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MANAJEMEN KUALITAS DAN INOVASI

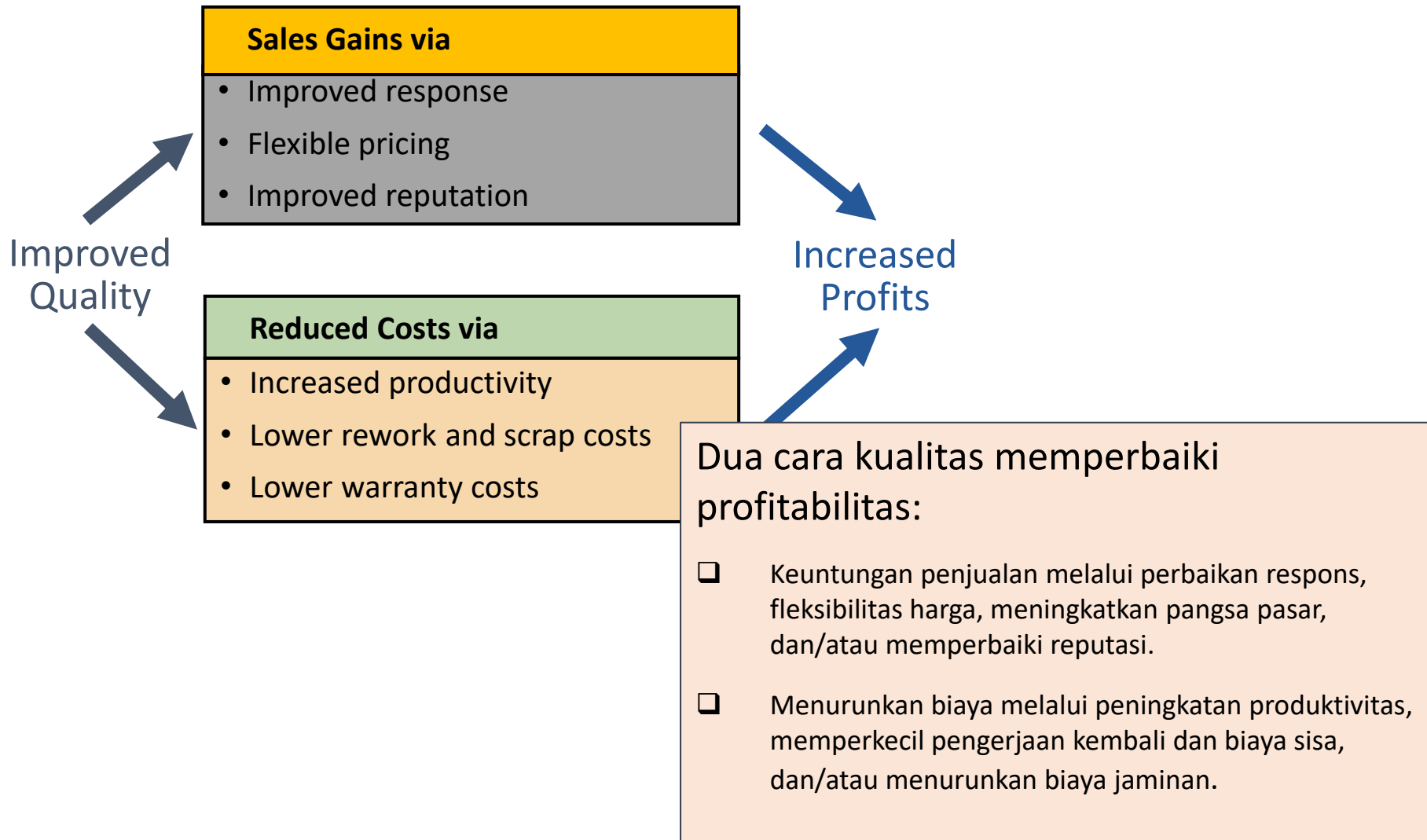
Quality and Strategy

Pengelolaan kualitas dapat membantu dalam membangun strategi yang berhasil dalam diferensiasi, biaya rendah, dan respons.

Kualitas meningkatkan penjualan dan mengurangi biaya.

Membangun organisasi yang berkualitas adalah tugas yang paling penting.

Two Ways Quality Improves Profitability



THE FLOW OF ACTIVITIES

Organizational Practices

Leadership, Mission statement, Effective operating procedures, Staff support, Training

Yields: What is important and what is to be accomplished

Quality Principles

Customer focus, Continuous improvement, Benchmarking, Just-in-time, Tools of TQM

Yields: How to do what is important and to be accomplished

Employee Fulfillment

Empowerment, Organizational commitment

Yields: Employee attitudes that can accomplish what is important

Customer Satisfaction

Winning orders, Repeat customers

Yields: An effective organization with a competitive advantage

DEFINING QUALITY

An operations manager's objective is to build a total quality management system that identifies and satisfies customer needs

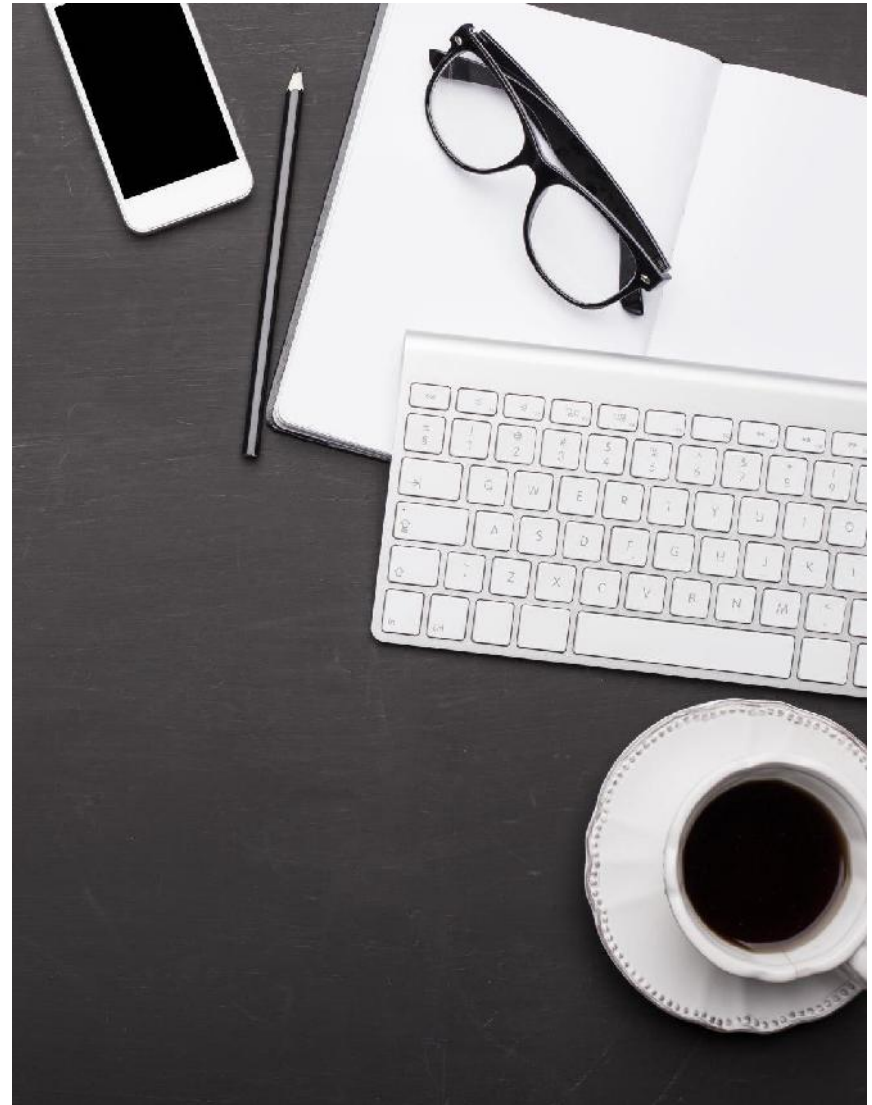
DEFINING QUALITY

The totality of **features and characteristics** of a product or service that bears on its ability to **satisfy stated or implied needs**

American Society for Quality

DEFINING QUALITY

- Dalam Kamus Indonesia-Inggris kata mutu memiliki arti dalam bahasa Inggris quality artinya taraf atau tingkatan kebaikan; nilai sesuatu.
- Jadi mutu berarti kualitas atau nilai kebaikan suatu hal.



DEFINING QUALITY



Mutu adalah faktor yang mendasar dari pelanggan.

Mutu adalah penentuan pelanggan

Mutu berdasarkan atas pengalaman nyata pelanggan terhadap produk dan jasa pelayanan, mengukurnya, mengharapkannya, dijanjikan atau tidak, sadar atau hanya dirasakan, operasional teknik atau subyektif sama sekali dan selalu menggambarkan target yang bergerak dalam pasar yang kompetitif”.

Pemahaman Mutu

Mutu (Kualitas) produk dan jasa adalah seluruh gabungan sifat-sifat produk atau jasa pelayanan dari pemasaran, engineering, manufaktur, dan pemeliharaan di mana produk atau jasa pelayanan dalam penggunaannya akan bertemu dengan harapan pelanggan

Beberapa Definisi Profesional tentang mutu, antara lain :

- ❑ Mutu adalah gambaran total sifat dari suatu produk atau jasa pelayanan yang berhubungan dengan kemampuannya untuk memberikan kebutuhan kepuasan (American Society for Quality Control).
- ❑ Mutu adalah *"Fitness for use"*, atau kemampuan kecocokan penggunaan (J.M. Juran).
- ❑ Mutu adalah kesesuaian terhadap permintaan persyaratan (*The conformance of requirements*-Philip B. Crosby, 1979).

Banyak arti tentang mutu namun dua di antaranya sangat penting bagi manajer, meskipun tidak menyadarinya, yaitu :

Mutu sebagai keistimewaan Produk

- Di mata pelanggan, semakin baik keistimewaan produk semakin tinggi mutunya.

Mutu berarti bebas dari kekurangan (defisiensi)

- Di mata pelanggan semakin sedikit kekurangan, semakin baik mutunya.

Standar-standar Mutu

Standar produk dan jasa terdiri dari :

a) Kesesuaian dengan spesifikasi

b) Kesesuaian dengan tujuan dan manfaat

c) Tanpa cacat (Zero Defects)

d) Selalu baik sejak awal

Standar pelanggan terdiri dari :

a) Kepuasan pelanggan

b) Memenuhi kebutuhan pelanggan

c) Menyenangkan pelanggan

Zeithmalh, dkk (1990: 23

sepuluh ukuran kualitas jasa/ pelayanan, yaitu :

- 1) *Tangible* (nyata/berwujud)
- 2) *Reliability* (keandalan)
- 3) *Responsiveness* (Cepat tanggap)
- 4) *Competence* (kompetensi)
- 5) *Access* (kemudahan)
- 6) *Courtesy* (keramahan)
- 7) *Communication* (komunikasi)
- 8) *Credibility* (kepercayaan)
- 9) *Security* (keamanan)
- 10) *Understanding the Customer* (Pemahaman pelanggan)

- 1) *Tangible* (berwujud); meliputi penampilan fisik dari fasilitas, peralatan, karyawan dan alat-alat komunikasi.
- 2) *Realibility* (keandalan); yakni kemampuan untuk melaksanakan jasa yang telah dijanjikan secara konsisten dan dapat diandalkan (akurat).
- 3) *Responsiveness* (cepat tanggap); yaitu kemauan untuk membantu pelanggan (konsumen) dan menyediakan jasa/ pelayanan yang cepat dan tepat.
- 4) *Assurance* (kepastian); mencakup pengetahuan dan keramah-tamahan para pegawai
- 5) *Empaty* (empati); meliputi pemahaman pemberian perhatian secara individual
 - kepada pelanggan, kemudahan dalam melakukan komunikasi yang baik, dan
 - memahami kebutuhan pelanggan.

Keistimewaan produk yang memenuhi kebutuhan pelanggan :

- Mutu yang lebih tinggi dari produk memungkinkan (memberikan manfaat) untuk :
 - Meningkatkan kepuasan pelanggan.
 - Membuat produk mudah laku dijual
 - Memenangkan persaingan
 - Meningkatkan pangsa pasar
 - Memperoleh pemasukan dari penjualan
 - Menjamin harga premium
 - Dampak yang terutama adalah terhadap penjualan
 - Biasanya, mutu yang lebih tinggi membutuhkan biaya lebih banyak

Mutu yang bebas dari kekurangan :

Mutu yang lebih tinggi memungkinkan untuk :

- Mengurangi tingkat kesalahan
- Mengurangi pekerjaan ulang dan pemborosan
- Mengurangi kegagalan di lapangan, beban garansi
- Mengurangi ketidakpuasan pelanggan
- Mengurangi keharusan memeriksa dan menguji
- Memendekkan waktu guna melempar produk baru ke pasar
- Tingkatkan hasil/kapasitas
- Meningkatkan kinerja pengiriman
- Dampak utama biaya
- Biasanya mutu lebih tinggi biayanya lebih sedikit

DIFFERENT VIEWS DALAM KUALITAS

- ❑ **User-based**: better performance, more features
- ❑ **Manufacturing-based**: conformance to standards, making it right the first time
- ❑ **Product-based**: specific and measurable attributes of the product

IMPLICATIONS OF QUALITY

1. Company reputation

- ▶ Perception of new products
- ▶ Employment practices
- ▶ Supplier relations

2. Product liability

- ▶ Reduce risk

3. Global implications

- ▶ Improved ability to compete

Malcolm Baldrige National Quality Award

- ❑ Established in 1988 by the U.S. government
- ❑ Designed to promote TQM practices
- ❑ Recent winners include

Lockheed Martin Missiles and Fire Control, MESA Products Inc., North Mississippi Health Services, City of Irving, Concordia Publishing House, Henry Ford Health System, MEDRAD, Nestlé Purina PetCare Co., Montgomery County Public Schools

Baldrige Criteria

Applicants are evaluated on:

CATEGORIES	POINTS
Leadership	120
Strategic Planning	85
Customer Focus	85
Measurement, Analysis, and Knowledge Management	90
Workforce Focus	85
Operations Focus	85
Results	450

ISO 9000

International Quality Standards

- ❑ International recognition
- ❑ Encourages quality management procedures, detailed documentation, work instructions, and recordkeeping
- ❑ 2009 revision emphasized *sustained* success
- ❑ Over one million certifications in 178 countries
- ❑ Critical for global business

ISO 9000

International Quality Standards

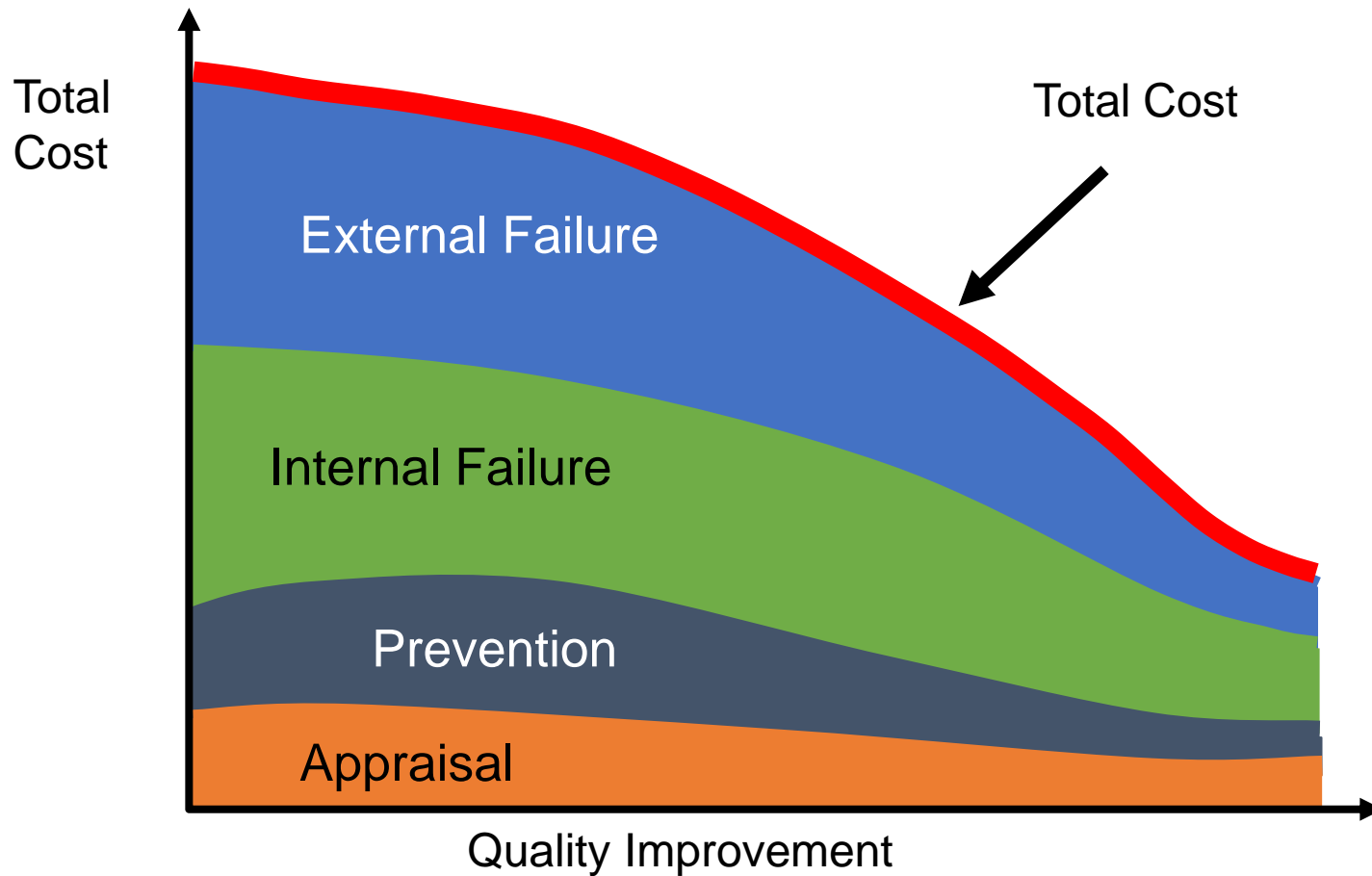
Management principles

- ❑ Top management leadership
- ❑ Customer satisfaction
- ❑ Continual improvement
- ❑ Involvement of people
- ❑ Process analysis
- ❑ Use of data-driven decision making
- ❑ A systems approach to management
- ❑ Mutually beneficial supplier relationships

Costs of Quality

- **Ada 4 kategori biaya kualitas (*cost of quality*):**
 - ***Prevention cost*** → Biaya yg terkait dg pengurangan komponen/jasa yg rusak (ex: pelatihan, program peningkatan kualitas)
 - ***Appraisal cost*** → Biaya yg terkait dg proses evaluasi produk, proses, komponen & jasa, ex: biaya percobaan, laboratorium, pengujian.
 - ***Internal failure*** → Biaya yg diakibatkan proses produksi yg sebabkan kerusakan sblm dikirim ke konsumen, ex: rework, scrap, downtime.
 - ***External failure*** → Biaya yg tjd setelah pengiriman produk ke konsumen, ex: retur, biaya sosial.

Costs of Quality



Leaders in Quality

LEADER	PHILOSOPHY/CONTRIBUTION
W. Edwards Deming	Deming insisted management accept responsibility for building good systems. The employee cannot produce products that on average exceed the quality of what the process is capable of producing. His 14 points for implementing quality improvement are presented in this chapter.
Joseph M. Juran	A pioneer in teaching the Japanese how to improve quality, Juran believed strongly in top-management commitment, support, and involvement in the quality effort. He was also a believer in teams that continually seek to raise quality standards. Juran varies from Deming somewhat in focusing on the customer and defining quality as fitness for use, not necessarily the written specifications.

Leaders in Quality

LEADER	PHILOSOPHY/CONTRIBUTION
Amarnd Feigenbaum	His 1961 book Total Quality Control laid out 40 steps to quality improvement processes. He viewed quality not as a set of tools but as a total field that integrated the processes of a company. His work in how people learn from each other's successes led to the field of cross-functional teamwork.
Philip B. Crosby	Quality Is Free was Crosby's attention-getting book published in 1979. Crosby believed that in the traditional trade-off between the cost of improving quality and the cost of poor quality, the cost of poor quality is understated. The cost of poor quality should include all of the things that are involved in not doing the job right the first time. Crosby coined the term zero defects and stated, "There is absolutely no reason for having errors or defects in any product or service."

Total Quality Management

- Encompasses entire organization from supplier to customer
- Stresses a commitment by management to have a continuing companywide drive toward excellence in all aspects of products and services that are important to the customer



Deming's Fourteen Points

Deming's 14 Points for Implementing Quality Improvement

1. Create consistency of purpose
2. Lead to promote change
3. Build quality into the product; stop depending on inspections to catch problems
4. Build long-term relationships based on performance instead of awarding business on price
5. Continuously improve product, quality, and service
6. Start training
7. Emphasize leadership
8. Drive out fear
9. Break down barriers between departments
10. Stop haranguing workers
11. Support, help, and improve
12. Remove barriers to pride in work
13. Institute a vigorous program of education and self-improvement
14. Put everyone in the company to work on the transformation

Seven Concepts of TQM

1. **Continuous improvement**
2. **Six Sigma**
3. **Employee empowerment**
4. **Benchmarking**
5. **Just-in-time (JIT)**
6. **Taguchi concepts**
7. **Knowledge of TQM tools**

1. Continuous Improvement

Never-ending process of continual improvement

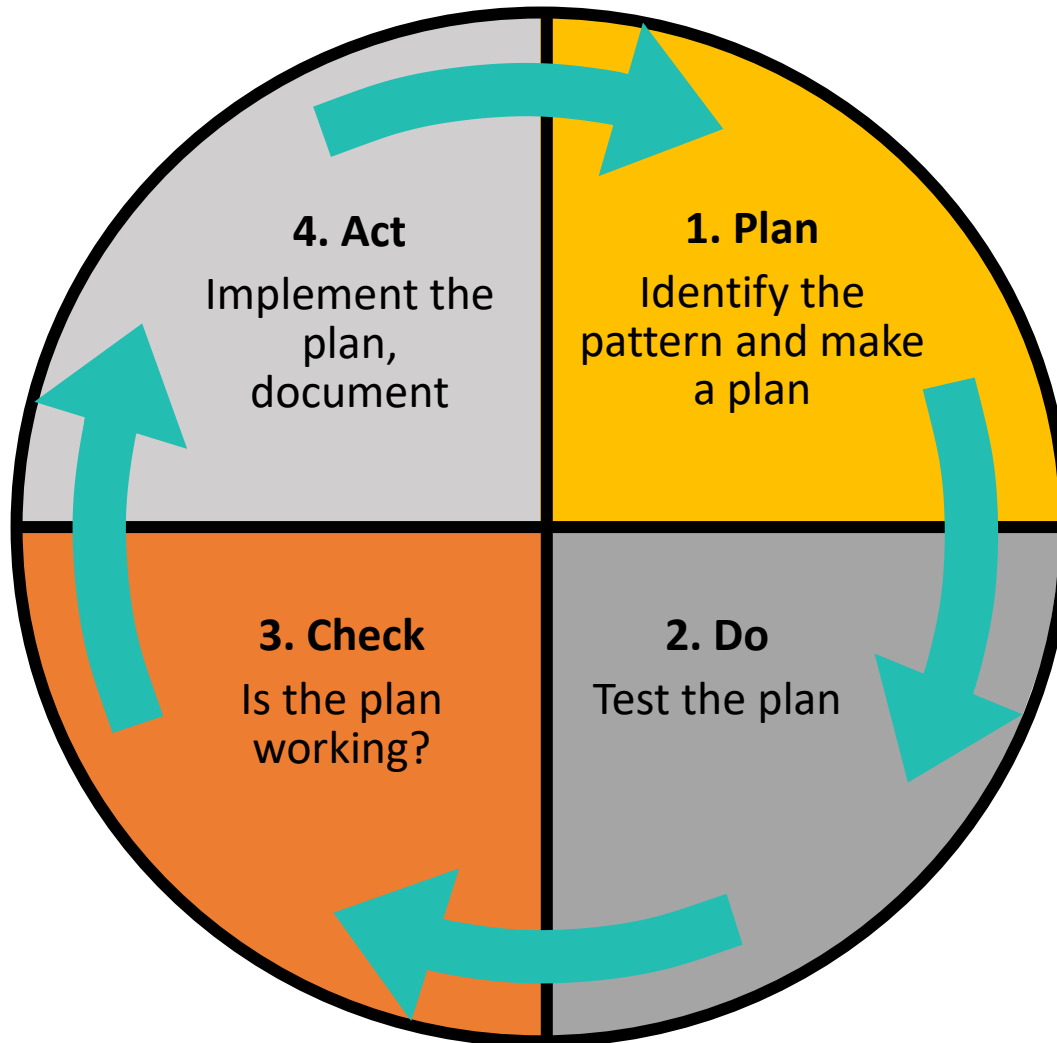
Covers people, equipment, materials, procedures

Every operation **can be improved**

Kaizen describes the ongoing process of unending improvement

TQM and zero defects also used to describe continuous improvement

Shewhart's PDCA Model



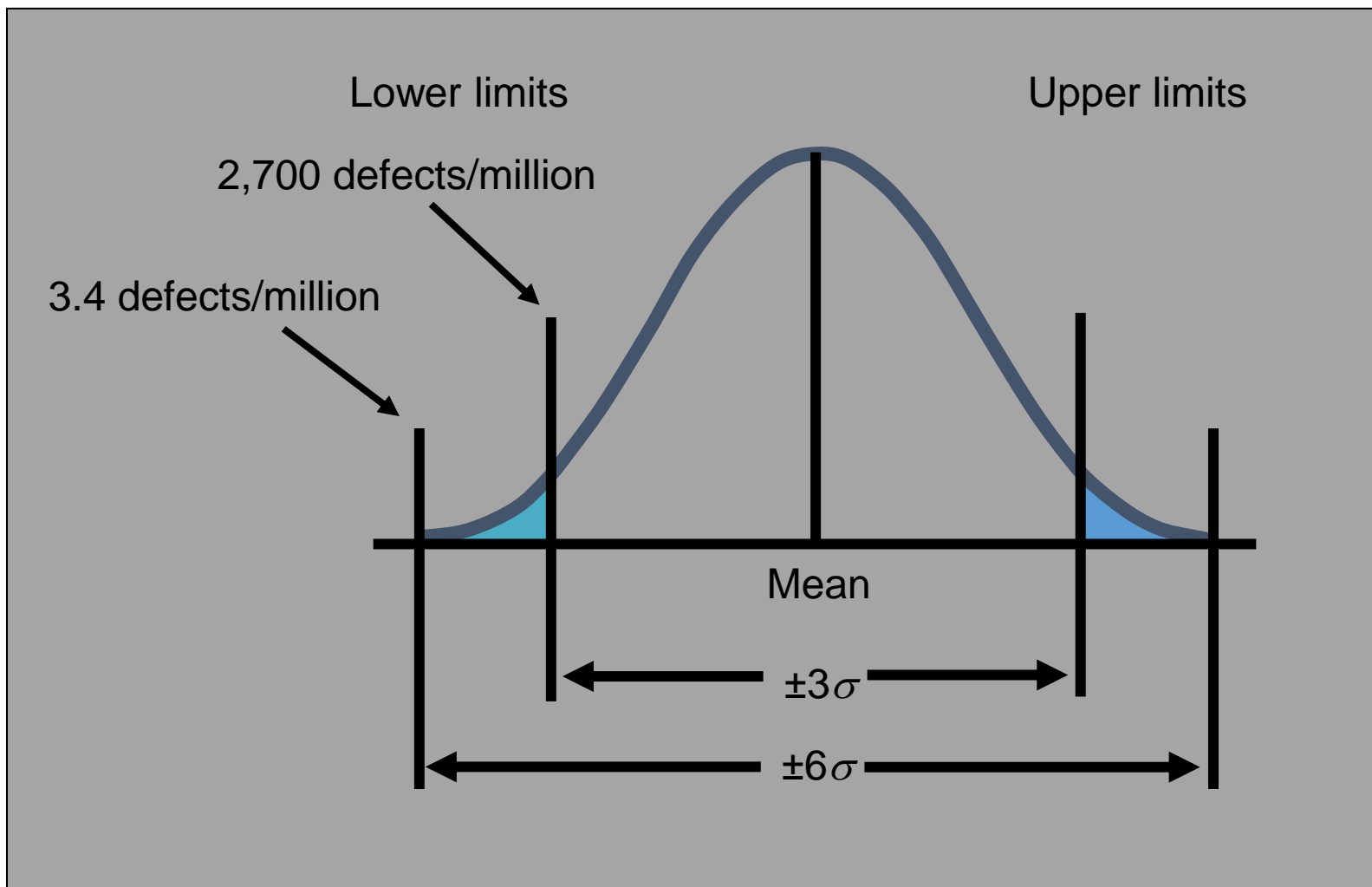
2. SIX SIGMA

Two meanings

- *Statistical* definition of a process that is 99.9997% capable, 3.4 defects per million opportunities (DPMO)
- A *program* designed to reduce defects, lower costs, save time, and improve customer satisfaction

A comprehensive system for achieving and sustaining business success

Six Sigma



SIX SIGMA

1. *Defines* the project's purpose, scope, and outputs, identifies the required process information keeping in mind the customer's definition of quality
2. *Measures* the process and collects data
3. *Analyzes* the data ensuring repeatability and reproducibility
4. *Improves* by modifying or redesigning existing processes and procedures
5. *Controls* the new process to make sure performance levels are maintained

DMAIC Approach



3. Employee Empowerment

Getting employees involved in product and process improvements

- 85% of quality problems are due to process and material

Techniques

- Build communication networks that include employees
- Develop open, supportive supervisors
- Move responsibility to employees
- Build a high-morale organization
- Create formal team structures

Quality Circles

- ***Quality Circle*** adalah ***kelompok kecil*** untuk melakukan ***kegiatan pengendalian kualitas*** pada unit kerja yang sama. ***Kelompok kecil ini secara berkelanjutan menjadi bagian dari aktivitas pengendalian kualitas untuk pengembangan diri dan peningkatan dan pengembangan bersama*** dengan melakukan lokakarya, menggunakan teknik pengendalian kualitas dengan ***melibatkan semua anggota*** yang berpartisipasi (Ishikawa).

4. Benchmarking

Selecting best practices to use as a standard for performance

Determine what to benchmark

Form a benchmark team

Identify benchmarking partners

Collect and analyze benchmarking information

Take action to match or exceed the benchmark

Best Practices for Resolving Customer Complaints

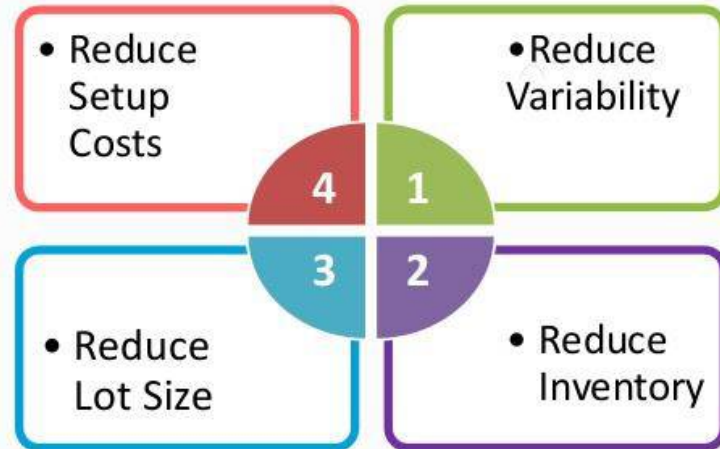
BEST PRACTICE	JUSTIFICATION
Make it easy for clients to complain	It is free market research
Respond quickly to complaints	It adds customers and loyalty
Resolve complaints on first contact	It reduces cost
Use computers to manage complaints	Discover trends, share them, and align your services
Recruit the best for customer service jobs	It should be part of formal training and career advancement

5. Just-in-Time (JIT)

- Relationship to quality:
 - JIT cuts the cost of quality
 - JIT improves quality
 - Better quality means less inventory and better, easier-to-employ JIT system

JIT Inventory

- JIT Inventory Tactics
- Four tactics



Just-in-Time (JIT)

- 'Pull' system of production scheduling including supply management
- Production only when signaled
- Allows reduced inventory levels
- Inventory costs money and hides process and material problems
- Encourages improved process and product quality



6. Taguchi Concepts

Engineering and experimental design methods to improve product and process design

Identify key component and process variables affecting product variation

Taguchi Concepts

Quality robustness

Quality loss function

Target-oriented quality

7. TQM Tools

Tools for Generating Ideas

- **Check Sheet**
- **Scatter Diagram**
- **Cause-and-Effect Diagram**

Tools to Organize the Data

- **Pareto Chart**
- **Flowchart (Process Diagram)**

Tools for Identifying Problems

- **Histogram**
- **Statistical Process Control Chart**

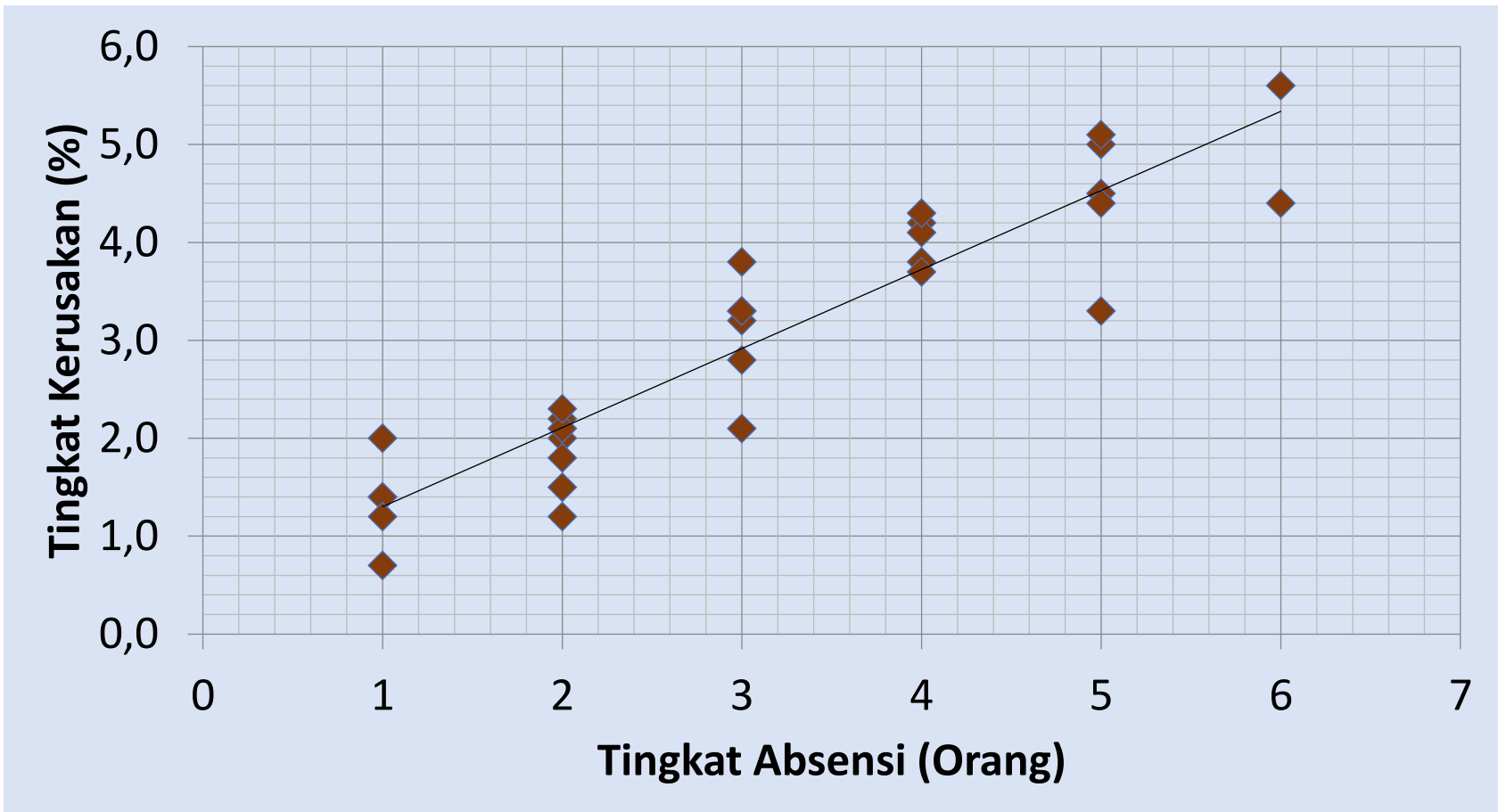
SEVEN TOOLS OF TQM

(1) **Check Sheet:** An organized method of recording data

Tipe Cacat Kejadian Peristiwa (Hari)	Hari							TOTAL
	Minggu	Senin	Selasa	Rabu	Kamis	Jum'at	Sabtu	
Cacat 1	0	3	4	2	2	2	2	15
Cacat 2	0	2	1	2	1	1	3	10
Cacat 3	1	0	1	0	1	1	1	5
Cacat 4	0	3	3	1	1	0	0	8
Cacat 5	1	0	1	1	0	0	1	4
Cacat 6	3	4	4	3	3	4	4	25
Cacat 7	1	1	1	1	1	0	1	6
Cacat 8	0	1	1	1	2	1	1	7
Cacat 9	0	2	2	1	2	3	1	11
Cacat 10	0	1	0	1	1	0	0	3
TOTAL	6	17	18	13	14	12	14	94

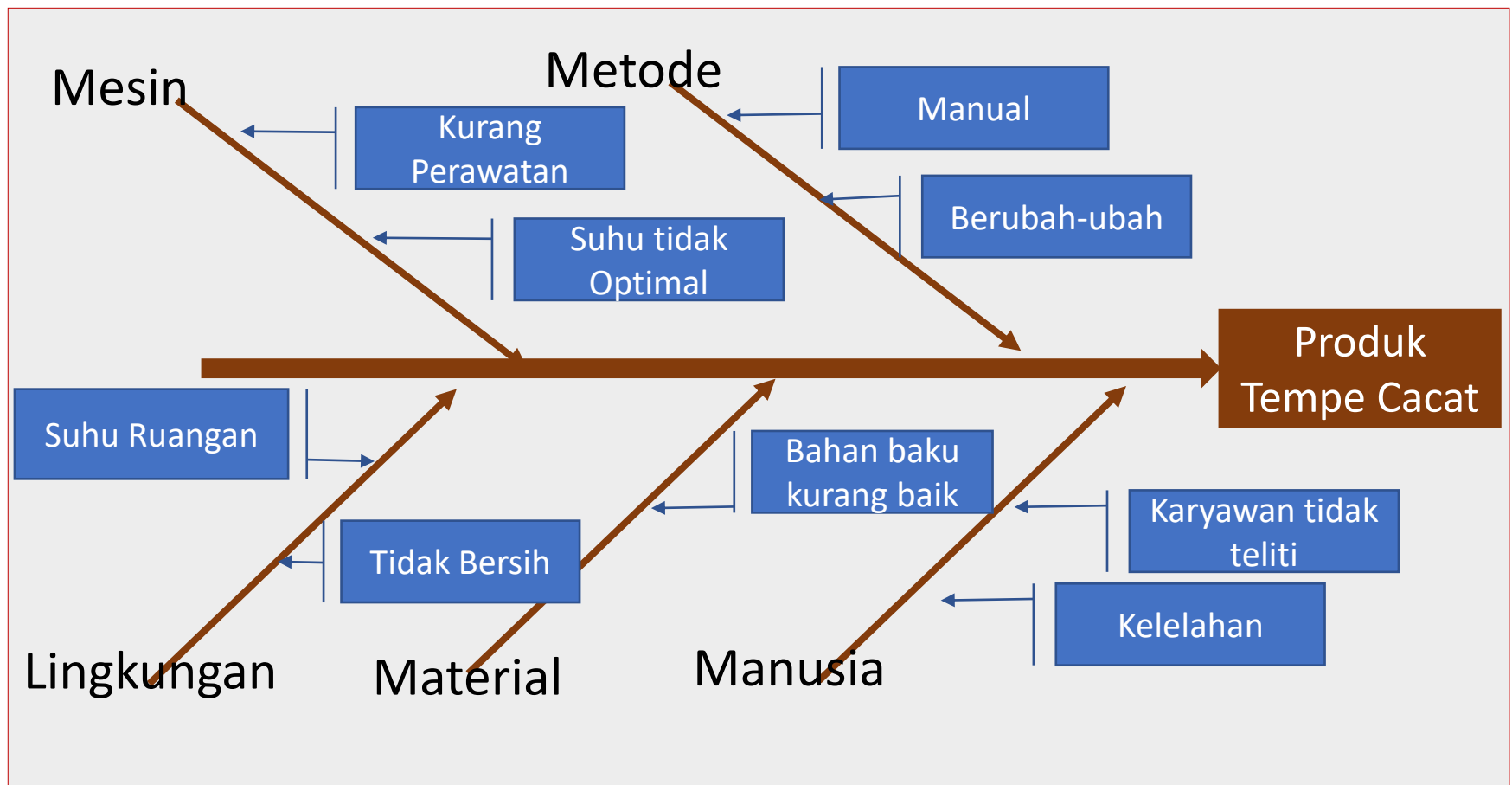
SEVEN TOOLS OF TQM

(2) **Scatter Diagram**: A graph of the value of one variable vs. another variable



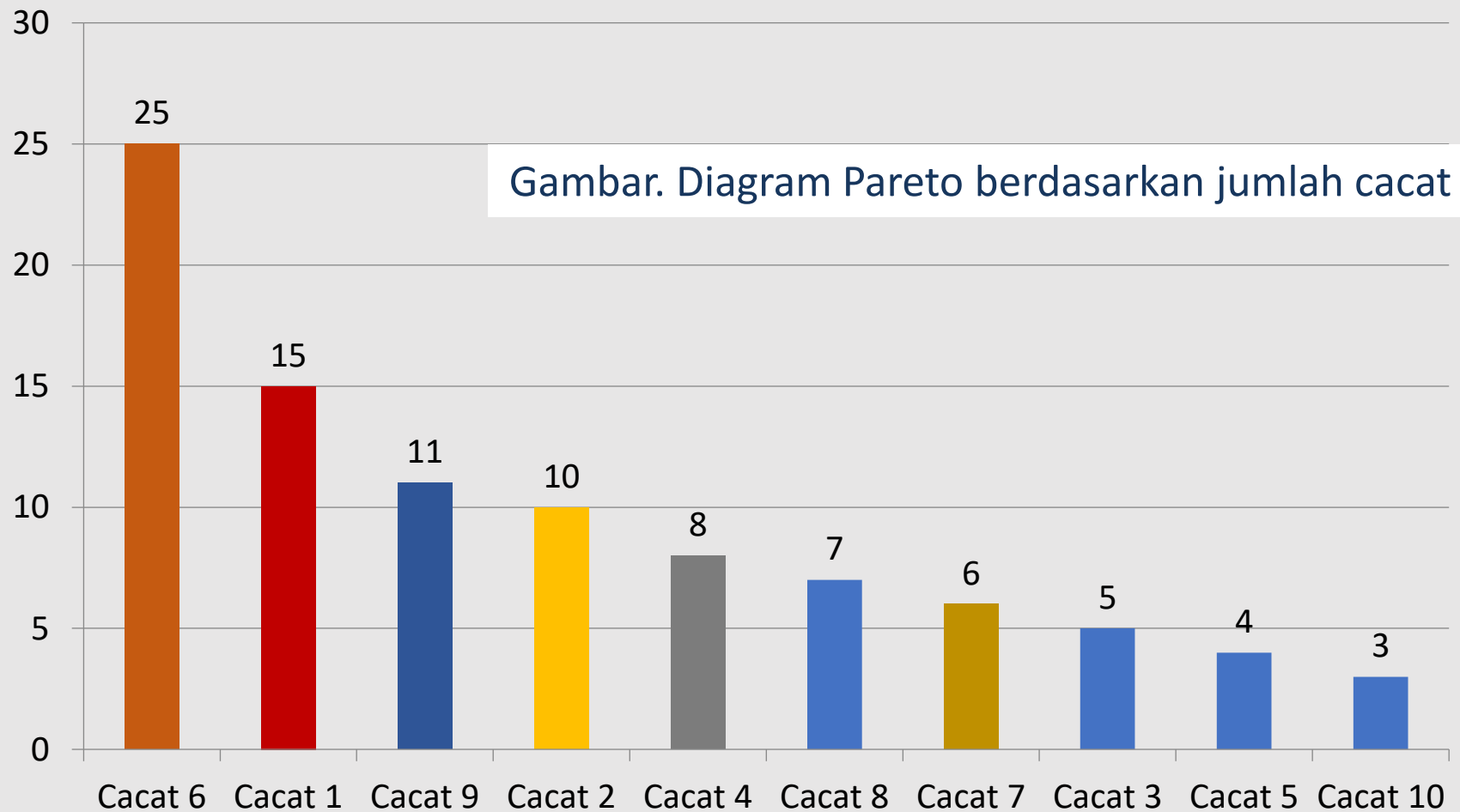
SEVEN TOOLS OF TQM

- (3) **Cause-and-Effect Diagram:** A tool that identifies process elements (causes) that might effect an outcome



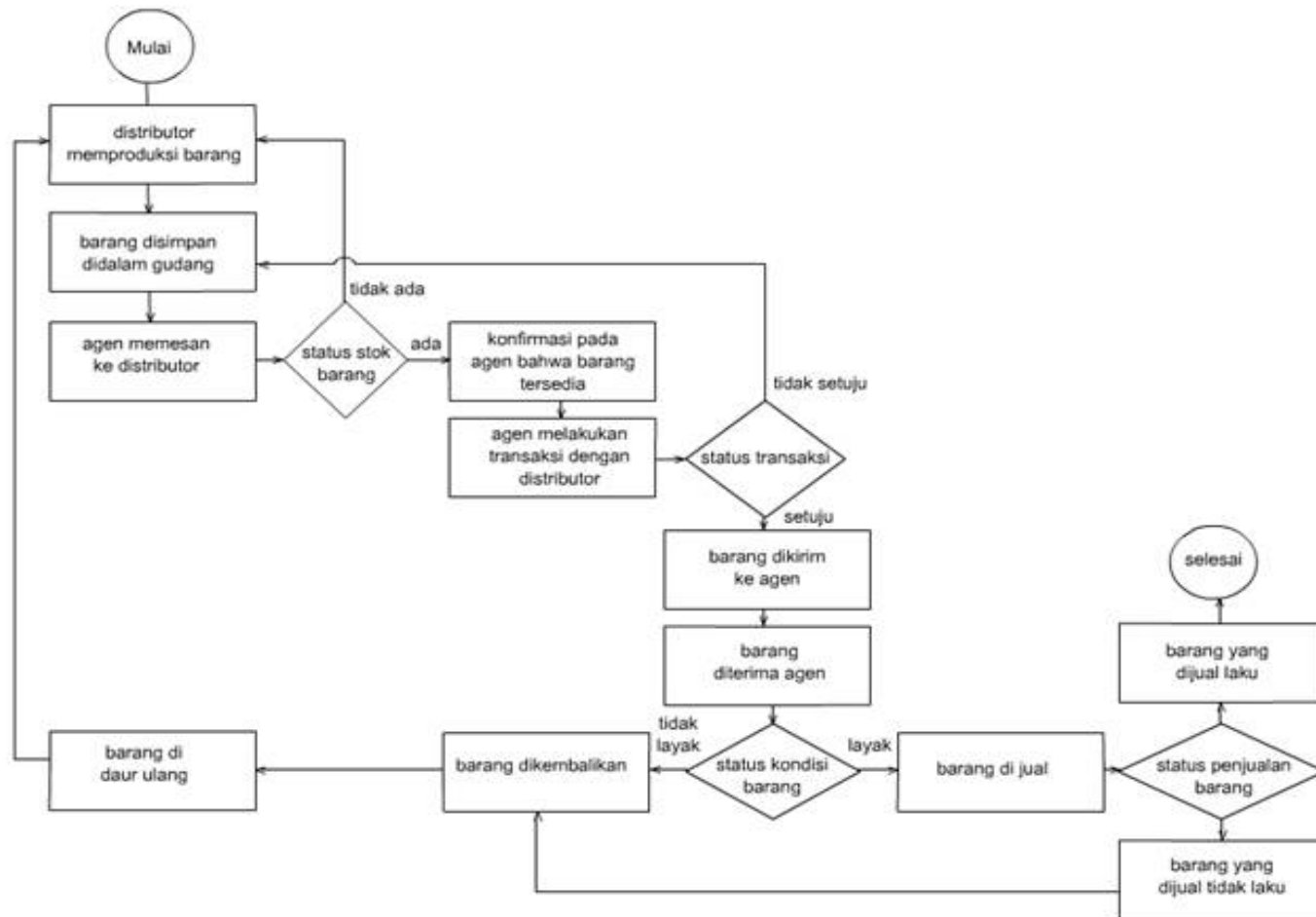
SEVEN TOOLS OF TQM

- (4) **Pareto Chart:** A graph to identify and plot problems or defects in descending order of frequency



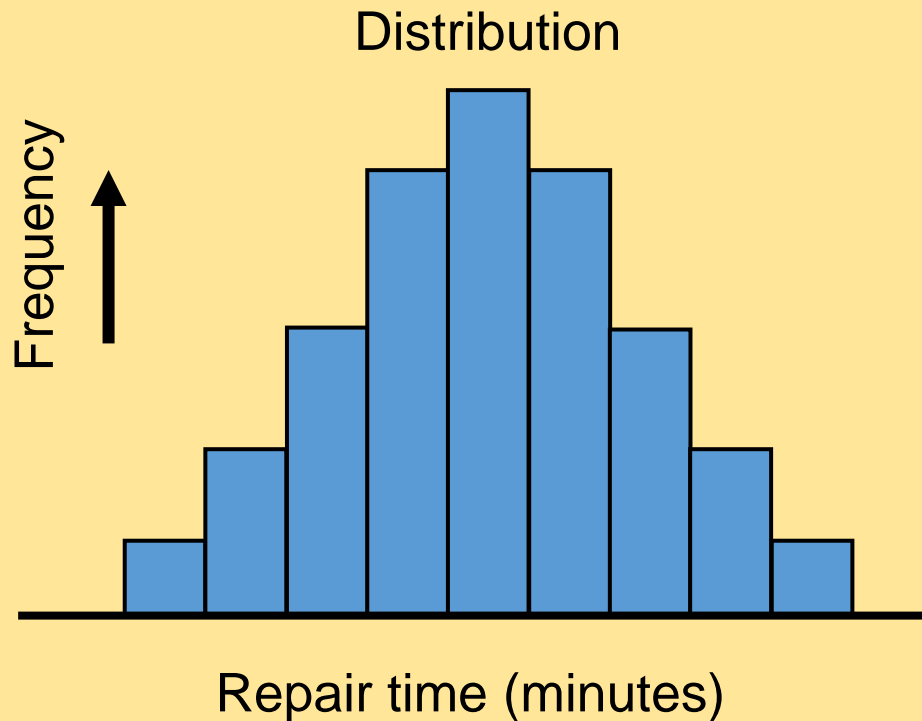
SEVEN TOOLS OF TQM

(5) **Flowchart (Process Diagram)**: A chart that describes the steps in a process



SEVEN TOOLS OF TQM

- (6) **Histogram**: A distribution showing the frequency of occurrences of a variable



SEVEN TOOLS OF TQM

- (7) **Statistical Process Control Chart:** A chart with time on the horizontal axis to plot values of a statistic

