

QMD Managing for Quality Webinar Series

Session #5

Understanding Japanese-Style Strategy Management



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Quality Management
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How will “Managing for Quality” change?

- Session 1 Making Quality-Based Executive Decisions
- Session 2 Leading Transformation – Managing Improvement
- Session 3 Designing Quality as an Inclusive Business System
- Session 4 Conducting Executive Inquiry and Formulating Strategy
- Session 5 Understanding Japanese-Style Strategy Management**
- Session 6 Learning to Lead Change – Triple-Loop Experience
- Session 7 Engineering Management – Designing Future Firms
- Session 8 Understanding the Financial Component of Quality
- Session 9 Reflecting on Strategic Implications of Attractive Quality
- Session 10 Discovering Profound Insights of Operational Excellence
- Session 11 Defining Quality to Apply to Everyone, Everywhere
- Session 12 Managing for Quality Amidst Digital Turbulence

Abstract of Session #5:

This webinar describes the establishment and maturing of the Japanese-style strategy management system from its inception during the mid-1960s when Joseph M. Juran challenged Japanese leaders with his idea of “*managerial breakthrough*” and Peter F. Drucker also challenged them to “*manage for results and self control*” to the response led by Toyota, Bridgestone, and Komatsu as they developed the initial cornerstones of a company-wide quality control system.

Over the next five decades research committees lead by a few recognized academic thought leaders and populated by respected industry members forged an incrementally maturing approach to plan for assuring quality of products and services for customers.

This webinar describes the journey and presents a culmination of lessons learned as reported in the Japanese Society for Quality Control’s most recently released standards for daily management, performance improvement, and management by policy.

Learning Objectives for Session #5:

Learning Objective 1: Understand Japanese quality as a scientific process

Investigate the meaning of scientific inquiry and learn how the practice of quality and expansion of methods and tools used by quality professionals relate to scientific inquiry and engineering applications.

Learning Objective 2: Discover the contributions of Japanese academics

Discover the wealth of methods and knowledge that was developed with a dedicated scientific pursuit of knowledge by a Japanese community jointly populated by academics and practitioners.

Learning Objective 3: Learn how Japan's "System of Systems" operates

Learn how the Japanese kanri management system extends from the level of strategy to the level of the individual who is pursuing their daily work.

Understanding Japanese-Style Quality Management

Part 1:

**Scientific Method is a Constant Pursuit
to Challenge the Status Quo of
“Settled Knowledge” and Discover the
“Unknown-Unknowns” in our World**

How does scientific discovery operate?

Science advances knowledge from “educated guesses” to theory by a structured discovery process that is evidence based. It advances using improvements in measurement systems. **Scientific observation is the method for acquiring knowledge to predict the way things will operate in the future: a probabilistic estimate based on observations:**

A process of *systematic observation* is applied by *rigorous skepticism* to formulate a question or hypothesis about the phenomena that they observed. Tests and experiments demonstrate validity of conjectures; and are conducted under known, controlled conditions; conclusions are drawn to predict future behavior of the phenomena.

Scientists are inherently skeptical of the current knowledge of theories and facts and *constantly seek to develop new means to observe and measure phenomena and challenge the status quo of theory. Criticism is the backbone of science and a peer review process, or independent replication of experimental results, is its lifeblood.*

How does science discover new ideas?

The rise of the concept of Quality 4.0 requires that we begin to treat Quality as a science of controlling and improving productive systems.

Productive systems contain four elements:

- **Technological systems (hardware and software)**
- **Human systems (competence and skills)**
- **Management systems (planning and coordination)**
- **Cultural values that establish guiding principles for working**

Productive system performance is never “settled” as it is always open to expansion by increasing profound knowledge by which it operates.

Profound knowledge is increased by investigating in four dimensions:

- **Applying a systems perspective toward building knowledge**
- **Managing the knowledge domain**
- **Using statistics and predictive analytics to gain knowledge**
- **Developing understanding of the human dimension of work**



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Japan treated learning about how quality works as a process of scientific discovery:

Nihon (日本): Japanese

Teki (的): Style

Hinshitsu (前品質): Quality

Kanri (管理): Management system

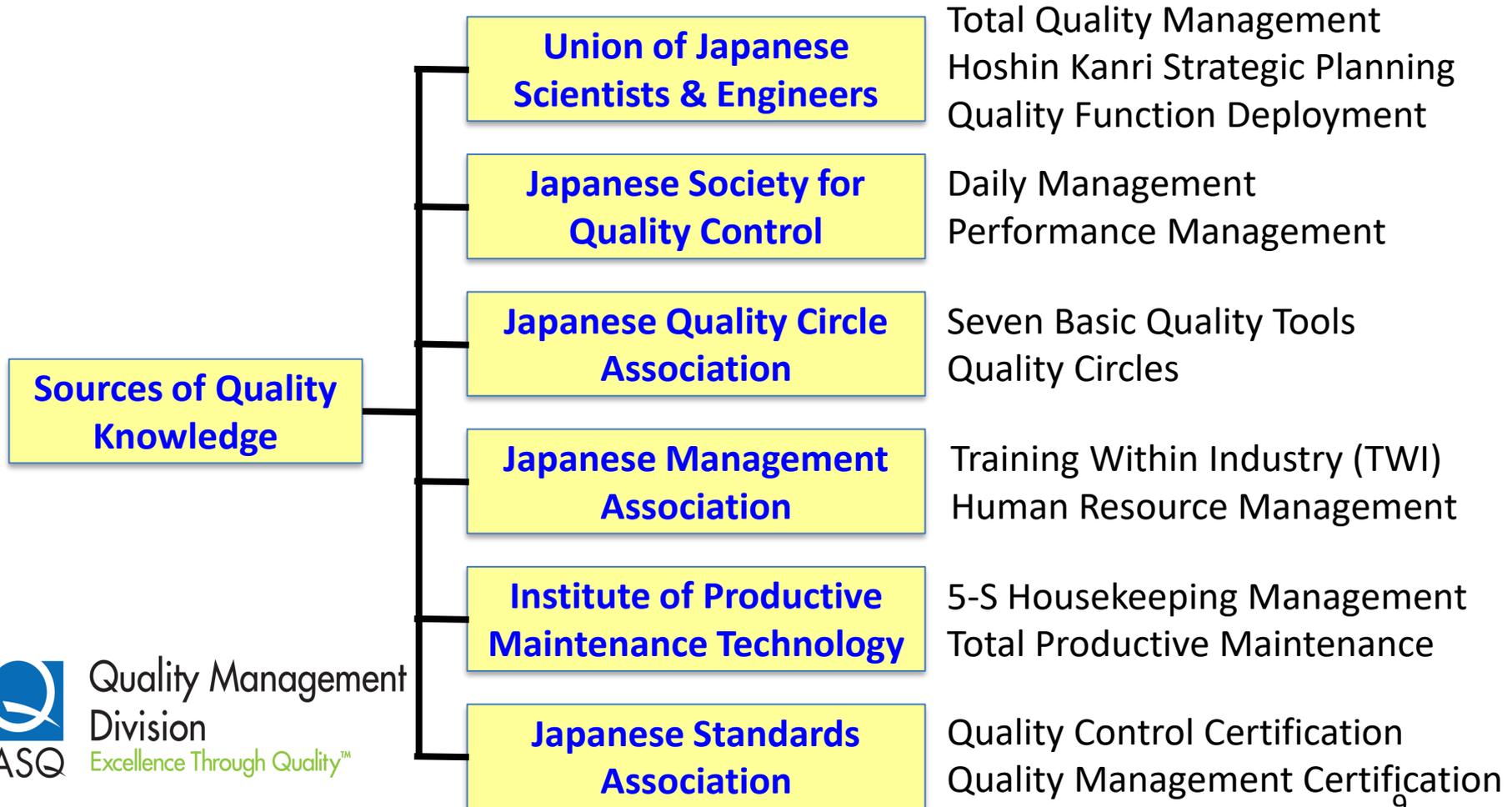
Dantotsu (断トツ): “Best of the best”

Dojo (道場): “Place of immersive learning”

Nihon-teki hinshitsu kanri: Dantotsu Dojo

Japanese-style quality management: Schools of Excellence

Japanese quality-related methods originate from a number of independent professional organizations:



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Understanding Japanese-Style Quality Management

Part 2:

Contributions of Japanese Quality Thought Leaders (1954-1996)

Scientific perspective to studying quality:

“Do not seek to follow in the footsteps of the old masters, seek instead what these masters sought.”

~ Matsu Basho (1644-1694)

JUSE Quality Research Committee Contributions in English

Develop appreciation for Japan's contribution:



- Since 1948, JUSE (the Union of Japanese Scientists and Engineers) has conducted a systematic scientific inquiry that resulted in the development of quality as a science. JUSE has continually built on prior advances to establish progress in learning about and understanding all aspects of the process for managing quality in organizations.
- This quality methodology has been practiced with a great deal of success throughout all Asia and globally.
- The Japanese quality way (hinshitsu kanri) is the basis for all systematic approaches to managing for quality.

PDCA was coined by the JUSE Research Group:

In 1948 JUSE established a Quality Control Research Group to determine how to introduce quality to Japan and Shigeru Mizuno appointed its chair.

In 1949 the name was changed to QC Research Group. This Group developed the first quality education and training programs offered by JUSE to develop quality professionals. The group also served as note-takers, translators, and expositors for quality lectures by W. Edwards Deming and Joseph M. Juran. Their interpretation of these lectures structured the unique Japanese QC way initially called Total Quality Control (TQC) and then restyled as Company-wide Quality Control (CWQC) and later Total Quality Management (TQM).

The Group's leader, Shigeru Mizuno, is credited with simplifying "Shewhart's Cycle" or the "Deming Wheel" into the PDCA Control Cycle. This followed the style of Frederick Taylor as developed by the Japanese Efficiency Society who described the process of control as "Plan-Do-See." Naming the PDCA Control Cycle the "Deming Cycle" honored the stimulating contribution of Deming's lectures. PDCA became the core of all Japanese improvement technologies.

Four decades challenging “settled knowledge” with respect to the quality sciences:

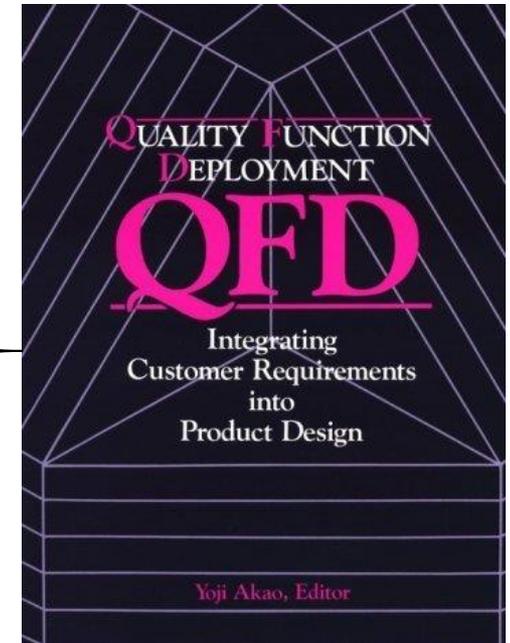
The JUSE Research Committee approach:

A model for development of scientifically-oriented quality content:

- The focus area of the research should be established based on the perceived need for clarification of methodology and application.
- The committee leader is a well-recognized academic responsible for development of the theory that defines the subject matter of the inquiry area.
- Members of the research committee are selected from among those quality leaders from leading companies who have established a recognized excellent practice in the focus area of inquiry.
- Summary report includes a comprehensive explanation of the theory with case studies to illustrate the variety of practice in companies.

People-focused quality: Voice of the Customer

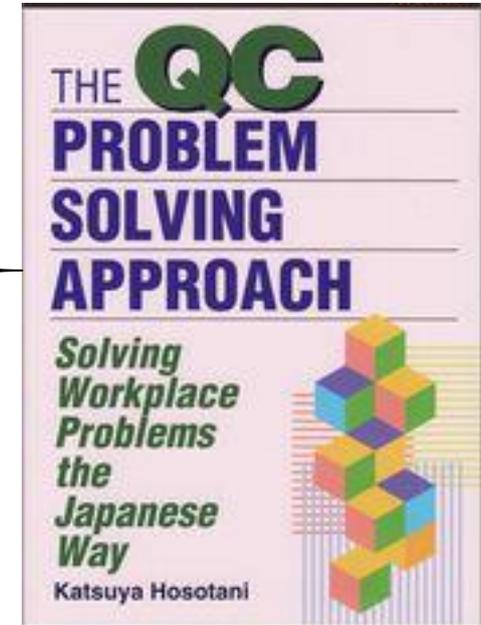
Research Committee	Quality Function Deployment
Chairman	Yoji Akao
Sponsor	Japanese Standards Association, JUSE
Membership	Academia: 3 Industry: 9
Dates	1978-1988
Major Findings	Voice of the customer and house of quality matrices
English Printing	Productivity Press, 1990



1990

People-focused Quality: Team problem-solving

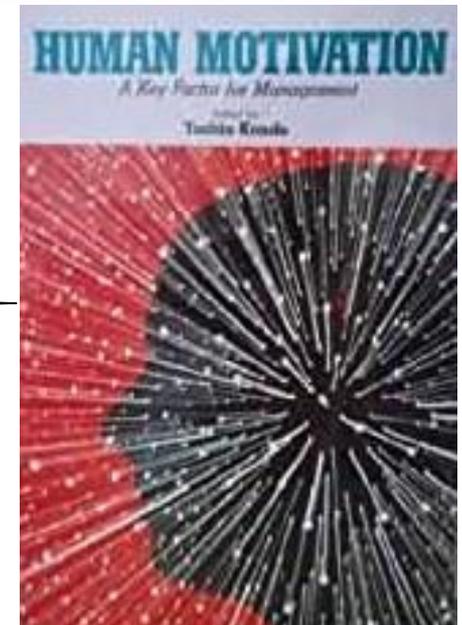
Research Committee	Problem Solving
Chairman	Katsuya Hosotani
Sponsor	JUSE
Membership	Academia: 3 Industry: 7
Dates	1984-1985
Major Findings	Fourteen step process for TQC problem solving
English Printing	Productivity Press, 1991



1991

People-focused quality: Human motivation

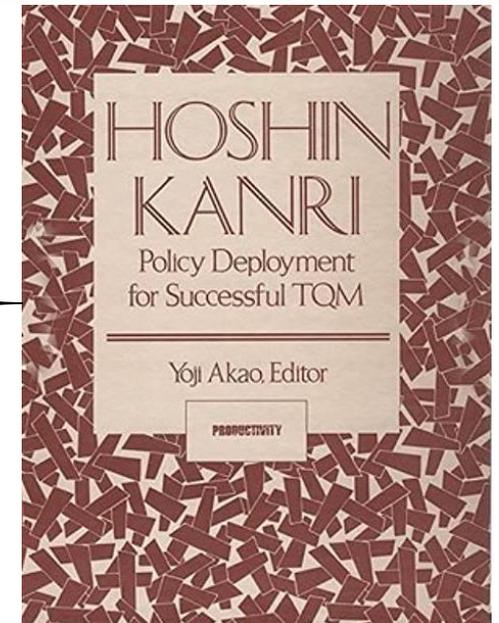
Research Committee	Human Motivation
Chairman	Yoshio Kondo
Sponsor	Japanese Standards Association
Membership	Academia: 2 Industry: 7
Dates	1984-1988
Major Findings	New Japanese theory of human motivation
English Printing	3A Corporation Press, 1991



1991

People-focused quality: Participative strategy

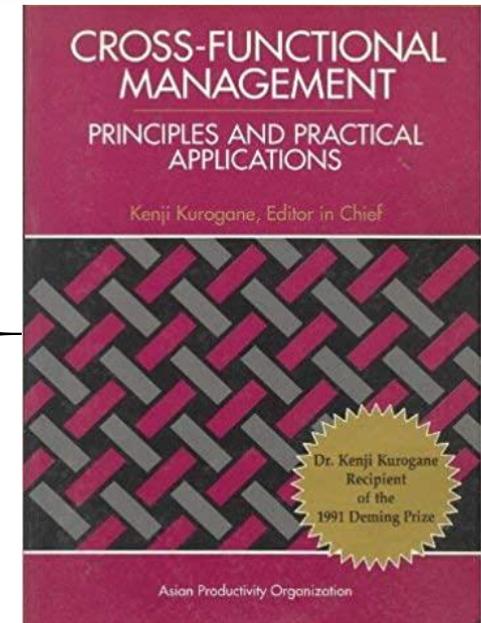
Research Committee	Hoshin Kanri
Chairman	Yoji Akao
Sponsor	Japanese Standards Association
Membership	Academia: 3 Industry: 5
Dates	1984-1988
Major Findings	Standard approach to application of hoshin kanri method
English Printing	Productivity Press, 1991



1991

People focused quality: Collaborative work

Research Committee	Cross-Functional Management
Chairman	Kenji Kurogane
Sponsor	Japanese Standards Association
Membership	Academia: 2 Industry: 8
Dates	1984-1988
Major Findings	Standard way to manage cross-functional groups
English Printing	Productivity Press, 1992



1992

Individual Japanese Quality Book Contributions in English



Shigeru Mizuno
1910-1989



Taiichi Ohno
1912-1990



Yoshio Kondo
1924-2011



Hitoshi Kume
1938-



Kaoru Ishikawa
1915-1989



Shigeo Shingo
1909-1990



Yoji Akao
1928-2016



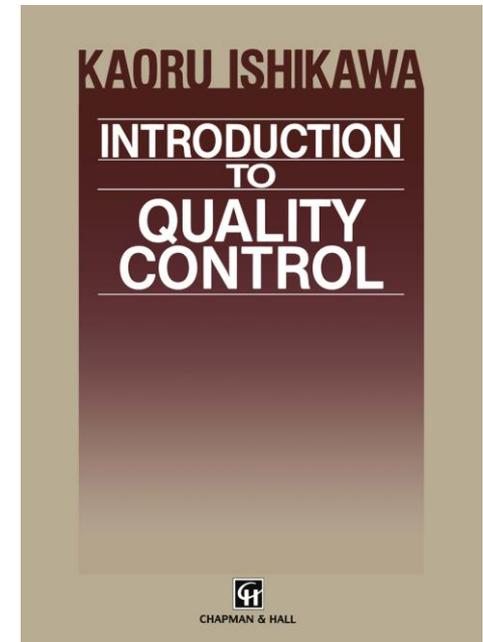
Noriaki Kano
1940-

The baseline for quality control concepts:



Kaoru Ishikawa
1915-1989

Basic textbook presenting foundations of Japanese Quality Control (QC) and methods for its team-based implementation.



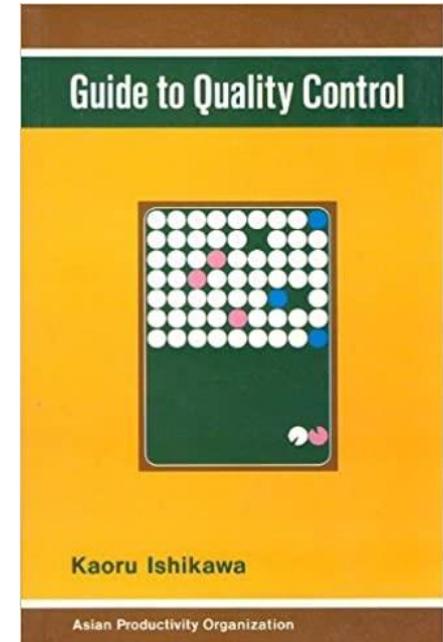
1954

Consolidating the baseline of quality learning:



Kaoru Ishikawa
1915-1989

Consolidated textbook of methods, techniques, and tools of Quality Control used for team-based training in quality.



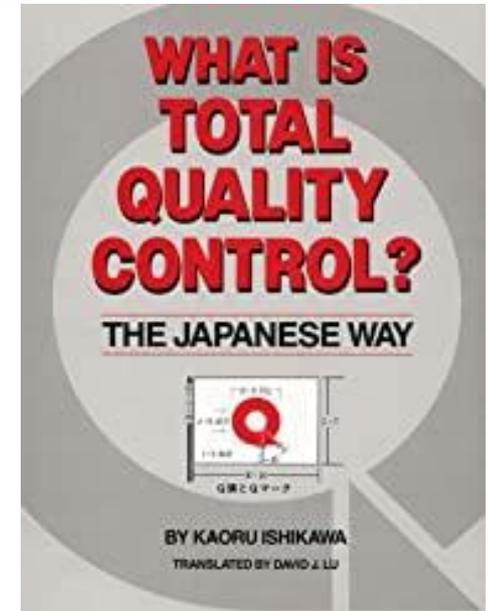
1974

Kaoru Ishikawa: Humanistic quality approach



Kaoru Ishikawa
1915-1989

A management guide to Japanese Total Quality Control (TQC) for Western business leaders that gives a summary of its methods, principles, techniques, and lessons learned.



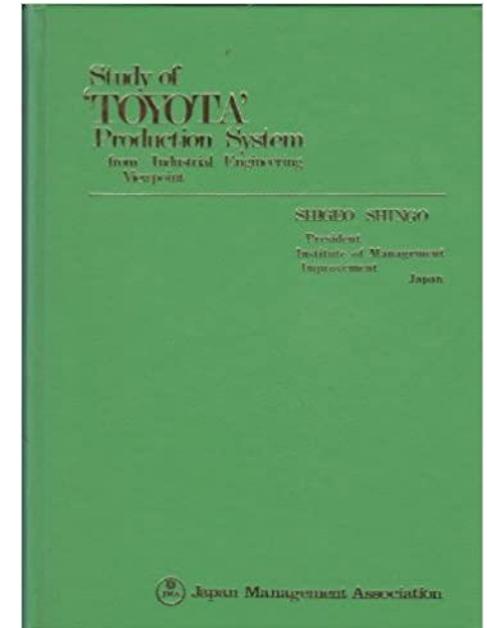
1985

Engineering the flow of operating systems:



Shigeo Shingo
1909-1990

An engineering definition
of the Toyota Production
System (TPS) describing
its functional methods.



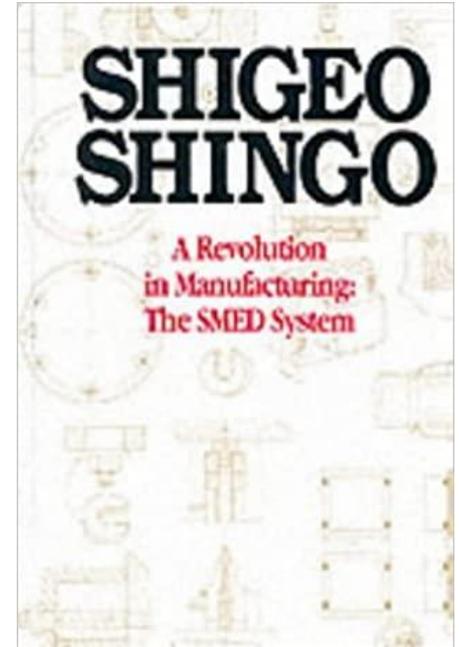
1971

Putting discipline into daily management:



Shigeo Shingo
1909-1990

Defines how a challenge by Taiichi Ohno to perform die changeovers in single digit minutes was met and generalized into a rapid procedure for equipment changeovers.



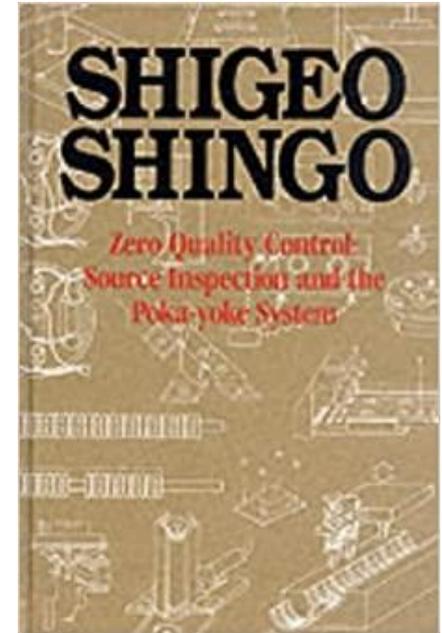
1985

Quality begins with disciplined daily work:



Shigeo Shingo
1909-1990

Describes the “Zero QC” way to the management of production: inspecting quality at the source and performing the corrective actions immediately.



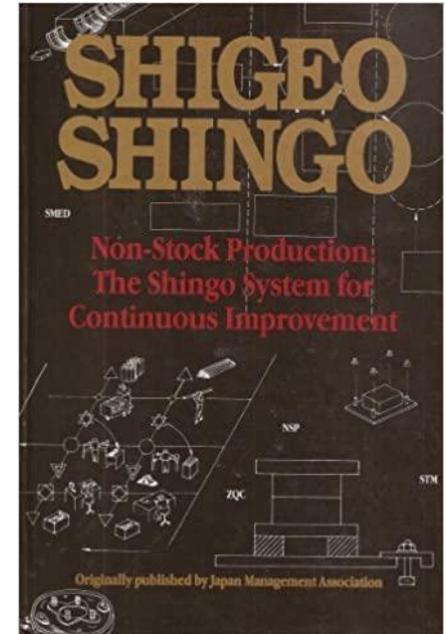
1986

Reducing inventory in production systems:



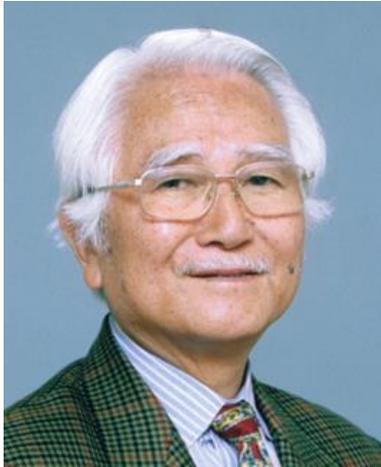
Shigeo Shingo
1909-1990

This book summarizes continual improvement by managing the flow of parts and stock items by use of kanban, poka-yoke, and SMED methods.



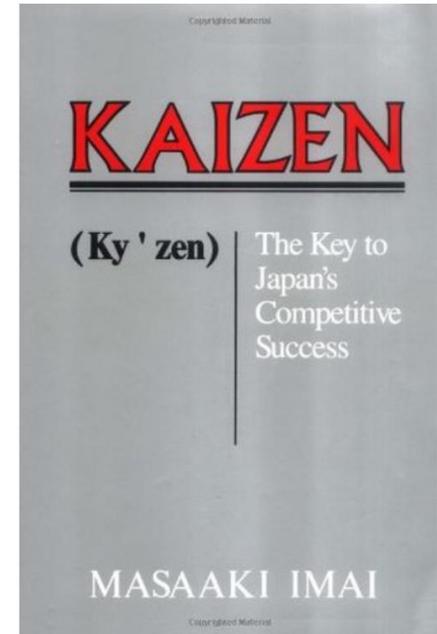
1988

Popularizing the Japanese concept of Kaizen:



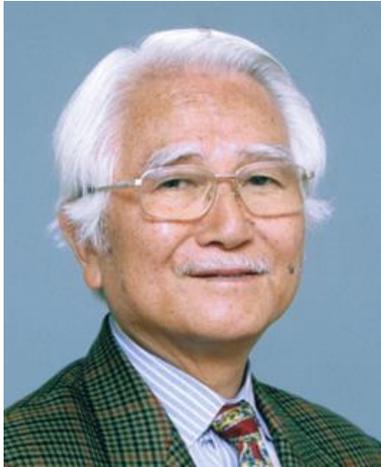
Masaaki Imai
1930-

This text collects the set of Japanese wisdom on the subject of continual improvement into a single reference explaining the contributions of Ishikawa, Mizuno and others.



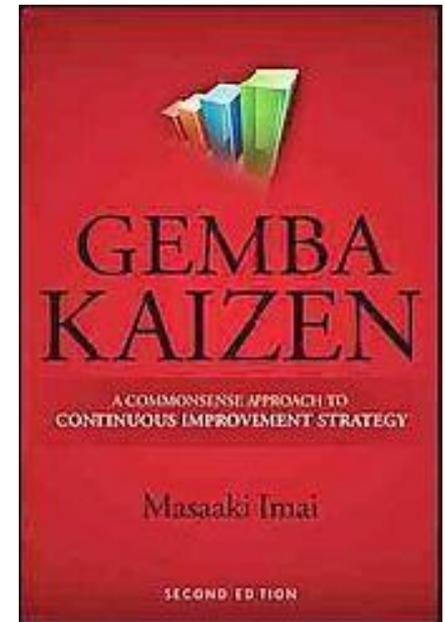
1986

Advancing the concept of Kaizen for workers:



Masaaki Imai
1930-

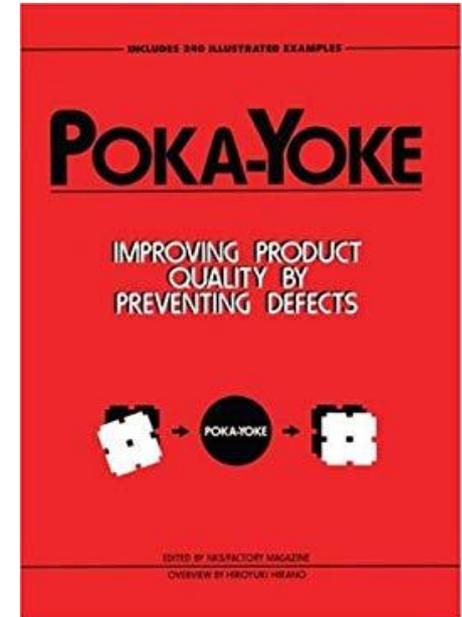
This is an updated version of Imai's original book that includes examples of its implementation in other industries like healthcare along with examples of its application globally.



1997

Appreciating the method of mistake-proofing:

Collection of case studies and applications of mistake-proofing collected by the Nikkan Kogyo Shimbun, a Japanese industrial news company to illustrate how Shigeo Shingo's concept has been applied



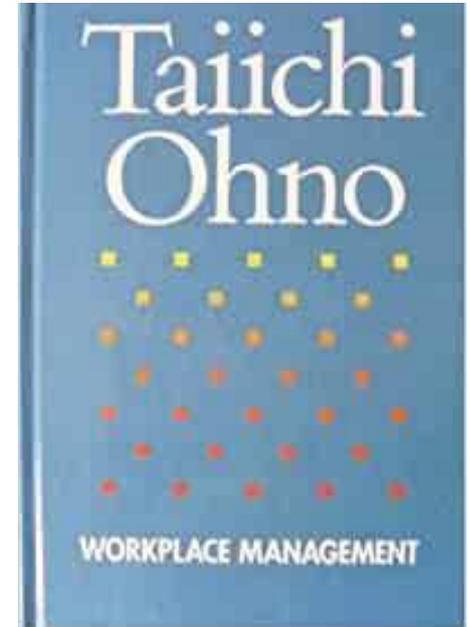
1988

Understanding how to manage a workplace:



Taiichi Ohno
1912-1990

Practical guidance on how to manage daily work in a production environment by eliminating waste and removing time from the end-to-end cycle time.



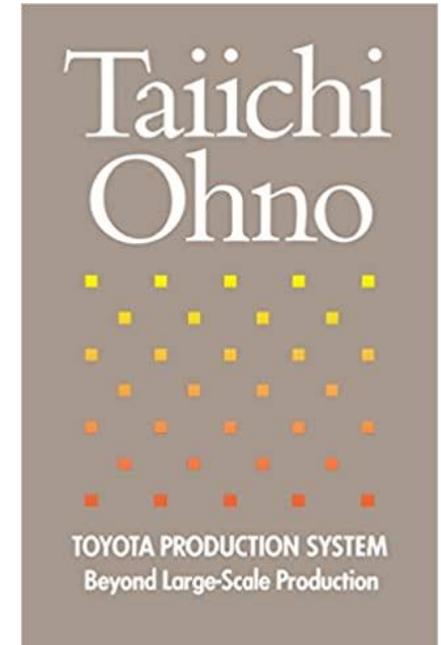
1988

Systems approach to productive operations:



Taiichi Ohno
1912-1990

Ohno describes a system of management that he implemented within the Toyota Motor Company during his 40 years as Vice President, Manufacturing



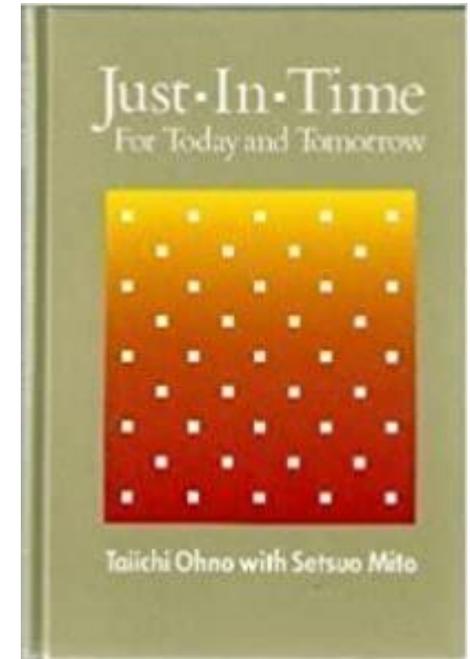
1988

Developing production flow systems:



Taiichi Ohno
1912-1990

This book is an interview in which Taiichi Ohno is explaining the rationale behind Just-in-Time (JIT) thinking and his “Ohno Production System.”



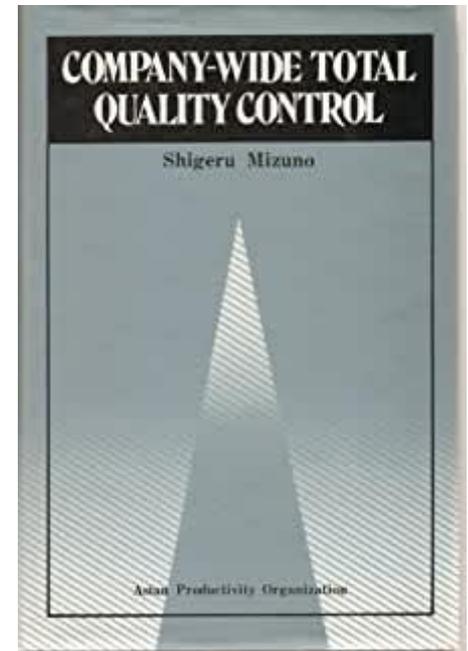
1988

Evolving: Companywide Total Quality Control



Shigeru Mizuno
1910-1989

This book summarizes the lessons learned by Shigeru Mizuno over 40 years as the head of the JUSE QC Research Committee.



1988

Managing across the functional boundaries:

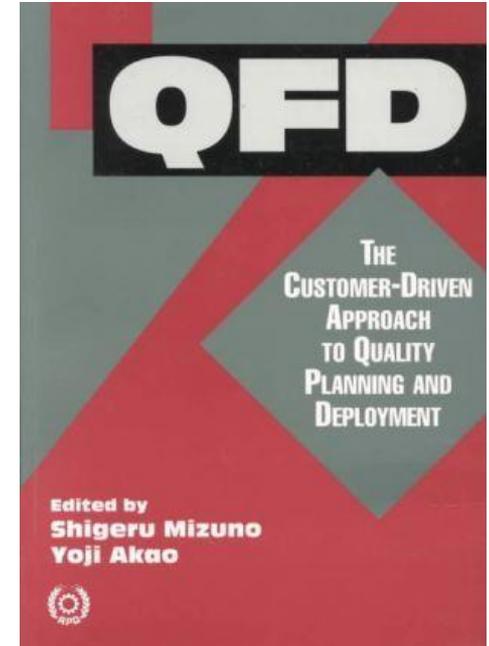


Shigeru Mizuno
1910-1989



Yoji Akao
1928-2016

This book describes how to deploy the voice of the customer (e.g., requirements) into the design of quality functions of a product or service.



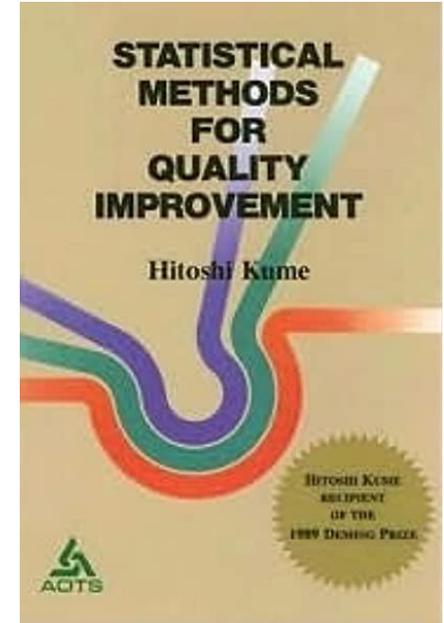
1994

Emphasizing analytics to control variation:



Hitoshi Kume
1938-

Kume's book presents an integrated process for the improvement of quality and shows how statistical methods can be deployed in this process. QC Story concept is also presented.



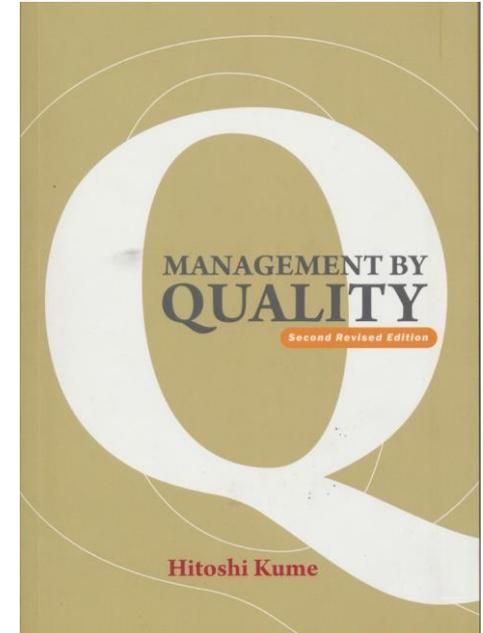
1987

Holistic concept: Management by quality



Hitoshi Kume
1938-

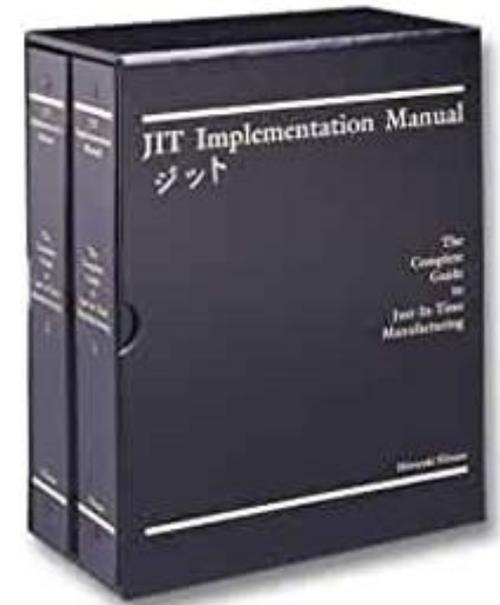
Kume's second book focus is on management of the quality function at a level of senior leaders and it provides detailed cases to show how hoshin kanri is used to manage projects for strategic change.



1989

Collection of case studies about JIT:

This reference book describes the set of scenarios and engineering methods applied in implementing Just-in-Time (JIT) manufacturing techniques.



1990
Hiroyuki Hirano

Developing daily housekeeping discipline:

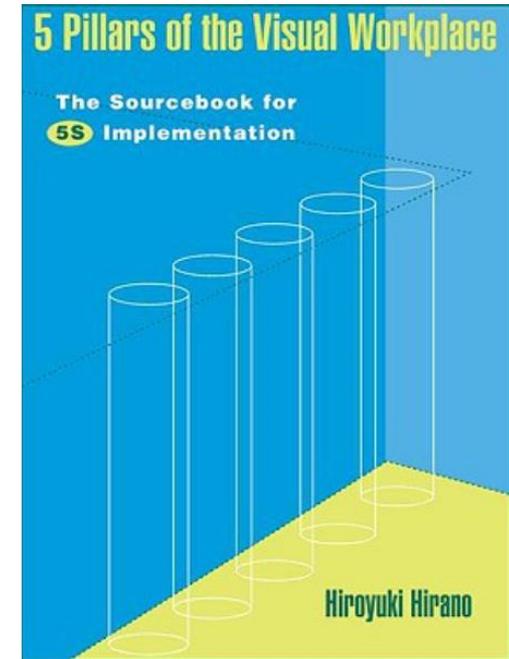
Osada described the 5-S system in the late 1980s and translated it as: organization, neatness, cleaning, standardization, and discipline. His approach focuses on engineering and operational practices in productive systems using 5-S as a tool to improve.



1991
Takashi Osada

Managing the “visible” workplace:

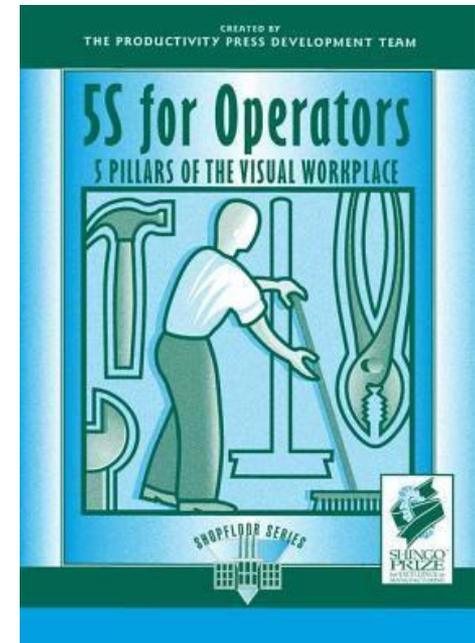
Hirano presented an alternative way for implementing 5-S as a methodology for developing and maintaining a streamlined daily management process in a “visual factory.” His method has become the dominant way that 5-S is implemented.



1995
Hiroyuki Hirano

Simplifying housekeeping for operators:

Hirano's second book condenses lessons learned from his original text and presents it so it is more adaptable for a team-based way to implement 5-S by combining training with daily practice.



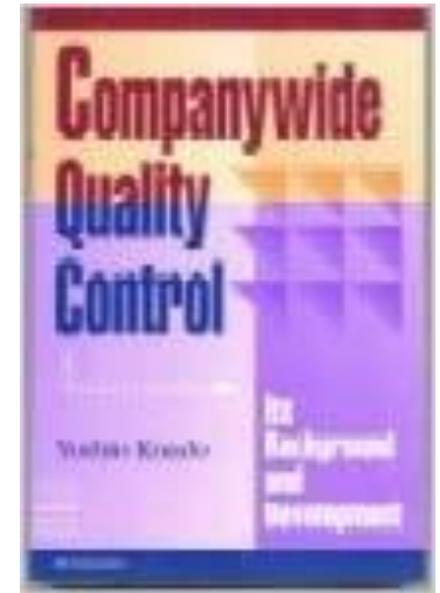
1995
Hiroiyuki Hirano

Consolidating the lessons into a total system:



Yoshio Kondo
1924-2011

Kondo's second book is a compendium of lessons learned in development of comprehensive TQC as an approach to inclusive management based on humanistic principles.



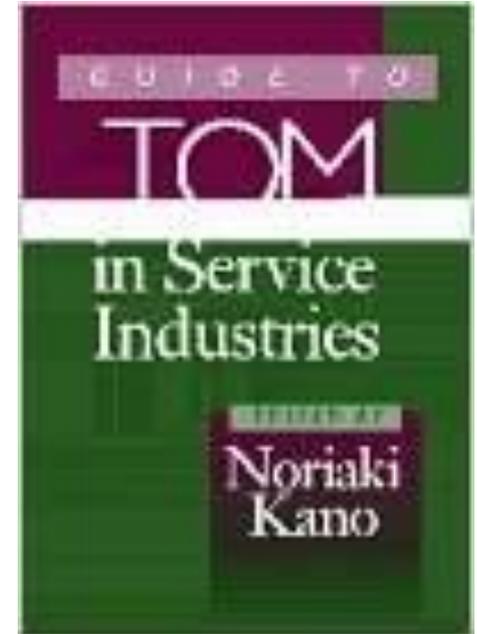
1995

Extending production lessons to services:



Noriaki Kano
1940-

Kano advances the ideas of manufacturing quality concepts for TQM into the world of service industry.



1996

Understanding Japanese-Style Quality Management

Part 3:

Nihon-teki Hoshin Kanri Japanese-style Strategy Management

Generalizing the “*gemba* philosophy”...

“When I say “*gemba*” it is **not just the production workplace** but also the office or any workplace (WM-p. 103).”

“I have spoken about the “*gemba*” but you can view office work the same as the production floor where we make things. You can have the “***gemba* philosophy**” for administrative work by identifying your administrative *gemba* WM-p. 87).”

“**if you are out there observing the *gemba*, do something for them** (WM-p. 109).”

“Insufficient standardization and rationalization creates waste (*muda*), inconsistency (*mura*), and unreasonableness (*muri*) **in work procedures and work hours** that eventually lead to the production of defective products (TPS-p. 41).”



Taiichi Ohno
1912-1990

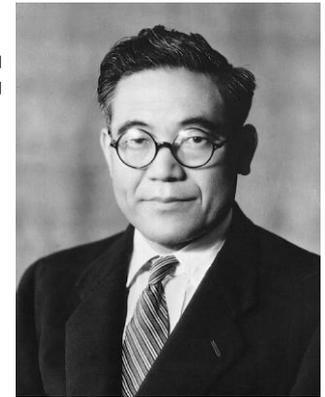
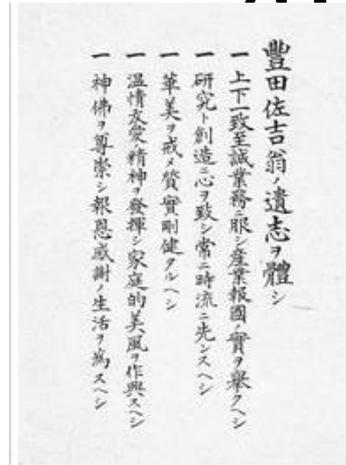
Workplace Management
(WM-1982)

Toyota Production System
(TPS-1978 (Japanese/1988 English))

Toyota's original founding principles:



Sakichi Toyoda
(1867-1930)
Founder of Toyota



Kiichiro Toyoda (1894-1952)
Founder, Toyota Motor Company
Author, Founding Principles (1937)

- 1. Be contributive to the development and welfare of the country by working together, regardless of position, in faithfully fulfilling your duties;*
- 2. Be at the vanguard of the times through endless creativity, inquisitiveness and pursuit of improvement;*
- 3. Be practical and avoid frivolity;*
- 4. Be kind and generous, strive to create a warm, homelike atmosphere; and*
- 5. Be reverent and show gratitude for things great and small in thought and deed.*

Reinvigorating quality: The Toyota Way 2001

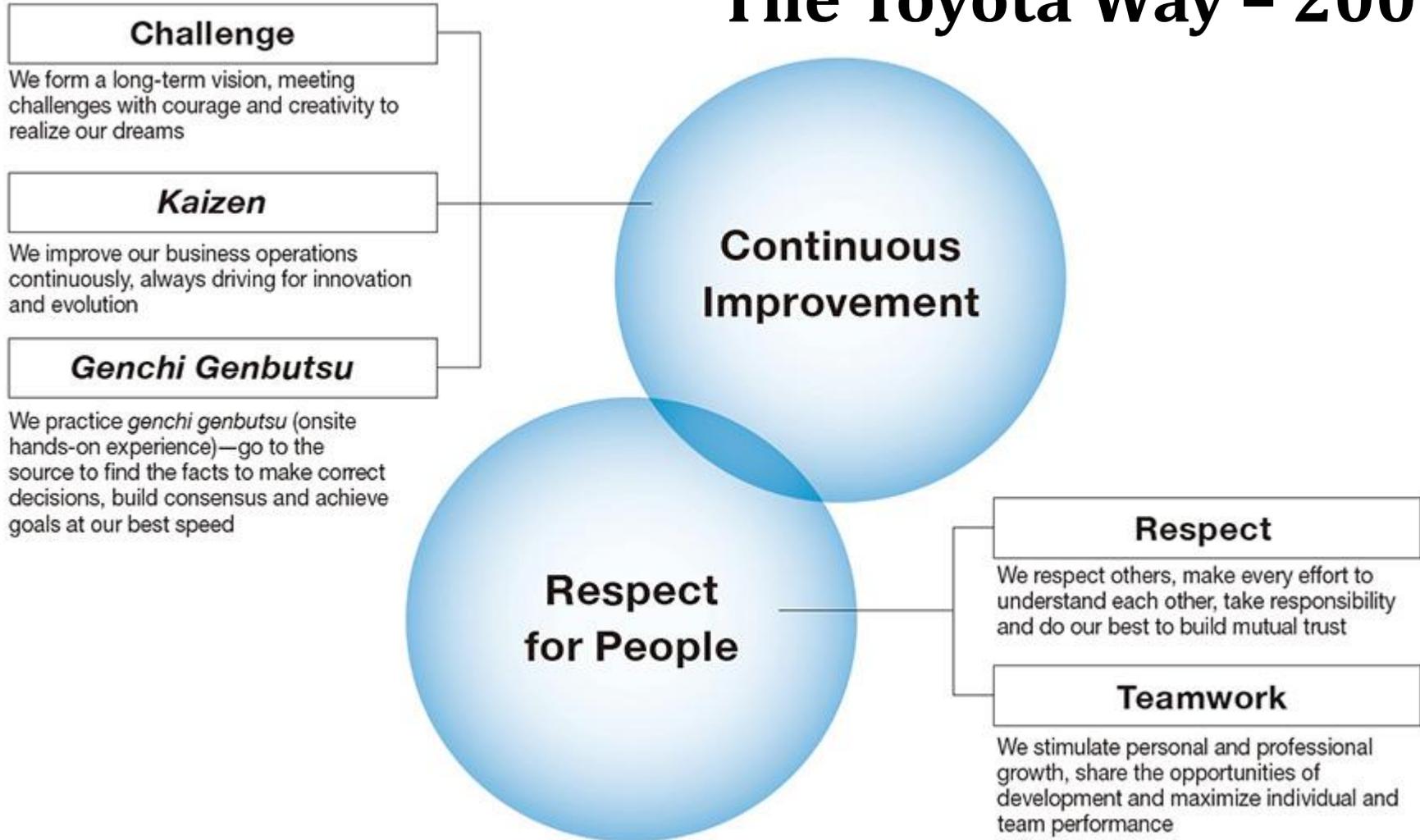


Fujio Cho (1938-)
Chairman, 2006-2013
Honorary Chairman, 2013-

"The Toyota Way, which has been passed down since the Company's founding, is a unique set of values and manufacturing ideals. Clearly, our operations are going to become more and more globalized. With this in mind, we compiled a booklet, The Toyota Way 2001, in order to transcend the diverse languages and cultures of our employees and to communicate our philosophy to them."

~ Mr. Fujio Cho, President, Toyota Motor Corporation
Toyota Motor Corporation, Annual Report 2003

The Toyota Way – 2001



Humanity is the focus of a lean culture:

The element in the Toyota Production System that is translated as “respect for the individual” is better translated as the **“respect for humanity”** (人間性尊重). This character pluralizes people.

This is an affirmation of the need to value contributions of each individual in combination with an attitude of personal humility which creates the work atmosphere of mutual respect – a strong motivator for positive change.

The emphasis should be placed on taking full advantage of the unique capabilities people have to contribute to improve the way an organization works to achieve **wa** (倭) (**harmony, peace or balance**).

Etymology of Hoshin (方針) Kanri (管理)

Ho (方): method or form; discipline of soldiering. The name used to describe the second position in kendo; ready to engage and fully anticipating.

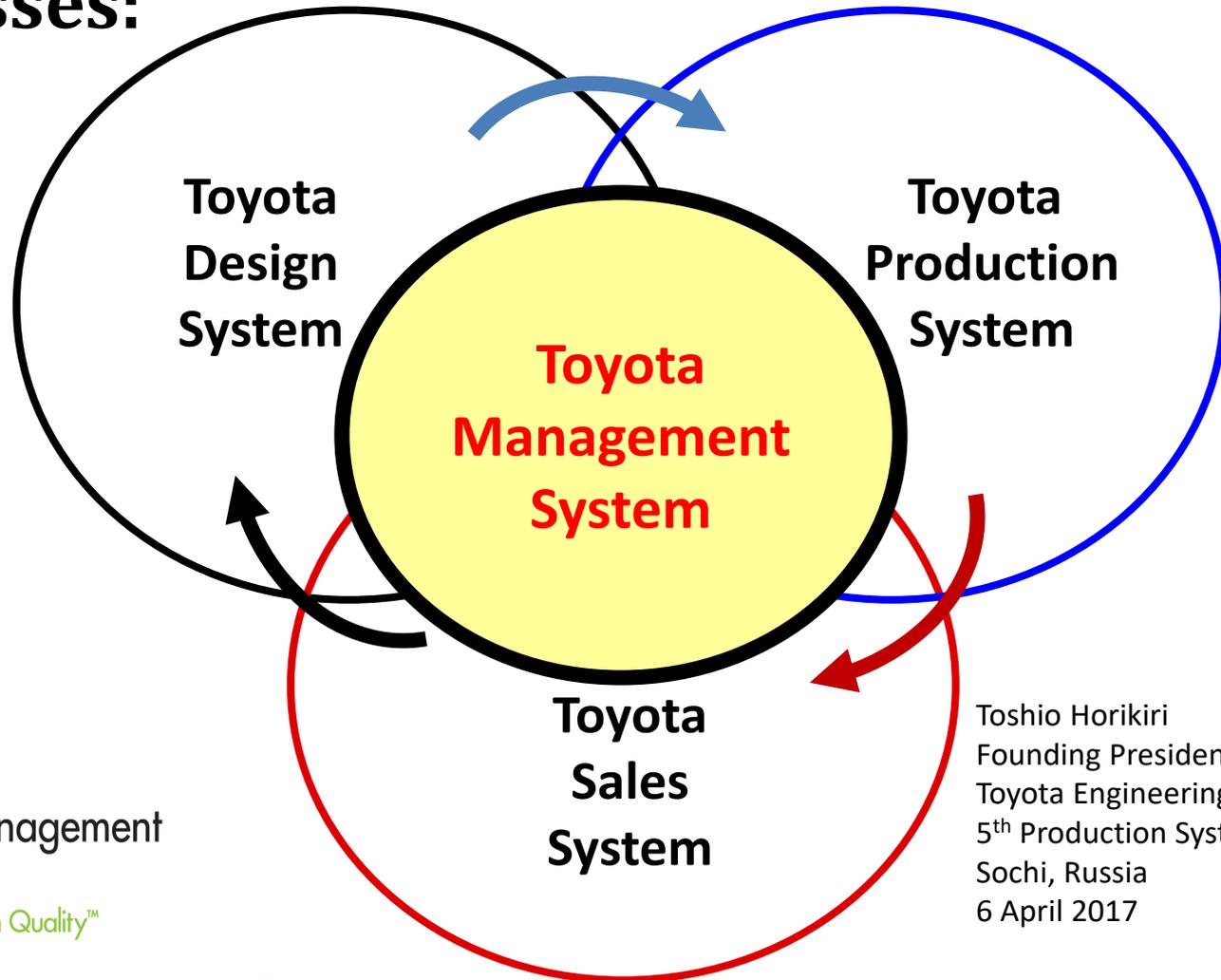
Shin (針): the illuminated compass needle that allows one to find “true north” on the darkest night.

Kanri (管理): a system of management.

Hoshin Kanri applies PDCA to management.

The Toyota Management System (TMS) gives insight into a “system of systems” approach to quality planning as applied in major Japanese businesses:

Content Specific Model



Nemawashi: one vision achieved through the process of negotiated objectives – targeting of means and ends:

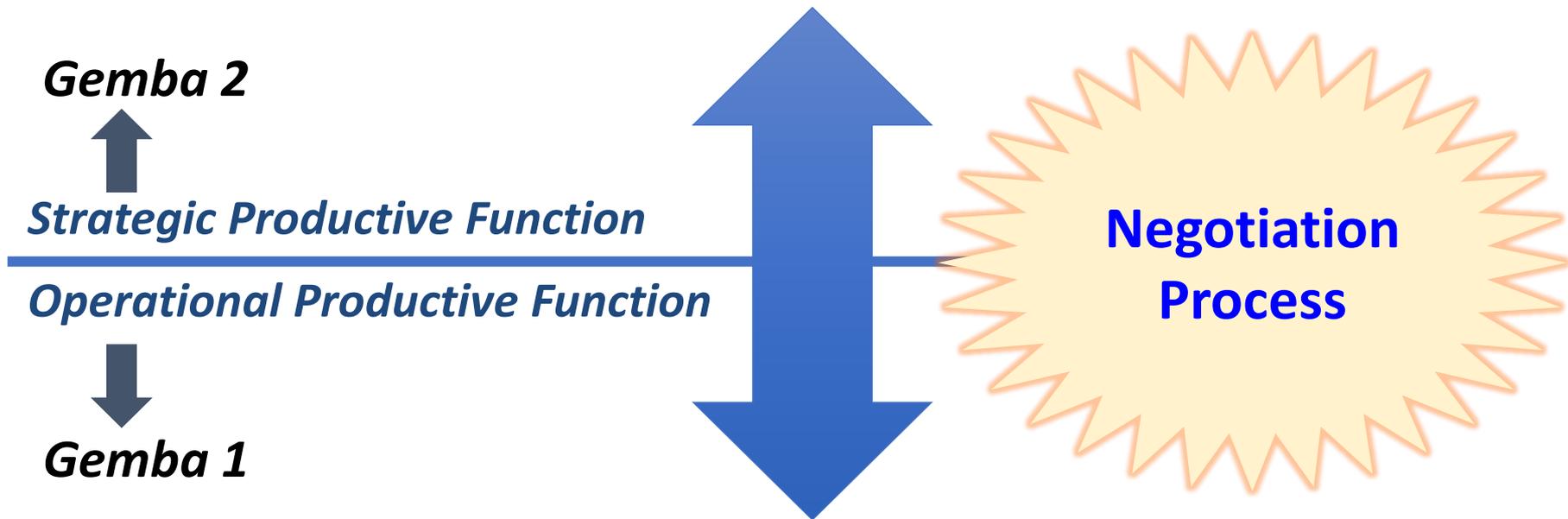


Nemawashi (根回し) is a process of laying a foundation for a proposed change or project, by informally talking to people concerned and gathering their support and feedback. It is an important element in major change, before formal steps are taken. It enables changes to be carried out with the consent of all sides.

Nemawashi literally translates as "going around the roots," it comes from **ne** (根) or root and **mawasu** (回す) to go around [something]; literally, it is carefully digging around the roots of a tree, to prepare it for a transplant.

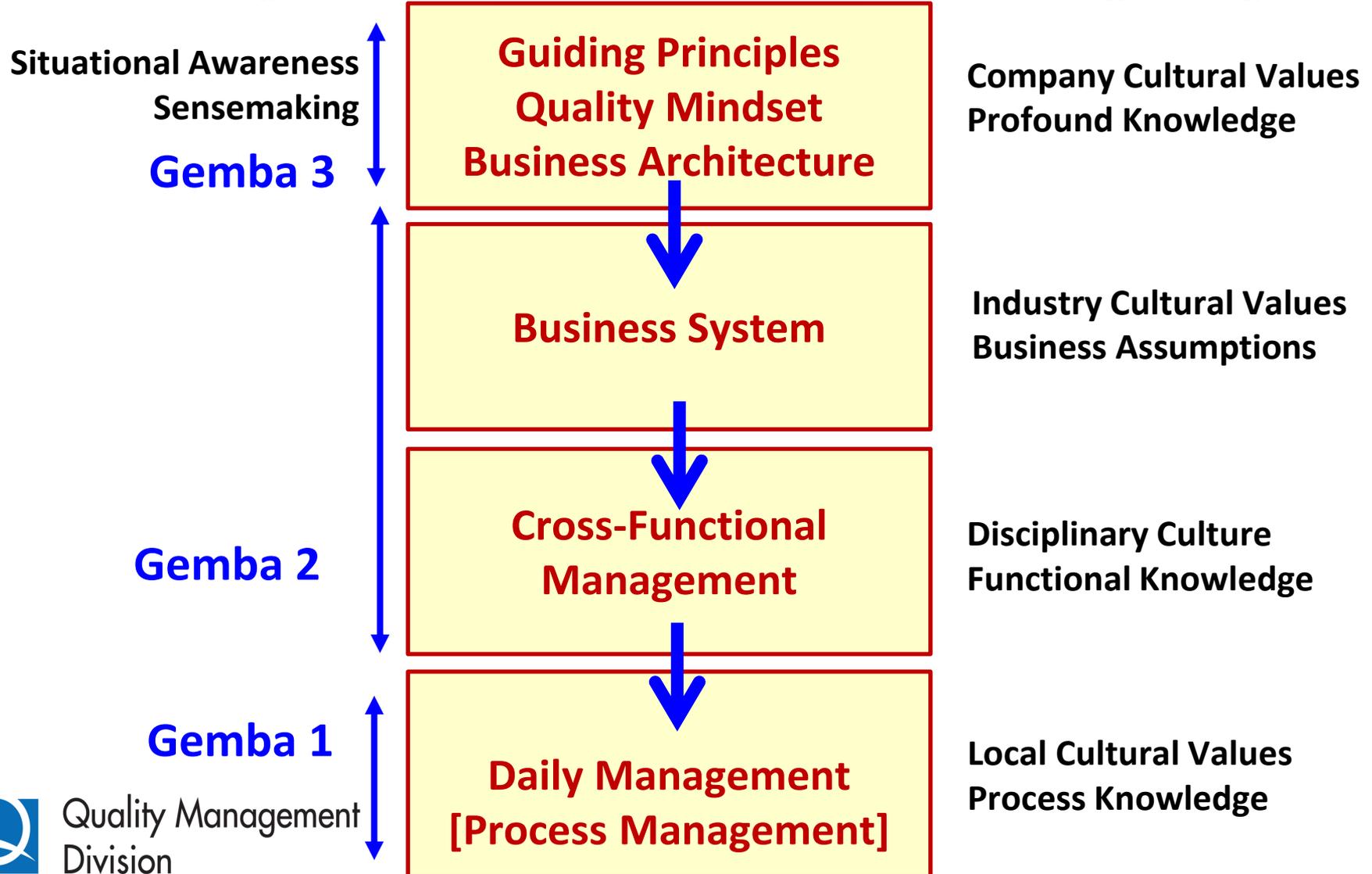
Total productivity requires total teamwork!

Managers manage “**resource efficiency**”
to **assure value-adding flow efficiency**.

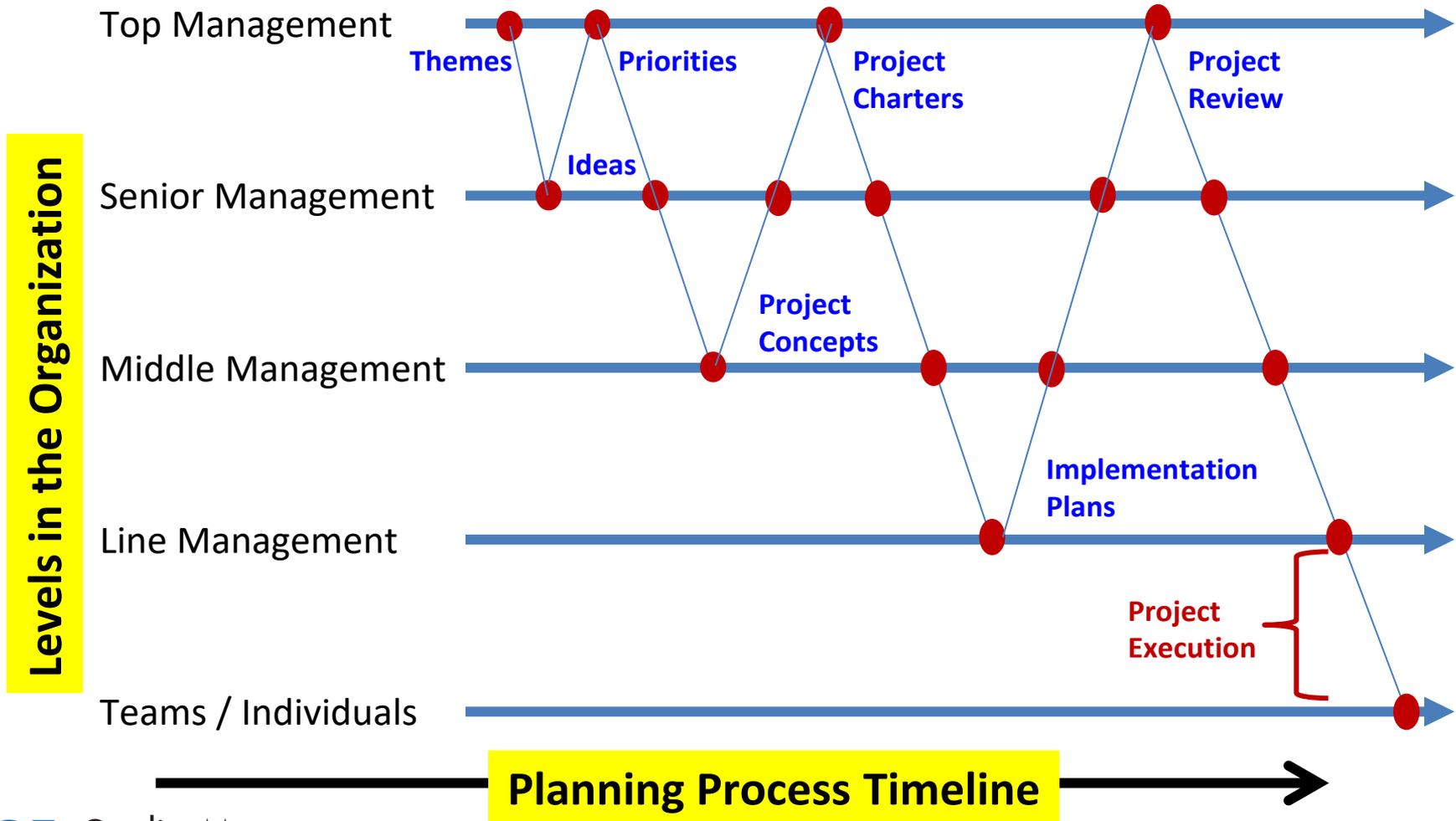


Workers manage “**flow efficiency**”
of **value-adding work throughput**.

Cascading strategy by linking and aligning:



Creating consensus using “catch-ball” actions:



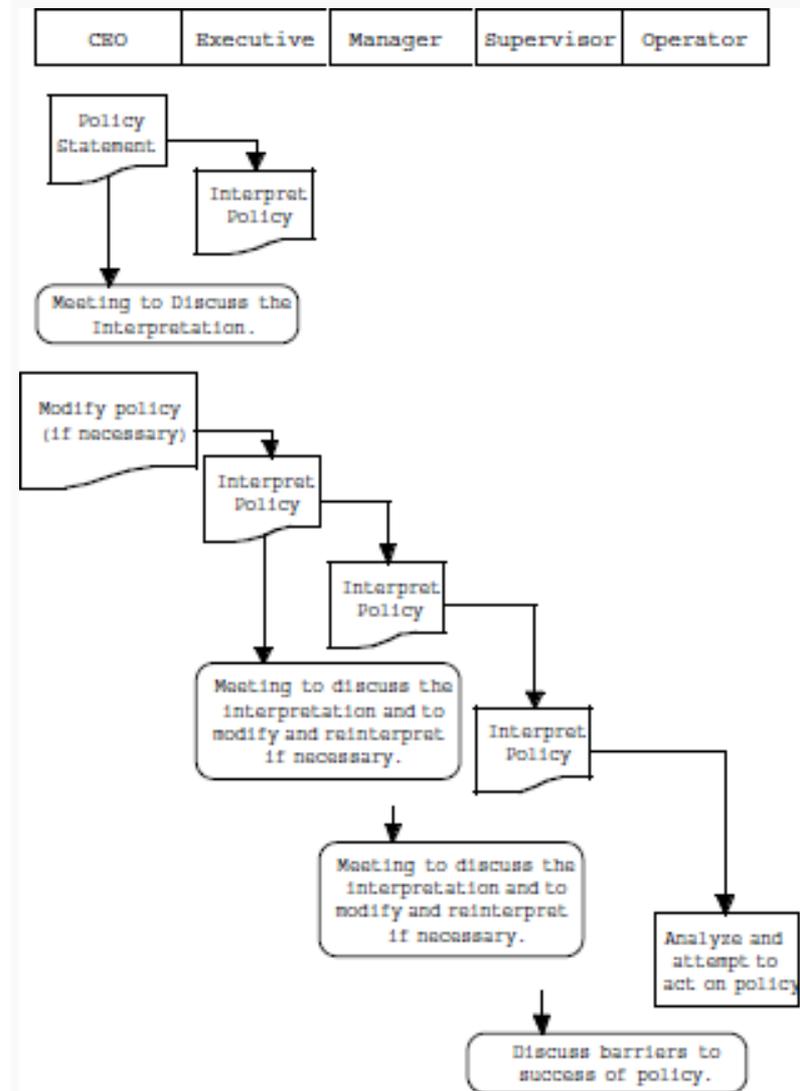
Sureawashi – Negotiated ‘catch-ball’ game:

How policy is deployed into actions in the vertical structure that delegates of decision authority, action responsibility and financial accountability.

What is the role of collaboration across the organization’s functions and levels?

How does employee motivation and commitment to shared goals relate to their engagement in participation for strategic improvement projects?

Does this structured process inhibit or encourage cross-functional change?



Modelling Content of the Kanri Architecture:

Organizational Quality Culture

Strategic Management System

Business Assessment

Strategic Management

Strategic Benchmarking

Performance Management

Operational Benchmarking



Systems Engineering

Business System

Cross-Functional Management

Hoshin Tenkai – Policy Deployment of the Action Project Plans

Daily Management System

Methods

Methods

Methods

Methods

Methods



Tools & Activities

Content of Improvement Toolkit

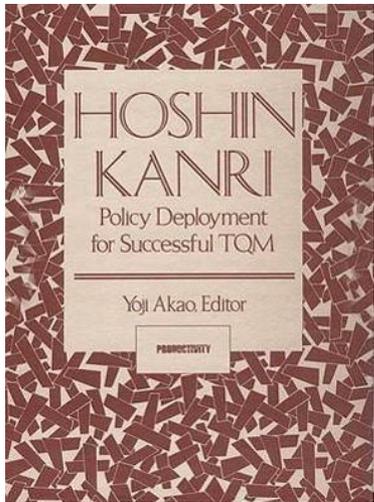


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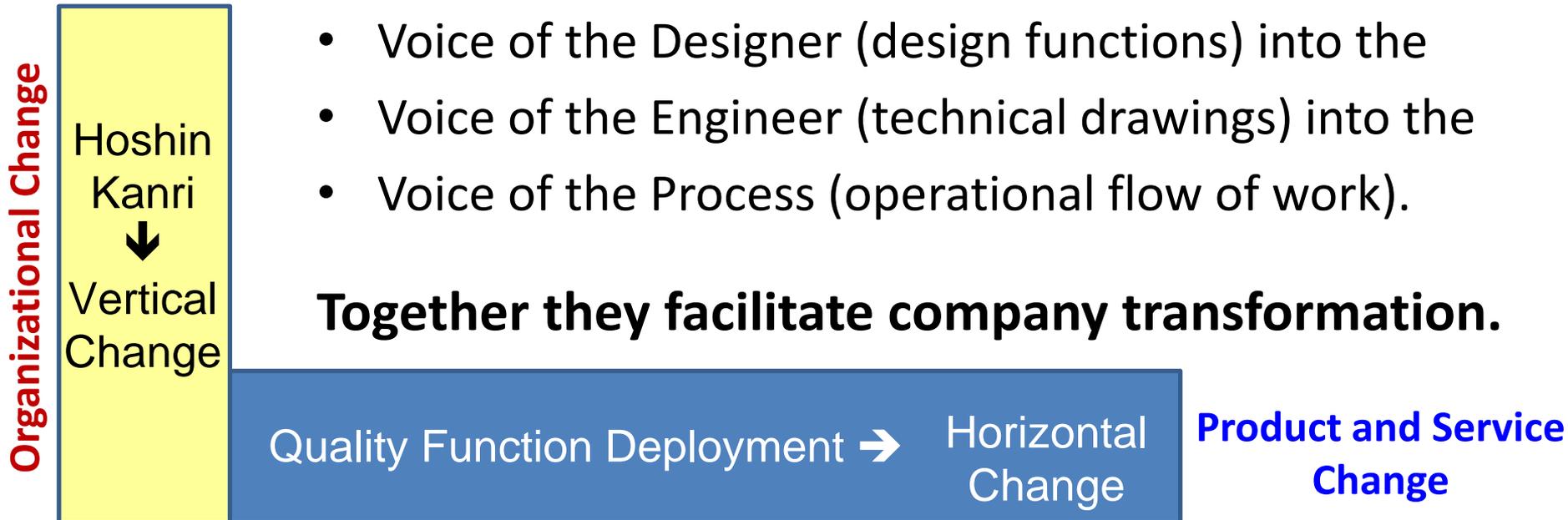
Hoshin Kanri deploys the strategy formulated by management into

- Change projects that transform daily work

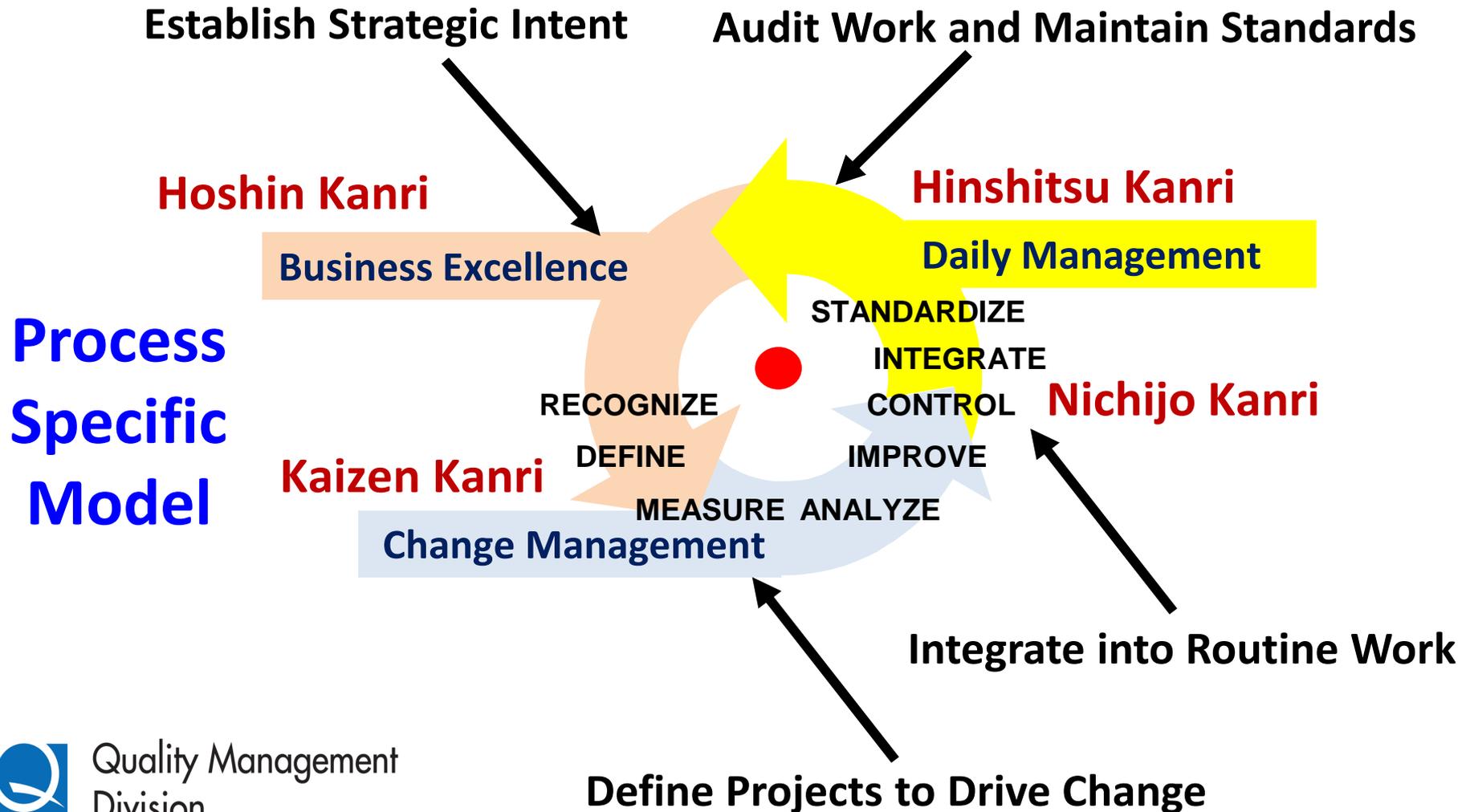
Quality Function Deployment translates the

- Voice of the Customer (market features) into the
- Voice of the Designer (design functions) into the
- Voice of the Engineer (technical drawings) into the
- Voice of the Process (operational flow of work).

Together they facilitate company transformation.

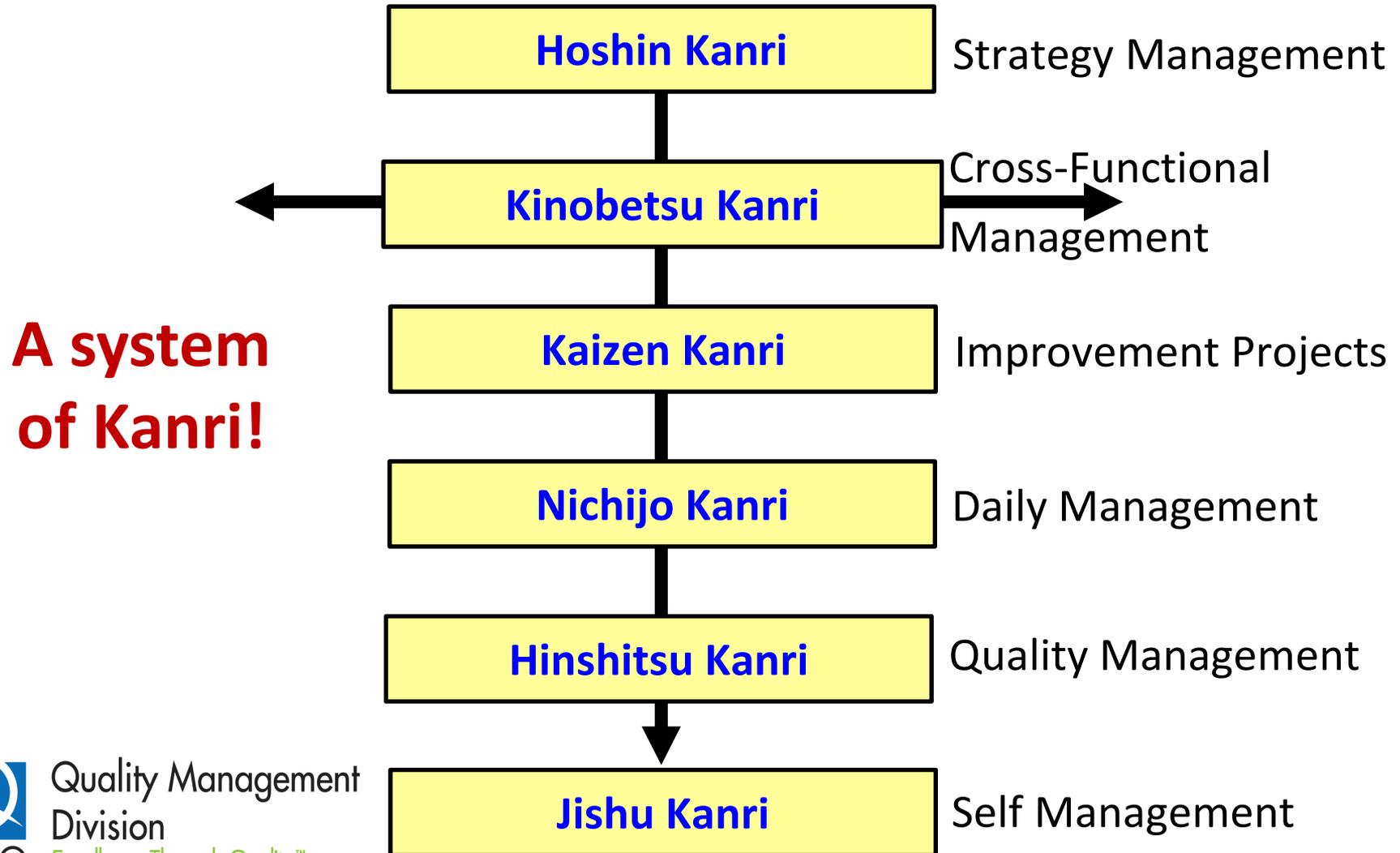


Appreciating how a “system of systems” works:



Hierarchical system of managing for quality:

Zenshateki Hinshitsu Kanri – Company-wide Quality Control



Introducing Japanese responsibility concepts:

Jishuken (自主権) is management-driven *kaizen* activity where managers identify areas in need of improvement and engage the entire organization to stimulate *kaizen* activity. The literal meaning of *jishuken* is **“a fresh set of eyes”** (implying autonomy) which suggests that sometimes workers may be too close to a problem and this keeps a person from seeing what is wrong with the process – they have become accustomed to waste, so it no longer appears as waste to them. This activity is done in teams called *jishuken* team.

Ji Kotei Kanketsu (JKK) (自工程完結) is the concept of **“process ownership”** by workers which is supported by related concepts of daily management and the assigning decision rights to assure that poor quality is not passed on to the next step in the process. JKK also engages workers in their responsibility to seek continual improvement of standard work and applies to work at all levels.

Jishu kanri (自主管理) literally means **“self mastery management system”** which means “every worker is an inspector.” This applies to independent, self-regulated or autonomous work management, voluntary participation, and work self-control systems in Japanese companies.



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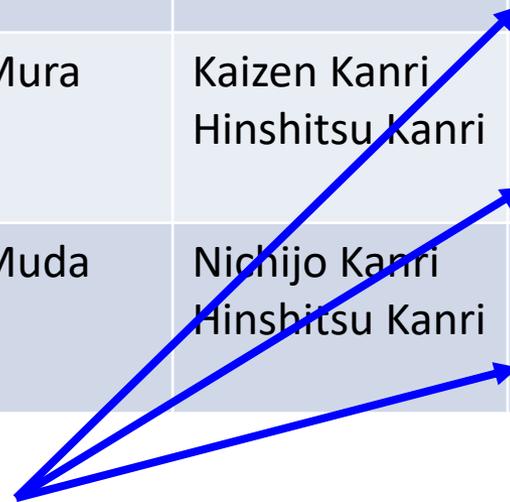
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Quality Responsibility is Shared: Everyone is responsible for the quality of their own work and the work of those who are in their team!

Managing quality responsibility in the gemba:

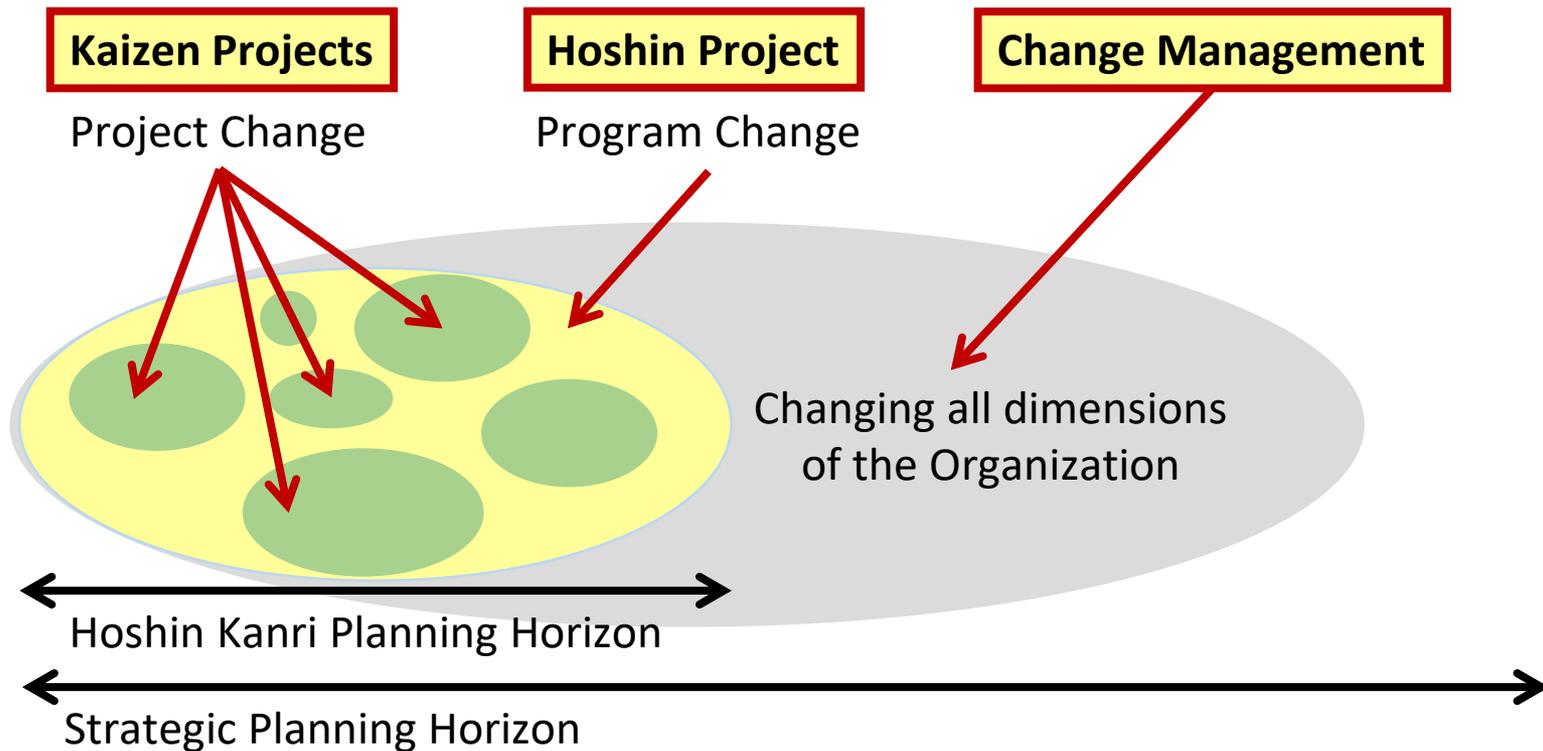
The true nature of everyone's "Job" is to: Encourage the delivery of goodness and prevent the occurrence of badness.

Organization Level	Objective	Quality Emphasis	Type of Waste	Improvement Projects	Methods
Executive Gemba 3	Agility	Policy	Muri	Hoshin Kanri	Presidential Review S-7 Strategic Methods Cross-Functional Teams
Management Gemba 2	Harmony	Flow	Mura	Kaizen Kanri Hinshitsu Kanri	Gemba Walk Process of Management Project Teams
Worker Gemba 1	Discipline	Perfection	Muda	Nichijo Kanri Hinshitsu Kanri	Self-Inspection 3-S for Workers Quality Circles



Jishuken Teams

Japanese strategy management advances a portfolio of change projects to improve the end-to-end business system:



Reinvigorate quality: Make fine adjustments:

“The term ‘fine adjustment’ has a hidden meaning that should be understood, especially by top management. Everyone knows that things do not always go according to plan. But there are people in the world who recklessly try to force a schedule even though they know it may be impossible. They will say “It’s good to follow the schedule” or “It’s a shame to change the plan,” and will do anything to make it work. But as long as we cannot accurately predict the future, our actions should change to suit situations. In industry, it is important to enable production people to cope with change and think flexibly.”

“Wait for the right opportunity.”

“The Toyota Production System is still not perfect. More development is needed on fine adjustments.”

~ Taiichi Ohno

Workplace Management

Kaoru Ishikawa's quality benediction:

Quality development innovates to avoid “loss to society!”

Kaoru Ishikawa 's hope and prayer of quality for humanity:

“...that quality and related activities be spread everywhere in the world, that quality all over the world be improved, that cost be lowered, that productivity be increased, that raw materials and energy be saved, that peoples all over the world be happy, and that the world prosper and be peaceful.”

...inclusive action result in good quality of life for society!

Quality for humanity is a global social imperative!

Understanding Japanese-Style Strategy Management: Take-away Lessons Learned

Beware Purveyors of 4th Generation Sushi:

This story from Noriaki Kano provides us with a humorous warning that we must be alert to the source of information that we use to discover all the “facts” about how things “really” work.

- **First generation *sushi***: prepared by a Japanese chef in Japan.
- **Second generation *sushi***: prepared by a Japanese chef in America.
- **Third generation *sushi***: prepared by an American chef in America.
- **Fourth generation *sushi***: prepared by an American chef in Japan but using with beef instead of fish!



We must be careful that we have not lost any significant process information as it develops in maturity across the development of work improvement methodologies. The caution is not to over-simplify in a rush to improve!

Critical take-away observations:

How did the Japanese concept of quality management evolve in the second half of the 20th Century?

Japan treated quality as a science and constantly sought to take knowledge to the next level – building on the work of others to create a consensus understanding of the general principles.

This webinar addressed the following learning objectives:

- Describe how to pursue quality with a scientific approach.**
- Understand contributions from Japanese thought leaders.**
- Learn how the “system of kanri” is designed and deployed in a Japanese organization to address the company-wide engagement of everyone in the pursuit of quality.**



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Thank you

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Future QMD Webinars – 6:00 PM ET

(unless noted otherwise)

[Managing for Quality Webinar Series by Dr Gregory H. Watson:](#)

No. 6: "Organizational Learning – Triple-loop Experience" June 16, 2020

No. 7: "Managerial Engineering – Designing Future Firms" July 21, 2020

No. 8: "Understanding the Financial Component of Quality" August 18, 2020

No. 9: "Strategic Reflections on Kano's Attractive Quality" September 15, 2020

No. 10: "Insights into the Essence of Operational Excellence" September 29, 2020

No. 11: "Defining Quality to Apply to Everyone, Everywhere" October 14, 2020

No. 12: "Managing for Quality Amidst Digital Turbulence" November 17, 2020

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