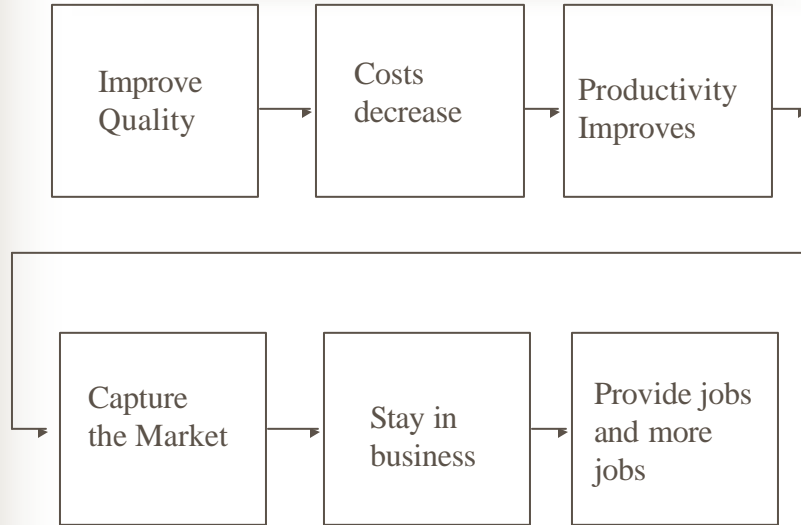


## Deming Chain Reaction



Source: W. Edwards Deming, *Out of the Crisis*, p. 3. Prepared by Jim Grayson, Ph.D.

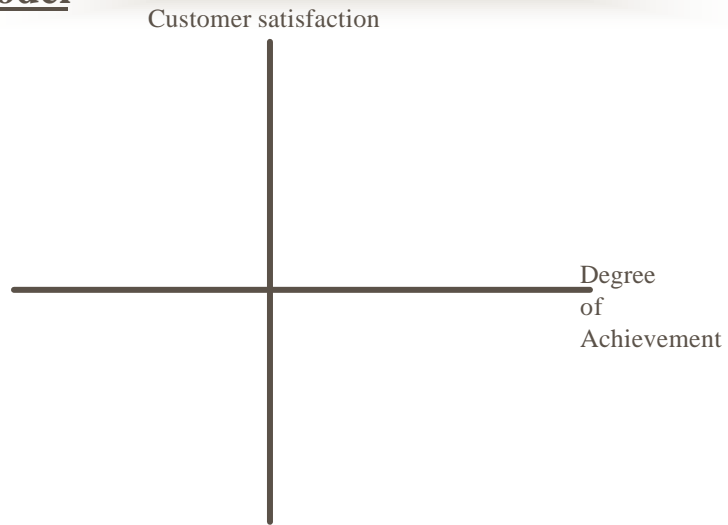
1

# What is quality?

Prepared by Jim Grayson, Ph.D.

2

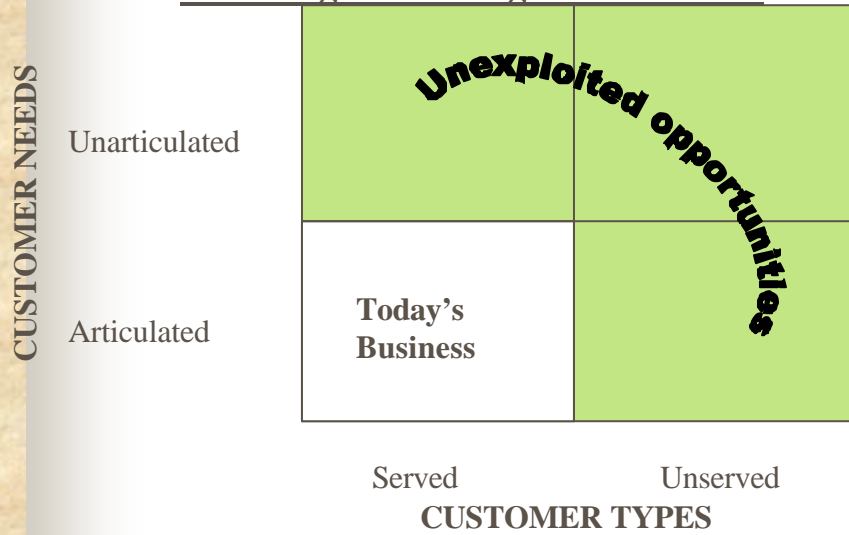
## Kano Model



Source: adapted from material presented by Kurt Hofmeister, ASI, in a 3-day QFD workshop at Texas Instruments in 1988. Prepared by Jim Grayson, Ph.D.

3

## The Dangers of Being Customer Led



Source: Hamel and Prahalad, *Fortune*, Sept 5, 1994, p. 67

Prepared by Jim Grayson, Ph.D.

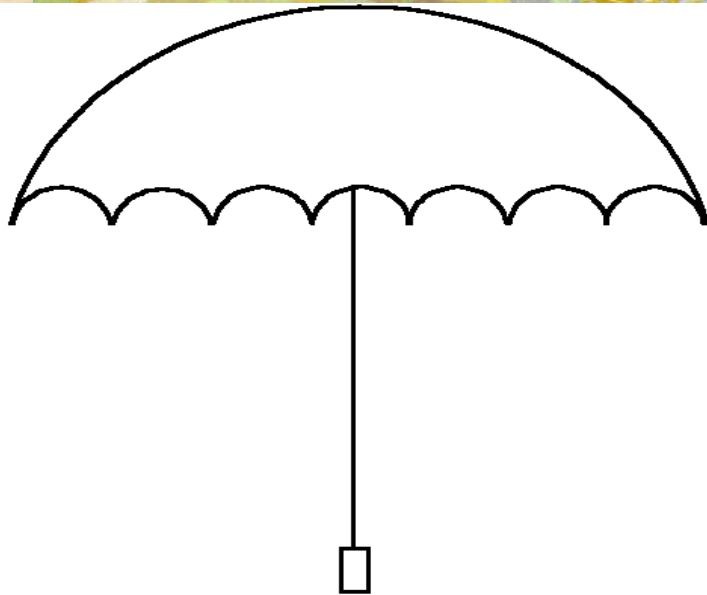
4

# What is Total Quality?

Prepared by Jim Grayson, Ph.D.

5

## Umbrella Model



Source: adapted from material presented by Kurt Hofmeister, ASI,  
in a 3-day QFD workshop at Texas Instruments in 1989.  
Prepared by Jim Grayson, Ph.D.

6

## Great Quality Principles

1. Quality can be improved and cost reduced at the same time.
2. Improving quality increases competitive advantage. Therefore, the goal should be ultimate quality performance.
3. All variance results in loss to the system as a whole and loss to society {Taguchi}. Therefore, variance must be reduced.
4. Quality is perceived in the mind of the customer. Discover what customers value now and what they may value in the future. To be the supplier of choice, exceed their expectations.
5. Design products and services according to customers' values, and standardize the processes that produce them while also accommodating the specific needs of individual customers.
6. Management controls the system; therefore, quality improvement begins with management.

source: The Hunters and the Hunted by James B. Swartz, Productivity Press, 1994, p. 372-374

## Great Quality Principles (continued)

7. Detect defects, errors, and variances immediately, and provide high-quality feedback immediately.
8. Correct errors within the process immediately and prevent their recurrence.
9. Anticipate and prevent the introduction of errors and defects.
10. Use statistical tools to indicate the degree to which a process is "in control."
11. Variations from standard can be separated into two categories: random and assignable causes. Random causes are normal statistical variations that originate in the basic design of the system; assignable causes are special causes that are not part of the normal expected statistical variation.

source: The Hunters and the Hunted by James B. Swartz, Productivity Press, 1994, p. 372-374