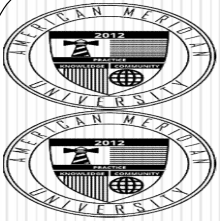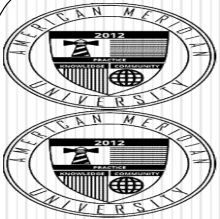# SIPOOC

Dr. Bob Gee
Dean Scott Bonney
Professor William G. Journigan
American Meridian University
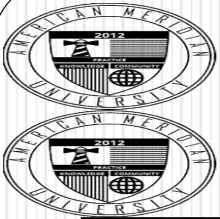
Learning Objectives

Upon successful completion of this module, the student should be able to:

- Understand the components of a SIPOC Diagram

- Develop a SIPOC

- Understand the relationship between SIPOC and Key Metrics

SIPOC Overview – High Level

- Acronym meaning:
  - **S**uppliers (Who gets us what we need)
  - **I**nputs (What we need to make it)
  - **P**rocess (How we make it)
  - **O**utputs (Products or Services)
  - **O**utcomes (Results)
  - **C**ustomers (Clients)
- Represents the chain of elements to put a service or product into customer our customers' hands
- The heart of any SIPOOC is "IPO". Suppliers help us to think about upstream **I**nputs, while Customers help us think about downstream **O**utputs.
- Best Practice: Always consider including "Supplier" and "Customer" representatives on your team

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Traditional SIPOOC Layout (with tips!)

Suppliers	Inputs	Process	Outputs	Outcomes	Customers
Customers (Yes, customers can be suppliers) • Utility Companies • Raw material vendors • Database Administrators • Accounting • Shipping companies • Property managers • Temp agencies **Every Input has a at least one supplier!**	**Customer Order** **Customer Invoice Requirements** **Invoicing System** **Shipment Verification System** **Others?** Who provides people? Utilities? Building management? What about work instructions? Training? Raw materials? Sales information?....	**High level process (5-7 steps)** • Receive Order • Enter Order • Validate Shipment • Create Invoice • Revise Invoice • Send Invoice • Receive Payment **Always use Verb-Noun!**	**Specific Product(s) or Service(s) produced** (Our "reason for being")	**The reason why people or organizations purchase our product or service** (often much more complex than just the functional purpose of the product)	**External Customers** (Outside of your company or organization; People Who use our Product or Service) **Internal Customers** (Within your company or organization; People Who make or use our product internally) **Stakeholders** (People Who aren't customers, but stand to gain or lose from your project success or failure)

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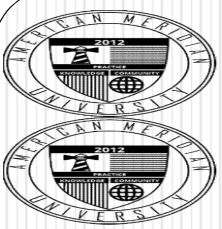
Customers

- Tip: Try the "People who…" approach when brainstorming
- Eg. People who use the process, product, or service (external customers)
- People who buy the product (may or may not be the same as those who use it!)
- People who make the product. People who care about the product. People who hate the product…. Feed the brainstorm!

S	I	P	O	O	C
					• Accounts receivable • Client companies • Individual clients • Stockholders • Our employees • The shipping department

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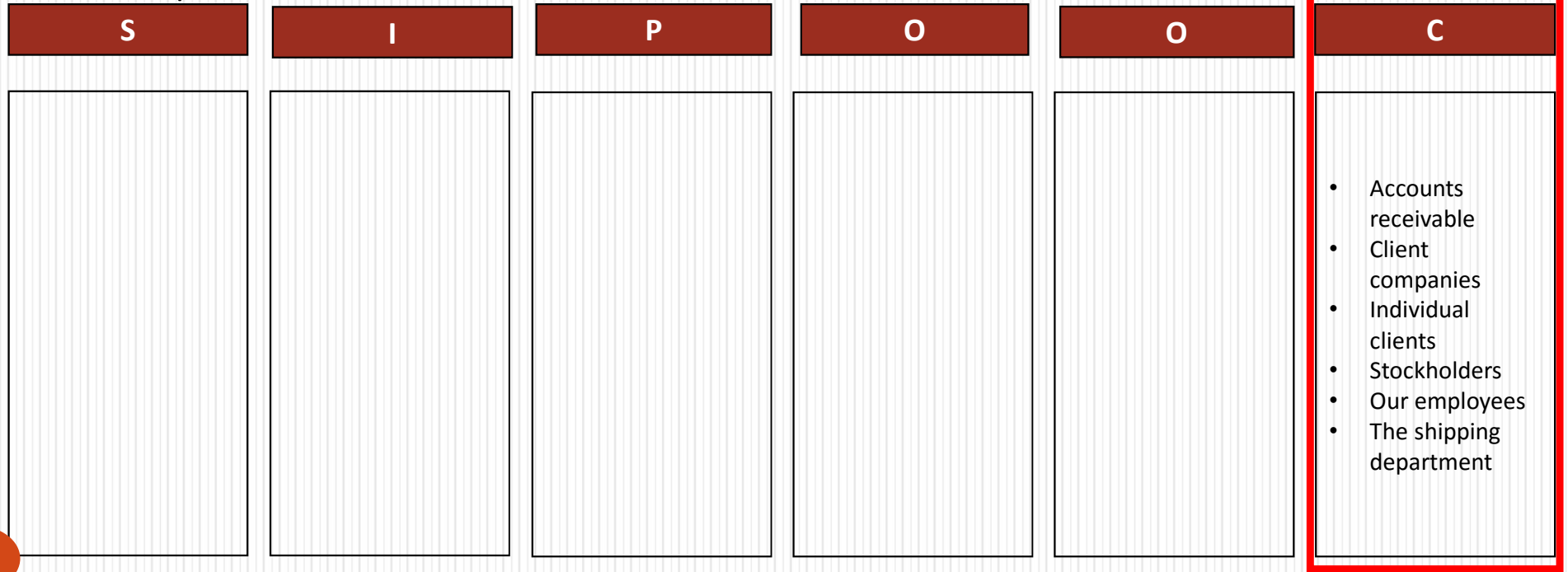
Outcomes

- Why do people purchase your product (what are they trying to accomplish or experience?)
- Why do people choose you over your competitors – or the other way around!

S	I	P	O	O	C
				Only do this for the most important 2-3 customers! Affinitize and multi-vote first! • To look cool • To make a statement • As an investment • To re-sell	• Accounts receivable • Client companies • Individual clients • Stockholders • Our employees • The shipping department

Outputs

- List outputs from the entire process
- If applicable, list outputs from internal and external customers
  - Example: Invoicing process
    - External customer output- invoice
    - Internal customer output- AR transaction

Innovation

S	I	P	O	O	C
			Only do this for the top 2-3 Outcomes What products deliver the desired outcomes to the critical Clients? • What products do others make? • What products could we make?	**Only do this for the most important 2-3 customers!** **Affinitize and multi-vote first!** • To look cool • To make a statement • As an investment • To re-sell	• Accounts receivable • Client companies • Individual clients • Stockholders • Our employees • The shipping department

Process

- High level view of the process (5-7 steps); you can drill down later
- List steps sequentially
- Always use Verb-Noun! Why?

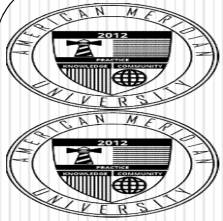| S	I	P	O	O	C
		Receive Order **Enter Order** **Validate Shipment** **Create Invoice** **Send Invoice** **Revise Invoice** **Receive Payment**	**Only do this for the top 2-3 Outcomes** What products deliver the desired outcomes to the critical Clients? • What products do others make? • What products could we make?	**Only do this for the most important 2-3 customers!** **Affinitize and multi-vote first!** • To look cool • To make a statement • As an investment • To re-sell	• Accounts receivable • Client companies • Individual clients • Stockholders • Our employees • The shipping department

Inputs

- List things that go into the process
  - Physical objects
  - Information
  - Factors that influence the process

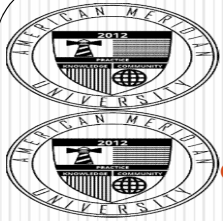| S	I	P	O	O	C
	Customer Order **Customer Invoice Requirements** **Invoicing System** **Shipment Verification**	**Receive Order** **Enter Order** **Validate Shipment** **Create Invoice** **Send Invoice** **Revise Invoice** **Receive Payment**	**Only do this for the top 2-3 Outcomes** What products deliver the desired outcomes to the critical Clients? • What products do others make? • What products could we make?	**Only do this for the most important 2-3 customers!** **Affinitize and multi-vote first!** • To look cool • To make a statement • As an investment • To re-sell	• Accounts receivable • Client companies • Individual clients • Stockholders • Our employees • The shipping department

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Suppliers

- List any person or organization that provides an input into the process
- List Internal and External suppliers
  - Co-workers, same or different departments / organizations, vendors
  - Try the "People Who…" method again

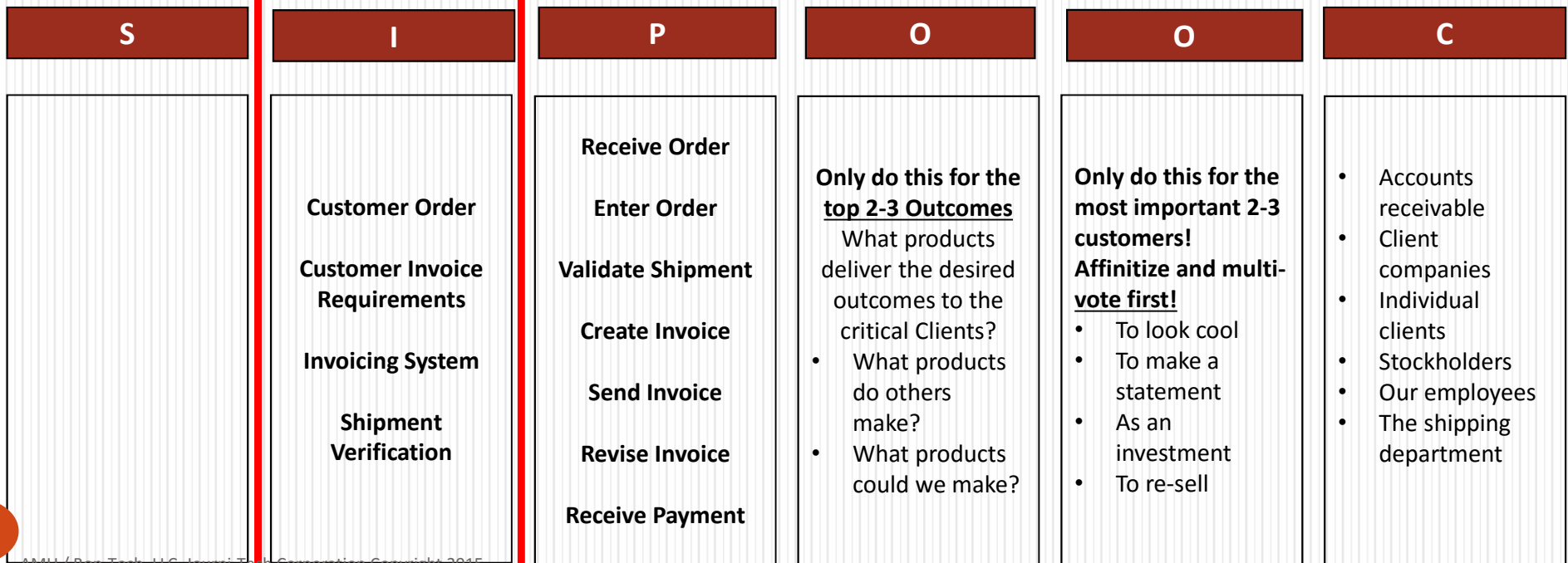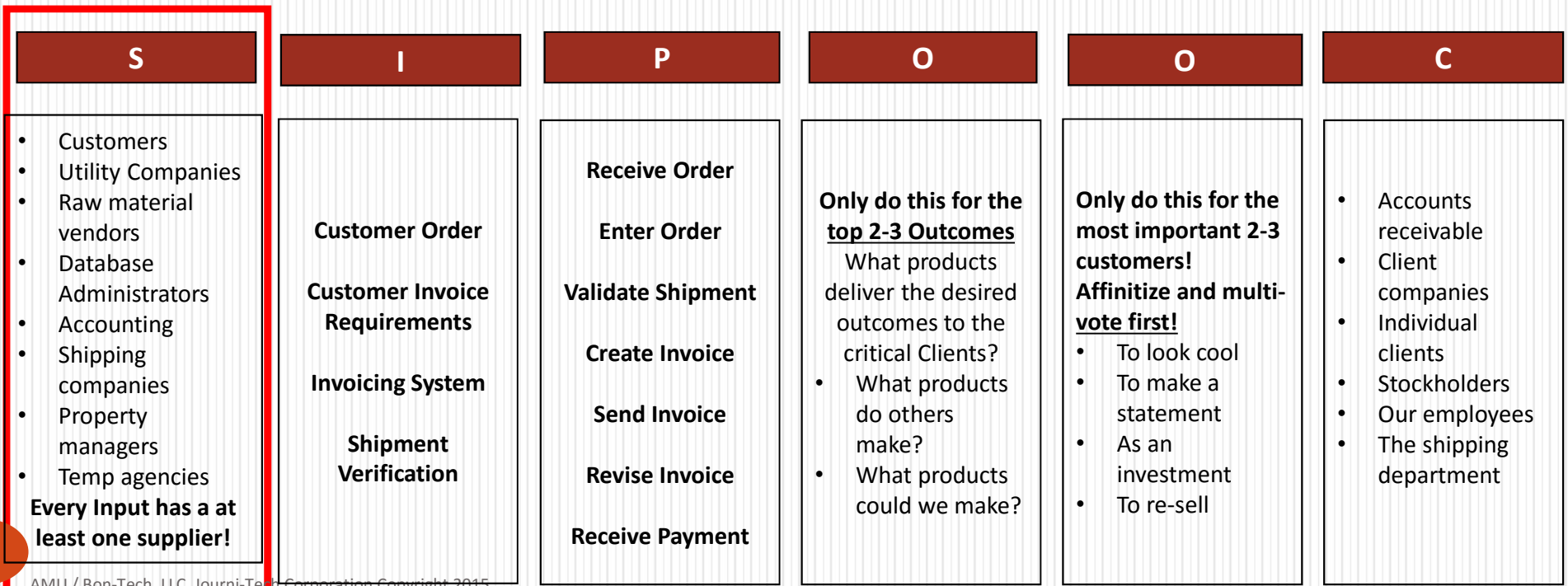| S	I	P	O	O	C
• Customers • Utility Companies • Raw material vendors • Database Administrators • Accounting • Shipping companies • Property managers • Temp agencies **Every Input has a at least one supplier!**	**Customer Order** **Customer Invoice Requirements** **Invoicing System** **Shipment Verification**	**Receive Order** **Enter Order** **Validate Shipment** **Create Invoice** **Send Invoice** **Revise Invoice** **Receive Payment**	**Only do this for the top 2-3 Outcomes** What products deliver the desired outcomes to the critical Clients? • What products do others make? • What products could we make?	**Only do this for the most important 2-3 customers!** **Affinitize and multi-vote first!** • To look cool • To make a statement • As an investment • To re-sell	• Accounts receivable • Client companies • Individual clients • Stockholders • Our employees • The shipping department

SIPOOC Example

Suppliers	Inputs	Process	Outputs	Customers
GCSS-MC FM	HLTL	ID Event Objectives → ID Tasks to be Accomplished → Define Team Composition	BOE	PM
Project Officers	IMS	Define Deliverables ← ID Location(s) of Events	Validated Travel Requirement	LPC / LPV
Functional Leads	PMP		ODCS	Marines
Support Contractors	CEOSS SOW		Quarterly Execution Brief	FM

Customer	Input Metrics (Critical Xs)	Process Metrics (Critical Xs / Ys)	Output Metrics (Critical Ys)	Metric Type
• GCSS-PO • DFM	Amount of Funds Budgeted for Travel	Authorized expenses	Liquidated Travel Expenses	Cost
N/A	N/A	N/A	N/A	Speed
N/A	N/A	N/A	N/A	Quality

Tip #1: Practice thinking Input-Process-Output (IPO)

Tip #2: Remember Y = f(x)

Tip #3: Remember, contrary to what your business leaders will tell you, process metrics are FAR more useful than financial metrics. Focus on Quality (eg. number of defects / item produced) and time (eg. number of items produced / day). Optimize the process, and you WILL find money!

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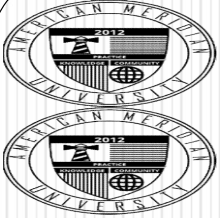
Final Comments

- This is a team-building tool. The purpose is alignment of context and priorities. Do NOT sweat the details!

- Remember the phases of team building (Forming, Storming, Norming, Performing, Adjourning). This tool is designed for the Forming stage; very simple, very safe, very collaborative. There are no right or wrong answers. It's about the discussion and building a process-centric understanding of your organization.

- Remember that thinking and communicating in a straight line is NOT a natural thing for many people. You are beginning to break down silos and ownership. This is a slow, gentle process of preparing the right people and the right relationships to think rightly and work together to sole problems. Again, it's not about the tool, it's about the outcome it produces!

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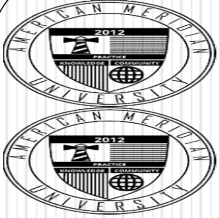
Summary

In this module you have learned about:

- Understand the components of a SIPOOC Diagram

- Develop a SIPOOC

- Understand the relationship between SIPOOC and Key Metrics

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Reference Slides

Connecting VOC to the Value Stream

Critical Processes	Tangible Outputs	Customers	Care-Abouts (CTs)

Critical Processes

Process: a)

Design Product "XYZ"
(Use Verb-Noun Format)

Example

Tangible Outputs

1. Product Drawings
2. Material Specifications
3. Packaging Requirements

Customers

1. People who make parts
2. People who design process, tools
3. People who ride in vehicle
4. People who make gages
5. People who test parts
6. People who design packaging

(Use "People who" format)

Care-Abouts (CTs)

Easy to make good parts,
Don't get hurt
No changes,
Easy to design tool that works
Safe
Comfortable
Everything works
Looks good

---

1 **List core & enabling processes within the Organization or your area.**

- **Core processes** directly relate to creating products and services used by external customer. Identify process *from customers' view*.
- **Enabling processes** are essential for core processes to work. *(e.g. Hire People)*.
- State process using **Verb** and **Noun**.
- For each critical process, describe start and end points, then follow steps 2 - 5.

2 **List the tangible outputs of the process.**

- Avoid words that reference the condition (good or bad) of the output.
- Identify the 1 to 3 primary outputs.

3 **For each primary output, identify customers (people who use or are affected by the process output).**

- Use "People who ..." to describe each customer group.
- Identify the primary customers (those most impacted by the process *output*).

4 **For each primary customer, list the customer care-abouts (what they want or need from the process output).**

- Think from or *obtain* the customer's perspective.
- Identify the most critical customer-care abouts (CTXs).
  - **CTQ**: Critical to Quality
  - **CTC**: Critical to Cost
  - **CTD**: Critical to Delivery
  - **CTS**: Critical to Safety

Converting VOC to Metrics

Customers

1. People who make parts
2. People who design process, tools
3. People who ride in vehicle
4. People who make gages
5. People who test parts
6. People who design packaging

(Use "People who" format)

Care-Abouts (CTs)

Easy to make good parts,
Don't get hurt
No changes,
Easy to design tool that works
Safe
Comfortable
Everything works
Looks good

Available Data

Scrap
Efficiency at plants
Injury at plants
Number of design changes

J.D.Power (safety incidents)

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3 For each primary output, identify customers (people who use or are affected by the process output).

- Use "People who …" to describe each customer group.
- Identify the primary customers (those most impacted by the process *output*).

4 For each primary customer, list the customer care-abouts (what they want or need from the process output).

- Think from or *obtain* the customer's perspective.
- Identify the most critical customer-care abouts (CTXs).
  - **CTQ**: Critical to Quality
  - **CTC**: Critical to Cost
  - **CTD**: Critical to Delivery
  - **CTS**: Critical to Safety

5 Determine what data is available to indicate how well the process currently meets each critical customer care-about.

- Identify the Process Owner.
- Collect data and identify gaps between current process performance and what customers want or need.
- Estimate the impact (safety, cost, strategic effect) of eliminating gaps.

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