

CTQ Process for Dashboard Metrics

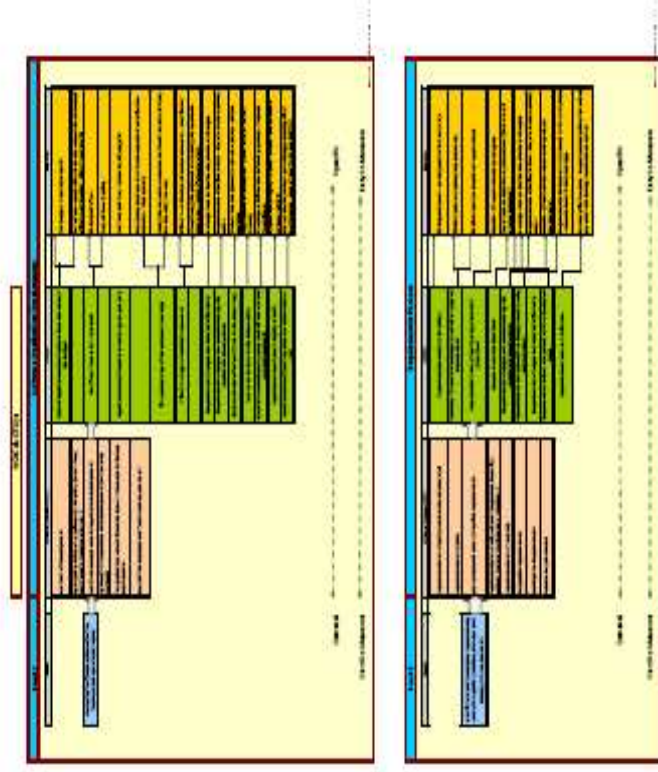
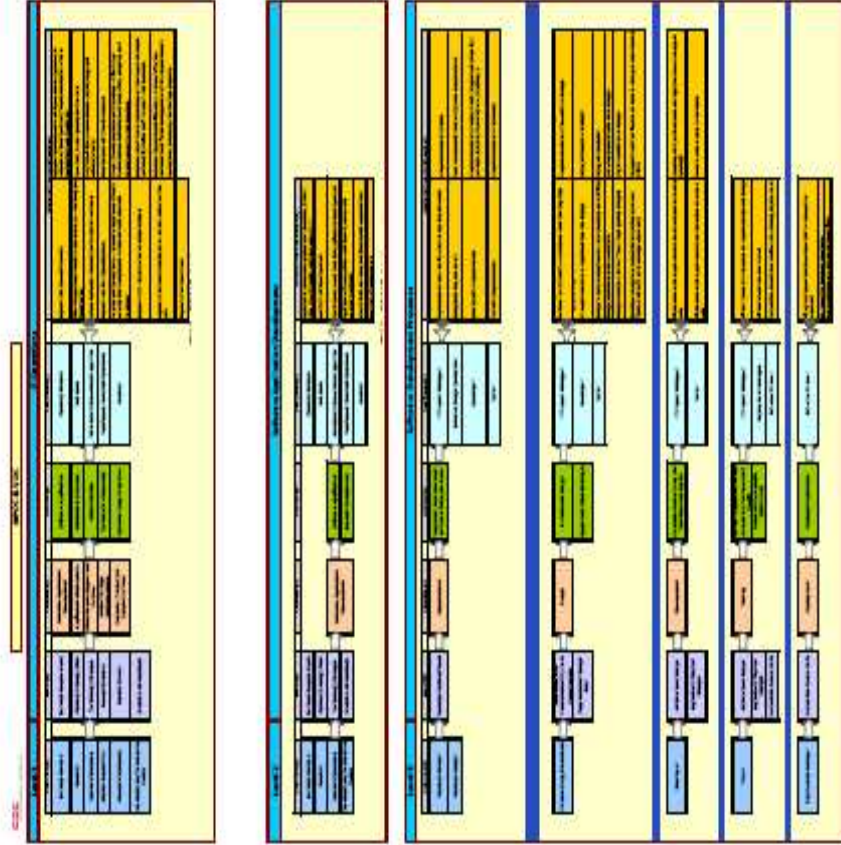
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CTQ Process for Dashboard Metrics

Dashboard Metrics - > > >



SIPOC VOC CTQ



CTQ PROCESS FOR SETTING UP IT METRICS FOR DASHBOARDS



CTQ Process for Dashboard Metrics

The steps for identifying the right dashboard metrics

WHO are your CUSTOMER(S)?



WHAT do they need?



How do you quantify their need?



HOW much do they need?

WHO are your CUSTOMER (S)?

- Identify and prioritize customers
- Decide what information is important to describe their needs
- Decide when and how to get this information
- Use customer segmentation to understand the gap between where we are and where the customer needs the process and outcomes to be (differences)

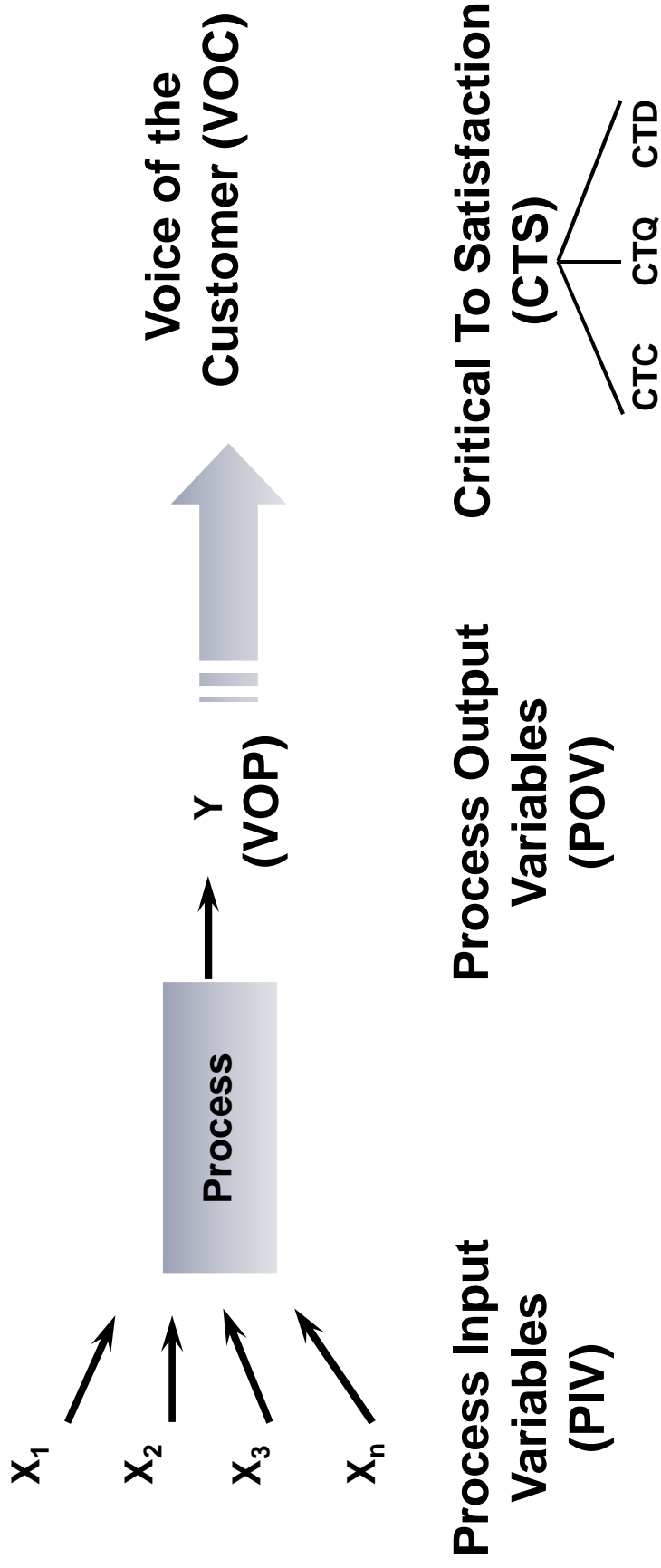
WHO are your CUSTOMER(S)?

WHAT do they need?

HOW do you quantify their need?

HOW much do they need?

How Do Customer CTS's Relate To The $Y=f(x)$ Of Our Processes



Manage the INPUTS and good OUTPUTS will follow that satisfy the customers

Data Collection Systems

- **Reactive**
- **Proactive**

WHO are your CUSTOMER(S)?



WHAT do they need?



HOW do you quantify their need?



HOW much do they need?

Reactive and proactive systems Contd..

Reactive systems gather information automatically

- Customer complaints (phone or written)
- Problem or service hot lines
- Technical support calls
- Customer service calls
- Claims, credits, contested payments

Proactive systems must be designed to gather information

- Interviews
- Focus groups
- Surveys
- Comment cards
- Data gathering during sales visits or calls
- Direct customer observation
- Market research, market monitoring

Analyze Data

- Generate key customer needs
- Group and summarize data

WHO are your CUSTOMER(S)?



WHAT do they need?



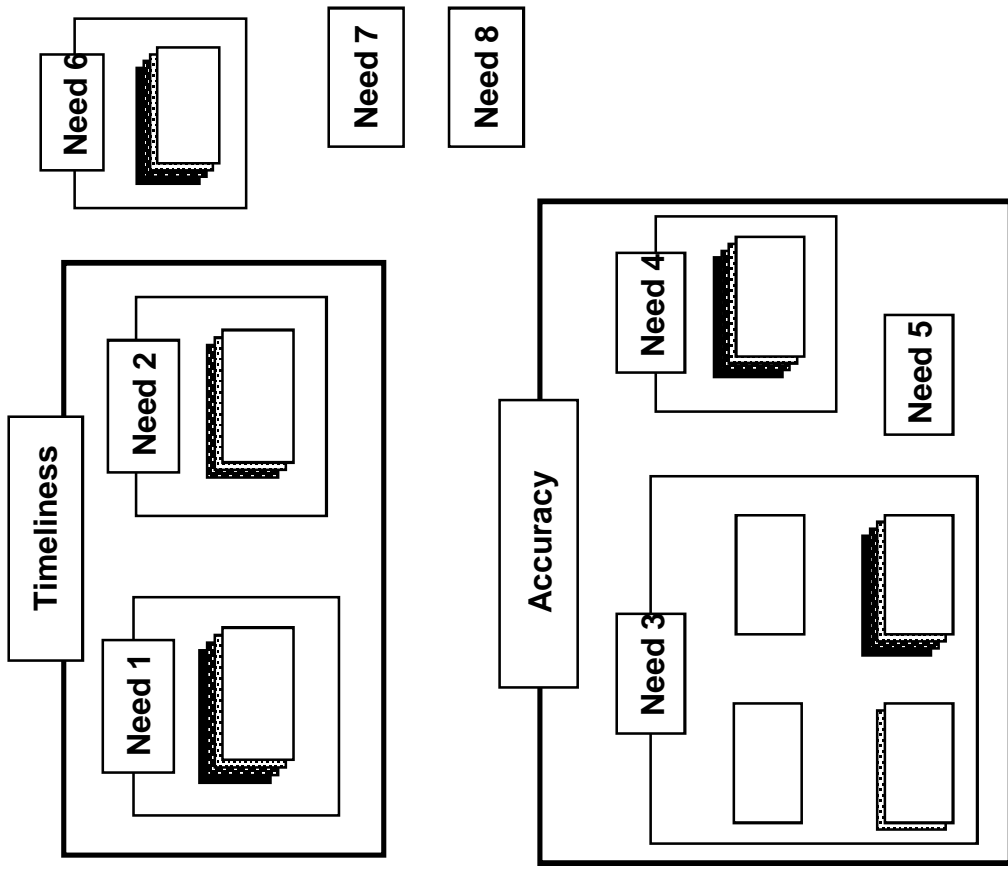
HOW do you quantify their need?



HOW much do they need?

Affinity Diagrams

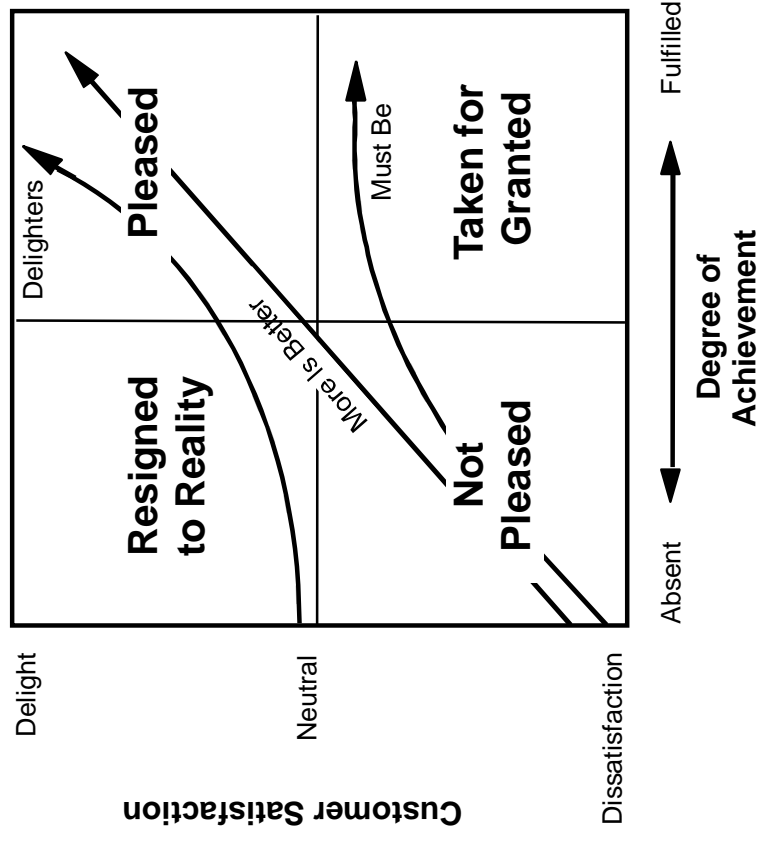
An Affinity Diagram is a tool that organizes language data into *related groups*.



- Encourages “breakthrough” thinking
- Can identify patterns in mountains of data
- Allows compartmentalization of large volume of language data
- Organizes ideas, issues, opinions
- Encourages ownership of results by associating data

The Kano Model and VOC

- **Must be** characteristics are generally taken for granted—unless they are absent!
- Customers generally discuss or bring up issues related to **More Is Better** characteristics.
- **Delighters** are generally not mentioned, since customers are not dissatisfied with their absence.



Develop CTQ

- Make generic VOC into specific CTQs
- Drive to the level which touches the raw data.

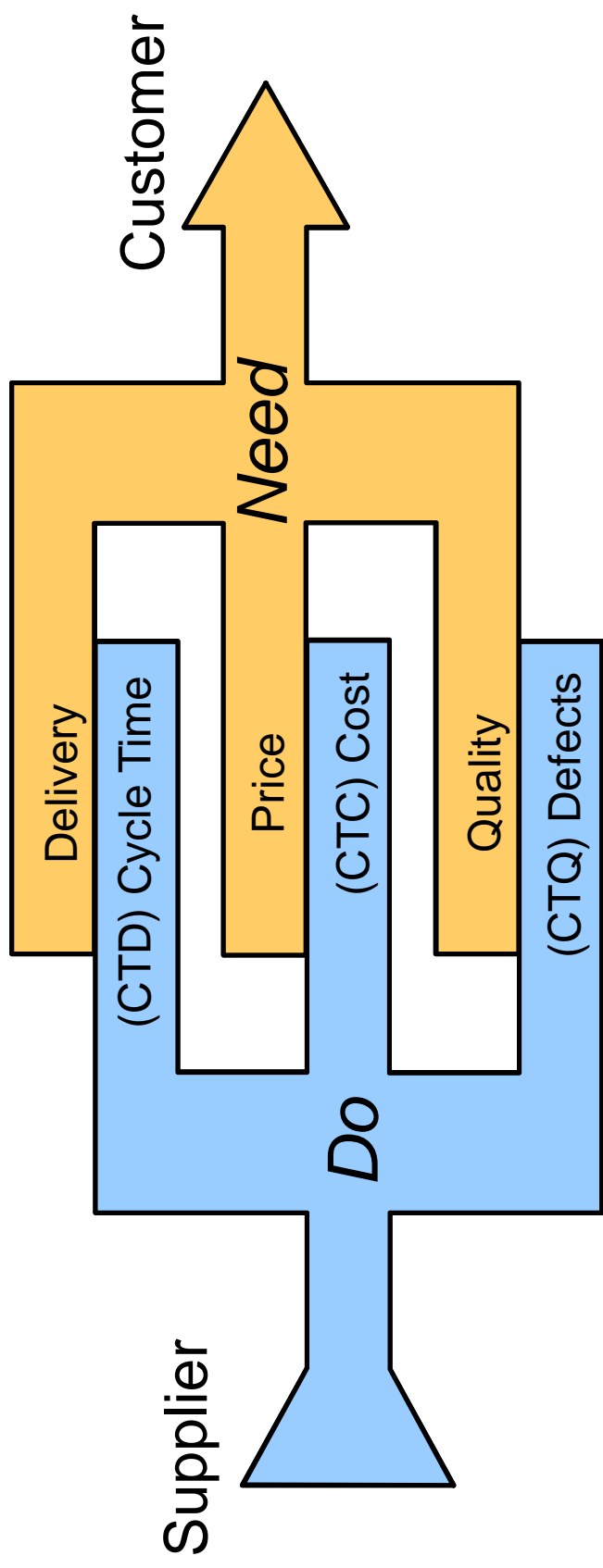
WHO are your CUSTOMER(S)?

WHAT do they need?

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Translating the VOC to CTQ



CTQ Characteristics

A useful Critical to Quality requirement – CTQ - will have the following characteristics:

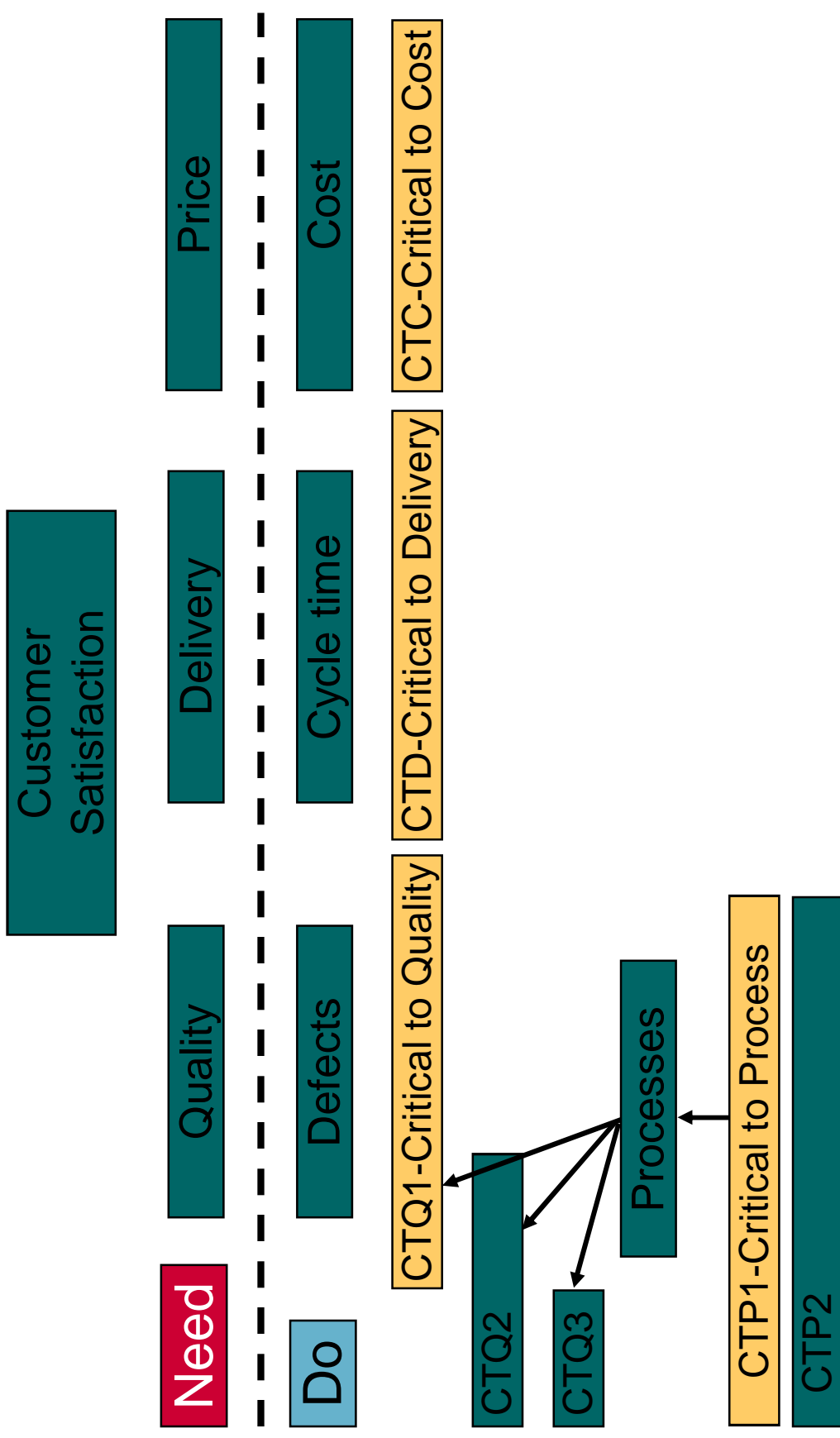
- It is truly critical to the customer's perception of quality.
- It can be measured.
- A specification can be set to tell whether or not the CTQ has been achieved.

Steps to Constructing a CTQ

- Gather (sorted or stratified) customer / business needs
- List major customer needs on the left side of the CTQ Tree
- View each need from the customer point of view by asking specifically “What would that mean?” from the customer standpoint. Each answer becomes a driver for the CTQs.
- Continue with each driver until you reach a level where it would be absurd to continue. (Your answers at this level are the CTQs)
- Select CTQs that will have the greatest *positive* impact on the customer

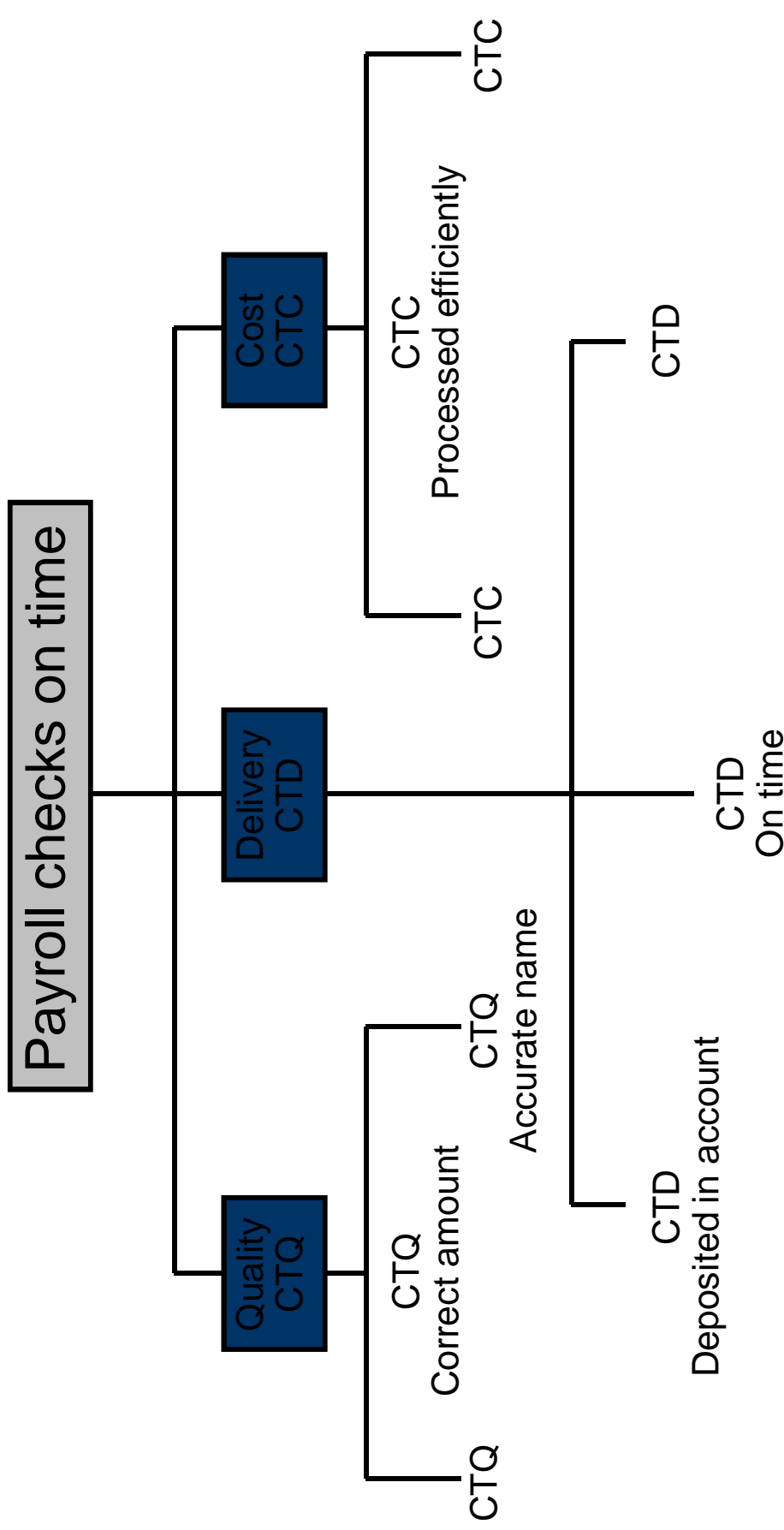
CTx Tree Contd..

Relating CTS's To Process Outputs and Inputs



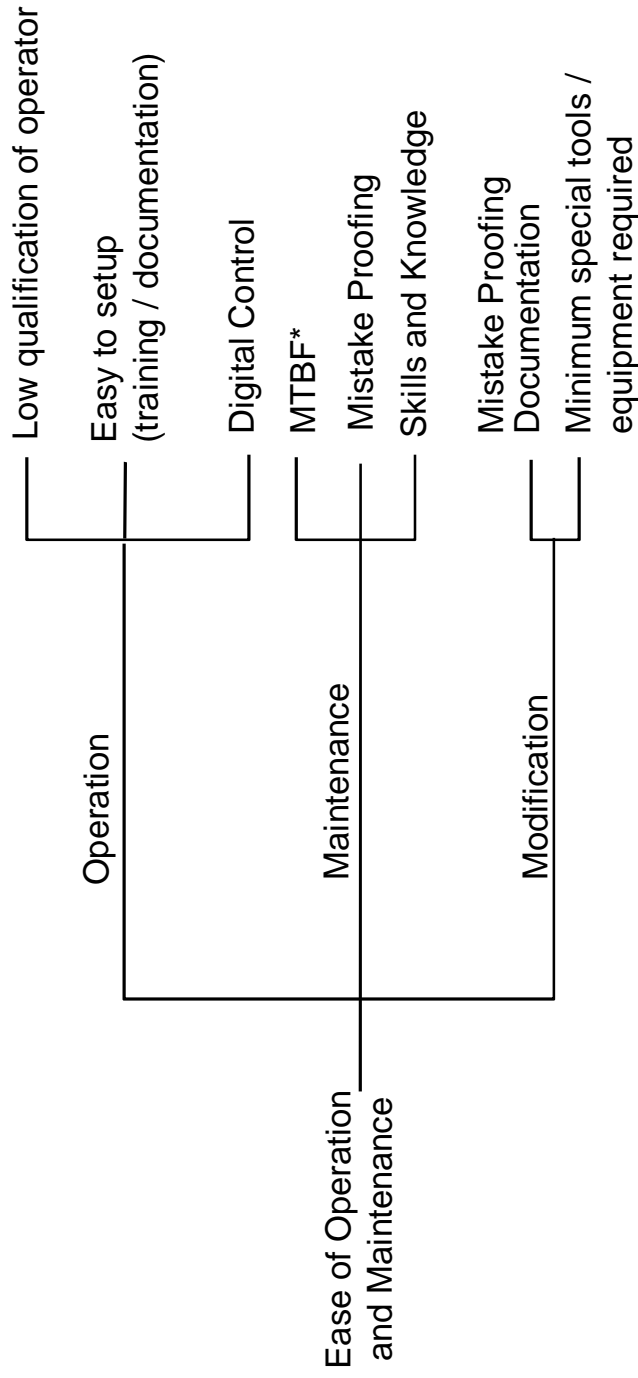
CTX Tree contd..

Business Process CTx Tree



CTQ Tree : Example

Need → Drivers → CTQs



General ← - - - - - → Specific

Hard to measure ← - - - - - → Easy to measure

* Mean Time Between Failures

CTQ Specifications

➤ Customer needs should be the basis for setting specifications

➤ Performance capability can also be used for setting targets

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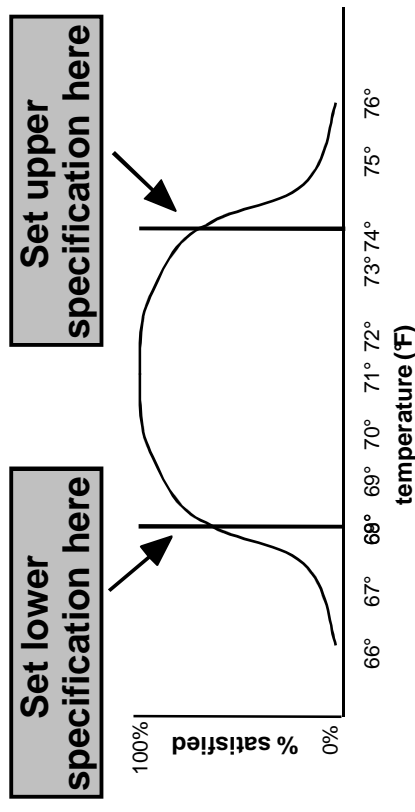
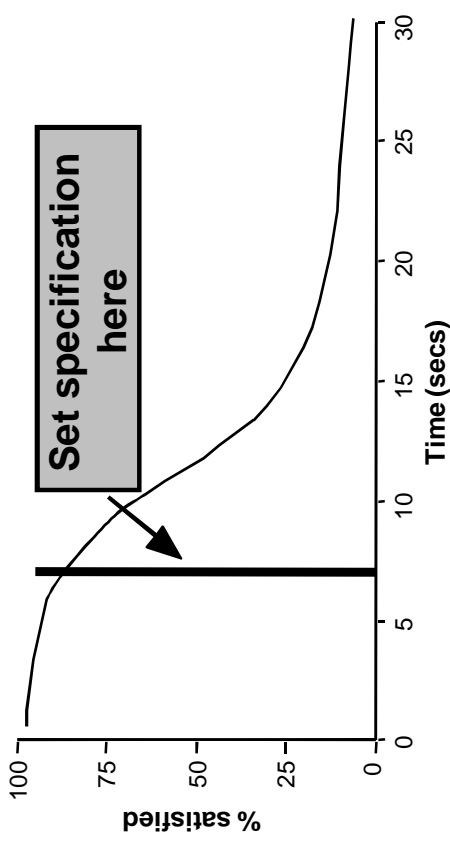
How do you quantify their need?



HOW much do they need?

CTQ Specifications contd..

- Specification comes from Customer requirements
- Can be defined based on organizational goals
- Can be defined based on Process performance capability
- Can be defined based on Industry benchmarks

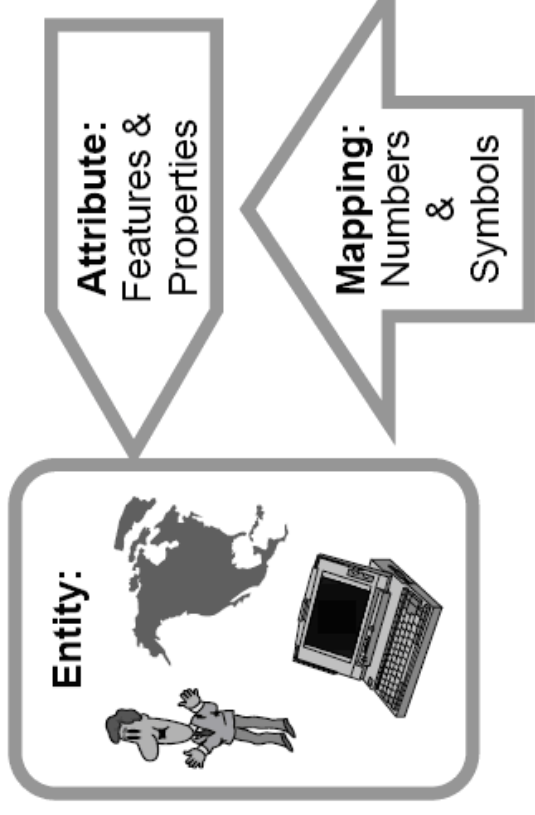


IT Metrics Program

Software Metrics

Measurement Theory

Measurement is the process by which numbers or symbols are assigned to attributes of entities in the real world



Metrics

The continuous application of measurement-based techniques to the software process and its products to provide meaningful and timely management information, along with the use of techniques to improve that process and its products.

It's a derived Measure

Metrics may help us Understand, Evaluate, Control and Predict performance of software products, process and services

The Right Metrics for the organization

Avoid analysis paralysis: too many measures from all of the possible software entities and all possible attributes that can be measured.

Random selection of metrics will not likely turn up anything of value (by Watts Humphrey)

5W's of measurement:

- What should I measure? – Size, Effort, Time, Cost, Quality, Status; and what are the goals for measurement?
- Why am I measuring?
- Where (in the organization and the process) should measures be taken?
- When should measures be taken?
- Who needs to be involved?

Business and IT Goals

Common Business Goals

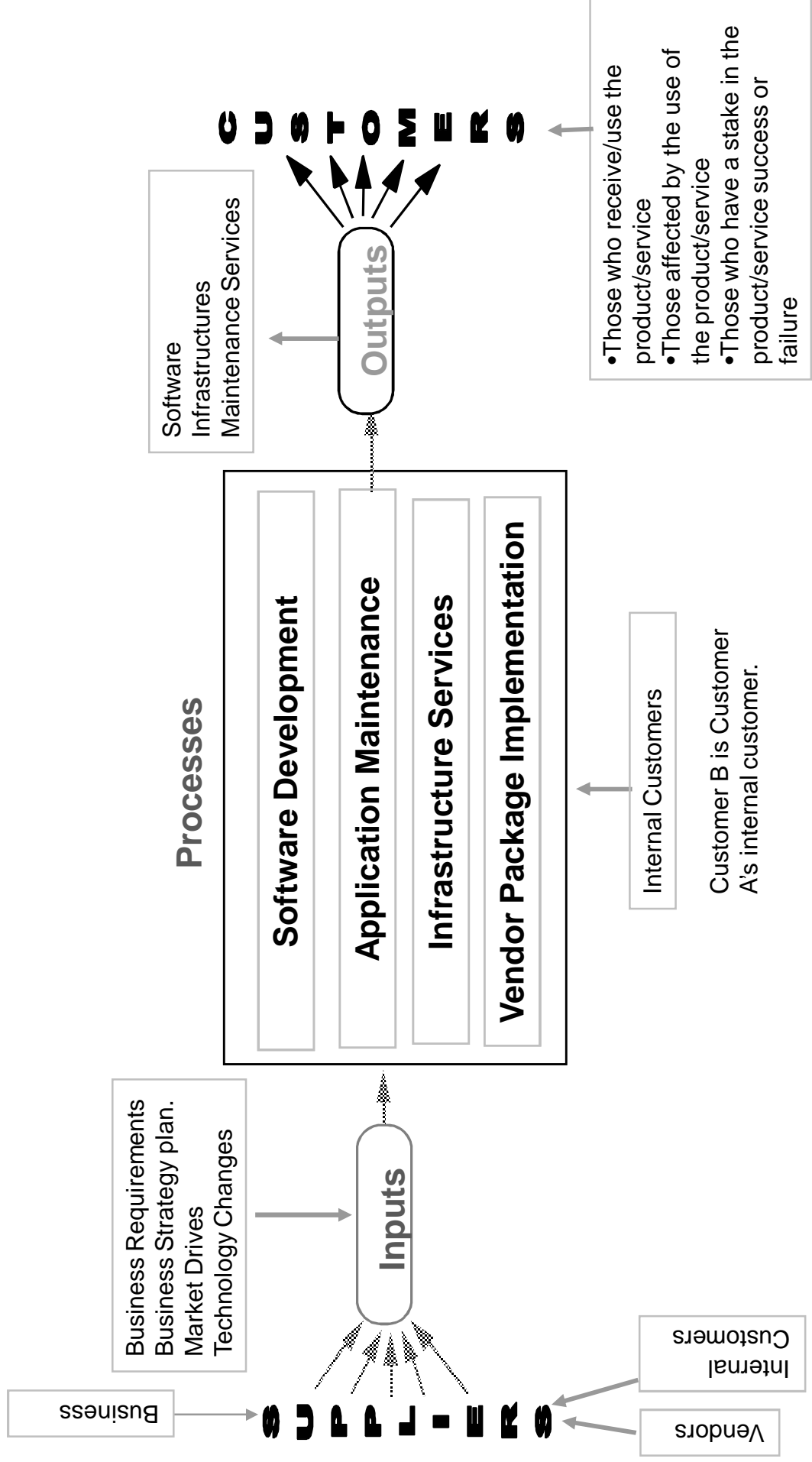
- Improve the overall Revenue
- Improve Operating Margins
- Ensure business continuity and disaster recovery
- Offer Competitive Products and Services – Building the Brand Value
- High Compliance with external Laws and Regulations
- Improve ROI** - Better value to share holders
- Improve Market Capitalization
- Improve Customer Base
- Improve Customer Satisfaction** – Better value for the cost

Align & Support

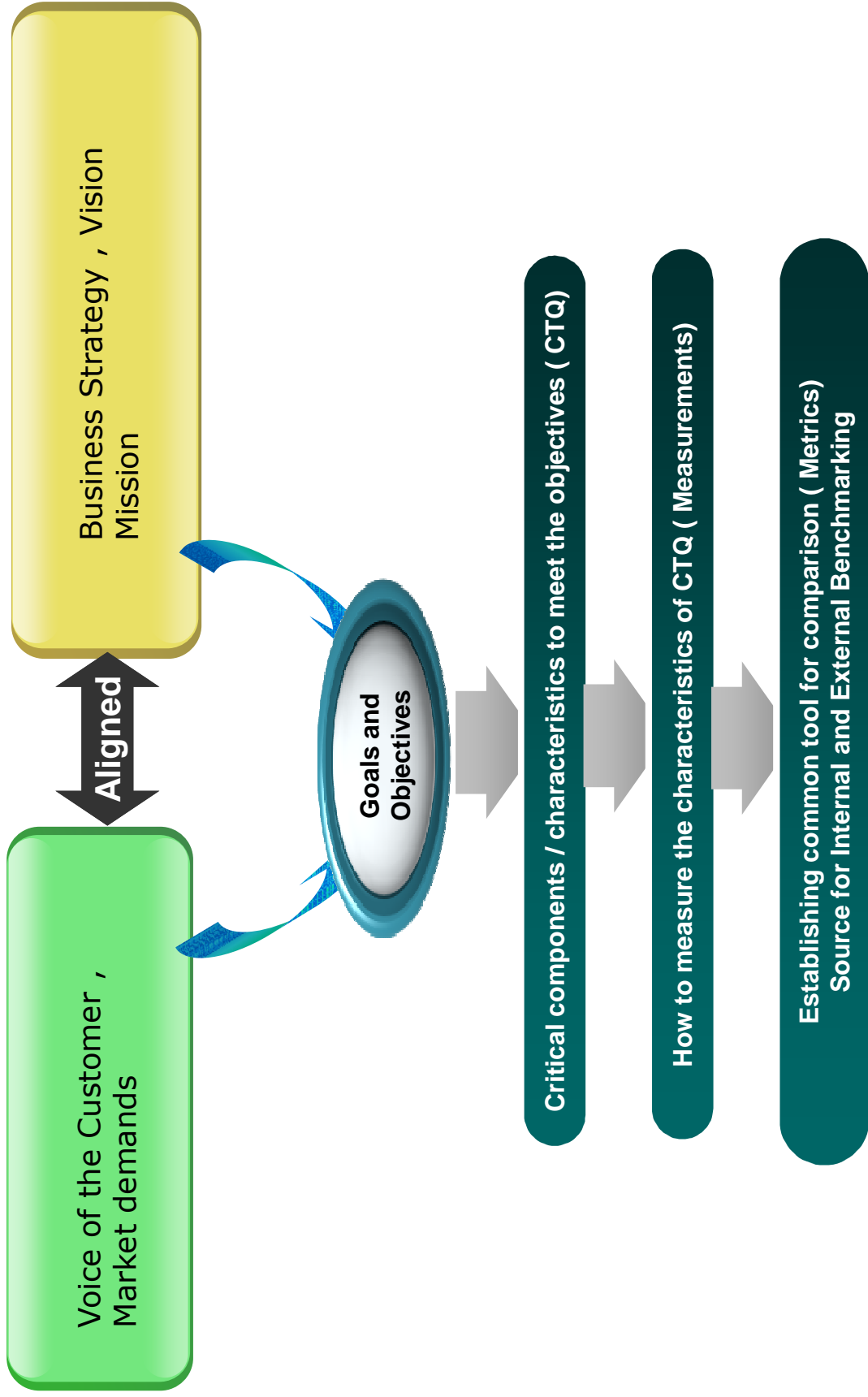
Common IT Goals

- Improve Service Quality** -Deliver timely, effective and shared solutions to business requirements through teamwork.
- Improve Accessibility** - Provide the business and end users with convenient access to appropriate information and services through technology.
- Innovation and Transformation** - Provide vision, leadership, and a framework for evaluating emerging technologies and implementing proven information technology solutions.
- Better Communication and Visibility** - Providing a reliable communication and computer infrastructure foundation for conducting an efficient business operations today and in the future.
Effectively communicate information about plans, projects, and achievements to the business.
- Improve Work Force Environment** -Develop and retain technically skilled staff to assist the business.
- Improve Operational Efficiency** - Ensure effective technical and fiscal management of the Department's operations, resources, technology projects.
- Security and Compliance** - Maintain high level of data security and compliance to internal and external standards

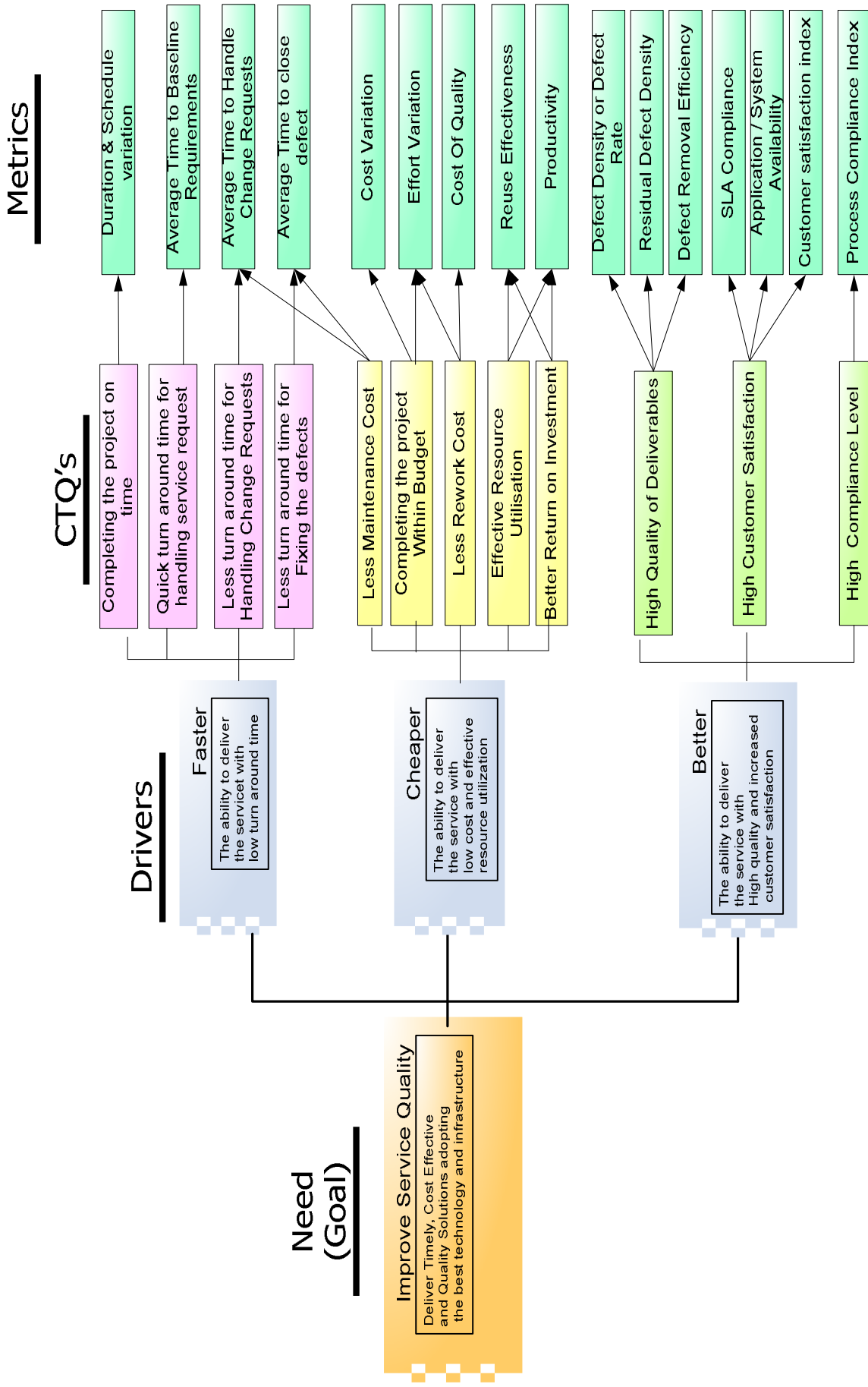
First Level SIPOC



CTQ Alignment



CTQ Tree - Example



Measurement System Analysis (MSA)

MSA Overview

A Measurement Systems Analysis (MSA) evaluates the entire process of obtaining measurements to ensure the integrity of data used for analysis and to understand the implications of measurement error for decisions made about a product or process.

MSA Considerations

- Selecting the correct measurement and approach
- Assessing the measuring device
- Assessing procedures & operators
- Assessing any dependency and influence of other measurements

Data Analysis & Reporting

Analysis and Reporting Steps

- Identifying data points
- Perform data collection
- Perform data validation
- Apply statistical techniques for analysis
- Develop Reports
- Review with customers (Internal or External)
- Establish AS-IS benchmark
- Communicate the AS-IS benchmark to organization

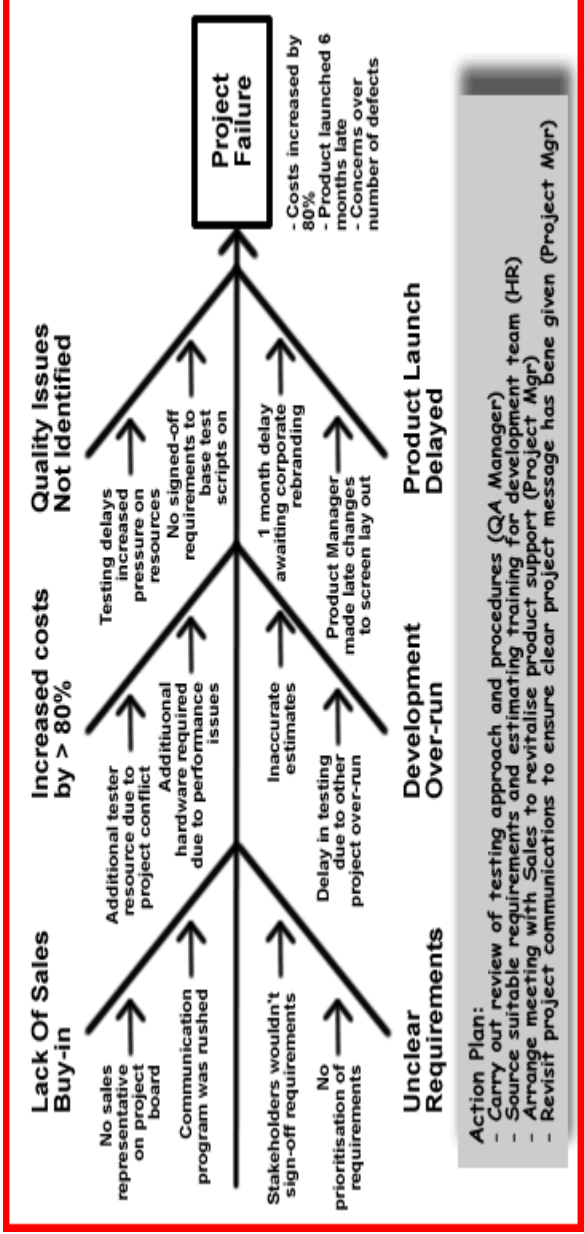
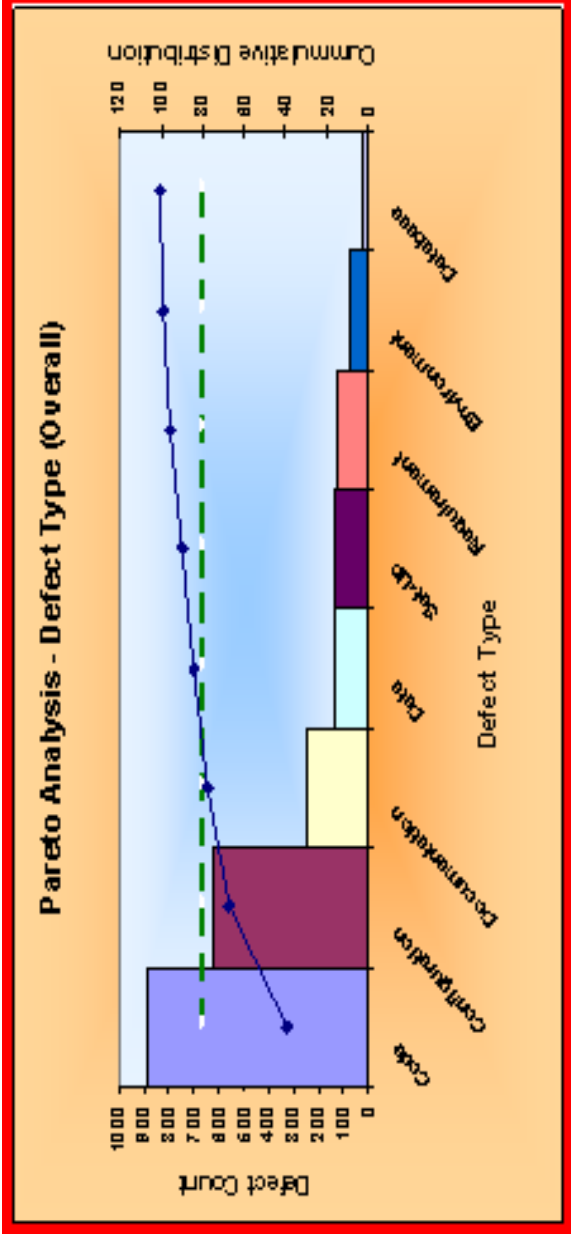
Data Requirement

- Sufficient data is available to confirm that the results and trends you see are real
- Representative of the full range of process conditions or problems are seen in the data
- Contextual to give you a complete picture of what is happening throughout the entire process
- Relevant to be able to help you understand or pinpoint your problem

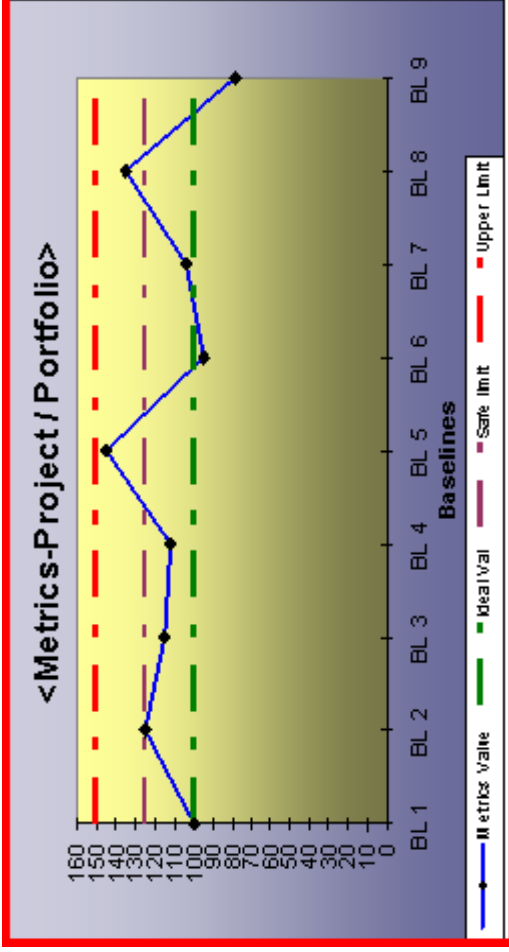
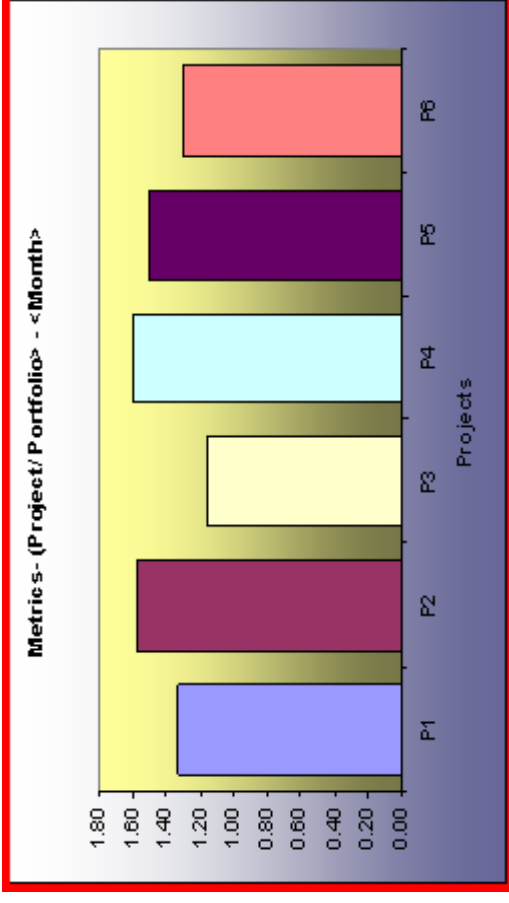
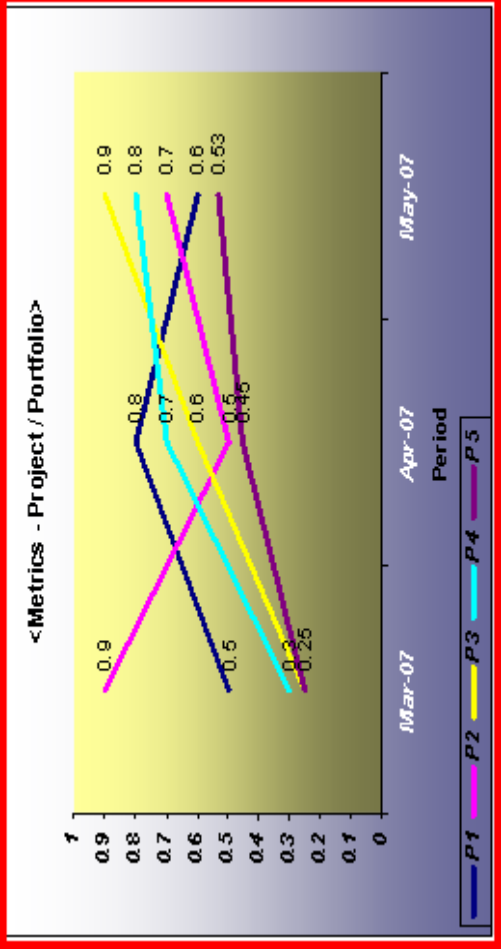
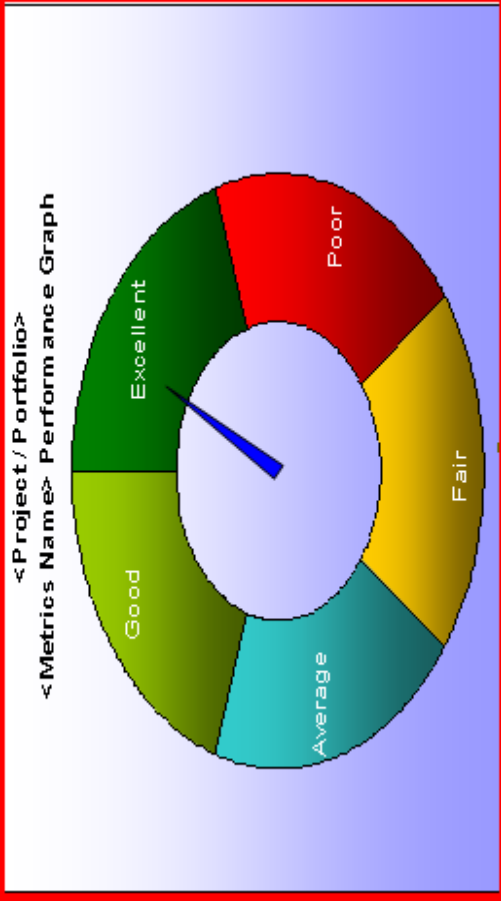
Data Analysis and Reporting problems

- Insufficient data to base reliable conclusions.
- Irrelevant data that does not help you understand or solve the targeted problem
- Biased data that represents only certain views or processes of the problem
- Isolated data is when you only collect one view of the process or problem

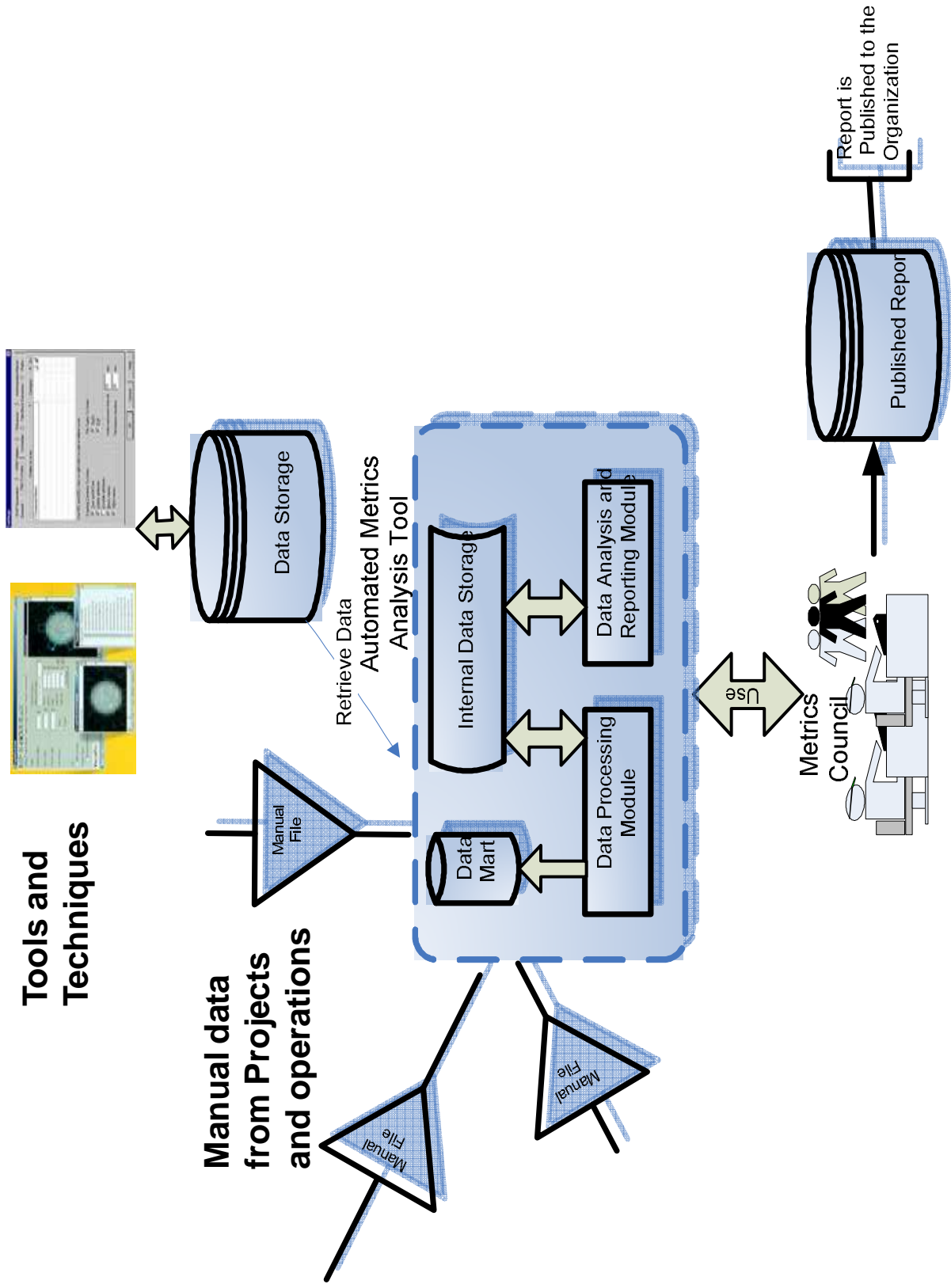
Data Analysis



Metrics Reporting



Data Analysis and Reporting Automation





QUESTIONS ?

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Thank you.