

THE ART OF BREAKTHROUGH QUALITY MANAEMENT

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AGENDA

- **There is more to quality than Quality**
- **The wholesome quality is the right way**
- **It is cheaper to make good quality than a bad one**
- **It is the journey that enlightens, not the destiny**
- **Re-invent quality**
- **Elegant methods for high return on investment**
- **Doing right things, right way, at right time**

There is more to quality than Quality

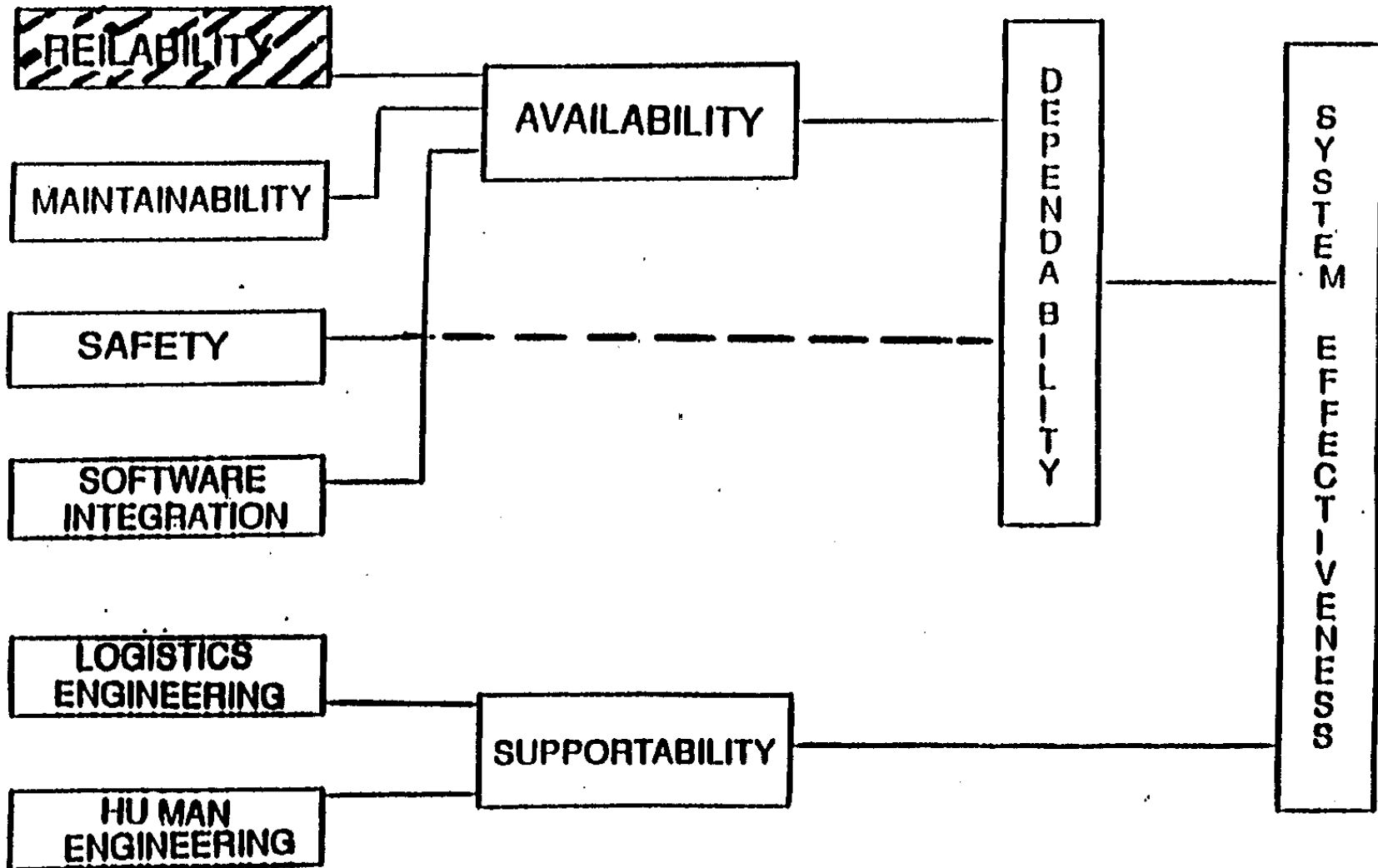
- The supreme task is to arrive at those universal elementary laws from which the cosmos can be built up by pure deduction. There is no logical path to these laws; only intuition, resting on sympathetic understanding of experience, can reach them.
- [Albert Einstein](#)

There is more to quality than Quality

USEFUL PRINCIPLES

- Quality management means absence of quality problems
- Dump logical solutions!
- ***Think elegant intuitive solution as soon as the problem arises***

QUALITY IS ALL THESE



**The wholesome quality
is the right way**

What is the wholesome way?

- A real understanding of Quality doesn't just serve the System, or even beat it or escape it. A real understanding of Quality captures the system and tames it.

-Robert Pirsig

Author- Zen and the Art of Motorcycle
Maintenance

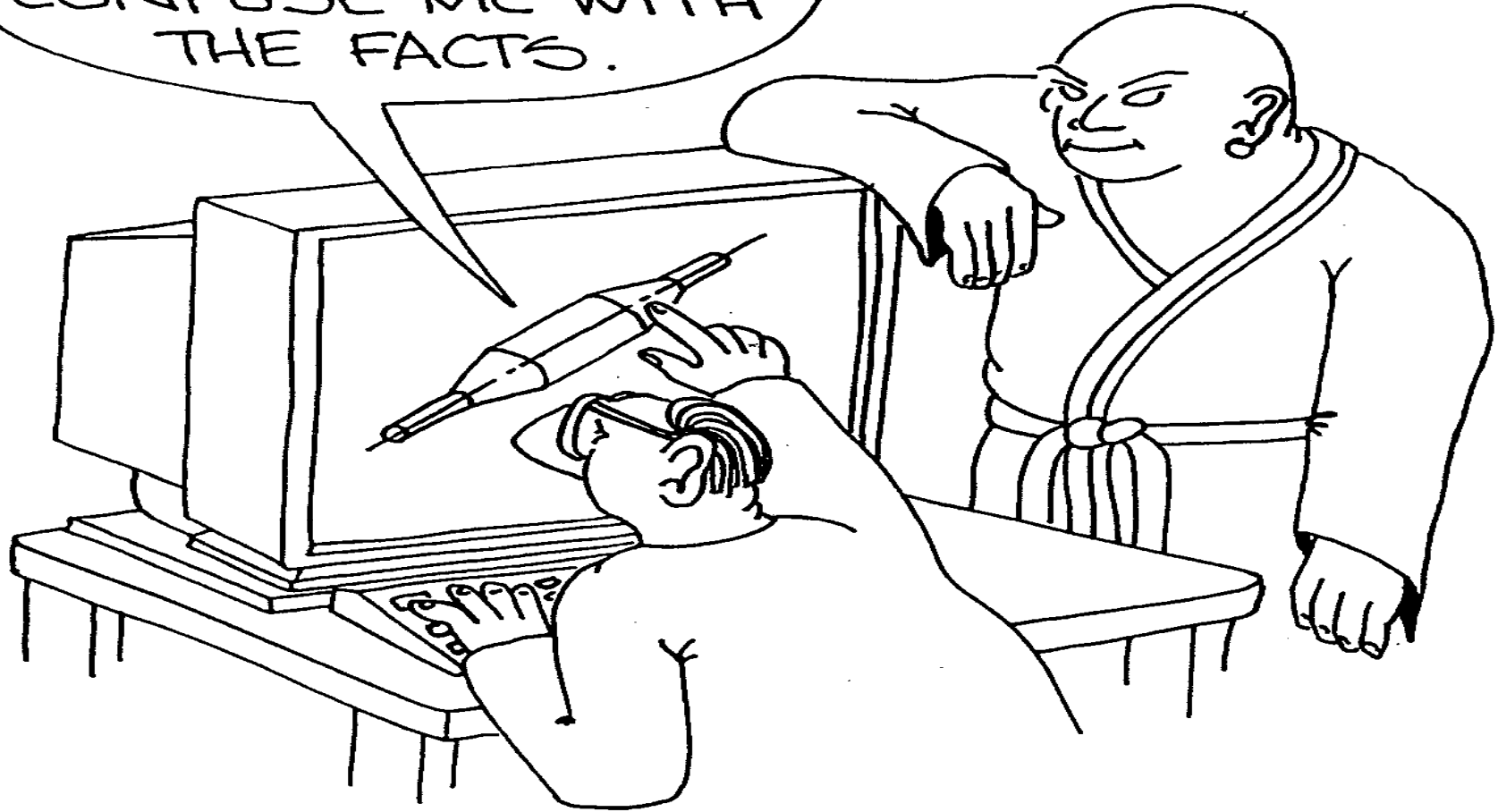
What is the wholesome way?

- Conformance to specification is a bad idea most of the time: because specifications are very incomplete .
- We need to develop wholesome specification with a good cross functional team including the customer, where every member challenges the completeness of the specification

What is the wholesome way?

- Richard Teerlink, former chairman of Harley-Davidson advocates not only the wholesomeness in design but the wholesomeness in integrating the functions of all the departments and all the stakeholders.
- If you have brilliant design department but pathetic purchasing department, quality is bound to be bad.

MY MIND IS
MADE UP. DON'T
CONFUSE ME WITH
THE FACTS.



It is cheaper to make good quality than a bad one

- We need wholeness in measuring the cost of Quality also.
- It is about all the costs a customer has to pay over the life time of use. It is called Life Cycle costs or the total cost of ownership.
- Include costs of inspection/testing, failures, repair, maintenance, down time, injuries, deaths, and product disposal,

**It is cheaper to make good quality
than a bad one**

- **Good News!**

- **Quality is Free**

- **Read *Quality if Free* by Philip Crosby**

It is the journey that enlightens, not the destiny

- **Dr. Deming said: Working hard won't help if you are working on wrong things**
- **If you are depending on inspection and testing to control quality, you are doing the wrong thing.**
- **Instead, rely on eliminating the design and manufacturing defects.**
- **Eliminating defects at no cost is a journey that enlightens. A mid west company gave 15 year warranty that cost zero dollars!**

**It is the journey that enlightens, not
the destiny**

Let us go deeper into the journey:

- **Make sure your specifications include what the product “shall not do.”**
- **Ask what can go wrong with each function of the product and change the design such that it won't.**

**It is the journey that enlightens, not
the destiny**

Let us go deeper into the journey:

Try to change the features of product design such that the defect in manufacturing can be eliminated. Then there is nothing to control about that feature.

Develop tests in production to flush out new problems from design changes or process changes.

Re-invent quality

Minimize the use of outdated quality tools such Six Sigma. It takes 10 years to get to Six Sigma levels. Very inefficient.

Use Toyota Production System instead. It encourages innovation quickly.

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Re-invent quality

Stop using the outdated root cause analysis tools such as fishbone diagram. It says any of the causes in the diagram can cause quality defect.

This is totally wrong! Always two or more things go wrong to create a defect.

Use Fault Tree Analysis instead. It gives you combinations that can result in a defect.

Hypo Ventilation

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graph TD; HV[Hypo Ventilation] --- TB[Time Based Failures]; HV --- AB[Algorithm Based Failures]; HV --- MM[Maintenance & Modification Failures]; HV --- UI[User Initiated Failures]; HV --- EB[Environment Based Failures];
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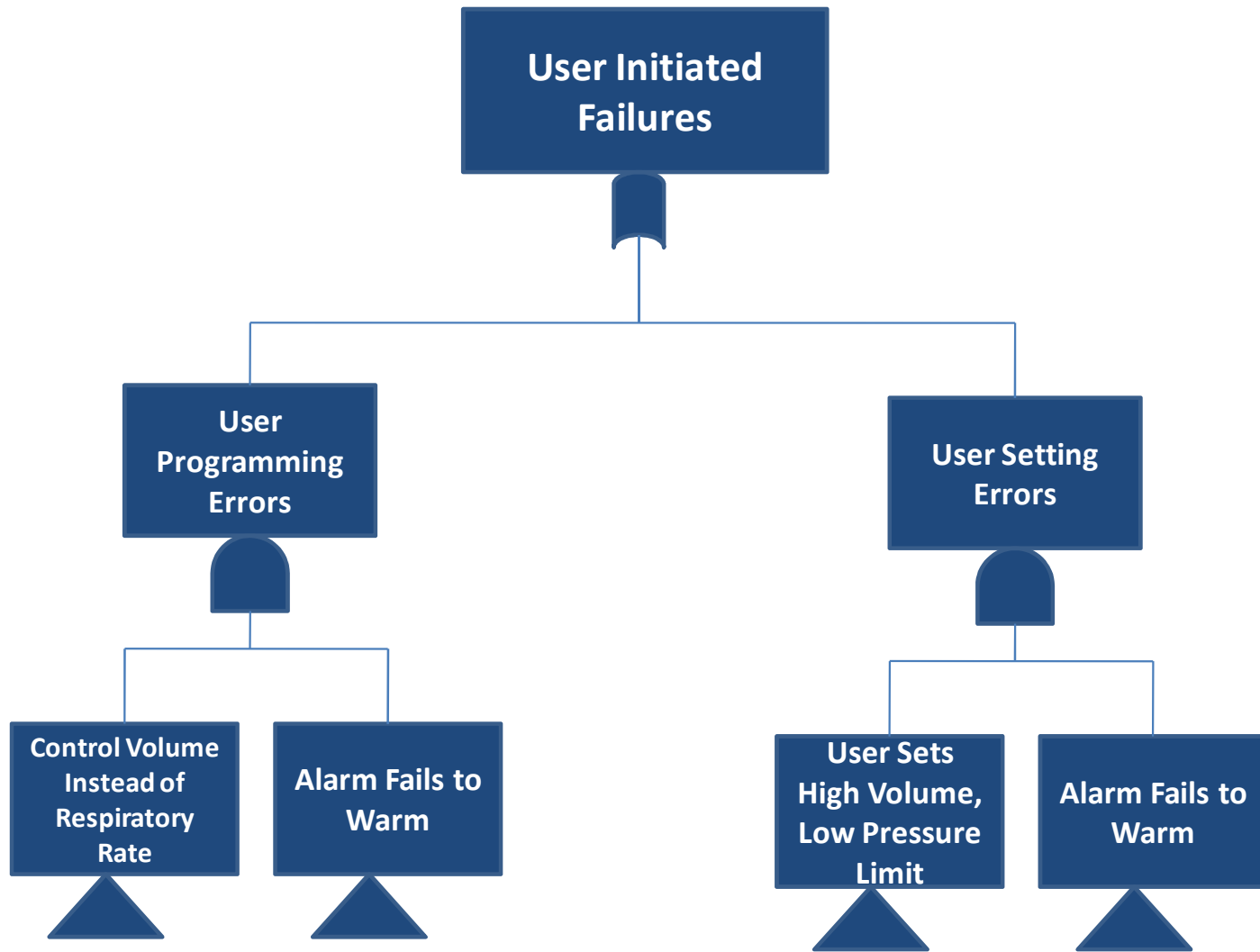
Time Based
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User
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Environment
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Failures



Elegant methods for high return on investment

Innovations should start with incidence reports

Challenge employees to come up with robust solutions at little or no cost. 90% times they will.

The only standard of performance should be Zero Defects. Learn to do it right the first time. Then Quality is free (It is cheaper to prevent defects than to fix them)

Elegant methods for high return on investment

Use Continuous Innovation

Eight types of innovations:

- **Marginal innovation**
- **Incremental innovation**
- **Radical innovation**
- **Disruptive innovation**
- **Accidental innovation**
- **Strategic innovation**
- **Diffusion innovation**
- **Translocation innovation**

Doing right things, right way, at right time

Quality is not doing things right.

It is doing right things. You must be desperate about right knowledge.

Example:

Don't blame workers for poor quality. 85% defects are from management errors [Deming]

Doing right things, right way, at right time

- **Management must:**
 - **Understand that so-called best practices are outdated practices**
 - **Engage employees [71% are not engaged or disengaged]**
 - **Implement good policies and good procedures**

Doing right things, right way, at right time

The right way is Zero Defects goal

Right way is about delivering quality significantly better than competitors

Right time is preventing defects as early as possible, instead of inspection and testing

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