“Creating a Progressive Future :

Blending Kaizen Technology and

Global Networking

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About Speaker

“ Happy Mountain ” “ JOE ”

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Contents

Ⅰ. Two Concepts of Japanese way
Ⅱ. “Kaizen” Case Studies
Ⅲ. Theoretical Background of Kaizen
Conclusion

Ⅰ. Two Concepts of Japanese way

“Kata” 型 “TOYOTA KATA” Mike ROTHER

In Japan such patterns or routines are called kata(noun). The word stems from basic forms of movement in martial arts, which are handed down from master to student over generations. Some common translations or definitions are:

- **A way of doing something, a method or routine**
- A pattern
- A standard form of movement
- A predefined, or choreographed sequence of movements
- The customary procedure
- A training method or drill

Digging deeper, there is a further definition and translation for the word:

- **A way of keeping two things in alignment or synchronization with one another**

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“ Ba ” 場

Bar

1. **a place, a spot** : a common meeting ground, a public place.
2. **space, room, a seat** : occupy too much space
   The room is littered with books, leaving no space to put my feet.
3. **an occasion, a situation**
4. **a scene** : the trial scene in The Merchant of Venice.
5. **a field** : be assigned to a new field of activities. gravitational field

道場
“ Dojo ”

中産連

5

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“ Ba ” & “Kata”

“ Dojo ”

中産連

6

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“ Ba ”

Large
Room
Method

Even for
Executives

7

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Development of QC (Quality Control) in Japan “Kata”

Chronological Table (SQC—TQC—TQM)

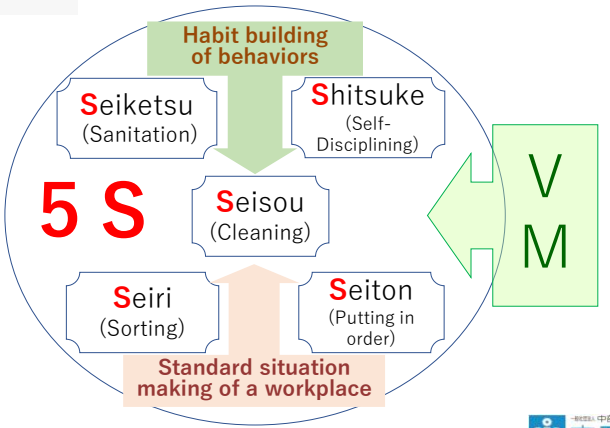
1945	End of World War Ⅱ. Start of activities for promoting science and technology and establishing an industry-oriented nation.
1946	The Union of Japanese Scientists and Engineers (JUSE) was established. Recognition of statistical quality control (SQC)
1948	The QC Research Group was organized to start studying quality control.
1950	Dr. W.E. **Deming**, expert of SQC and professor of NY State U. was invited. He gave a series of lectures on **“Statistical Control of Quality”** to company executives and managers.
1951	JUSE established **the Deming Prize.**
1954	Dr. **Juran** was invited to Japan and addressed **“QC as a management tool”**
1961	Dr. **Feigenbaum** devised the concept of **“Total Quality Control”**
1962	“QC Circles” were formed and conducted by JUSE nation-wide.
1980	“If Japan can, why can't we?” on TV by NBC in the U.S. It ignited the QC boom, making TQC a tool for business management.
1987	**Malcolm Baldrige National Quality Award** (U.S.) was established
1996	**TQM Declaration** by JUSE. (TQC was renamed TQM)

Definitions on QC in the early stage

Year／Person	Definition
1950 **Dr. Deming**	Statistical Quality Control is the application of statistical techniques, in all stages of manufacture, toward the most economic manufacture of a product that is maximally useful and has a market. **—“Elementary Principals of the Statistical Control of Quality”**
1954 **Dr. Juran**	My definition for QC is the totality of all means by which we establish and achieve quality specifications. **—“Planning and Practices in Quality Control”**
1956 **“JIS-Z 8101”**	QC is a system of means for making products with the quality that meets customer requirements economically. Modern QC is called SQC, since it uses statistical techniques.
1961 **Dr. Feigenbaum**	TQC may be defined as an effective system for integrating the quality improvement efforts of the various groups in an organization so as to enable production and service at the most economical levels which allow for full customer satisfaction. **—“Total Quality Control”**
1970 **Dr. Juran**	Totality of the activities for achieving the fitness for use. **—“Quality Planning and Analysis”**

中産連

8



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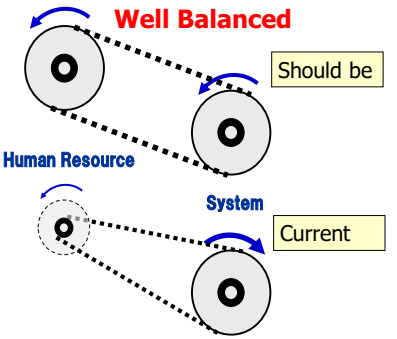
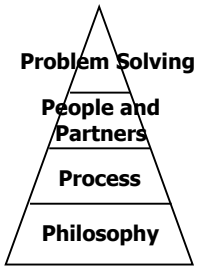
To Make the System Work Well





. " The Toyota Way "

10

II. " Kaizen " Case Studies

11

HUAWEI P30 Pro

Total	Parts No.		Cost USD	
	1631	100%	363.83	100%
	15	0.9%	59.36	16.3%
	80	4.9%	138.61	38.1%
	869	53.2%	83.71	23.0%
	562	34.4%	28	7.7%
	83	5.0%	28.85	7.9%

("NIKKEI" June 27, 2019)

12

Case A

25 Years Ago

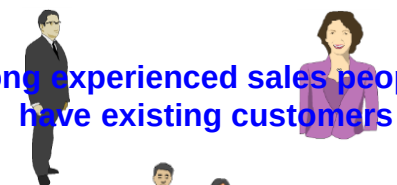
- Door to Door Sales Company
- Employee number : approximately 5,000
- Branches : 500 (All over Japan)
- Merchandizing Items : so many
- Problems: Decrease in Sales, High turnover

13

Door to Door Sales

14

Problems



Long experienced sales people have existing customers

As young sales don't have existing customers, Sales can not be secured, and they will quit soon

15

Solution : We introduced SGA "Ba"

Group Discussion and Activity promoted mutual understanding.

Before

- Young sales people did not know how customers feel and behave, and their sales amount didn't increase .
- Experienced sales people acknowledged that the **customer's home rate is not low** as they thought.

After

- They visit all the houses in the same block one by one, **together in group**.
- They telephone from the branch office according to the order in the phone book.

16

SGA (Small Group Activity like QC Circle)

"Kata"

1. Preparation of Activity Plan
2. Analysis of Current Situation
3. Decision of Numerical Target / Announcement of Targets
4. Study for Improvement
5. Preparation of Improvement Implementation Plan
6. Preparation of Implementation and Implementation of Improvement
7. Check of Progress and Solution of Troubles
8. In-house Standardization Preparation of Activity Reports
9. Check of Activity Results
10. Announcement / Awarding

17

Case B

From 10 years ago to the present

- Local Government
- Employee number : approx. 3,000
- Problems: Knowledge doesn't share between staff or local government and residents

18

Approval requires much time.

Parents apply for scholarship.

19

Problems Who's Problems ?

- Students can not receive high school scholarship early.
- Government officials are not in trouble for themselves.
- Officials are working in the vertical division, and so, collaboration between departments is bad.
- Similar situations are prevalent.

Autonomized

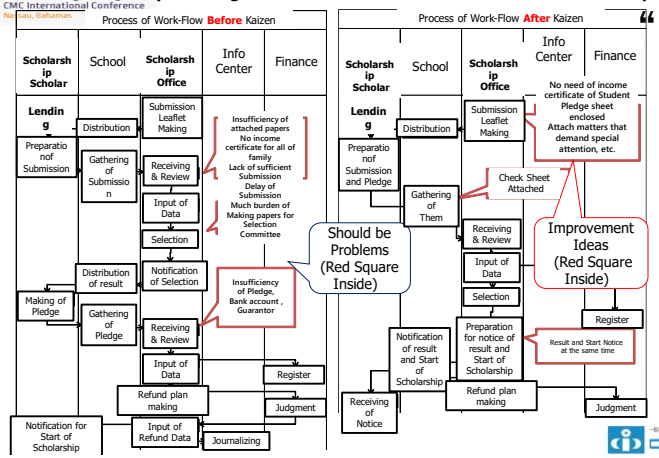
(Autonomization)

Solution : Next Slide

20

Kaizen Example through Process Work-Flow ～ Remittance of scholarship ～

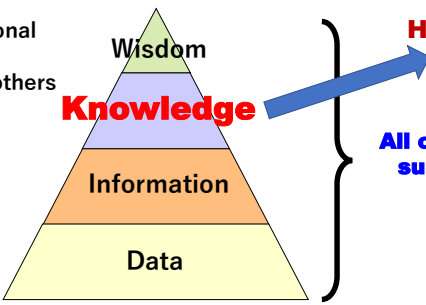
"Kata"



III. Theoretical Background of Kaizen

Tiers of Knowledge

"KM" =
Making personal knowledge available to others



How to create Knowledge

All of them are the subjects of KM.

RIM (Records and Information Management)

Two Types of Knowledge

Learning at "Ba"

Knowledge

- Tacit
- Explicit → IT & AI

(as opposed to formal, codified or explicit knowledge) is the kind of knowledge that is **difficult to transfer to another person** by means of writing it down or verbalizing it. For example, that London is in the United Kingdom is a piece of explicit knowledge that can be written down, transmitted, and understood by a recipient. However, the ability to speak a language, ride a bicycle, knead dough, play a musical instrument, or design and use complex equipment requires all sorts of knowledge that is not always known explicitly, even by expert practitioners, and which is difficult or impossible to explicitly transfer to other people.

(also **expressive knowledge**)[1] is knowledge that can be readily articulated, codified, stored and accessed.[2] It can be easily transmitted to others. Most forms of explicit knowledge can be stored in certain media. Explicit knowledge is often seen as complementary to tacit knowledge

From "Wikipedia"

The Spiral of Knowledge

From \ To		Transformed Knowledge: Tacit Knowledge	Transformed Knowledge: Explicit Knowledge
Source Knowledge	Tacit	1. Socialization (Observation, Imitation, Practice)	2. Externalization (Articulation)
	Explicit	4. Internalization	3. Combination

(Ikujiro. Nonaka HBR Nov-Dec 1991)

Knowledge-Creation Process (From Metaphor to Model)

～ To convert tacit knowledge into explicit knowledge means finding a way to express the inexpressible. ～

- **Metaphor** (Linking contradictory things and ideas)
  - ・・・ for individuals grounded in different contexts and with different experiences to understand intuitively through the use of imagination and symbols
- **Analogy** (Resolving contradictions)
  - ・・・ structure process of reconciling contradictions and making distinctions
- **Model** (Creating an actual model)
  - ・・・ Crystallizing the created concepts and embodying them in a model to create an actual model

(I. Nonaka)

25

" Redundancy "

- The fundamental principle of organizational design at Japanese companies I have studied is **redundancy** – the **conscious overlapping** of company information, business activities, and managerial responsibilities.
- Redundancy is important because it encourages frequent dialogue and communication. This helps create a " common cognitive ground " among employees and thus facilitates the transfer of tacit knowledge.

(I. Nonaka)

26

Three Elements of Learning Organization

" A learning organization is an organization skilled at creating, acquiring, and transforming knowledge, and at modifying its behavior to reflect new knowledge and insights. " (D. A. Garvin, Jul-Aug 1993 HBR)

1. Meaning

   We need a plausible, well-grounded definition of learning organization.

2. Management

   We need clear guidelines for practice, filled with operational advise rather than high aspirations.

3. Measurement

   We need better tools for assessing an organization's rate and level of learning to ensure that gains have in fact been made.

27

Learning organizations are skilled at five main activities.

- Systematic problem solving
- Experimentation with new approaches
- Learning from their own experience and past history
- Learning from the experiences and best practices of others
- Transferring knowledge quickly and efficiently throughout the organization

Summary (D. A. Garvin)

" Continuous improvement requires a commitment to learning. ・・・ In the absence of learning, companies – and individuals – simply repeat old practices.

" The first step is to foster an environment that is conductive to learning. There must be time for reflection and analysis, to think about strategic plans, dissent customer's needs, assess current systems, and invent new products.

28

Conclusion

Collaboration between Eastern and Western

Collaboration between Knowledge and Skill / Think and Act(Implement)

Collaboration between New Technology and Kaizen (IT & AI)

Japanese Way Of KAIZEN Practice

Learning by Doing

To master Japanese " Accomplishments "

- Keep (Maintain)
- Break (Improve)
- Leave (Innovate)

Japanese Accomplishments

Flower Arrangement

華道

Tea Ceremony

茶道

Traditional **Dance**

日本舞踊

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