

# Performance and Quality



# Chapter 1

## Setting the Strategic Direction

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# Chapter 2

## Identifying Performance Improvement Opportunities



# Chapter 3

## Metrics

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## Measuring and Monitoring



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# Chapter 6

## Facility Management Quality Fundamentals

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# Chapter 7

## Quality Measures for the Facility Organization





# Chapter 8

## Quality Assessment of Facility Management Services

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# Chapter 1

## Setting the Strategic Direction

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# Contents:

1-What is a Q M S ?

2-Aligning FM with the Demand



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# Chapter 1



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# 1-What is a Quality Management System

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## 1-What is a Quality Management System

# Quality Management System



## 1-What is a Quality Management System

# Performance Management

- 1-Documenting the Current State
- 2-Identifying Improvements
- 3-Assessments and Metrics
- 4-Resource Optimization

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## 1-What is a Quality Management System

# Performance Management

5-Sustainability

6-Testing and Communication

7-Solution Implementation

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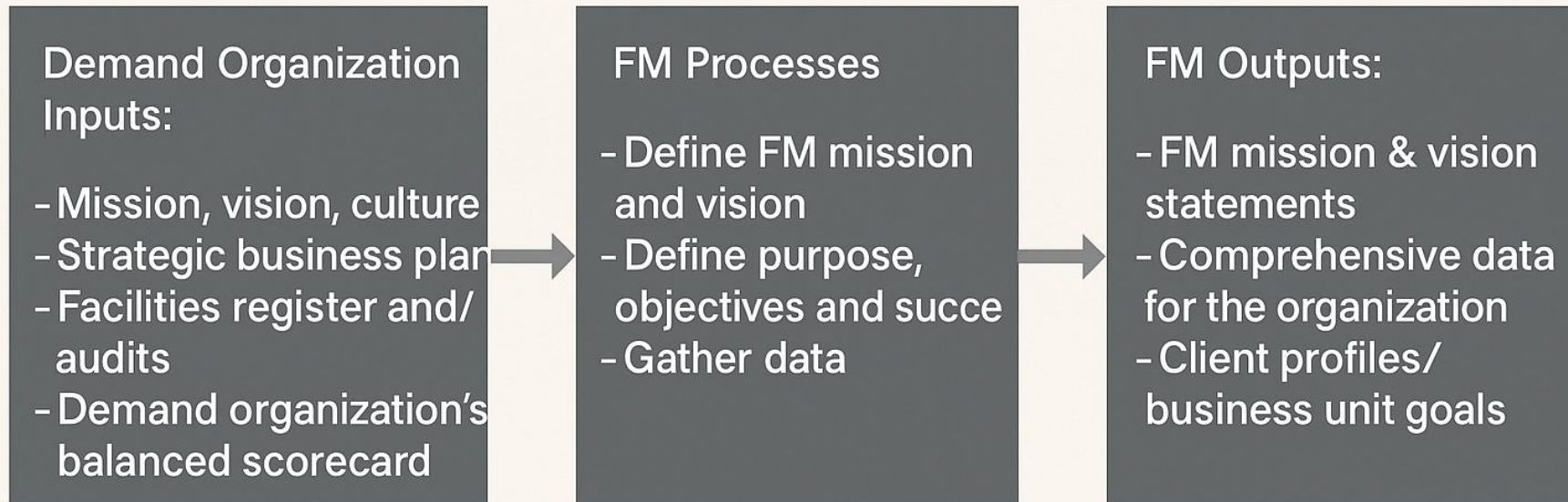
## 2-Aligning FM with the Demand Organization's Mission

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## 6-Aligning FM with the Demand Organization's Mission

# Aligning FM and the Mission



## Performance Management Considerations

Success drivers and translate to KPI

Understanding stakeholder needs



# Chapter 2

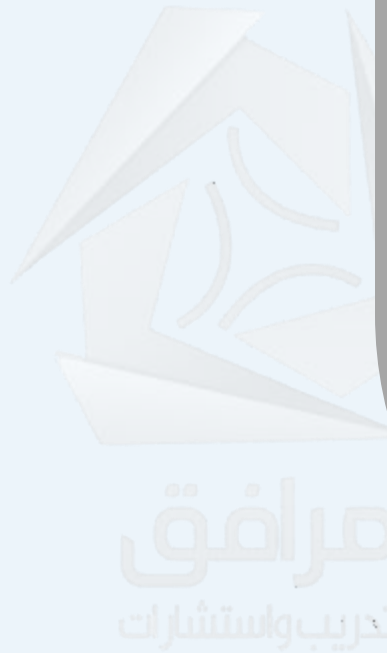
## Identifying Performance Improvement Opportunities





# Contents

- 1- 3 Levels of Performance
- 2- The Assessment Model
- 3- Mapping a Process



# Chapter 2

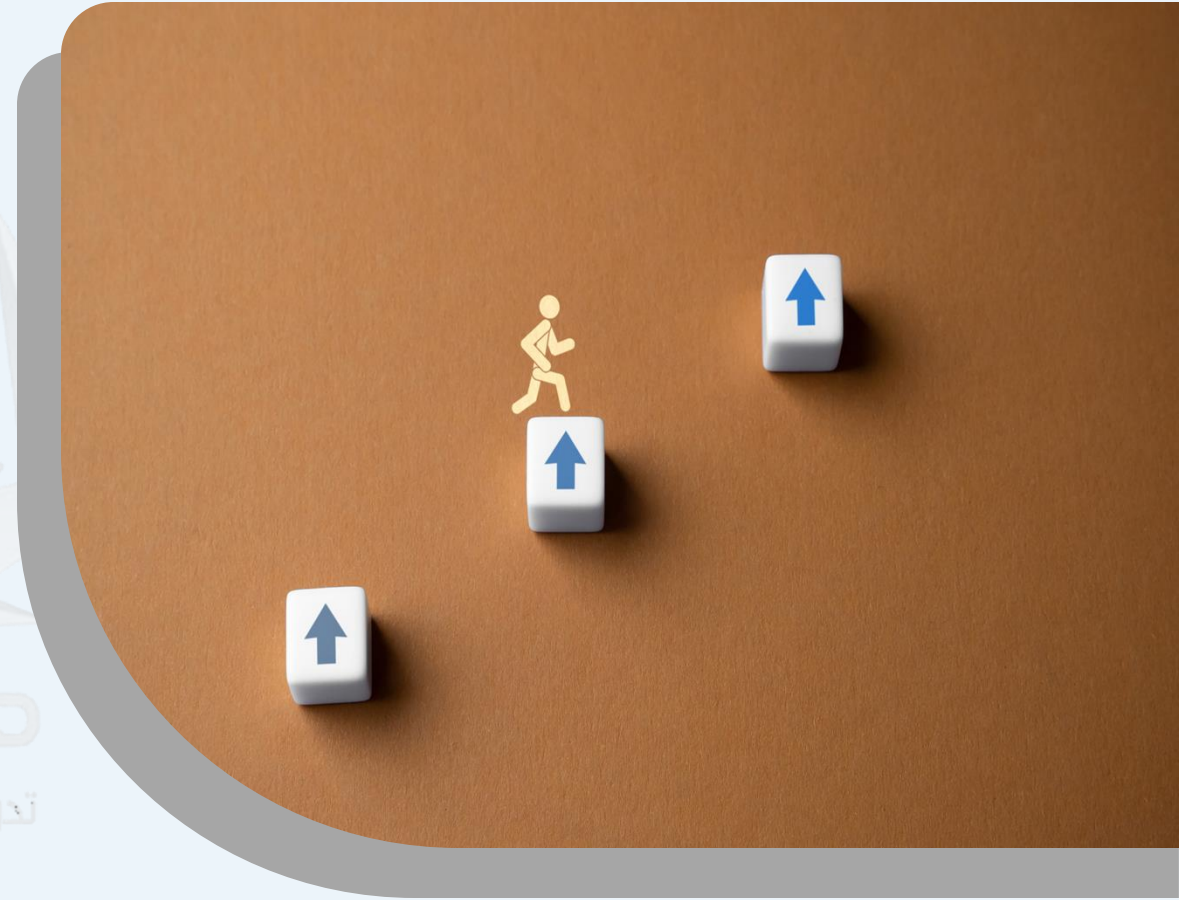


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# 1- Three Levels of Performance

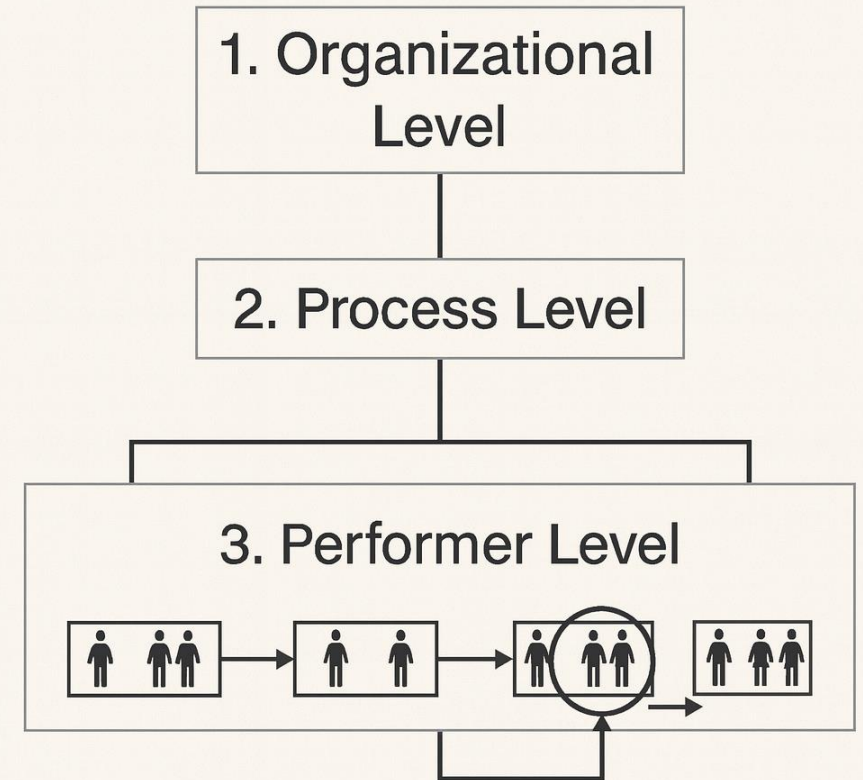


## 1- Three Levels of Performance

1-Organizational Level

2-Process Level (Focus)

3-Performer (Job) Level





## 2- The Assessment Model

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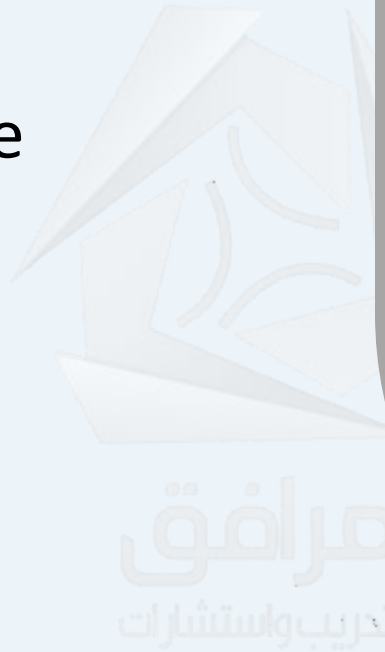


## 2- The Assessment Model

1-Define the Current State

2-Desired State

3-Gap analysis



## 2- The Assessment Model

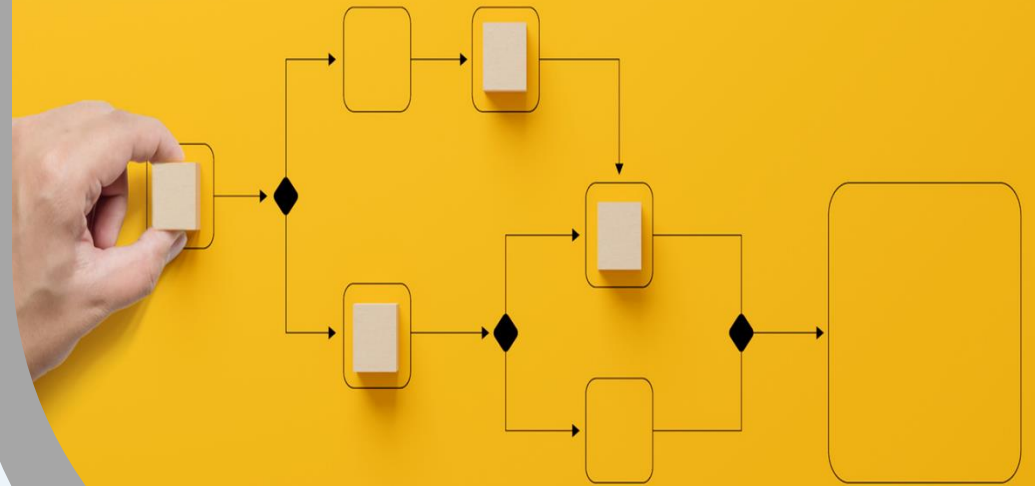
4-Solutions

5-improvement opportunity

6-Using Corrective action



### 3- Mapping a Process



## Type of Process Mapping

- 1-"As-Is" Process Map
- 2-"Should-Be" or "To-Be" Process Map
- 3-Ideal Process Map
- 4-Cross-Functional Process Map





# Chapter 3

## Metrics

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# Contents

1-Better Decisions with Data

2-Establishing Metrics

3-Role of the Performance



# Chapter 3



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# 1-Making Better Decisions with Data

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# Goal of performance Management

Improve decision-making to  
maximize operational performance





# 1-Making Better Decisions with Data

## Types of Metrics

1-People Metrics

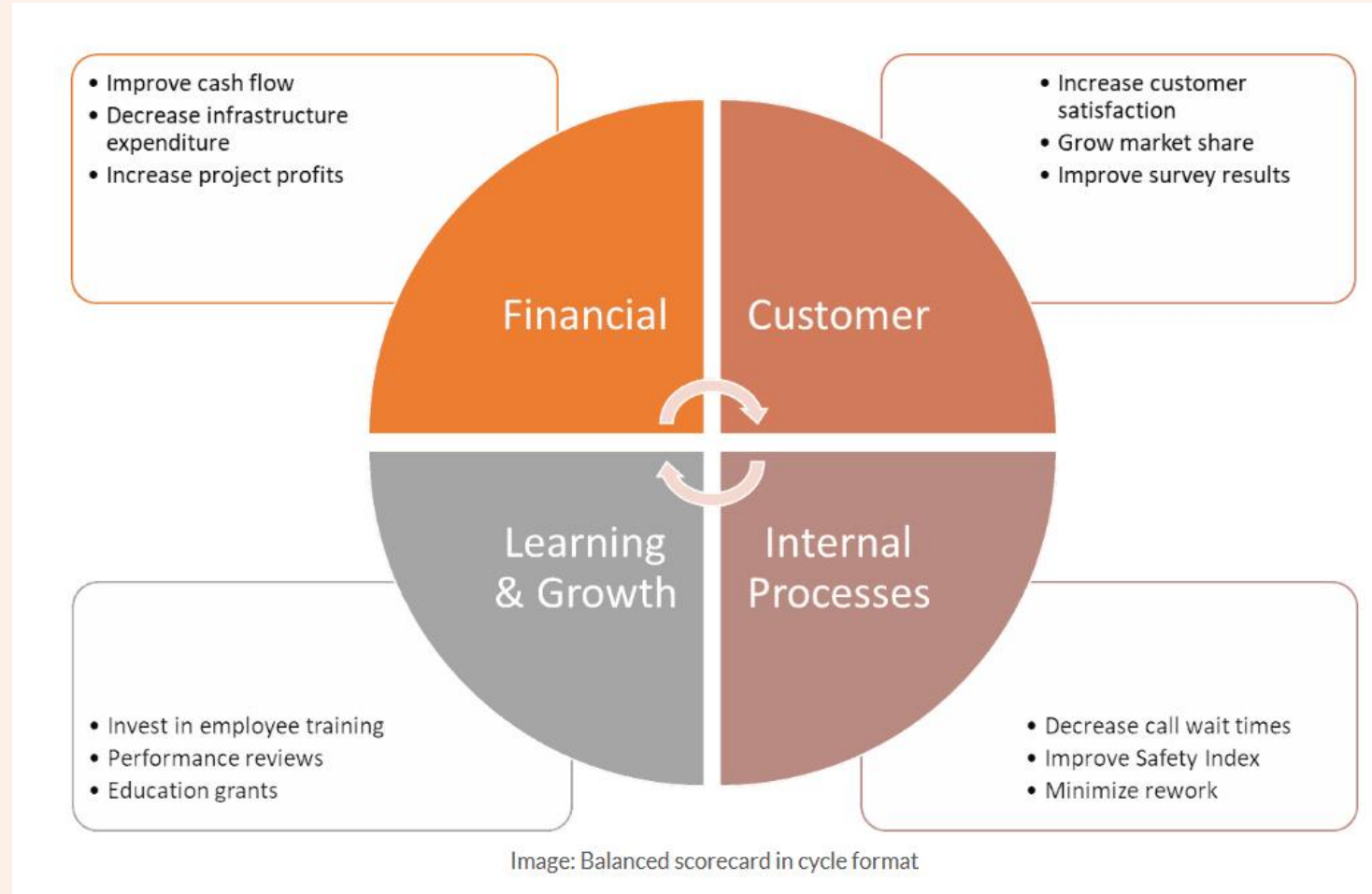
2-Customer Metrics



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# Balanced Scorecard (BCS)



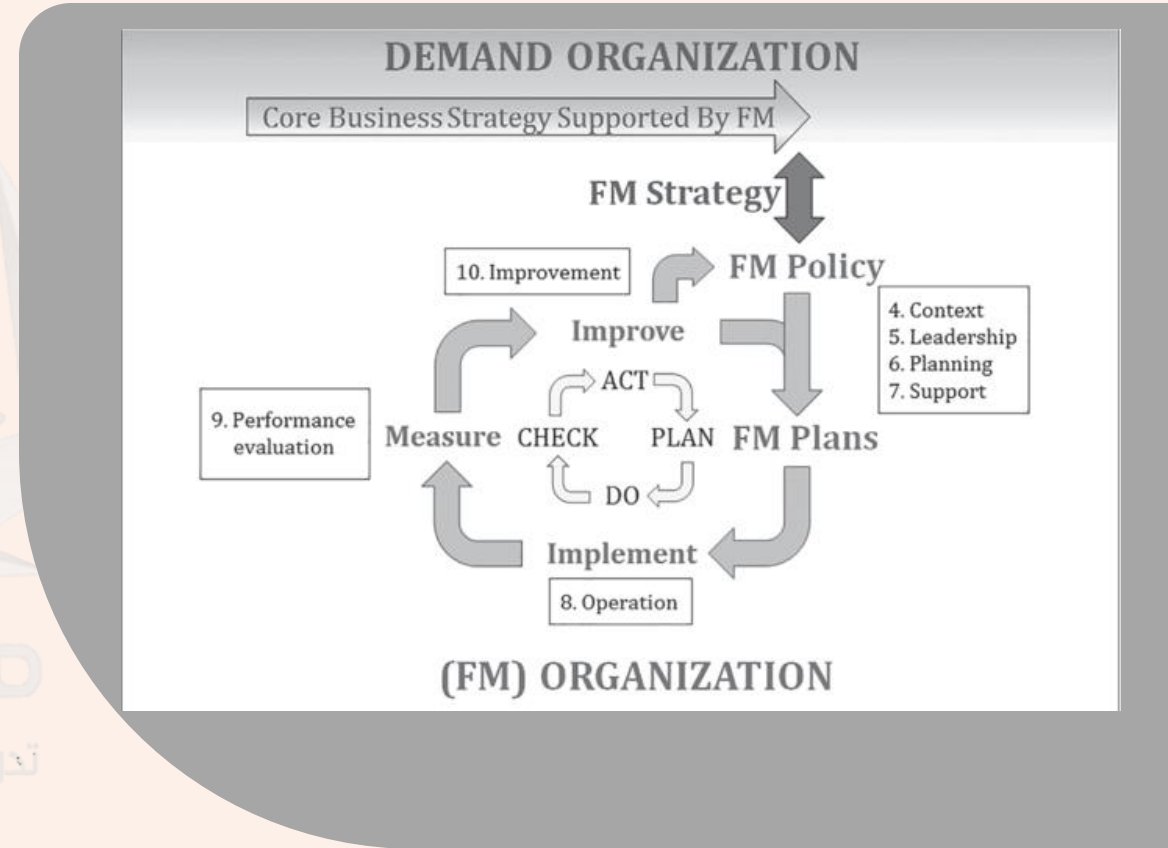
## 1-Making Better Decisions with Data

### Additional Models

2-ISO 41001:2018

Plan-Do-Check-Act

(PDCA) Cycle



## 2-Establishing Metrics and Measuring What is important

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## 2-Establishing Metrics and Measuring What is important

- 1-Facility Portfolio
- 2-Developing and Using Metrics
- 3-Linking to Business Goals
- 4-Access to reliable data





### 3-The Role of the Performance Management System



## Identifying quality data

The right data  
at the right time



# Chapter 4

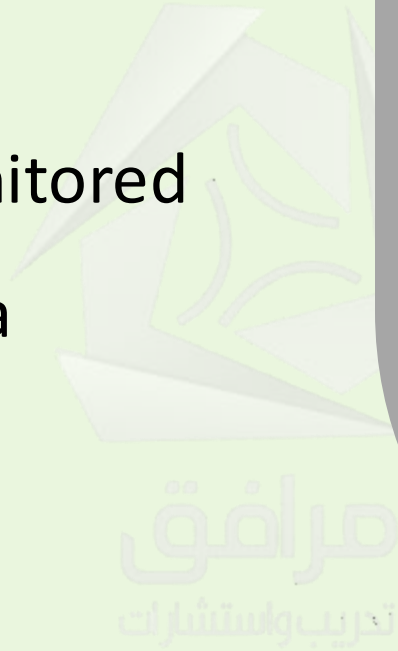
## Measuring and Monitoring



## Contents

1-what needs to be monitored

2-Where to look for data





# Chapter 4



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# 1-Determining what needs to be monitored and measured

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## 1-Determining what needs to be monitored and measured

Service Criticality  
Strategic Importance  
Cost Relevance  
Impact on Decision-Making



## 2-Where to look for Data



## 2-Where to look for data

### Multiple Systems

CAFM

CMMS

IWMS

BIM



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## 2-Where to look for data

**Service Providers**

Tactical Level

Operational Level





# Chapter 6

## Facility Management Quality Fundamentals

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# Contents

1-The Evolution of Quality

2-The Goal of Quality

3-Systems Thinking

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# Chapter 6



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# Contents

## 1-The Evolution of Quality



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## 1-The Evolution of Quality

### Ancient Developments

1450 BC (Ancient Egypt & Sudan)

1046 BC – 256 BC (China)

5th – 15th Century (Middle Ages, Europe)



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## 1-The Evolution of Quality

### Industrial Revolution(1760–1920)

1785: Honore Blanc

1910: Frederick Taylor

1920: Walter Shewhart



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## 1-The Evolution of Quality

### Quality Standardization (1981 – 2018)

Motorola introduced Six Sigma

Quality Standard (ISO 9000)

MB National Quality Award

2018: ISO 41001



## 2-The Goal of Quality Facility Management

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## 2-The Goal of Quality Facility Management

### FM enhance quality by

- 1-High Accuracy
- 2-Compliance with Standards
- 3-Customer Satisfaction



## 3-Systems Thinking





# Chapter 7

## Quality Measures for the Facility Organization

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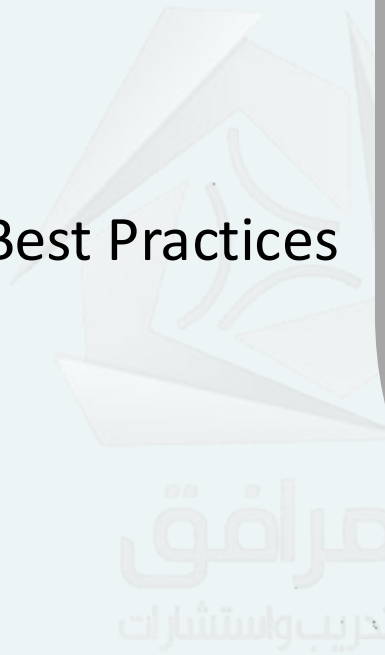
1-Standards

2-Standards, Codes, Practices, Best Practices

3-Quality Data

4-Quality Control Tools

5-Quality Processes



# Contents

5-Quality Processes

6-Basic Statistics

7- Leading and Lagging Indicators

8-FM Internal Audits



# Chapter 7



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# 1-Standards



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## 1-Standards

### Standards in FM

1-Conformance Standards

2-Consensus Standards



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## 1-Standards

### Key Standards in FM

1-ANSI

2-ASHRAE

3-ASTM

4-BSI



## 1-Standards

### Key Standards in FM

5-CEN

6-Data Exchange Standards

7-IFMA/BOMA Standards

8-ISO 9000 / ISO 9001:2008



## 2-Distinctions between

Standards,

Codes,

Practices,

Best Practices and Protocols



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## 2-Distinctions between Standards, Codes, Practices, Best Practices and Protocols



**Standards**



**Codes**



## 2-Distinctions between Standards, Codes, Practices, Best Practices and Protocols

**Practices**

**Best Practices**

**Protocol**



## 3-Quality Data and Facility Performance

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## 3-Quality Data and Facility Performance

### Key Data Collection & Analysis Tools

- 1-Benchmarking
- 2-Problem Statements
- 3-Gap Analysis



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## 3-Quality Data and Facility Performance

### Key Data Collection & Analysis Tools

4-Quality Tools

5-Basic Statistical Analysis



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### 3-Quality Data and Facility Performance

## 1-Benchmarking

- 1-Internal
- 2-External
- 3-Competitive
- 4-Generic

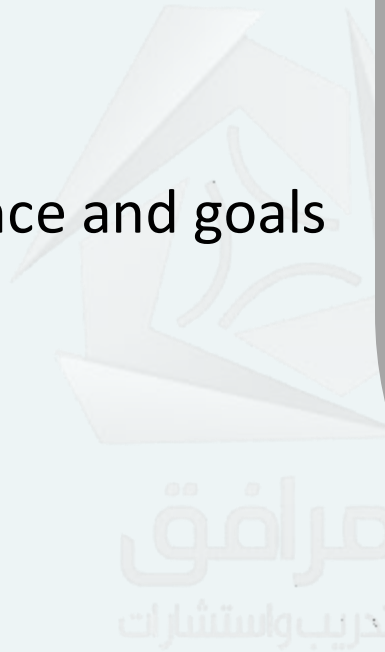




## 3-Quality Data and Facility Performance

### 3-Gap analysis

Difference between current performance and goals



## 3-Quality Data and Facility Performance

### Steps

- 1-Define the gap
- 2-Identify root causes
- 3-Analyze contributing factors
- 4-Develop improvement strategies



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# 4-Quality Control Tools

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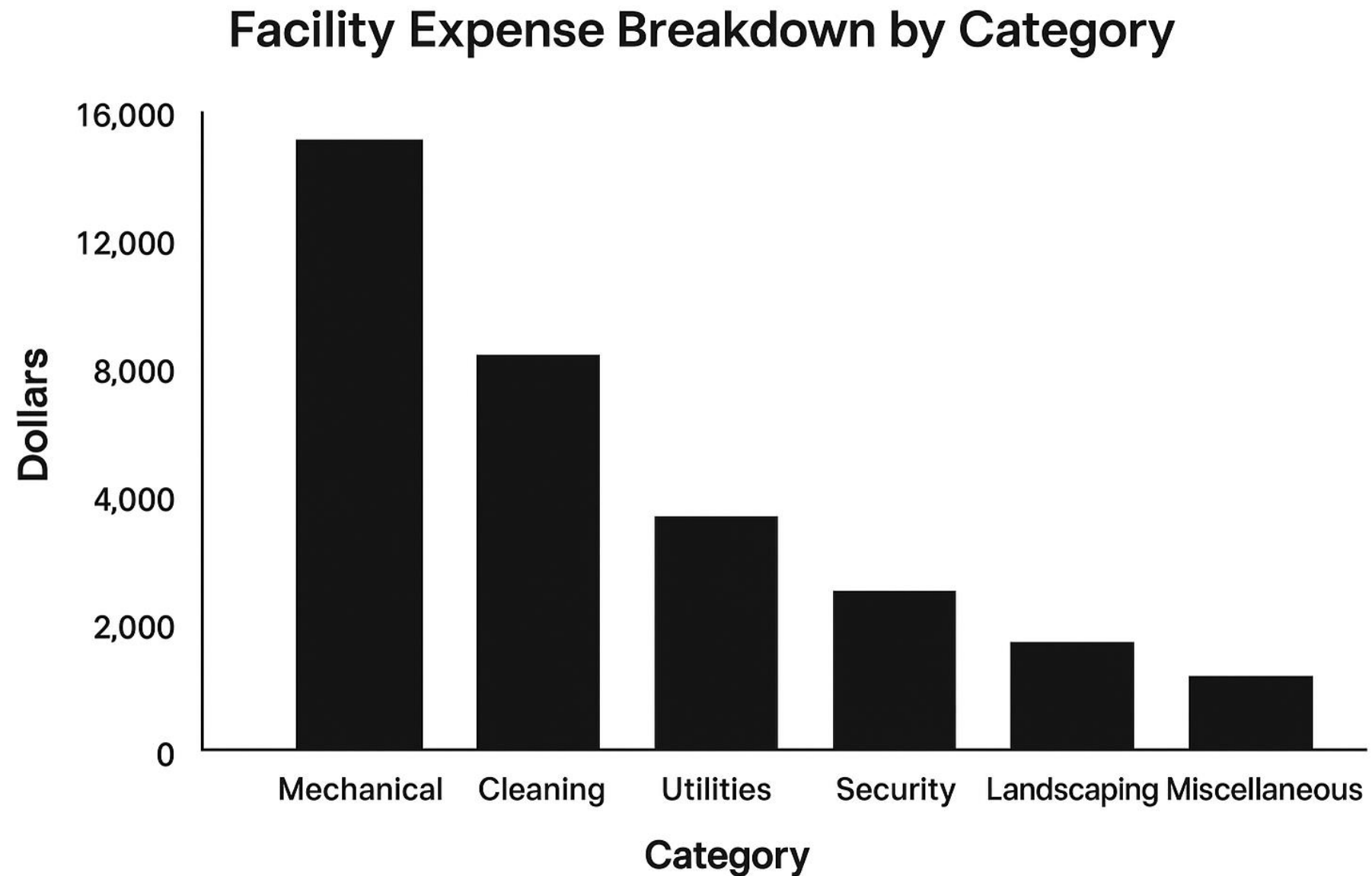




# 1-Pareto Chart



## 4-Quality Control Tools





## 4-Quality Control Tools

# 2-Check or Tally Sheet

Day of the Week						
Priority Classification	Mon.	Tue.	Wed.	Thur.	Fri.	Total
Emergency	x	x				2
Urgent		xxx	xxxx			12
Routine			xxxxx	xxxxx	xxx	28
Total	9	11				42
		2	5	10	13	48
	Total	9	11	5	10	42

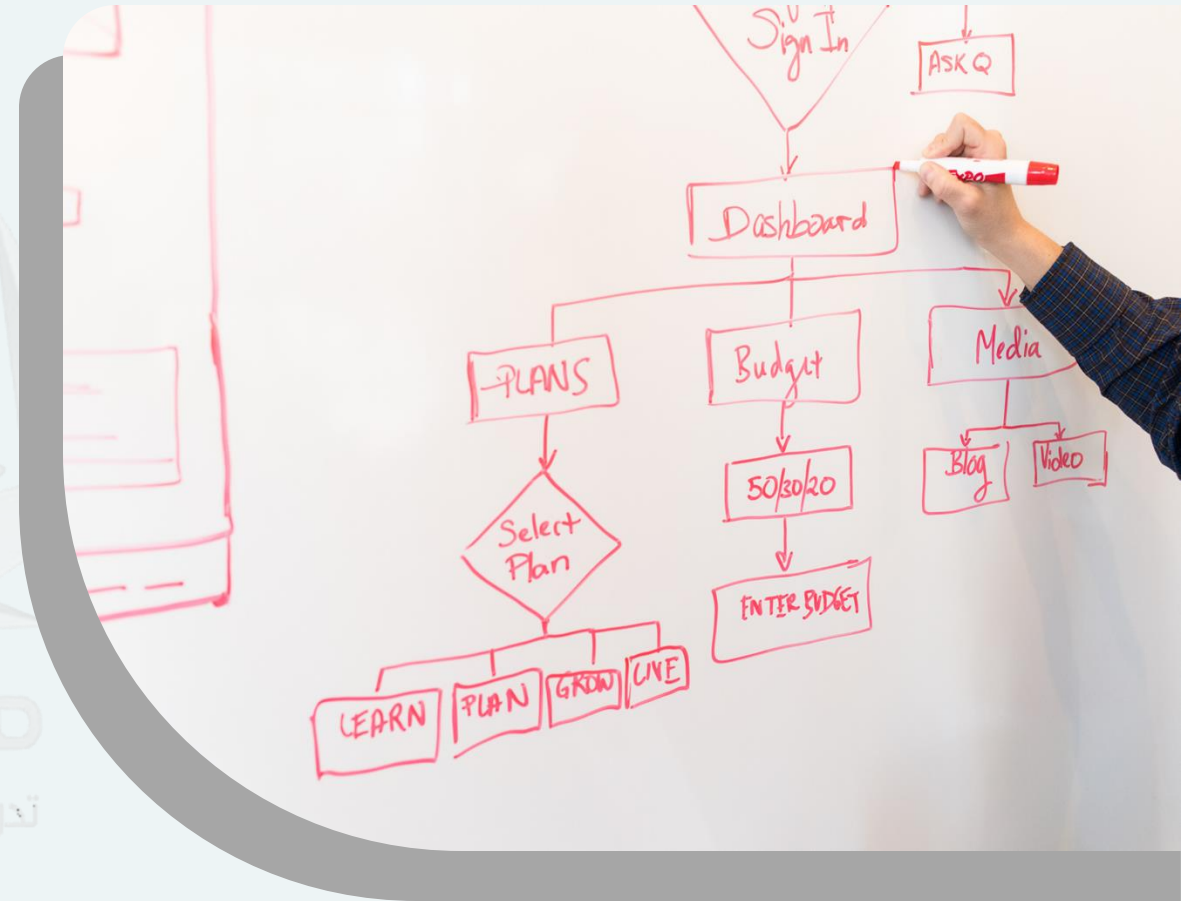
# 3-Flowcharts

Providing a clear picture

Clarifying roles

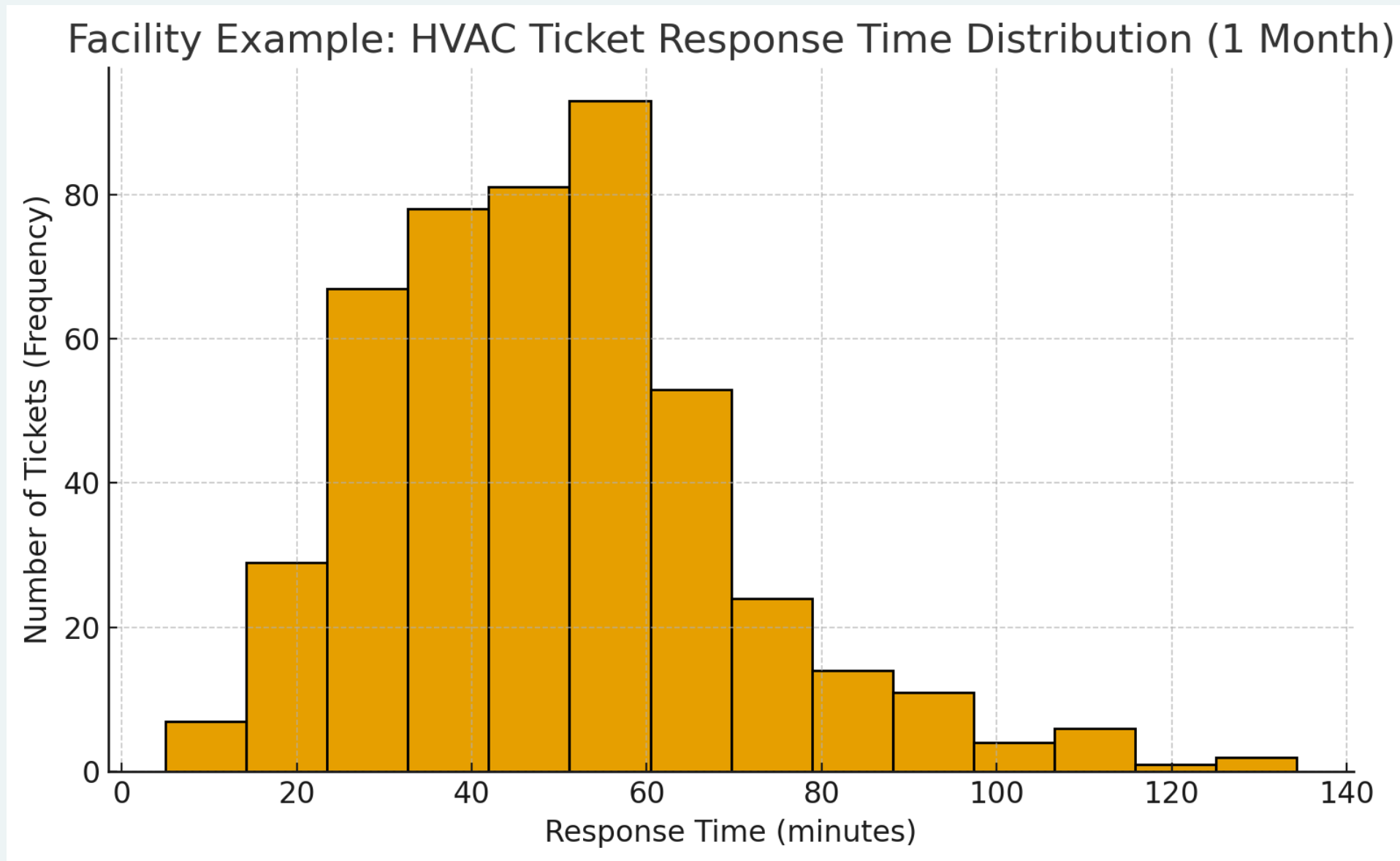
Standardizing process

Areas for improvement



## 4-Quality Control Tools

### 4-Histograms



## 4-Quality Control Tools

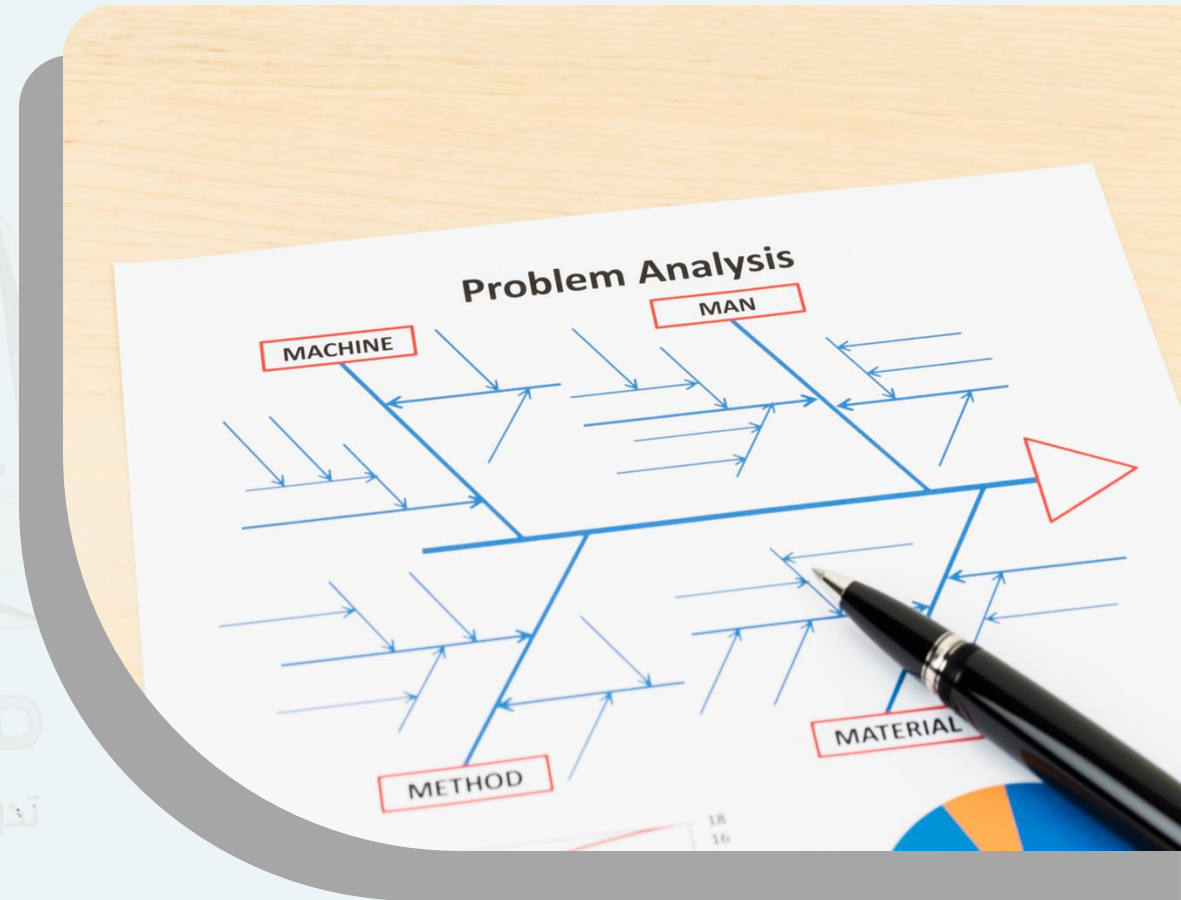
# 4-Cause-and-Effect Diagram

1-People

2-Plant

3-Policies

4-Procedures



# 5-Quality Management Processes

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## 5-Quality Management Processes

### 1-PDCA Cycle

1-Plan

2-Do

3-Check

4-Act



## 5-Quality Management Processes

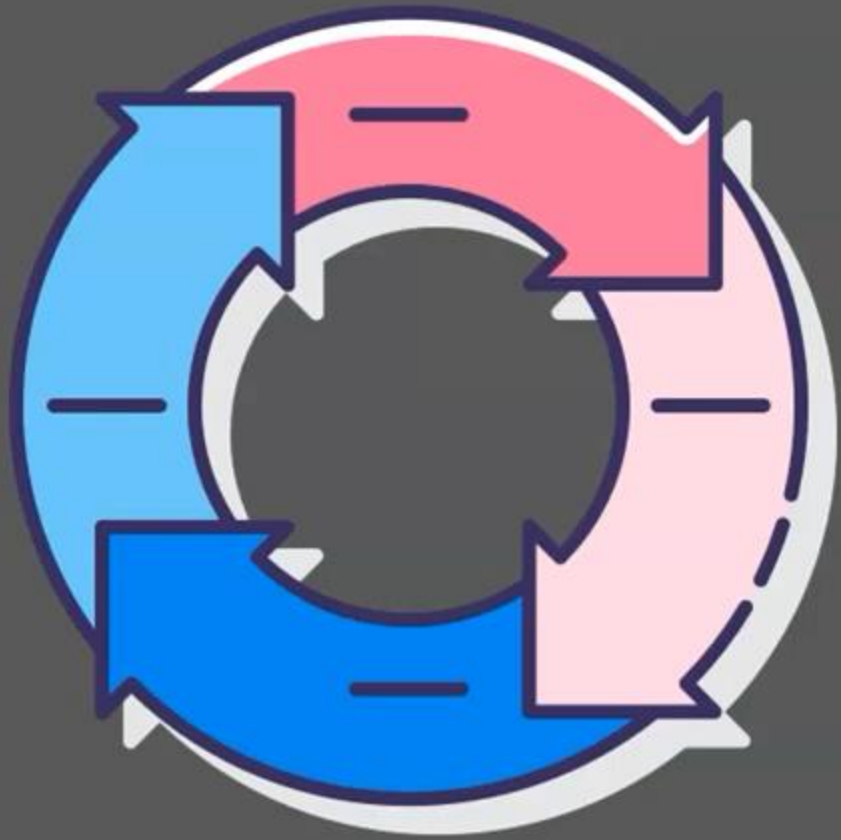
### 2-DMAIC Model

- 1-Define
- 2-Measure
- 3-Analyze
- 4-Improve
- 5-Control



# DMAIC Video





*Introduction to*

**DMAIC**

**LIFECYCLE**

## 6-Basic Statistics





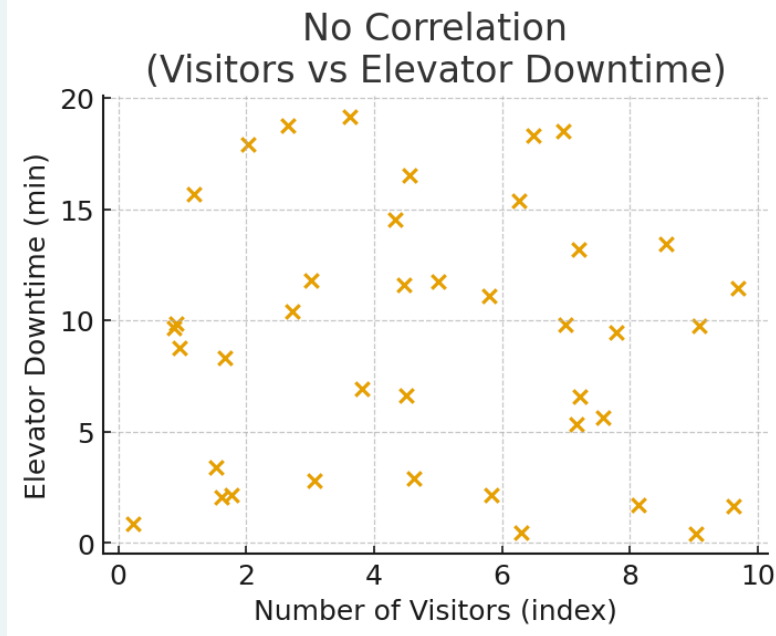
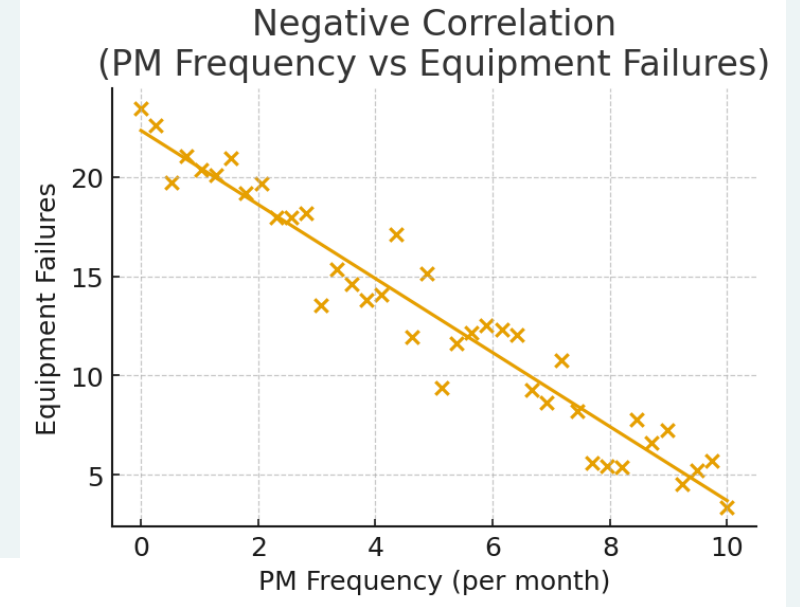
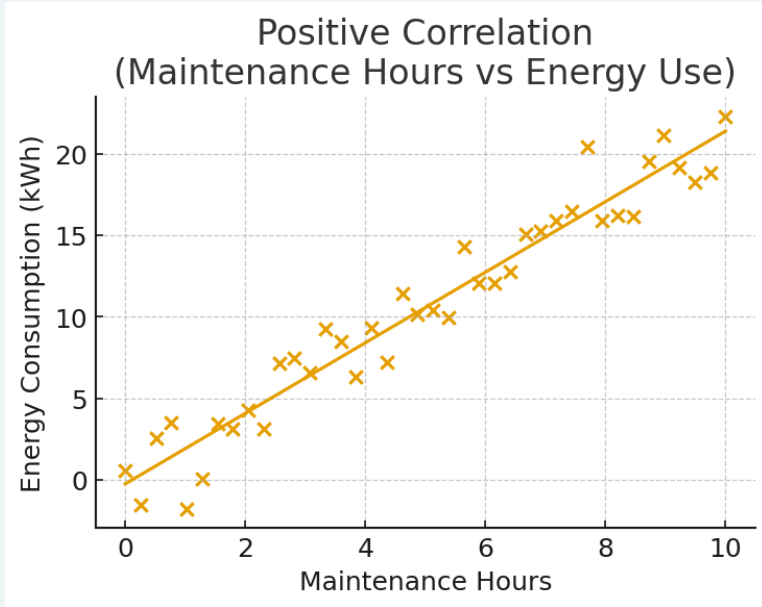
## 6-Basic Statistics

### Measures of Central Tendency

- 1- Mean (Average)
- 2-Median (Middle Value)
- 3-Mode (Most Frequent Value)



## 6-Basic Statistics



## 7-Leading and Lagging Indicators.

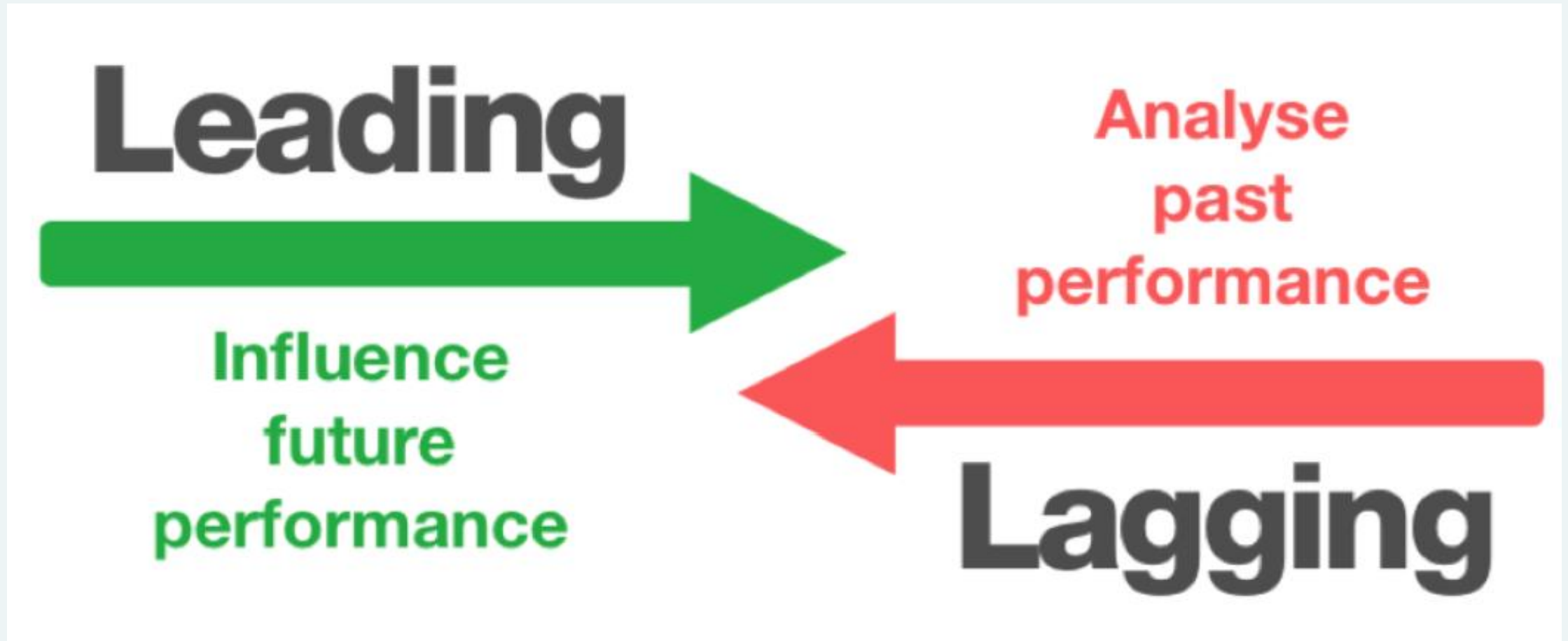
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**K**  
Key

**P**  
Performance

**I**  
Indicator

## 7-Leading and Lagging Indicators.



## 8-FM Internal Audits

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## 8-FM Internal Audits

1-Facilities Audit

2-Space Audit

3-Financial Audit

4-Energy Audit



# Chapter 8

## Quality Assessment of Facility Management Services

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# Contents

1-Measuring Customer Satisfaction

2-Analyzing Customer Feedback



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# 1-Measuring Customer Satisfaction





# 1-Measuring Customer Satisfaction

Qualitative Measures  
Quantitative Measures



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## 1-Measuring Customer Satisfaction

Qualitative Tools	Quantitative Tools
Flow Chart	Pareto chart
Cause and Effect Diagram	Check sheet
Surveys	Control Chart
Focus Groups	Histogram
Interviews	Basic Statistical Tools

# 1-Measuring Customer Satisfaction

## Complaint Management

Automated Tracking

Enhanced Analytics

Improved Reporting

Supports Continuous Improvement



# 1-Measuring Customer Satisfaction

## Interviews

understand customer perceptions  
and service expectations

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## 1-Measuring Customer Satisfaction

### Focus Group





## 1-Measuring Customer Satisfaction

# Sampling



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# 1-Measuring Customer Satisfaction

## Survey



## 1-Measuring Customer Satisfaction

Strongly Disagree	Disagree	Slightly Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

**Likert Scale**

# 1-Measuring Customer Satisfaction

Given 100 points, how would you allocate them across the following outdoor recreation areas? Allocate points based on how important the area is to you. Total points should add up to 100.

Outdoor Recreation Area	Points
1. Walking trails	
2. Bicycling paths	
3. Jogging paths	
4. Sports courts	
Total	100 points

## Order Ranking

# 1-Measuring Customer Satisfaction

## Walk-throughs and observations



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## 2-Analyzing Customer Feedback



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## 2-Analyzing Customer Feedback

### Survey data

1-Data Preparation

2-Descriptive Statistics

3-Inferential Statistics



## 2-Analyzing Customer Feedback

### Analyzing data

Statistical Computation

Error Checking

Ranking & Comparison



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## 2-Analyzing Customer Feedback

### Communicating Result

Honest & Open Communication

Audience-Centered Approach

Ranking & Comparison

Big-Picture Perspective





## 2-Analyzing Customer Feedback

### Continuous Improvement

- 1-Identify Areas for Improvement
- 2-Analyze Current Performance
- 3-Implement Solutions
- 4-Monitor and Adjust

