

# **GENERAL DYNAMICS**

Electric Boat

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Benefits of an Effective Quality Management  
System (QMS) on Business Performance

February 25, 2025

# Supplier Quality Team - Introduction

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# Objectives

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## **Learning Objectives:**

- Describe the term quality and baseline what quality means
- Define QMS and why it enables the company to achieve operational efficiency and effectiveness
- Applying the QMS Principles; “Say what you do, do what you say, prove it”
- Define how QMS principles are applied within the elements of the QMS
- Use QMS principles and elements to achieve operational success and improve business performance

# Quality Defined

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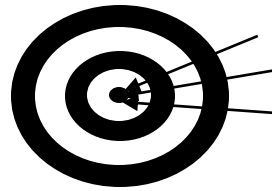
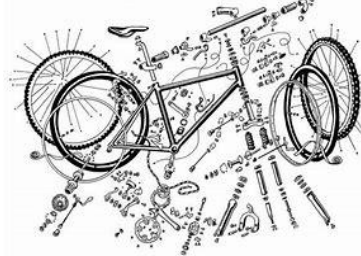
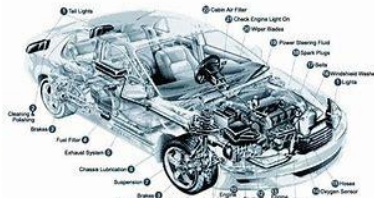
**“Quality is the totality of features and characteristics of a product and/or service that bear on its ability to satisfy a given need.”-  
ASQ.org**

- **Quality** - the standard of something as measured against other things of a similar kind; the degree of excellence of something; general excellence of standard or level; a distinctive attribute or characteristic possessed by someone or something
- **The Quality Department** - the department or team responsible for assuring and/or controlling quality within an organization. Typically the Quality department's role is to educate and assist other departments in monitoring and improving quality.

How does your company's QMS contribute to business performance?

# Quality Management System Definition

# Systems are greater than the sum of their parts



## Accuracy & Repeatability



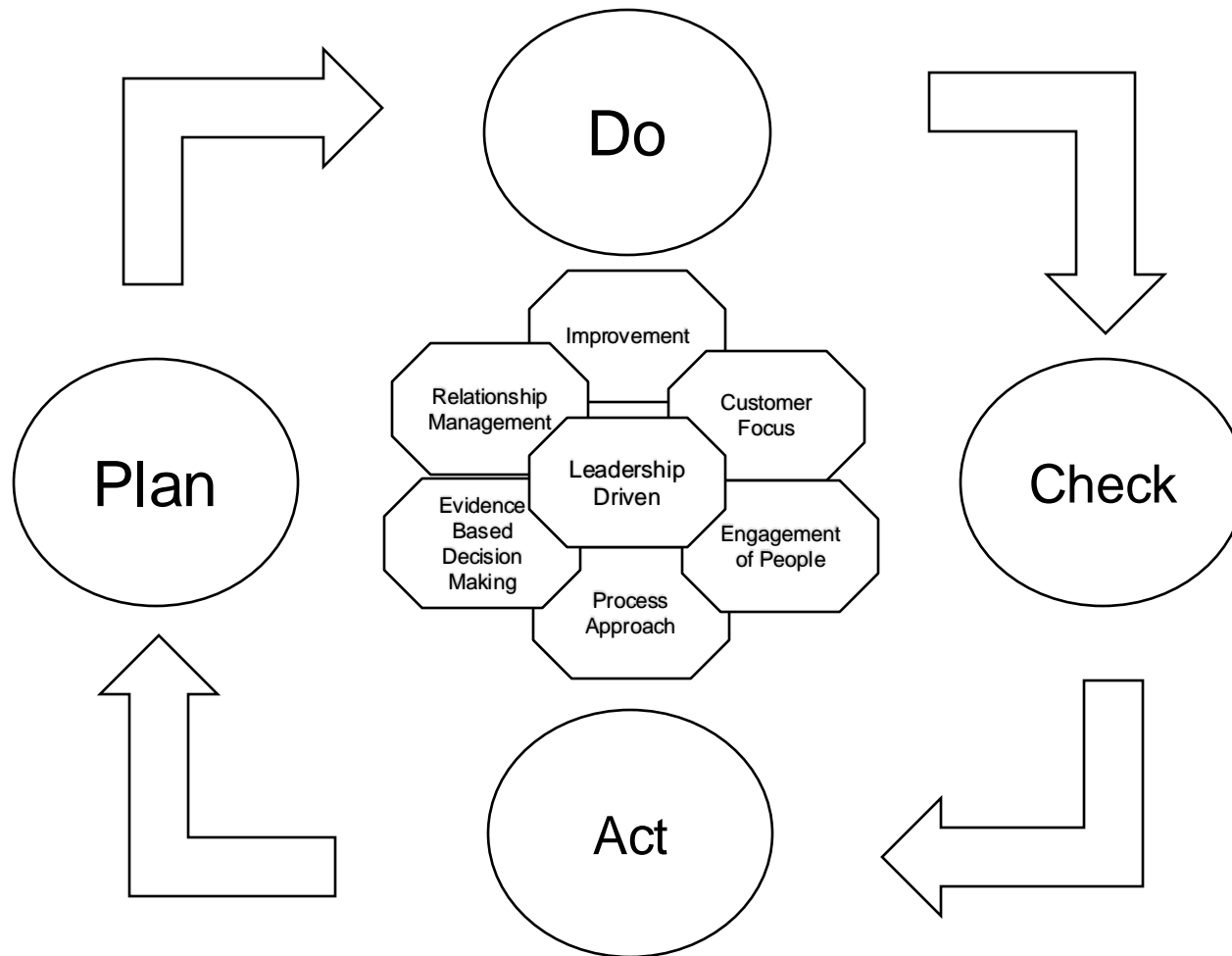
## Reliability



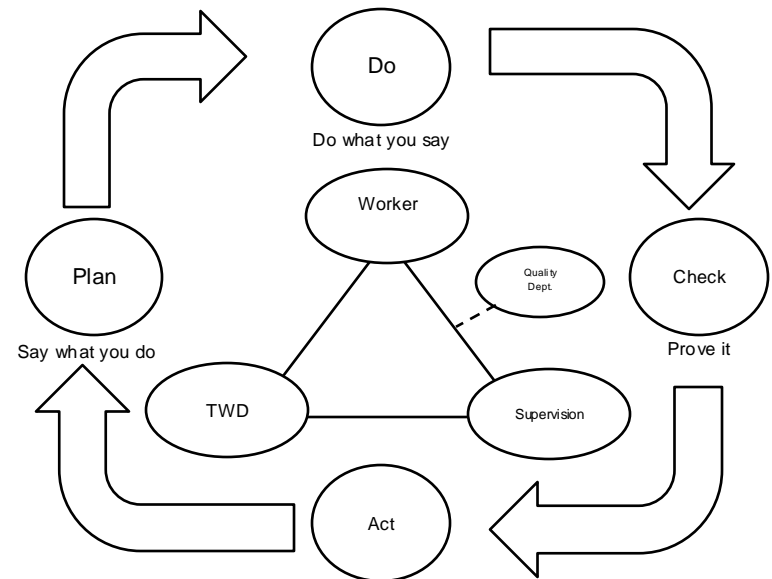
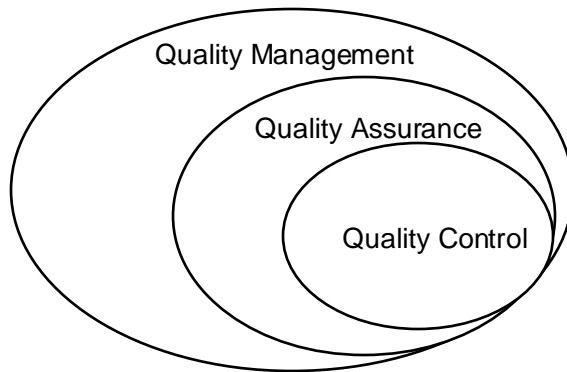
## Efficiency

“Structured framework that defines and documents an organization’s processes, procedures, and responsibilities for achieving quality policies, practices, and objectives. The goal of a QMS is to reduce waste, increase efficiency, and improve customer satisfaction.” - ASQ

# Quality Management System Principles

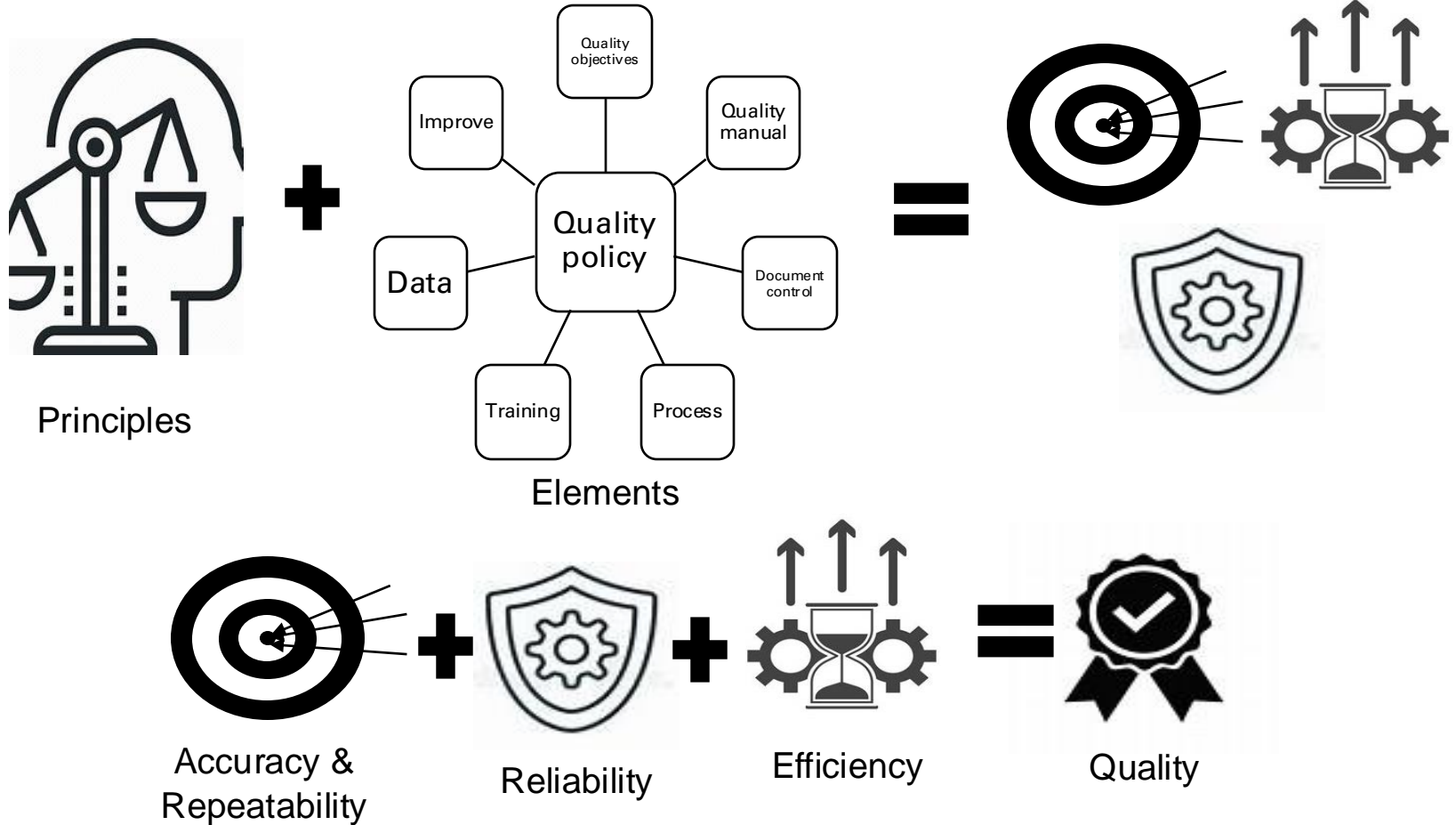


# Applying the QMS



A submarine floats on the sea of paper it takes to certify it.

# Elements of the QMS Applied

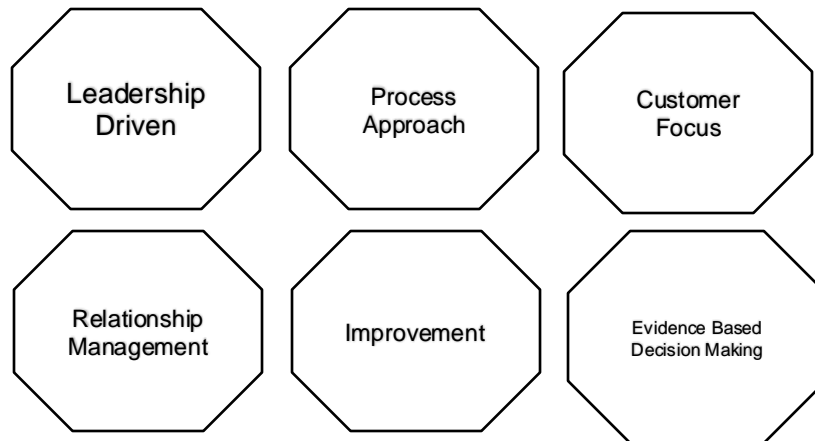




# QMS Applied and Business Performance

## Case Study #1 – “Double or nothing”

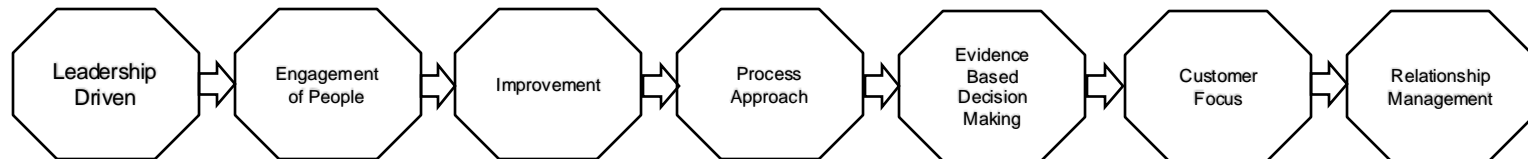
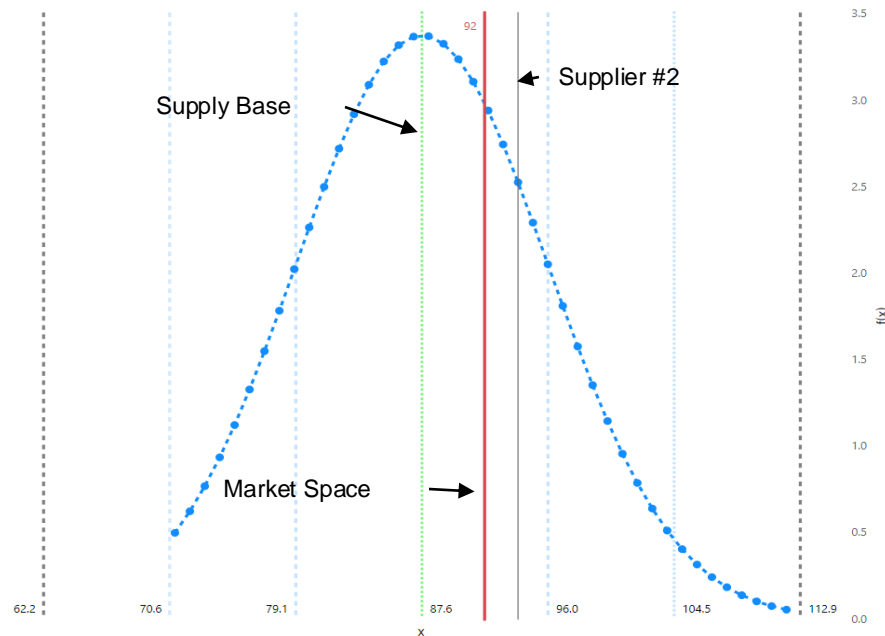
- Problem 1: Information wasn't getting flowed up correctly meaning **leadership wasn't engaged**
- Problem 2: A lack of **customer focus** negatively influenced the suppliers lower management team from addressing key problems leading to an inability to certify material to EB, and subsequent inability of the company to invoice due to the lack of certification
- Problem 3: The supplier showed little understanding of EB requirements as identified through a pattern of administrative errors. This condition created frustration between EB and the supplier which could have been avoided through behavior and elements of **continuous improvement** and therefore ensuring effective **relationship management**.



MONTH	OQE ACCEPTED	OQE REJECTED	TOTAL	INSPECTION ACCEPTANCE RATING
January	3	4	7	43%
February	8	3	11	73%
March	7	0	7	100%
April	4	14	18	22%
May	9	10	19	47%
Monthly Averages Prior to Program Review			12	57%
May 29-31 (PROGRAM REVIEW)				
June	18	2	20	90%
July	20	3	23	87%
August	31	4	35	89%
Monthly Averages Post Program Review			26	89%

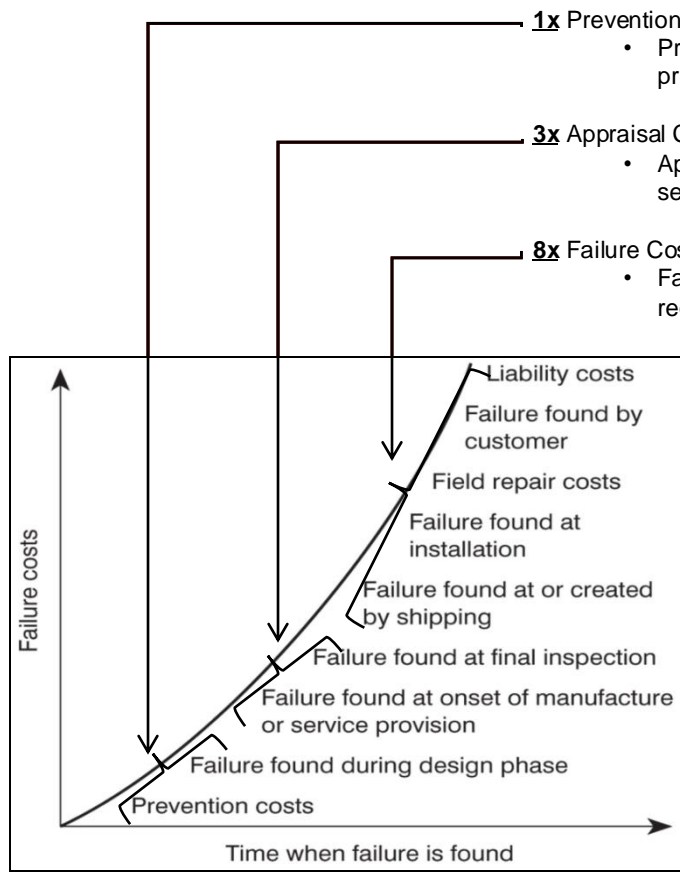
# QMS Applied and Business Performance

## Case Study #2 – “The Secret Sauce”



# QMS Applied and Business Performance

## 1, 3, 8 Rule



### **1x** Prevention Costs

- Prevention costs are those costs that occur when a company is performing activities designed to prevent poor quality in products or services.
  - Quality planning, education, preventive maintenance, product design reviews.

### **3x** Appraisal Costs

- Appraisal costs are the costs associated with measuring, evaluating, or auditing products or services to make sure that they conform to specifications or requirements.
  - In-process inspection, incoming inspection, audit, product evaluations.

### **8x** Failure Costs

- Failure costs occur when the completed product or service does not conform to customer requirements.
  - **Internal Failure Costs** are those costs associated with product non-conformities or service failures found before the product is shipped or the service is provided to the customer.
    - Rework, scrap, repair, corrective actions
  - **External Failure Costs** are those costs that occur when a nonconforming product or service reaches the customer.
    - Returned goods, liability costs, penalties, complaints

### **∞x** Intangible Costs

- Intangible costs are the hidden costs associated with providing a nonconforming product or service to a customer. They involve the company's image.
  - Customer dissatisfaction, loss of trust, loss of ship

# Takeaway



Questions?