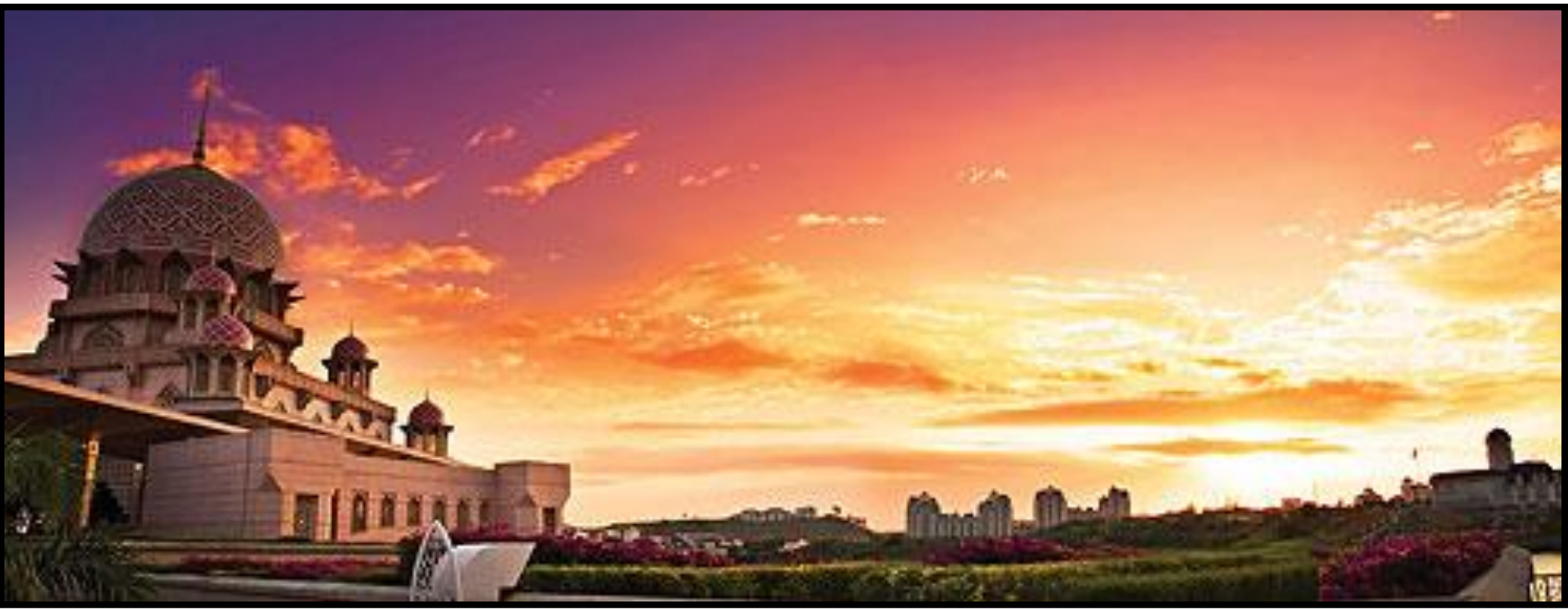
BENGKEL KIK

Bengkel Pelaksanaan Kumpulan Inovatif dan Kreatif (KIK)



BENGKEL KIK

OBJEKTIF BENGKEL

- Memperolehi pengetahuan mengenai konsep, prinsip dan amalan-amalan yang terdapat di dalam program KIK;
- Memberi pendedahan bekerja secara kumpulan;
- Memberi pemahaman mengenai teknik-teknik menyelesaikan masalah secara kualitatif dan kuantitatif; dan
- Berkebolehan merancang strategi dan jadual pelaksanaan penubuhan KIK di Bahagian/Unit masing-masing.

BENGKEL KIK

SKEMA PEMARKAHAN KIK 2012

Pemeriksaan Projek KIK (30%)

- Pemeriksaan terhadap validitasi data dan sumber data projek.
- Pemeriksaan terhadap penyeragaman projek dan penilaian kumpulan.

Penilaian Projek KIK Melalui Dokumentasi (40%)

- Penilaian ini diadakan secara bersemuka antara panel dan peserta semasa konvensyen berdasarkan dokumentasi projek.

Penilaian Persembahan Projek KIK (20%)

- Penilaian ke atas keberkesanan mempersembahkan projek selama 10 minit semasa konvensyen.

Penilaian Pameran Projek KIK (10%)

- Penilaian ke atas kreativiti dan inovasi kumpulan dalam mempamerkan dan mempromosikan projek yang dipertandingkan

BENGKEL KIK

SKEMA PEMARKAHAN KIK 2012

FORMAT (100%)	Asas	Apa yang dinilai
PEMERIKSAAN PROJEK KIK-ON SITE (30%)	• Untuk mengesahkan kesahihan projek/pengauditan dengan merujuk kepada buku KIK. • Pemeriksaan terhadap validasi data dan sumber data projek. • Pemeriksaan terhadap penyeragaman projek dan penilaian kumpulan.	• Jenis data, tempoh data, sumber data, minit mesyuarat, surat dan pemilihan masalah.
PENILAIAN PROJEK KIK MELALUI DOKUMENTASI - VIVA (40%)	• Merujuk kepada buku KIK. • Penilaian ini diadakan secara bersemuka antara panel dan peserta semasa konvensyen dokumentasi projek.	• Perlu dijelaskan/diterangkan 8 kriteria penilaian iaitu Pengenalan, Pemilihan Projek, Penjelasan Projek, Analisa Projek, Cadangan Penyelesaian, Tindakan Penyeragaman, Pencapaian Hasil Projek dan Penilaian Kumpulan. • Tools yang digunakan dalam projek.

BENGKEL KIK

SKEMA PEMARKAHAN KIK 2012

FORMAT (100%)	Asas	Apa yang dinilai
PERSEMBAHAN PROJEK KIK (20%)	• Panel tidak merujuk kepada buku KIK. • Penilaian ke atas keberkesanan mempersembahkan projek berasaskan kriteria yang ditetapkan dalam masa 10 minit semasa konvensyen. • Cara penyampaian adalah bebas, tak semesti berlakun, persembahan yang menarik.	• Projek tidak dinilai semasa persembahan. • Semasa persembahan, penilaian adalah penyampaian ringkas projek yang dihasilkan secara efektif dan berkesan. • Kurangkan penggunaan slaid dalam dokumen, olah balik presentation.
PAMERAN PROJEK KIK (10%)	• Tidak merujuk kepada buku KIK, ianya bebas. • Urus Setia tidak menyediakan display board, meja, kerusi, hanya luas kawasan ditanda. • Penilaian ke atas kreativiti dan inovasi kumpulan dalam mempamerkan dan mempromosikan projek yang di pertandingkan.	• Tahap pemahaman projek. • Diberitahu kepada kumpulan masa panel datang, jangan guna partition, tolak markah, macam setinggan. • Jangan bagi hadiah kepada panel semasa pemarkahan, bagi selepas penilaian. • Kos pameran yang sederhana.

BENGKEL KIK

Sesi 1 (a)

Sejarah

Quality Circles in Japan

BENGKEL KIK

Dr. Deming Speaks About Quality in Japan

A lot of people in the world talk about Q.C. circles; they don't realize that the environment is right in Japan and may not be right in America or in France. So I think people are going to have problems about Q.C. circles, because they do not have the proper environment for them. In Japan, you see, everybody works for the company, is in the company for life, the company is his, they are all used to working in groups, and the Q.C. circle formalization is simply Dr Kaoru Ishikawa's method of making the best possible use of this group efforts, that involves Japanese work. They instituted regional meetings so that top management could bring Q.C. circles from a part of the company to another. So they learn if something valuable somewhere may be applied elsewhere.

Conférence Nationale AFCIQ 1980
Paris, November 23th, 1980

BENGKEL KIK

Complete History of Evolution of Quality Circles in Japan

Statistical Quality Control

1947 : General Douglas McArthur requested US Govt to send experts to help Japanese rejuvenate their industries. Dr Edward Deming was sent.

1949 : An Overseas Technical Research Committee was organized by the Union of Japanese Scientists and Engineers (JUSE)

1949 : JUSE organized a seminar on "SQC"

1949 : JUSE organized a seminar "Quality Control- Basic Course"

1950 : JUSE published a magazine "SQC"

1950 : Dr Deming invited to eight day Quality Control seminar organized by JUSE

1951 : Deming prize instituted

1954 : Dr Joseph Juran invited to Quality Control Management seminar organized by JUSE

1956 : Japan's radio started broadcasting a Quality Control Course organized by JUSE

1960 : Japanese Govt declared November as Quality Month and Q-flag was adopted

BENGKEL KIK

Complete History of Evolution of Quality Circles in Japan

Quality Control Circles

1962 : First QC Circle was registered with QC Circle Head Quarters

1962 : First annual QC Conference for Foremen was held

1964 : Regional chapters of QC Circles were organized in four different districts

1966 : Dr Juran observed Japanese QC Circle activities

1966 : Special QC Circle session was organized at the 10th conference of European Organization for Quality Control held in Stockholm, Sweden

1967 : Number of registered QC Circles grew to 10,000

1968 : JUSE dispatched the first QC Circle Study Team overseas

1969 : 100th QC Circle Conference was held in Tokyo

1971 : First National QC Circle Conference was held in Tokyo

1978 : First international QC Circle Convention was held

1988 : More than one million Circles with over ten million members

The History of the Quality Circle In Japan

ALTHOUGH THE TERM "QUALITY CIRCLE" originated in Japan in 1962, its history can be traced to the 1940s. Its evolution can be broken into three phases:

- ***The first phase occurred when Japanese managers and shop workers studied statistical quality control techniques.***
- ***The second phase was a period of trial and error, when the Japanese adapted the foreign techniques to better suit their group-oriented culture.***
- ***The formal phase was the actual formation and registration of quality circles.***

The History of the Quality Circle In Japan

Phase 1

In 1949, just after the war, the Union of Japanese Scientists and Engineers (JUSE) was established to educate people about QC. It conducted a class, called The Basic Course, which is still offered today. JUSE gradually increased the number of seminars it offered. The Japan Standard Association, which was established in 1945, also began promoting QC.

The concept of statistical quality control was introduced to Japan by foreign academic experts in the late 1940s and early 1950s. Just after World War II, staff members of the U.S. General Headquarters' Civil Communications Section (CCS) were stationed in Japan. They were amazed at the number of problems within the Japanese telephone network.

One party was frequently unable to reach another. The culprit was the poor quality of the vacuum bulbs, a necessary part of telephone transmission at the time. Two staff members, Homer M. Sarasohn and Charles W. Protzman, were asked to give lectures to the companies manufacturing vacuum bulbs. Held in 1949, these seminars were limited to top managers. Later called the CCS Management Seminars, these lectures were the basis for Japanese statistical quality control.

The History of the Quality Circle In Japan

Phase 1

On July 10, 1950, W. Edwards Deming started an eight-day seminar on the theory of statistical quality control. Deming discussed how to make control charts and how to sample and inspect products.

While Deming and the CCS staff taught many statistical quality control techniques to the Japanese, the idea of the quality circle was not presented in these seminars.

Deming's 1950 lecture was published as the book Dr. W.E. Deming's Lectures on Statistical Control of Quality.' The book was widely read at that time Deming decided to donate all royalties from this book to JUSE. With those funds, JUSE established The Deming Prize, which has become the hallmark of good quality in Japan and a highly treasured award.

The CCS Management Seminars, Deming's seminar, and lectures given by J.M. Juran were the basis for creating quality circles. Without this instruction, Japan might not have been able to improve the quality of its products. In addition, Deming's generosity enabled the highly coveted Deming Prize to be founded.

The History of the Quality Circle In Japan

Phase 2

Initially, the Japanese had to determine a way to teach statistical quality control to foremen and shop workers who were geographically widespread. Since there were few knowledgeable teachers available, the solution to this problem came in the form of radio seminars. JUSE and the Japan Standard Association broadcast 17 seminars over the Japan Short-Wave Broadcast Network and Nihon Hoski Kyokai (NHK) Radio (the Japan Broadcasting Corporation) between 1956 and 1962. The seminars included Basic Quality Control, Guidance to Productive Management, and Japan Industrial Standard.

NHK Radio published one of these seminars as the book New Management and Quality Control, which was widely sold. In fact, it sold almost as many copies as the popular NHK Radio text teaching English conversation. Clearly, the radio seminars had made a strong impression on Japanese foremen and shop workers.

The History of the Quality Circle In Japan

Phase 2

In July 1961, many Japanese foremen attended a quality symposium. During this symposium, they indicated that they would like to see a magazine on quality that their shop workers could easily understand and assimilate. Although JUSE published Quality Control magazine, the foremen believed it was too complex.

As soon as JUSE heard this request, it started designing a new magazine for shop workers. It redirected one-third of its editorial staff to begin work on the new project; the late Kaoru Ishikawa was on that staff.

When the editorial staff members of the new magazine met, they weren't sure whether it was possible for the foremen and shop workers to continue QC studies by themselves, even with the aid of a new magazine. They did know, however, how decretive small gatherings at factories were in Japan, because they visited factories often. In these gatherings, workers studied and discussed QC.

The History of the Quality Circle In Japan

Phase 2

For example, shop workers at the Naoetsu Factory, Shin-Etsu Chemical Co. Ltd., formed a small group in 1959. This group, called the QC investigation group, met weekly to discuss how to improve the quality of the shops.

Komatsu Ltd., the largest manufacturer of bulldozers in Japan, also began a study group in its shops at the Awazu Factory. Other groups were also formed in the company. The groups compiled information and shared their findings with each other.

After seeing these groups' positive effects on their respective companies, the editorial staff members decided to promote and advocate such gatherings in the magazine. They also decided to refer to such groups as QC circles.

The new magazine, Genba to QC, debuted in April 1962. The first issue called for "the formation of quality circles by readers of this magazine." In conjunction with this release, the editorial committee organized JUSE's QC Circle Headquarters to register quality circles.

The History of the Quality Circle In Japan

Phase 2

In 1973, the name of the magazine was changed to FQC and later to QC Circle in 1988. Despite the name changes, the magazine's initial mission remained unchanged and is still followed today:

- ***This magazine should be easy to understand and should facilitate the education, training, and propagation of QC techniques and help first-line supervisors and foremen upgrade their control and improvement abilities.***
- ***The price of the magazine should be set low so that each foreman and worker can subscribe on his or her own initiative.***
- ***The magazine should encourage readers to organize, at the workshop level, a small group called the "QC circle," headed by the foreman and participated in by subordinate workers and should encourage them to study QC techniques using this magazine as a textbook among the groups.***

The History of the Quality Circle In Japan

Phase 2

To understand why such gatherings were promoted, certain contributing factors must be mentioned. At the time, foreign countries were putting pressure on Japan to liberalize imports. In June 1960, the list of liberalized products was announced. On this list were tires, wool, synthetic fibers, tractors, bulldozers, and automobiles. Due to this liberalization, Japanese companies had to make products whose quality was equal to that of their competitors. Japanese workers on all levels, from the chief executive officer to the shop worker, had to make a concerted effort to improve the quality of their products. As a result of this liberalization, one company improved its quality so much that it won a Deming Prize (see the "Bulldozer Manufacturer Makes the Grade“).

The History of the Quality Circle In Japan

Bulldozer Manufacturer Makes the Grade

In the 1960s, a company called Komatsu Ltd. did everything in its power to improve the quality of its midsize bulldozers because America's largest bulldozer manufacturer, the Caterpillar Tractor Co., announced it would enter the Japanese market. This American competitor was so famous that Komatsu Ltd. took notice immediately. The president of Komatsu Ltd. made a decision to improve the quality of midsize bulldozers and invited Kaoru Ishikawa to be a consultant to the company. The president warned his employees that, if they could not manufacture high-quality products comparable to those of the Caterpillar Tractor Co., the company would go bankrupt.

Top, middle, and lower managers attended quality control seminars given by the Union of Japanese Scientists and Engineers and the Japan Standard Association. They shared what they had learned with all the departments in the company. Small quality control circles were then formed.

To prove how much its quality had improved, Komatsu Ltd. applied for the Deming Prize. The company won the award in 1964. After receiving it, the workers at Komatsu Ltd. felt justifiably proud of the quality of their products.

The History of the Quality Circle In Japan

Phase 3

From the first quality circles formed, two different types emerged in the early 1960s. The first type is those groups that formed before Genba to QC was published and later became registered as quality circles. The second type is those groups that read Genba to QC's call for quality circles and decided to answer that call.

For example, Iwau Manabe, the head of the machinery section at NTT Corporation, discovered Genba to QC at a bookstore in Matsuyama City. (This would rarely happen today, since the magazine's subscribers receive it directly from JUSE; but in the early 1960s, this was not the case.) Manabe's section at NTT belonged to the Department of Communication, which supervised telephone relays. After reading the magazine, he gathered six staff members and formed a quality circle. Manabe registered his quality circle in May 1962, one month after the first issue of Genba to QC was published.

That group became the first registered quality circle in Japan. Manabe and his colleagues met once a week to read the magazine and analyze the breakdown of telephones caused by bad connections. Within a year, defects were reduced by one-third in his section.' The effectiveness of this first quality circle prompted others on Manabe's staff to join the group.

Housewives Receive Deming Prize

Since 1971, Tokyo has been the site of The All-Japan QC Circle's Conference, held annually in November. On Nov. 10, 1992, 18 quality circles attended this conference, five of which were awarded gold medals for their outstanding achievements. The 1992 gold medalists included a group of six housewives who sold prepared entrees part-time. To improve the efficiency of their department, these six women took it upon themselves to form a quality circle.

First, they engineered a way to reduce the inventory of daily unsold goods, using graphs and charts to analyze which days' entrees sold well and which days required less inventory. After work, these six women met at different members' houses to study basic quality control techniques, such as the Pareto chart and the cause-and-effect diagram. The women's study was mainly guided by their section chief and QC Circle magazine. Through these studies, they discovered that Tuesday's sales were the lowest and that their meat entrees were too heavy and spicy. To resolve this problem, they prepared fewer entrees on Tuesdays, changed the taste of the meat, and added new dishes. At the conference, they reported their discoveries and solutions and were awarded a gold medal of excellence.

QC Circle has been in existence since the early 1960s, when its subscribers were mainly manufacturing companies and full-time employees. Quality circle activities today, however, are widespread in Japan and include all industries and even part-time employees whose only incentive is to improve the efficiency of their jobs.

BENGKEL KIK

Sesi 1 (b)

Sejarah

International Convention on Quality Control Circles (ICQCC)

BENGKEL KIK

About the ICQCC ~ The History

The proposition of International Convention on Quality Control Circles (ICQCC) was made at the Korean Control Conference 1975 in Seoul. The Chairman of the Organizing Committee of the Conference proposed that opportunity of exchanging idea and experience on QC Circle activities should be held periodically among the countries for further development of the activities. For this reason, in 1976 the first International Convention on Quality Control Circle took place in Seoul.

As the International Convention progressed, the number of attending countries/regions increased. On top of that, there were a lot of demands on changing the organizer every year in turn. Under these circumstances, in the ICQCC 1986 Seoul, all the participating countries/regions came to an agreement that all of them were divided into two groups (Group A and Group B) geographically, and each Group would host the Convention alternately.

Group A (North): *China, Taiwan, Hong Kong, Japan, Korea and the Philippines*
Group B (South): *Bangladesh, India, Indonesia, Malaysia, Singapore, Sri Lanka and Thailand*

BENGKEL KIK

About the ICQCC ~ The History

The International Convention on Quality Control Circles (ICQCC) host

Year	Location	Year	Location	Year	Location
1976	Seoul	1985	Tokyo	1994	Hong Kong
1977	Taipei	1986	Seoul	1995	Yokohama
1978	Tokyo	1987	Bangkok	1996	Kuala Lumpur
1979	Seoul	1988	Taipei	1997	Beijing
1980	Taipei	1989	New Delhi	1998	Colombo
1981	Tokyo	1990	Tokyo	1999	Manila
1982	Seoul	1991	Bali	2000	Singapore
1983	Taipei	1992	Seoul	2001	Taipei
1984	Manila	1993	Bangkok	2002	Lucknow

BENGKEL KIK

About the ICQCC ~ The History

The International Convention on Quality Control Circles (ICQCC) host

Year	Location	Year	Location	Year	Location
2003	Tokyo	2012	Kuala Lumpur	2021	
2004	Bangkok	2013	Taipei	2022	
2005	Changwon	2014	Colombo	2023	
2006	Bali	2015		2024	
2007	Beijing	2016		2025	
2008	Dhaka	2017		2026	
2009	Cebu	2018		2027	
2010	Hyderabad	2019		2028	
2011	Yokohama	2020		2029	

BENGKEL KIK

Sesi 1 (C)

Sejarah

Quality Circles in Malaysia

BENGKEL KIK

Year	Activities
1971	Matsushita formed 1st QC Circle in Malaysia
1982	Study Mission on QCC to Japan & Korea
1982	NPC Malaysia organised 1st Seminar on QCC
1983	NPC Malaysia joined Asian Productivity Organization (APO)
1983	1st National Productivity Campaign
1984	1st Regional QCC Convention
1984	1st National QCC Convention
1987	TQM Secretariat replaced QCC Secretariat

BENGKEL KIK

Year	Activities
1994	Introduced Mini QCC Convention
1995	1st QCC Newsletter
1996	NPC Malaysia organised ICQCC'96
1997	2nd National Productivity Campaign

BENGKEL KIK

Year	Activities
2001	1st Brainstorming Session on the New QCC Presentation Judging Criteria
2003	Seminar on the New QCC Presentation Judging Criteria
2004	Transition year (from QCC to ICC)
2005	QCC is replaced by ICC (Innovative and Creative Circles)
2007	Introduction of Public Sector Category at National Convention

BENGKEL KIK

Sesi 2 (a)

Definisi Kualiti

Meaning of Quality

BENGKEL KIK

WHAT IS QUALITY?

Quality can be defined only in terms of the agent. Who is the judge of quality? In the mind of the production worker, he produces quality if he can take pride in his work. Poor quality, to him, means loss of business, and perhaps of his job. Good quality, he thinks, will keep the company in business. Quality to the plant manager means to get the numbers out and to meet specifications. His job is also, whether he knows it or not, continual improvement of leadership

Out of the Crisis, W. Edward Deming

BENGKEL KIK

What is Quality?

JURAN	**:**	**fitness for use**
ISHIKAWA	**:**	**customer satisfaction**
CROSBY	**:**	**confirmance to requirements**
THOMAS H. BARRY	**:**	**meeting customers' needs and reasonable expectation**
THE OXFORD DICTIONARY	**:**	**the degree of excellence**

Quality of a product or services is its ability to satisfy the needs and expectations of the customer

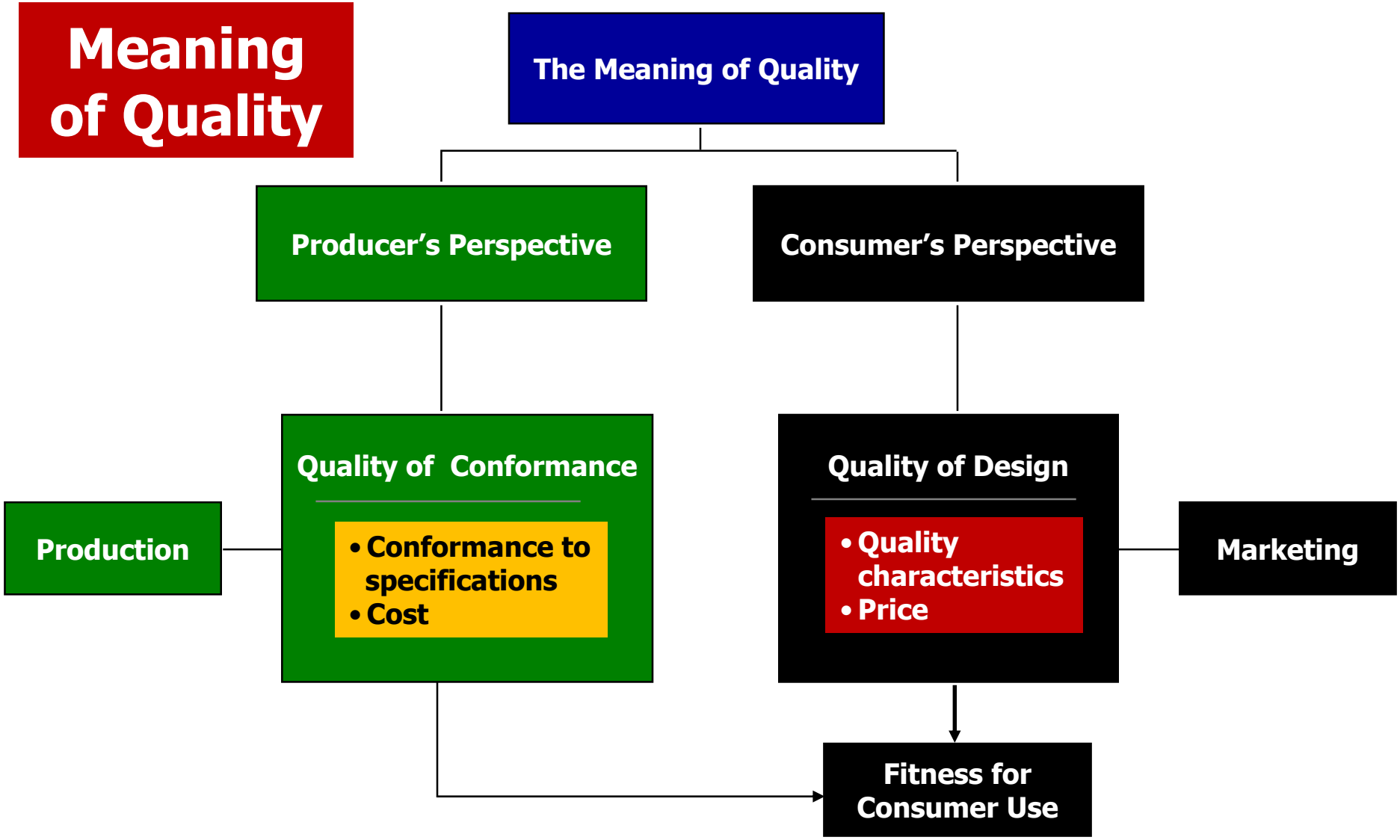
BENGKEL KIK

What Is Quality: Customer's Perspective

- **Fitness for use**
  - **how well product or service does what it is supposed to**
- **Quality of design**
  - **designing quality characteristics into a product or service**
- **A Mercedes and a Ford are equally "fit for use," but with different design dimensions.**

BENGKEL KIK

Meaning of Quality



BENGKEL KIK

What Is Total Quality?

Total Quality consists of continuous improvement activities involving everyone in the organization – managers and workers – in a totally integrated effort toward improving performance at every level. This improved performance is directed toward satisfying such cross-functional goals as quality, cost, schedule, mission need, and suitability. Total Quality integrates fundamental management techniques, existing improvement efforts, technical tools under a disciplined approach focused on continued process improvement. The activities are ultimately focused on increased customer/user satisfaction.

U.S. Department of Defense (DOD)

BENGKEL KIK

Definition of TQM (BS4778:1991)

"A management philosophy embracing all activities through which the needs and expectations of the CUSTOMER and COMMUNITY, and the objectives of the organization are satisfied in the most efficient and cost effective manner by maximising the potential of ALL employees in a continuing drive for improvement."

BENGKEL KIK

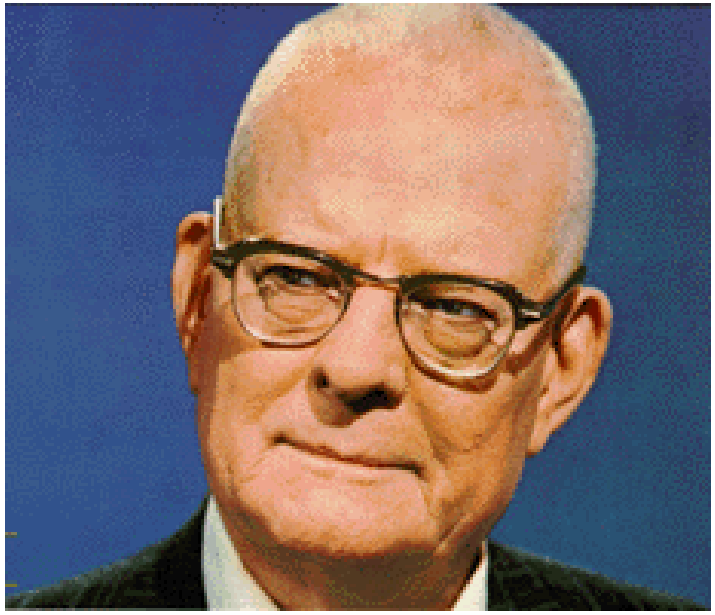
DEFINITION OF TOTAL QUALITY MANAGEMENT

"... a people-focused management system that aims at continual increase in customer satisfaction at continually lower real cost. Total Quality is a total system approach (not a separate area or program), and integral part of high-level strategy. It works horizontally across functions and departments, involving all employees, top to bottom, and extends backwards and forwards to include the supply chain and the customer chain..."

(Rampey and Roberts, 1992)

Basic Message

The cause of inefficiency and poor quality is the system, not the employees and it is management's responsibility to correct the system in order to achieve desired results.



BENGKEL KIK

Sesi 2 (b)

Definisi Kualiti

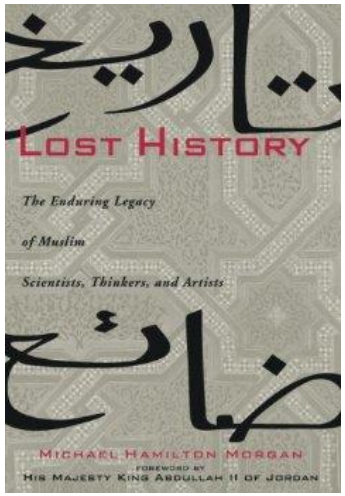
Continuous or Continual

BENGKEL KIK

When did the science of improvement begin?

- **Juran states that the origin of handicraft industries and their quality control in China's history can be traced back from the 16th century.**
- **B.C. Galileo is often credited with being the father of modern science and the first person to begin the development of the scientific methods. Aristotle too been credited for the beginning of these method.**
- **Steffens and Morgan has credited Ibn al-Haytham (965-1040) as being the first scientist and the use of empiricism and learning through testing at around 1020.**

BENGKEL KIK



…The core lessons of his writings is that science must be based on empirical methods. As far as we know, Ibn al-Haytham is the first scholar to absolutely apply this principle of empiricism without mercy. While the Greeks had understood experimentation and empiricism, they were too often prone to proving their point through intellectual theorizing. Ibn al-Haytham knows better. No human mind, no matter how brilliant, is capable of theorizing the physical world. It must be measured and observed. Throughout his writings, he will make clear that he questions all scientific assumptions until proven by testing. Like the scientists of a thousand year later, he will take no scientific statements on faith.

Morgan, Michael Hamilton, 2007. Lost History – The Enduring Legacy of Muslim Scientists, Thinkers, and Artists. National Georgraphic Society, Washington, D.C., see page 103.

Ibn Al-Haytham , originally from Basra, Iraq, but spent the better part of his life in Cairo, Egypt

BENGKEL KIK

What is continuous improvement?

Making frequent small changes to improve quality the seeking of small improvements in processes and products, with the objective of increasing quality and reducing waste. Continuous improvement is one of the tools that underpin the philosophies of total quality management. Through constant study and revision of processes, a better product can result at reduced cost.

BENGKEL KIK

What is continual improvement?

Continual improvement is a type of change that is focused on increasing the effectiveness and/or efficiency of an organisation to fulfil its policy and objectives. It is not limited to quality initiatives. Improvement in business strategy, business results, customer, employee and supplier relationships can be subject to continual improvement. Put simply, it means 'getting better all the time'.

Continuous or Continual?

- **Continual improvement is broader in scope than continuous improvement. Continuous improvement is a subset of continual improvement. Continual improvement also includes room for "discontinuous" improvements (improvements that are not like in kind to what came before - another term for this might be innovative or radical improvements such as are sought after in most reengineering efforts, or in the lean manufacturing movement).**
- **Continuous improvements are linear, incremental improvements to an existing process (Kaizen). Continual improvement includes this, as well as discontinuous/innovative improvement.**
- **In other words, continual improvement speaks to the PROCESS of improvement (always and forever (continually) ongoing, in all of its forms and in all areas) rather than the NATURE of the improvements (continuous vs discontinuous).**

Continuous or Continual?

Merriam-Webster on-line makes that distinction as well, using the example of showers over the weekend. Continuous showers means the rain will never stop. Continual showers means that the rain will start and stop regularly over the weekend.

So continual seems to be the term that is most appropriate when it comes to organization's improving. Improvement typically happens in spurts or stops and starts; improvement doesn't constantly happen without interruption.

Continuous or Continual?

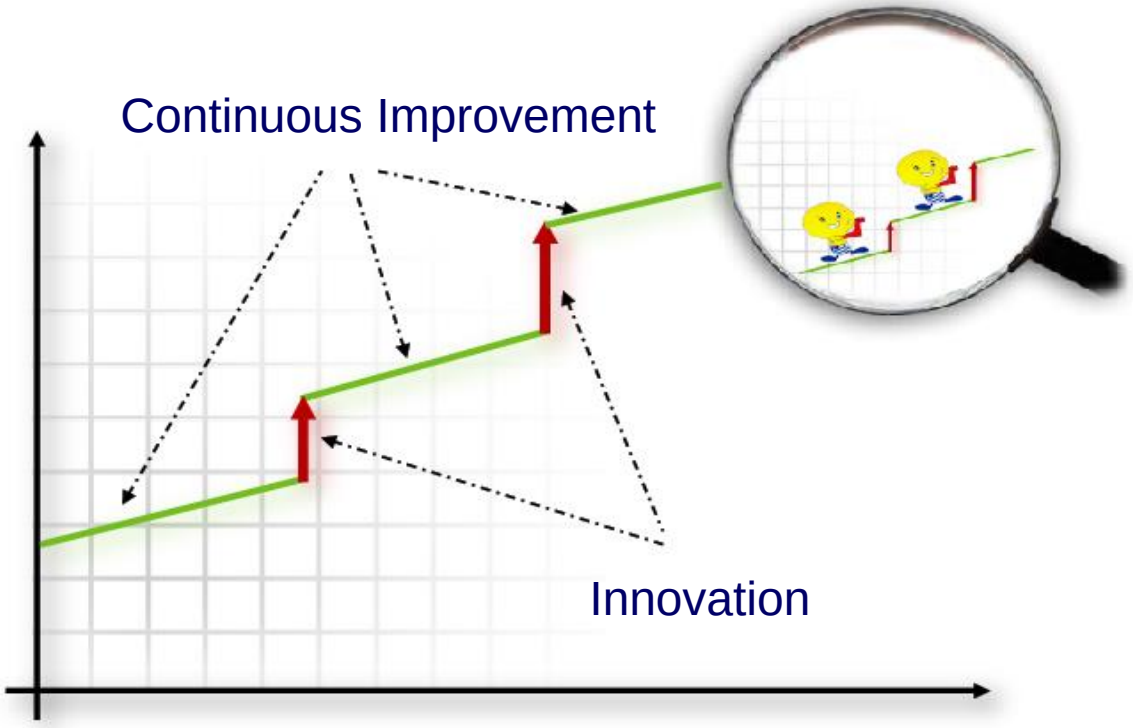
The terms continuous improvement and continual improvement are frequently used interchangeably. But some quality practitioners make the following distinction:

- **Continual improvement: a broader term preferred by W. Edwards Deming to refer to general processes of improvement and encompassing "discontinuous" improvements—that is, many different approaches, covering different areas.**
- **Continuous improvement: a subset of continual improvement, with a more specific focus on linear, incremental improvement within an existing process. Some practitioners also associate continuous improvement more closely with techniques of statistical process control.**

BENGKEL KIK

Continuous Improvement vs. Innovation

Act now and go step by step, don't immediately seek perfection!



BENGKEL KIK

Incremental Improvements

Occasional Large scale Improvements

A P C D

Continually Improving Improvement

Quality Management System

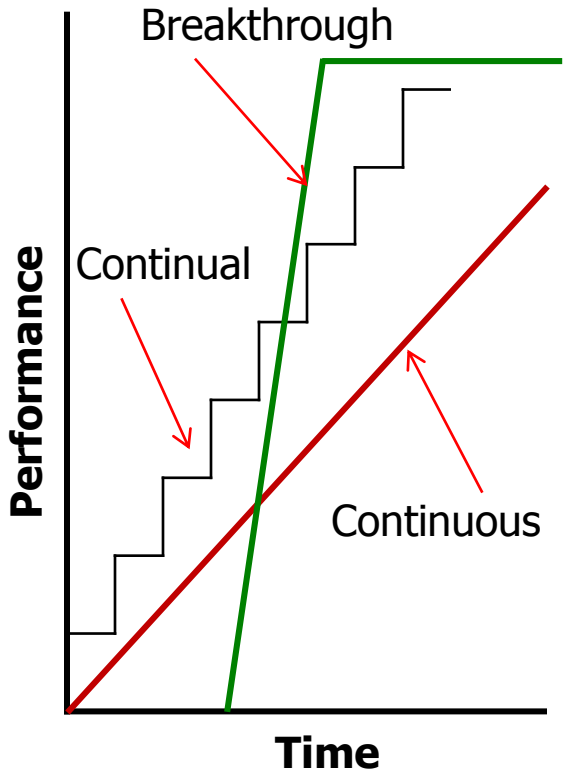
ISO 9001:2008

BENGKEL KIK

Gradual, incremental or breakthrough

There are three types of improvement.

- **Continuous improvement is gradual never-ending change, whereas continual improvement is incremental change. Both types of improvements are what the Japanese call Kaizen.**
- **Breakthroughs are improvements but in one giant leap - a step change. However, the method of achievement is the same but breakthroughs tend to arise out of chance discoveries and could take years before being made (see illustration).**



"Think of continuous improvement as a straight track, and we are moving in one direction along it. Continual improvement happens in peaks and plateaus, adjusting what we do along the way. Measurement of improvement looks more like a staircase."

Remember:
Not all changes are Improvements

Deming said of all the changes he had observed, "only about 5% were improvements… the rest, at best were illusions of progress!"

How Will I Know That a Change is An Improvement?

- **Data, pre-post**
- **Can be measures or observations**
- **If you can observe an event (or even its effects) you can measure it. If you can measure it you can improve it.**

Variation

- Every process and measure has variation
- There are two types, Common Cause and Special Cause
- Important to understand the differences between Common and Special Cause
- Special Cause is unpredictable and can lead to unstable processes
- Improvement should focus on stable processes; data can help you determine stability

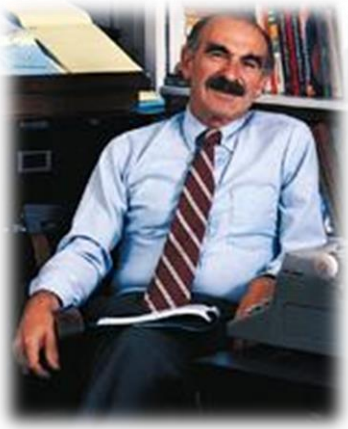
BENGKEL KIK

Sesi 2 [C]

Definisi Kualiti

Innovation dan Creativity

BENGKEL KIK



"***Creativity*** is thinking up new things. ***Innovation*** is doing new things."
– Theodore Levitt (*Economist, Professor*)

"**Innovation** distinguishes between a leader and a follower"
– Steve Jobs
(ex *Chairman & CEO of Apple Inc.*)

"When you **innovate**, you've got to be prepared for everyone telling you you're nuts."
– Larry Ellison (*co-founder Oracle Corp.*)

"If we want to have the biggest impact, the best way to do this is to make sure we always focus on **solving the most important problems**"
– Mark Zuckerberg (*Chairman & CEO of Facebook Inc.*)

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Where can I find innovation?

"Innovation is everywhere; the difficulty is learning from it"

John Seeley Brown

Definition : Innovation

'Innovation' is the successful exploitation of new ideas. It is the process that carries them through to new products, new services, new ways of running the business or even new ways of doing business.

Innovation differs from invention in that innovation refers to the use of a new idea or method, whereas invention refers more directly to the creation of the idea or method itself.

Anglepoise Lamp, 1932
Designer: George Carwardine

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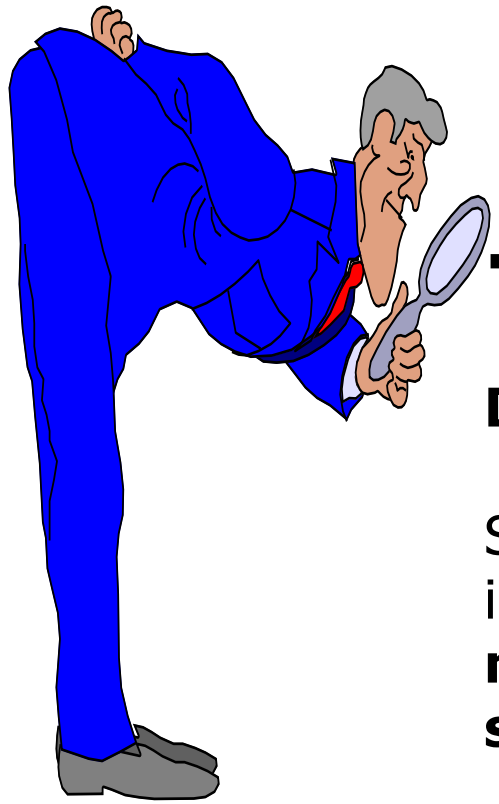
iNnovation



What is it?

…concerned with the **new or the novel.**

Distinction between innovation and invention?

Schumpeter's useful definition between invention and innovation **"Invention implies bringing something new into being; innovation implies bringing something new into use".**

Schumpeter's distinction between "Invention" and "innovation"

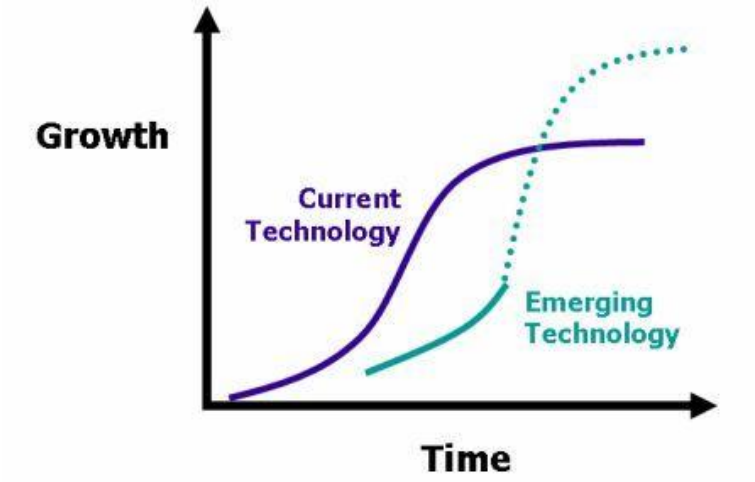
- An **'invention'** is an idea, a sketch or model for a new or improved device, product, process or system. It has not yet entered to economic system, and most inventions never do so.
- An **'innovation'** is accomplished only with the first commercial transaction involving the new product, process, system or device. ***It is part of the economic system***.

INNOVATION

The word innovation derives from the Latin word *innovatus*, which is the noun form of *innovare* "to renew or change," stemming from *in*—"into" + *novus*—"new".

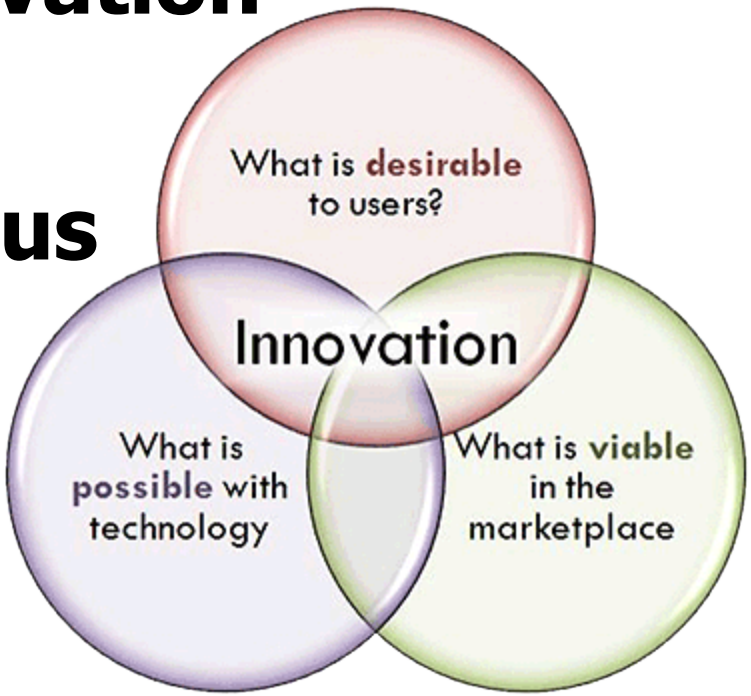
Diffusion of innovation research was first started in 1903 by seminal researcher Gabriel Tarde, who first plotted the S-shaped diffusion curve. Tarde (1903) defined the innovation-decision process as a series of steps that includes:

- **First knowledge**
- **Forming an attitude**
- **A decision to adopt or reject**
- **Implementation and use**
- **Confirmation of the decision**



What is Innovation?

- **Innovation means renewal or alter**
- **Prerequisite for innovation is the dissatisfaction with the current status and an inquisitive mind**



Dimensions of Innovation

the '4Ps' of innovation

- ***Product innovation***: changes in the things (products or services) which an organization offers
- ***Process innovation***: changes in the ways in which they are created an delivered
- ***Position innovation***: changes in the context in which the product or services are introduced
- ***Paradigm innovation***: changes in the underlying mental modes which frame what an organization does

Oslo Manual

- **Product innovation**
  - A good or service that is new or significantly improved. This includes significant improvements in technical specifications, components and materials, software in the product, user friendliness or other functional characteristics.
- **Process innovation**
  - A new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software.
- **Marketing innovation**
  - A new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing.
- **Organisational innovation**
  - A new organisational method in business practices, workplace organisation or external relations.

Classification of innovations

SYSTEM

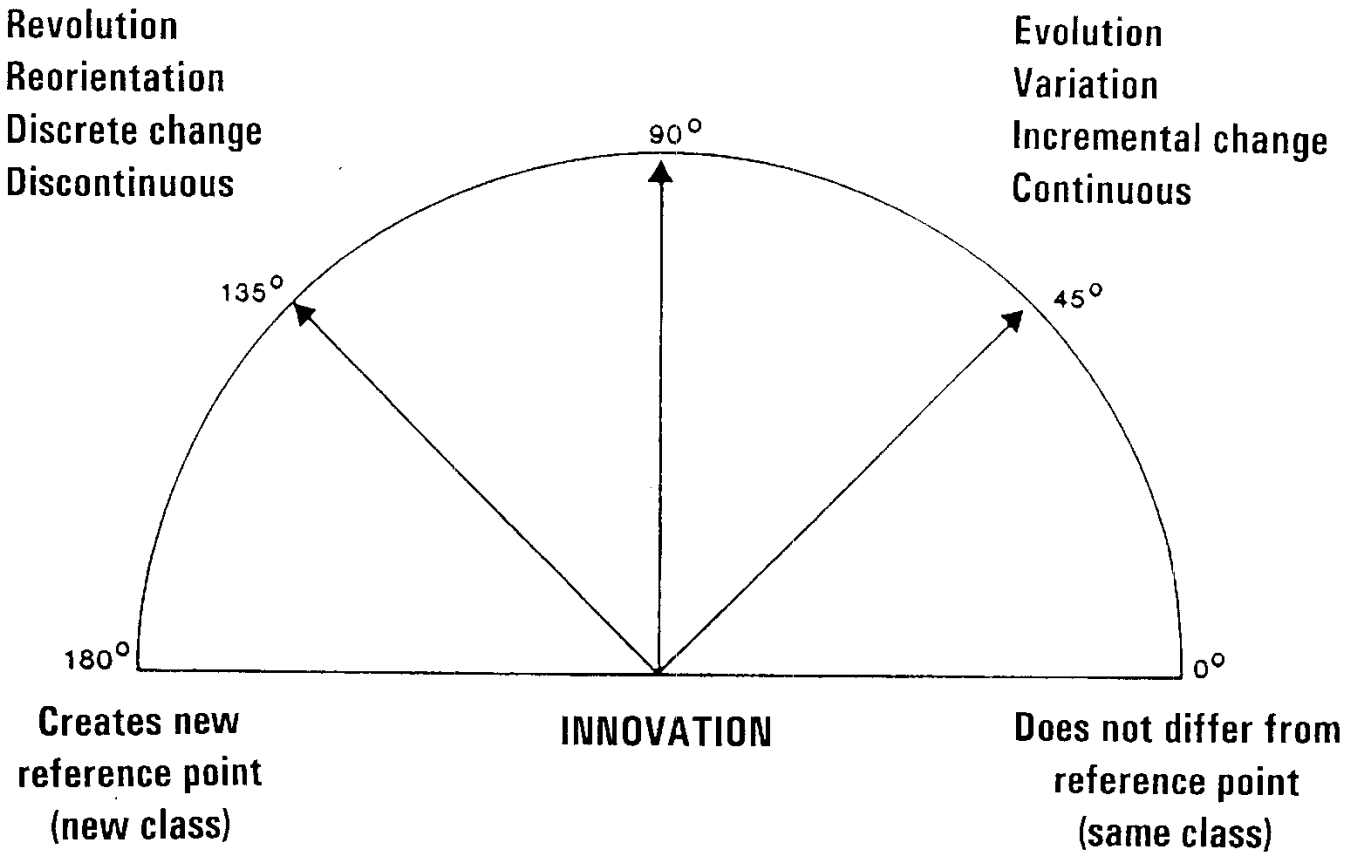
COMPONENT

New series of cars, planes, computers, TV	New generation (MP3 and download as substitution of CD)	Steam engine, ICT, biotechnology, nanotechnology
Improvement of components	New components for existing systems	Advanced materials improving component properties

INCREMENTAL → **RADICAL**

„do better what we already do" | **„new for the company"** | **„new for the world"**

INNOVATION DIMENSIONS



Definition : Creativity

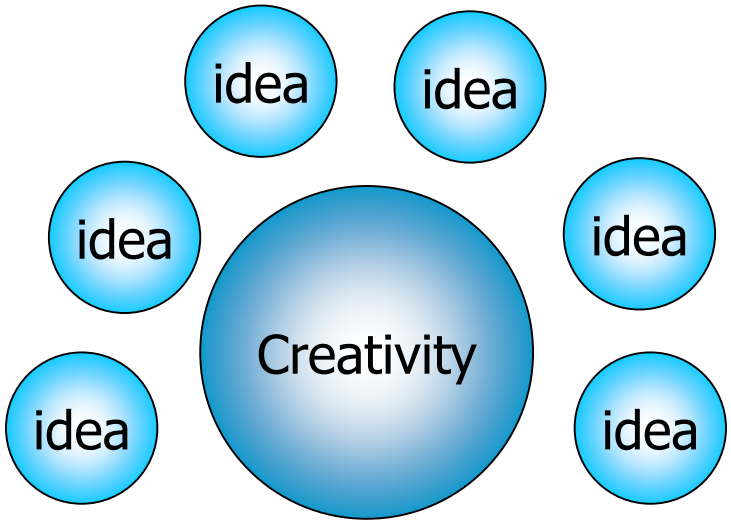
'Creativity' is the generation of new ideas

either new ways of looking at existing problems,

or of seeing new opportunities,

perhaps by exploiting emerging technologies

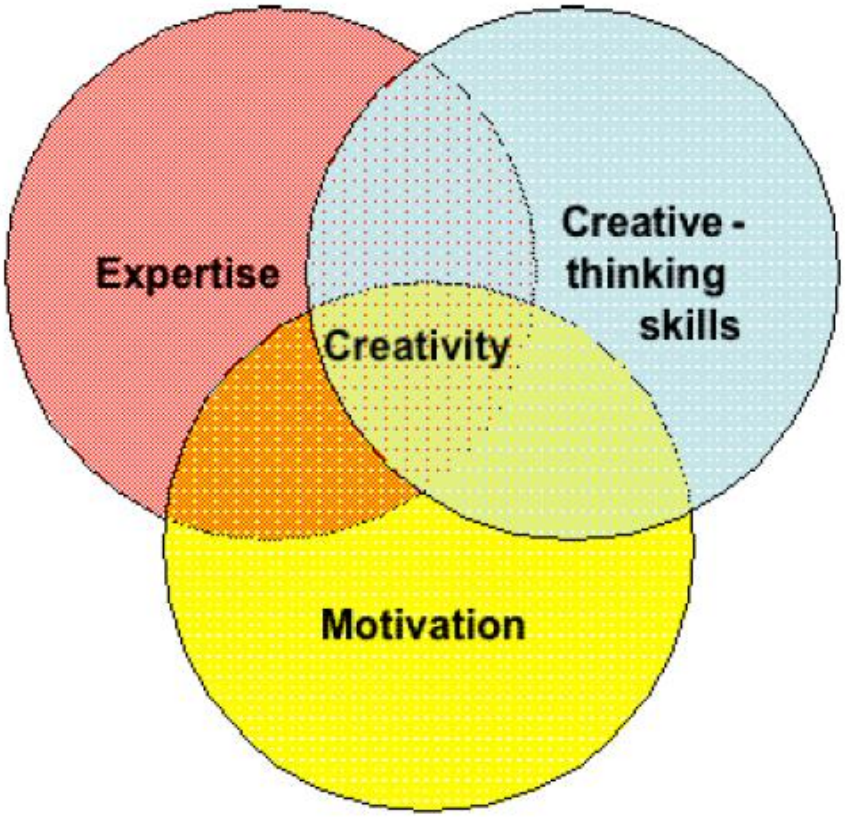
or changes in markets



The lexeme in the English word creativity comes from the Latin term creō "to create, make" .

Three Components of Creativity

Expertise: knowledge-technical, procedural and intellectual



Creative thinking skills: How flexibly and imaginatively people approach problems

Motivation: Intrinsic is more effective than extrinsic

Defining Innovation and Creativity

- **Innovation is using an existing idea for a laterally different purpose or application**
- **Creativity is doing things that has not been done before**

Innovation and creativity

- creativity is manifested in the production of a creative work (for example, a new work of art or a scientific hypothesis) that is both *original* and *useful*
- innovation begins with creative ideas,
  - creativity by individuals and teams *is a starting point for innovation*; the first is a necessary *but not sufficient* condition for the second

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Fascinating facts about the invention of **Post-it Notes** by **Arthur Fry** and **Spencer Silver** in **1974**.

POST-IT® NOTES

A man named Spencer Silver was working in the 3M research laboratories in 1970 trying to find a strong adhesive. Silver developed a new adhesive, but it was even weaker than what 3M already manufactured. It stuck to objects, but could easily be lifted off. It was super weak instead of super strong.

No one knew what to do with the stuff, but Silver didn't discard it. Then one Sunday four years later, another 3M scientist named Arthur Fry was singing in the church's choir. He used markers to keep his place in the hymnal, but they kept falling out of the book. Remembering Silver's adhesive, Fry used some to coat his markers. Success! With the weak adhesive, the markers stayed in place, yet lifted off without damaging the pages.

3M began distributing Post-it ® Notes nationwide in 1980 -- ten years after Silver developed the super weak adhesive. Today they are one of the most popular office products available.

The yellow colour was chosen by accident; a lab next-door to the Post-it team had scrap yellow paper, which the team initially used.

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3M and post-it notes