the models then spreading	A minimum of stability and TPS tools must be in place before the supervisors can be coached to the point of establishing a daily management system.
Change supporting HR systems at first to eliminate barriers to development	Start with very targeted changes in HR system such as job instruction training, adding broader metrics and eliminating those obviously conflicting with lean systems, eliminating obvious disincentives in reward system, and adding symbolic awards like awards and ceremonies.
As the lean effort and organization matures add in hoshin at a high level	Hoshin requires sound plans at the top that are challenging, yet achievable and the problem solving capability to achieve the stretch targets. This requires a degree of maturity.
As the organization matures add supporting HR structures	Structural changes such as career planning, pay and benefit systems, systems for fair treatment, active HR roles in all promotions and pay increases should be carefully considered and gradually adapted to the local condition.
Continue reflecting, planning, and improving	The goal is to make this a natural part of the culture.

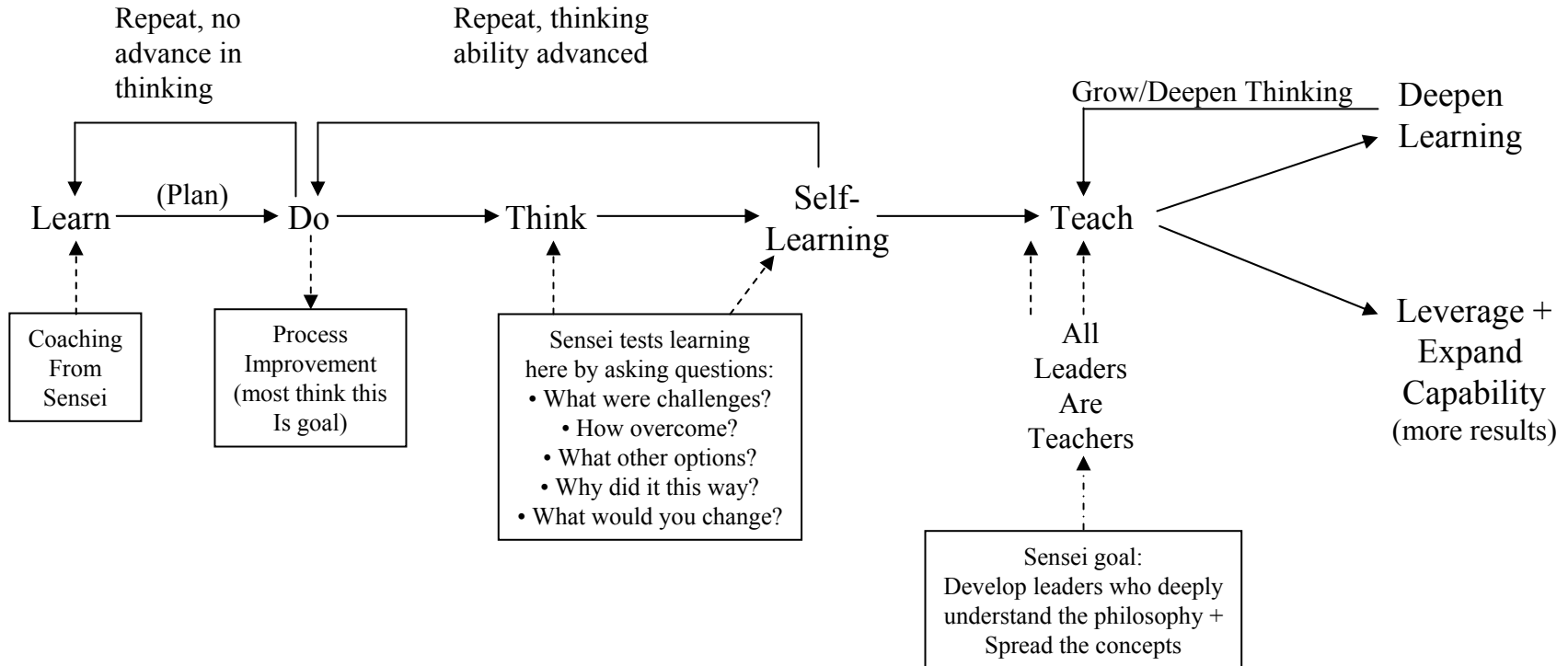
Traditional Company Approach to Lean Six Sigma Deployment



Toyota Approach to Developing the Toyota Way



Toyota Method to Grow People and Improve Process



Source: Developed by David Meier

Balance Deep Implementation
and Broad Exposure in Lean Transformation

Spread Lean Across the Organization



**Develop Depth of
Capability Within
the Organization**

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***Lean Culture
Enterprises***