



QR VIEWS

A BIMONTHLY PUBLICATION OF NIQR TRIVANDRUM BRANCH

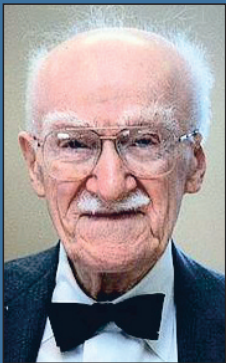
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No 01/2021

Jun 2020 - Jan 2021

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Quality planning consists of Developing the Products and Processes required to meet Customer's Needs

- JOSEPH M. JURAN

1.0 Chairman's Message



Dear Members,

At the outset, let me wish all NIQR Members and their Families a Happy hassle free 2021. I am very happy to interact with you through QR Views.

The year 2020 has passed causing lot of difficulties to the mankind worldwide. At the same time it has created new opportunities too especially in the field of digital technology. We have become more health conscious in maintaining cleanliness, sanitization and discipline by way of maintaining social distancing etc.,

During the Pandemic period we have conducted Webinar and EC Meetings through Google Meet. I thank all the EC Members and NIQR Members for the active support for the online meetings. We also added one more Student Chapter from Saintgits College of Engineering, Kottayam with our Branch. The Student Chapter was inaugurated in Virtual mode on 12 November 2020 with a Quality Day talk on "Importance of Standards" by our Vice Chairman Shri.K R Mohan Anantha narayanan. The Audit of Accounts was also completed, discussed in EC and sent to our NIQR Head Quarters. When the normalcy is resumed we will have our AGM. We wish to have more programmes in 2021 with your active support.

With Greetings

C. Athi Pagavan





2.0 Official Inauguration of NIQR Saintgits College of Engineering Students chapter on World Quality day 12th November 2020



World Quality Day is first promulgated by the United Nations in 1990, celebrated annually on the 2nd Thursday of November. Aim of Quality Day is to raise quality awareness among nations (Internationally) and role of quality. NIQR is a body emphasizing the Quality and Reliability of Products and Services rendered to public by various companies. NIQR is Indian in outlook and attuned to the needs of Indian industry and business. NIQR is playing a key role in National Quality Movement as a Board Member of NBQP and also Governing Council Member of Quality Council of India (QCI), which is playing a pivotal role in promoting, adopting and adhering to quality standards in all important spheres of activities at National level. This chapter shall thus expose the benefactors (students) to value added training, workshops and sessions catered by experts from the industrial and research fields.

The program started with a silent prayer. The welcome speech was given by Principal, Dr. Josephkunju Paul C, and Presidential Address by Er. Punnoose George, Executive Chairman & Secretary - Governing Board. Mr. C. Athi Pagavan Chairman NIQR, Trivandrum branch introduced about NIQR and Mr. P. Muthuganapathy, Secretary NIQR, Trivandrum branch explained about NIQR and NIQR Student Chapter. The NIQR-SCE student chapter was officially inaugurated and a talk on "Importance of Standards" was given by Mr. K.R. Mohan Ananthanarayanan, Vice-chairman NIQR, Trivandrum branch. The talk was followed by a discussion with audience and concluded with vote of thanks by Ms. Veena A Kumar NIQR-SCE Chapter Faculty-in-charge. Around 100 participants attended the programme which includes external members, students and faculties from different colleges.

3.0 8 KEY JAPANESE QUALITY MANAGEMENT TERMS TO KNOW

Why are so many quality terms in Japanese? Since the majority of quality management principles can be traced back to Japan's automotive industry, it's not entirely surprising. But what do these terms actually mean?

While many still debate the true origins of some of these Lean and Six Sigma terms, there's no question they play a major role from the plant floor on up to accounting.

If you've ever wondered about the translation and meaning behind these terms, here's a list of eight terms underpinning common Lean principles.

1. KAIZEN

While there's no direct translation into English, Kaizen most closely translates to "change for the good."

Manufacturers often come across this term when participating in a Lean event called a Kaizen Blitz. During a Kaizen event, a team of employees from different areas works on a week-long project to improve a specific process and reduce waste. This short-term project is followed by analysis and, often, a change in the product line or area.

2. MURI

In the 3 Ms of Lean, the first M, Muri, most closely translates to "overburden" or "over-exhaustion." The concept of Muri comes from employees or machines being pushed beyond a certain reasonable limit, to the

point where that overburden actually slows down the process. Directly translated as "totally unreasonable", it's no wonder that Muri is traditionally the first thing that plant managers focus on reducing.

3. MURA

The second of the 3 Ms, Mura, roughly translates to or "inconsistency." Mura can create big obstacles for quality, especially when it leads to variation in a standard process.

Multiple culprits can cause this unevenness, but it often results from fluctuations in customer demand. If customer demand unexpectedly increases, production can become overburdened (Muri). If demand unexpectedly decreases, it can create surplus or waste items that can't be moved, called Muda (which we discuss below).

Manufacturers can reduce Mura by analyzing previous production and sales patterns to better predict customer demand and level out production schedules accordingly.

4. MUDA

Translating to "waste" or "wasteful activity," the third M of the 3 Ms in Lean aims to reduce unnecessary work and improve efficiency. If a plant can reduce Muda, it can increase productivity and profits while staying cost-efficient. In the Toyota Production System, the seven types of waste include:

- Transport, • Inventory, • Motion, • Waiting,
- Overproduction, • Over-processing, • Defects

Not only are the 3 Ms important to reduce, the order in which you address them is also critical. That's because by reducing Muri and Mura, you're actively working towards eliminating Muda.

5. POKA-YOKE

Originating from the 1960s as part of the Toyota Production System, Poka-Yoke aims to create fail-safes and prevent human error wherever possible. It's usually a mechanism or added step built into the process to alert the operator of a mistake that needs immediate corrective or preventive action.

An example of Poka-Yoke in everyday life is when you have to step on the brake or clutch pedal before starting your car. In this example, the extra process step prevents immediate forward acceleration, preventing potential accidents.

6. KATA

Kata literally means *"the form and order of doing things."* Obsession with quality and executing processes in the correct and appropriate order is deeply rooted in Japanese culture.

Instead of rushing to fix a problem when you have little to no insight, Kata encourages thinking before doing. When plant managers coach Kata, they stress the importance of periodic observation, critical thinking, guidance and problem-solving skills. Through Kata, managers are able to focus on not only continuous

improvement, but also innovation.

7. GEMBA

The term Gemba means *"the actual place,"* and in manufacturing, the actual place of work typically refers to the shop or plant floor. Many manufacturers are already familiar with the concept of a Gemba Walk, where team members go to the plant floor and observe processes in action.

It's also important to note that the purpose of the Gemba walk isn't to correct people or shame operators who aren't following the process exactly. Gemba walks are meant to bring teams closer together and improve processes by identifying problems at the source.

8. GENCHI GEMBUTSU

This Japanese phrase translates to *"go and see for yourself,"* also originating from the Toyota Production System. The idea behind Genchi Gembutsu is going beyond just looking at problems from afar and seeing the source of them yourself at the Gemba.

Managers often hear about a problem from someone else and accept that secondhand information as fact. Going to see the problem area with your own eyes inevitably helps improve problem-solving and insight into other potential problems.

While these terms represent common quality management practices, having a deeper understanding of their meanings can increase your effectiveness on the plant floor. Simply put, reducing waste and improving your bottom line requires understanding all the different forms of inefficiency and their source.

4.0 “MONOZUKURI” and “HITOUZUKURI”

KR Mohan Ananthanarayanan

*Retd. Head Quality Division Mechanical VSSC
Vice-chairman NIQR Trivandrum Branch*

At a time when there is a great stress for self-dependant and self-sustaining work culture in the country, the two organisational methods Monozukuri and Hitozukri show the way forward.

Monozukuri is a century-old, Japanese philosophy in craftsmanship. The word **“mono”** stands for product, while **“zukuri”** translates to making or creating. Making products is a culmination of craftsmanship among dedicated workmen. It blends the local cultural mind set with work ethics driven by continuous improvement for perfection. In general the term unites the physical attributes of a product (*e.g., aesthetic, usefulness, well-design, craftsmanship quality, etc.*) and the personal aspects of its maker (*e.g., pride, commitment, passion, etc.*) into the process

of making things. The ancient architecture, trade, innovation and industrial development can be traced to this quality of synchronisation of the maker and the make. In a self dependant and self sustaining work culture the aspects of Monozukri has to be applied to the factors of production viz; Material, Machine, Method, Human, Money and Environment.

'We make people before we make parts' is a quote from a top engineer from Toyota group. Monozukri's first step is making people with enough skills and temperament to create product and services. This step is termed as a Hitozukri. Hitozukuri is making people by constantly developing technical skills and the ability to solve problems with others in an atmosphere of mutual trust. The key term here is the

atmosphere of mutual trust. This is an aspect of Deming's 14 points where he says drive out fear so that everyone may work effectively.

Making people involves identification of the natural ability of a person and honing his skill through training aided with technology. It involves the following

- (i) Making him know the content and aspects of work in depth where he has inclination. There are skills like drawing that are innate and can be developed very usefully in design of structures.
- (ii) People should feel their progress not only in the completion of challenging jobs but in facing more challenging assignments. This happiness within or the work satisfaction has to evolve with management support. Tools, fixtures and machines evolve with continuous challenges faced by shop floor personnel.
- (iii) Motivating the people by appreciation of their work and providing training for better quality is the next factor. CNC machines have very much become the workhorse in precision machining today. Yet it is a black box for many who work on it and breaks down wait for the supplier maintenance engineer to turn up. People in-sight into the working of the machines can be improved by training.
- (iv) People should be allowed to think taking time instead of just repeating production and meeting the targets. There was a problem of having a null grinding set up for an actuator. After repeated attempts in the company this could not be

achieved. Then a machining sub-contractor who saw this problem agreed to set it right. All he wanted was a free hand to make a set up and take a trail with his own time limits. Working on a challenge with skill reduces the time limits on its own and within a week he succeeded in his small shop with an old machine. It was very cost effective too. Such people have to be identified and encouraged.

Monozurki recognizes the fact that humans are prime drivers and their ingenuity is the key for development of products and services that perform maintain quality and are offered at affordable price. In highly automated processes there are two aspects that aid monozurki. They are:

- **Standards:** A repetitive works hinges on the predictability of the process through defined set of working variables. But then there are unpredictable events that are encountered. These have to be solved by humans.
- **Jiodka:** In order to solve unpredictable problems it is important to make problematic situations and deviations from the standard appear as quickly. It helps to look at the conditions of the problem while they remain. Development machine diagnostics and alert systems fall in this category. When problems are solved the methods are incorporated into procedures and standards as workflow Kaizen.

Monozukuri hinges on human insight and ingenuity through kaizen: the conviction that no process is ever perfect and the spirit of always seeking a better way by trying things one at a time.

National Institution for Quality and Reliability (NIQR) Trivandrum & NIQR Amal Jyothi College Chapter organized a national webinar on "MONOZUKURI" and "HITOUZUKURI". Mr. Sherin Thampi, NIQR AJCE chapter, coordinated the overall webinar which was held on 16 September 2020 at 6.30 pm to 8.00 pm the Resource person for the webinar was Shri. KR MOHAN ANANTHANARAYANAN, Retd. HEAD QUALITY DIVISION MECHANICAL VSSC. The webinar focused on giving an overview of "Monozukuri" which stands for "making things". That is the passion for art of making things, which involves

keeping the spirit of craftsmanship alive within industrial production, by always striving for better quality and lower cost through kaizen. & "Hitozukuri" which stands for "making people" that is the passion and art of developing people through an education process, with an emphasis on life-long learning. This is about developing people's skills in their area of expertise, as well as their ability to work with others across functional boundaries.

The webinar record is available in YouTube link "<https://youtu.be/TdktIK-PoV8>".