



Using basic quality tools

# Introduction

“Quality control is the mechanism by which products are made to measure up to specifications determined from customers, demands and transformed into sales engineering and manufacturing requirements, it is concerned with making things right rather than discovering and rejecting those made wrong”

*–Alford and Beatty*

# Types of quality control

- ◆ Off-line quality control
- ◆ Statistical process control
- ◆ Acceptance sampling plans



# Steps in quality control



# Benefits of quality control

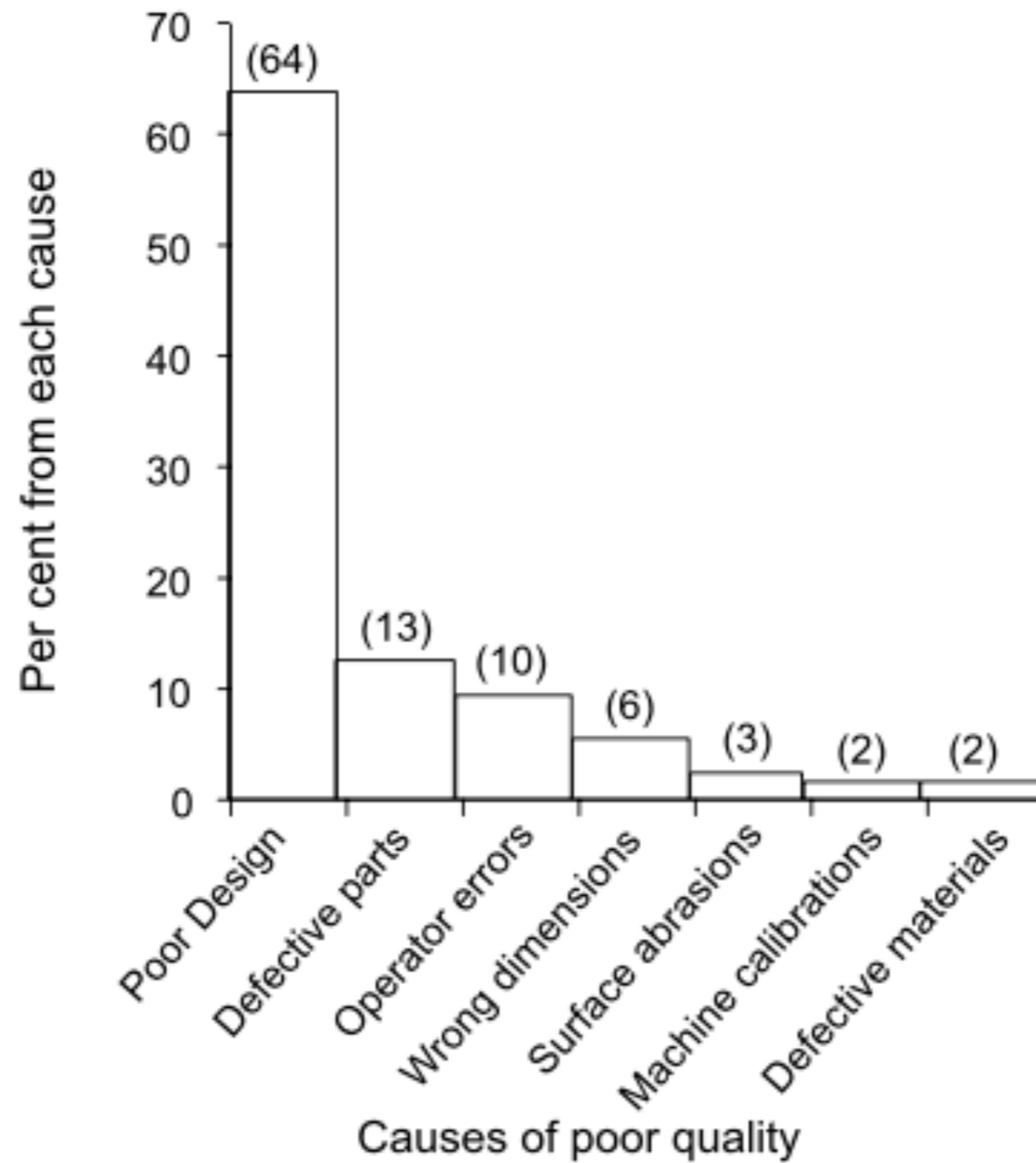


# Seven tools for quality control



- ◆ Pareto charts
- ◆ Check sheets
- ◆ Cause and effect diagram
- ◆ Scatter diagrams
- ◆ Histogram
- ◆ Graphs or flow charts
- ◆ Control charts

# Pareto charts



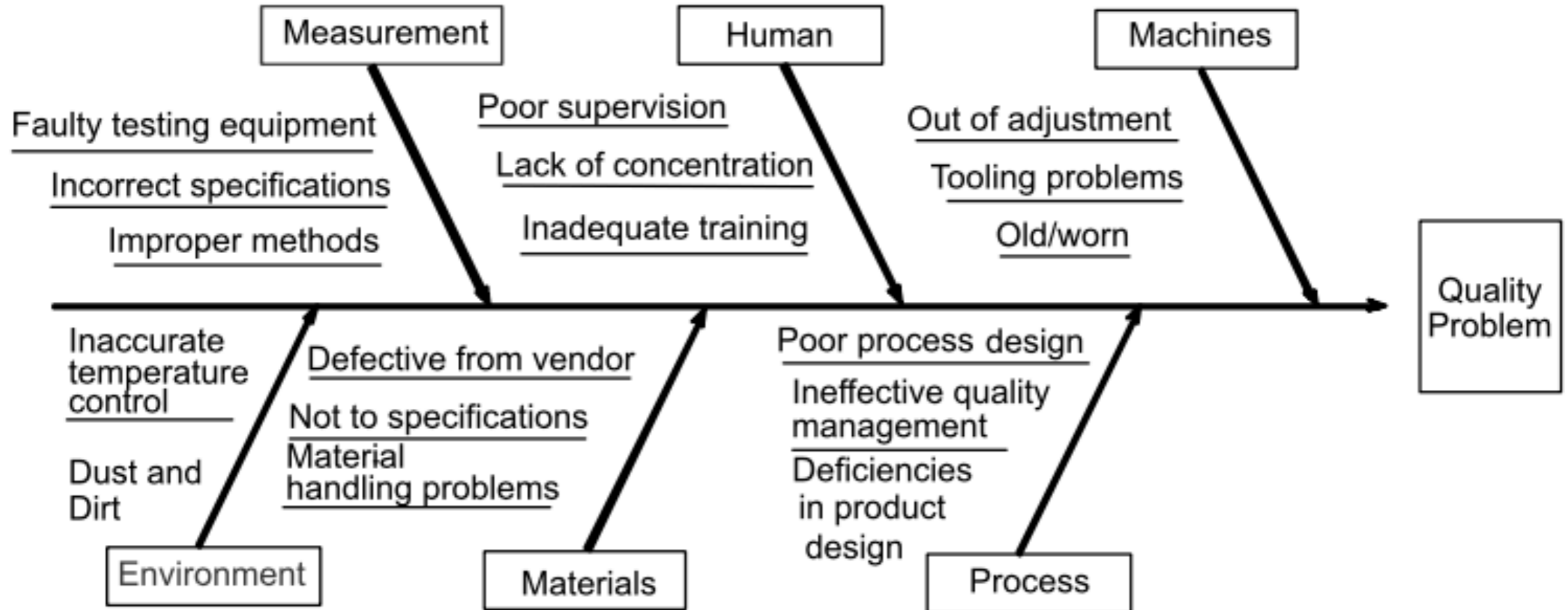
# Check sheets

COMPONENTS REPLACED BY LAB  
TIME PERIOD: 22 Feb. to 27 Feb. 2005  
REPAIR TECHNICIAN: XYZ

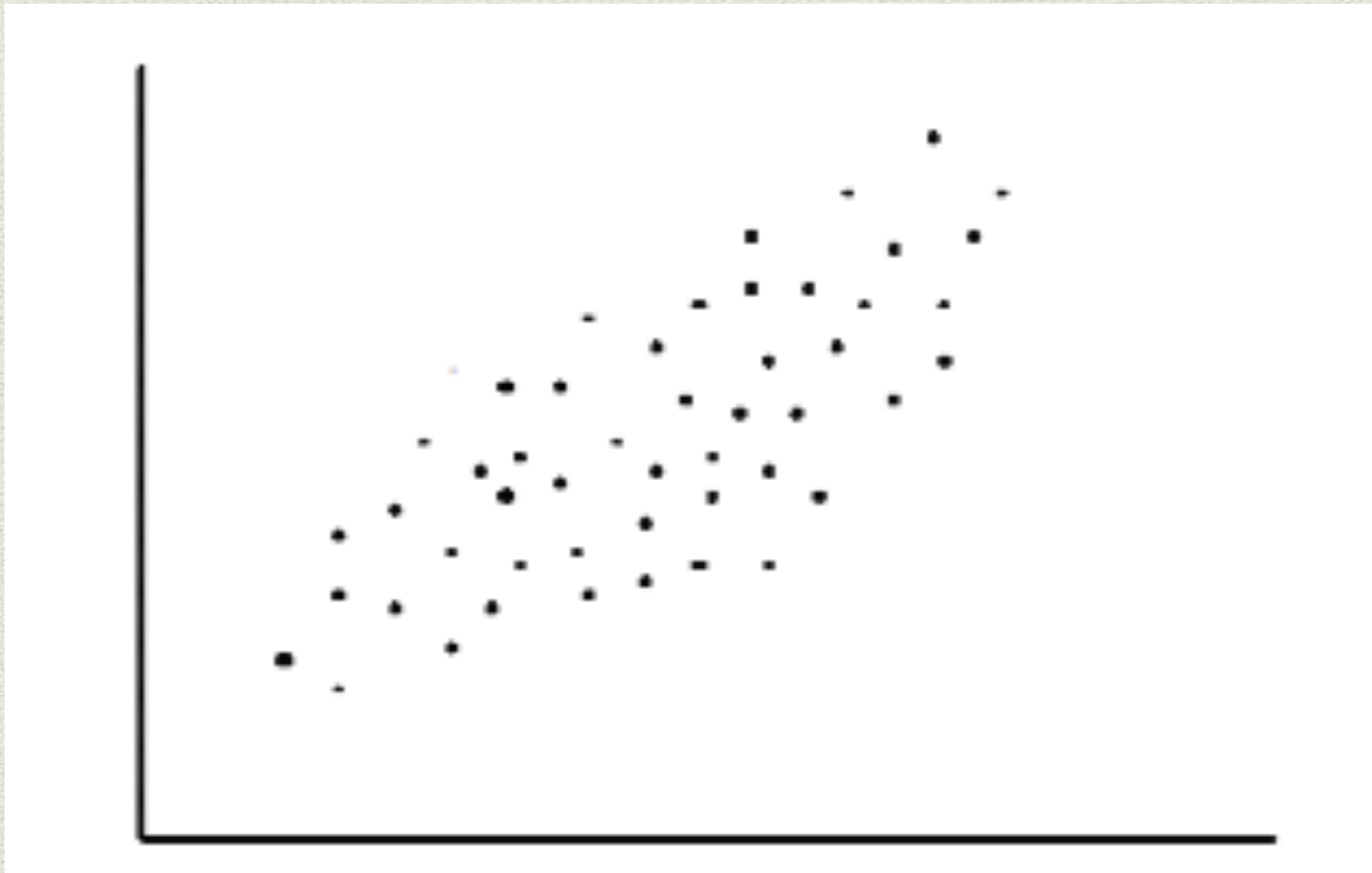
TV SET MODEL 1013

Integrated Circuits	
Capacitors	/      /      /      /      /
Resistors	
Transformers	
Commands	
CRT	

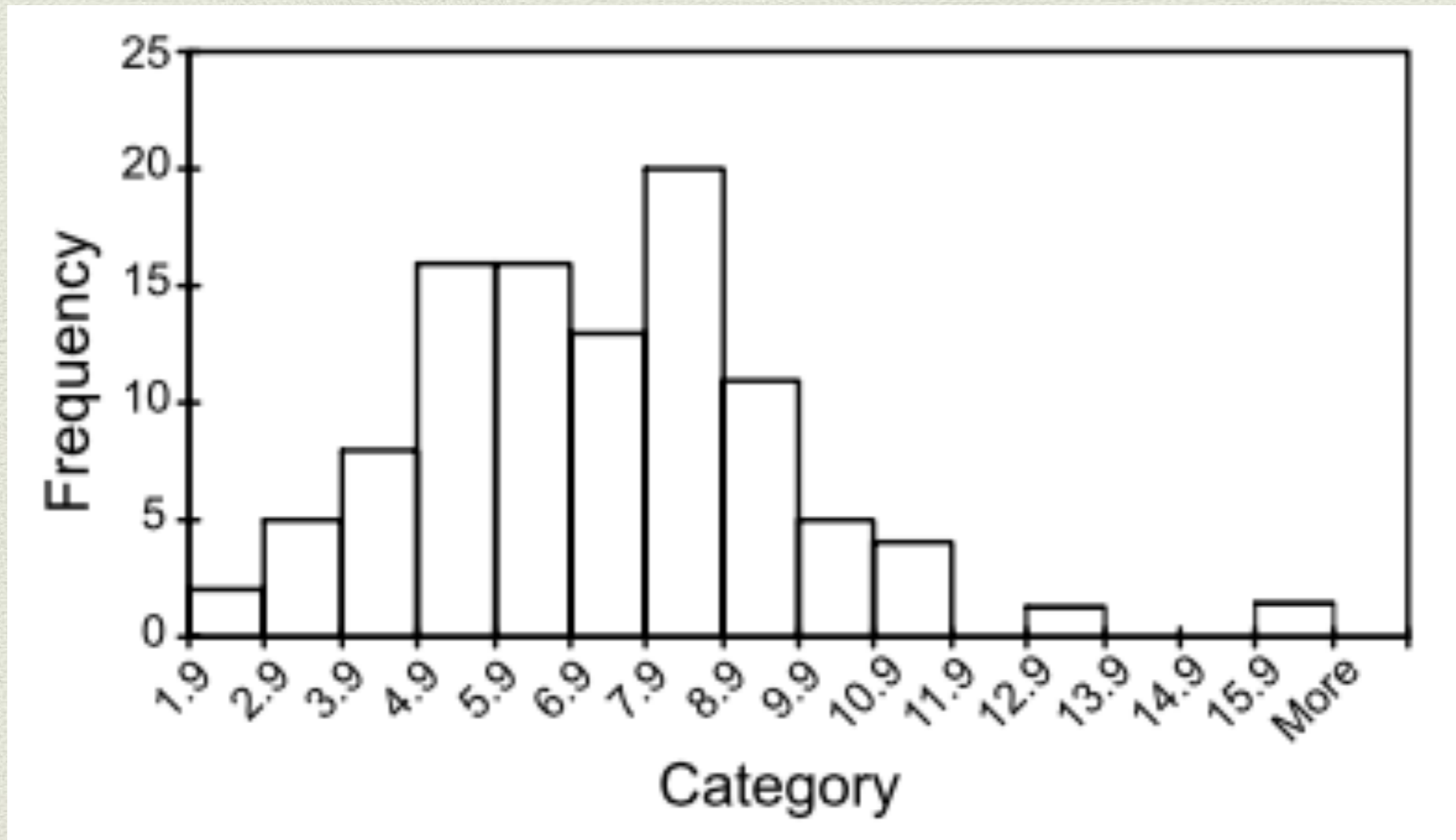
# Cause and effect diagram



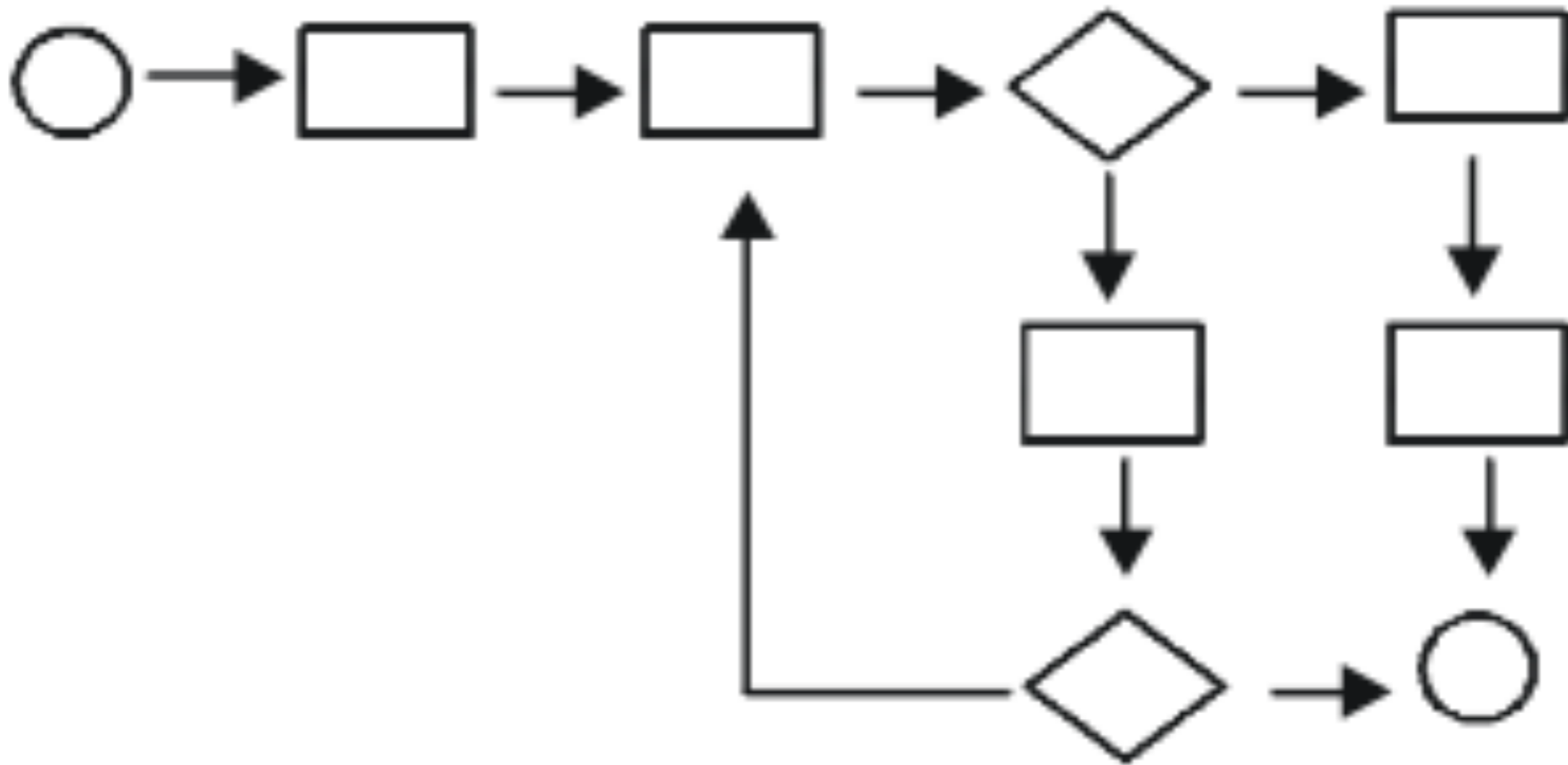
# Scatter diagram



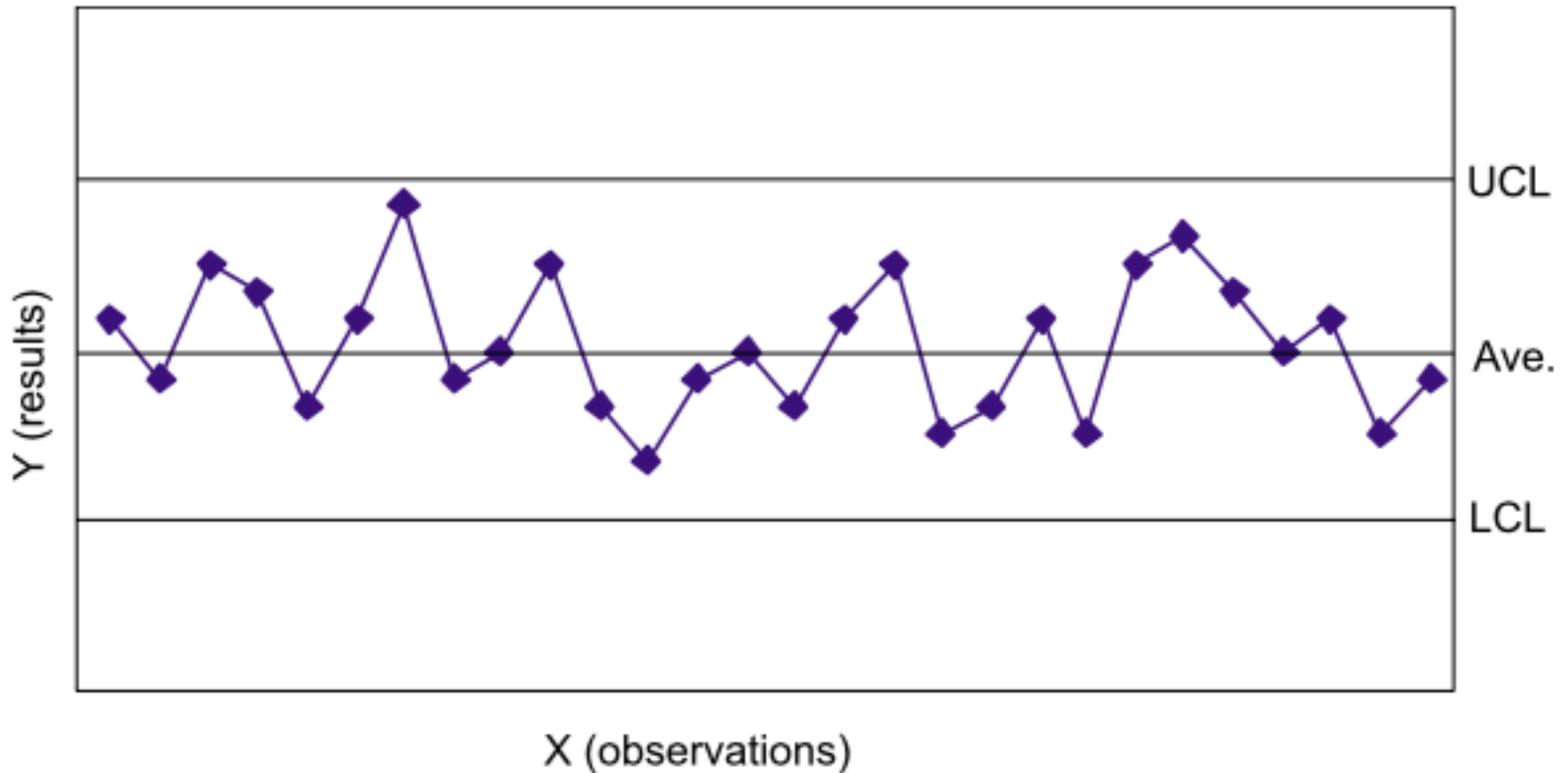
# Histogram



# Flow charts



# Control charts



# Causes of variation in quality

- ◆ chance causes
- ◆ assignable causes

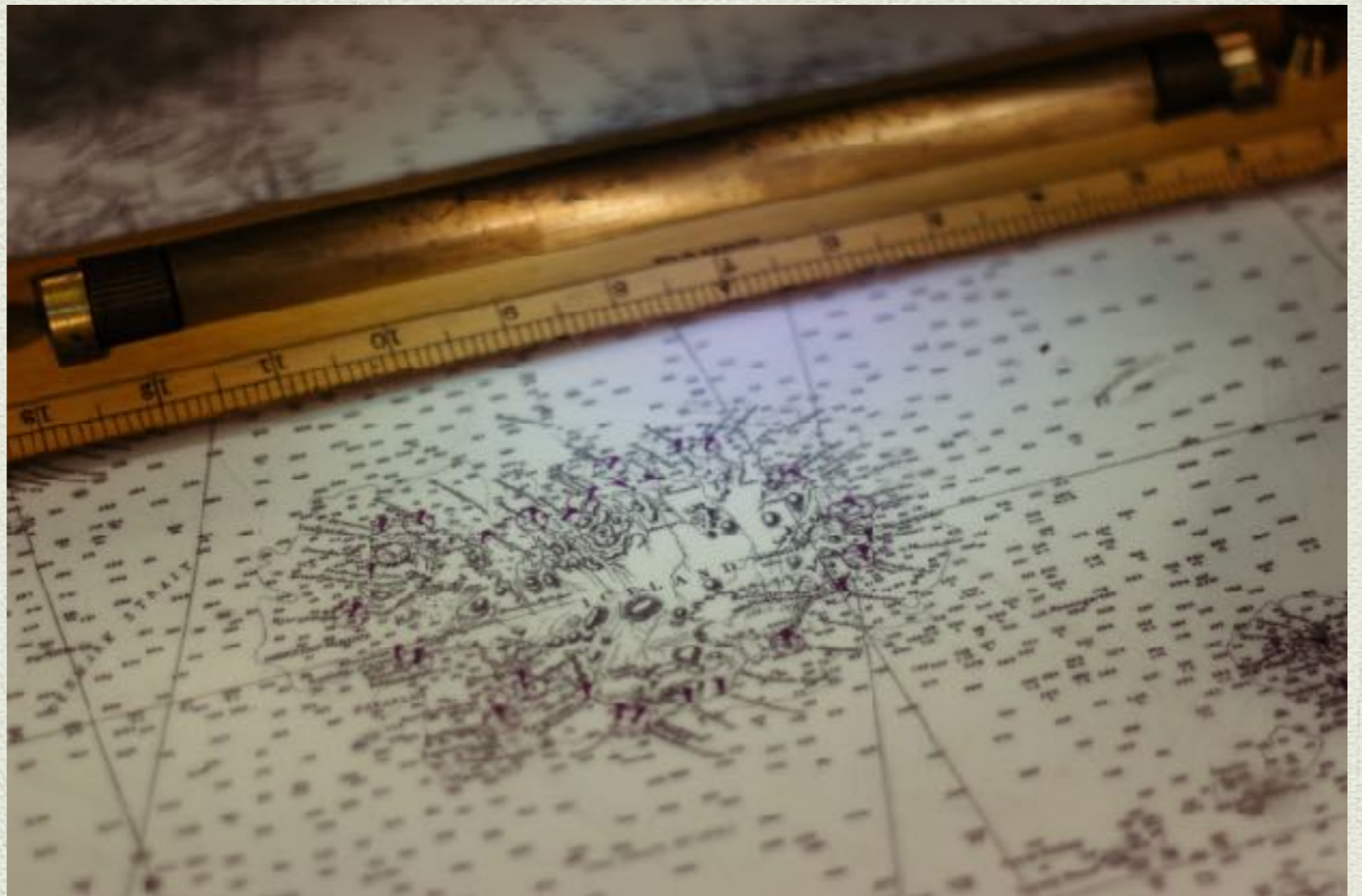


# Statistical control process



# Control charts

- ◆ Variable control charts
- ◆ Attribute control charts



# Characteristics of control charts



# Benefits of using control charts



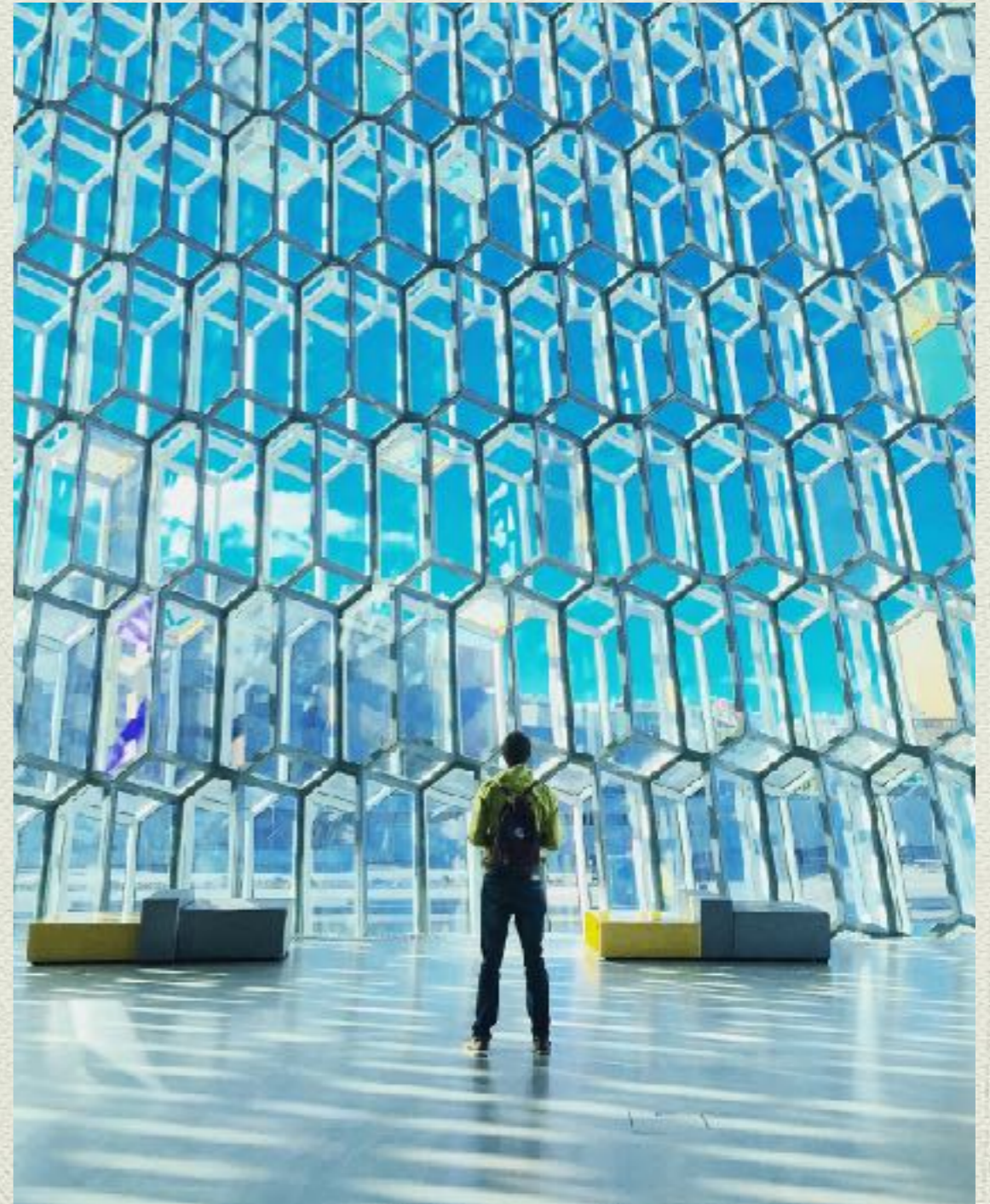


# QUALITY CIRCLES



# Benefits of quality circles

- ◆ Individual characteristics
- ◆ Individual relations with others
- ◆ Workers and their attributes



The end

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