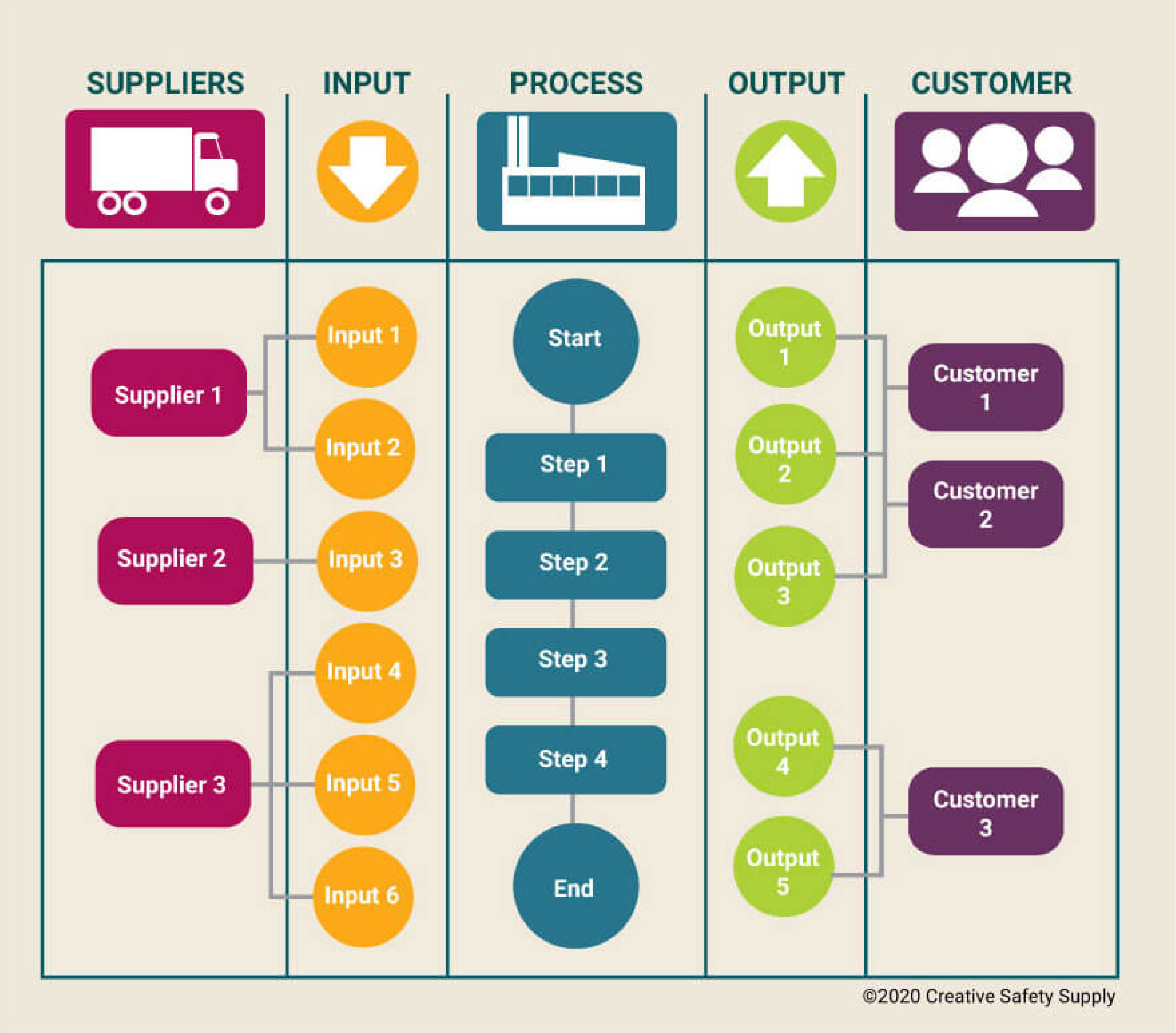
Study Guide: SIPOC Diagram



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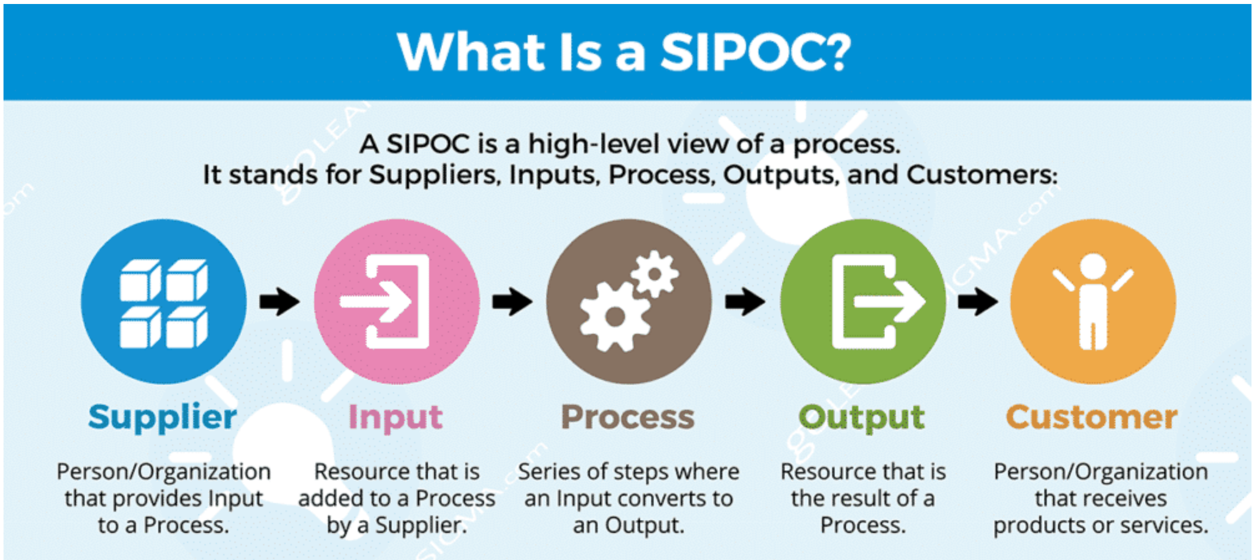
What is a SIPOC Diagram?

- A SIPOC Diagram is a tool that is used in the Define Phase of a Lean Six Sigma project

- It can also be used to understand and analyze the different processes within a work system

- SIPOC is an acronym for Supplier, Input, Process, Output, and Customer.



What Is a SIPOC?

A SIPOC is a high-level view of a process.
It stands for Suppliers, Inputs, Process, Outputs, and Customers:

Supplier: Person/Organization that provides Input to a Process.

Input: Resource that is added to a Process by a Supplier.

Process: Series of steps where an Input converts to an Output.

Output: Resource that is the result of a Process.

Customer: Person/Organization that receives products or services.

Purpose of a SIPOC Diagram:

- Identify the overall processes within a work system and provide us with an overall perspective.
- Support the definition, structuring, and scoping of complex work systems
- Highlights possible problems or weaknesses in the process within the work system

The SIPOC Diagram helps answer questions such as:

- What is the start and end point of the work system?
- What are the essential steps within the work system?
- What are the main inputs and outputs?
- Who are the key customers? (internal and external)
- Who are the key suppliers? (internal and external)
- What are the customer demands?

Supplier Column:

- Who are the suppliers of the inputs?
- Persons, machines, processes, etc

Input Column:

- What are the required inputs?
- Material, data, workforce, information, etc

Process Column:

- What is the process?
- Process from start to finish

Output Column:

- What are the expected outputs?
- Product, yield, information, service, knowledge, material, etc

Customer Column:

- Who are the customers of the output?
- End user, colleague, department, customer, etc

How do you create a SIPOC Diagram?

1. Start with the processes from start to finish. Clearly define the scope of the process you want to map. Choose a process that is well-defined and has a specific start and end point.

After you identify the processes, it is a matter of preference on what column you take in next.

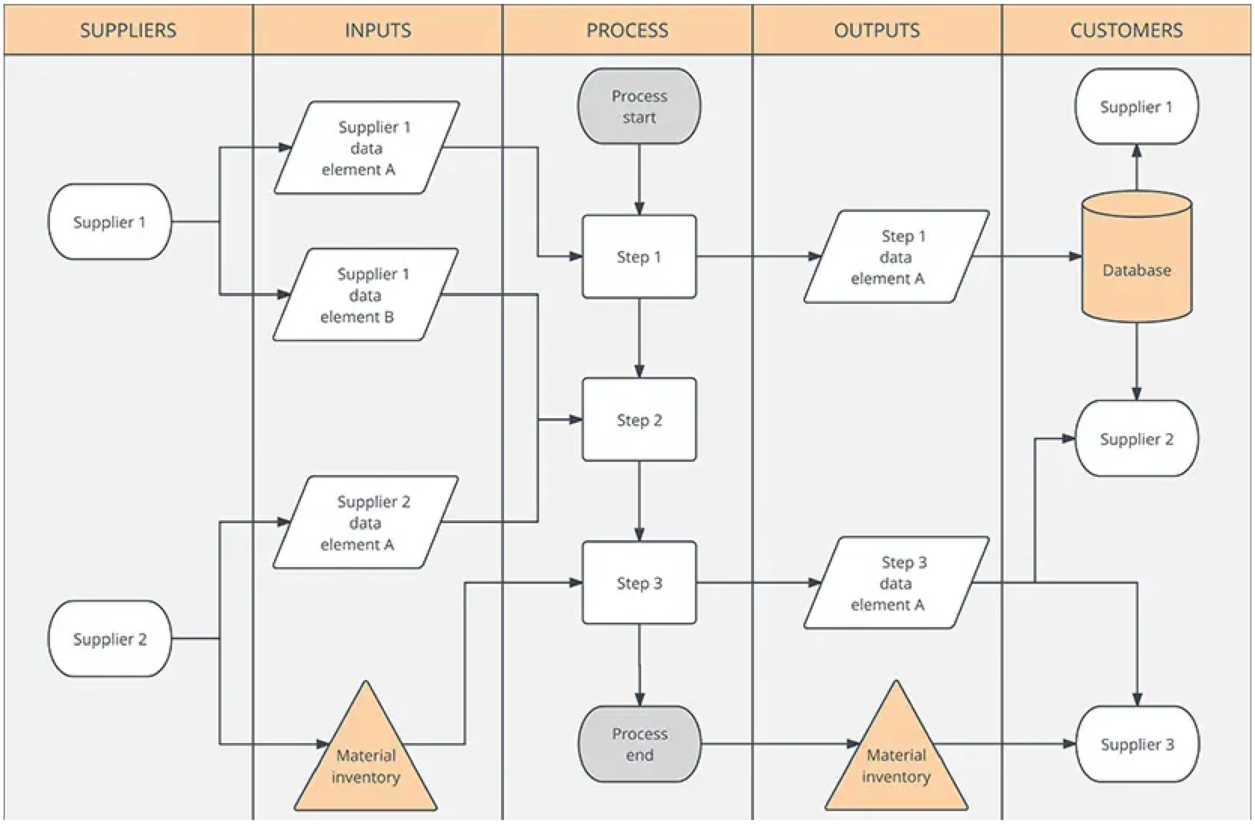
2. Specify the quality outputs. Identify the primary outputs of the process. Outputs are the tangible results or deliverables produced by the process. Be specific and clear about what the process is expected to achieve.

3. Identify the customers for the output. Identify the external and internal customers who receive or are impacted by the outputs. Customers are the end-users or stakeholders who benefit from the process outputs. Understand their needs and expectations.

4. Identify the needed inputs. List all the inputs required for the process to function. Inputs are the resources, materials, or information needed to carry out the process. Consider both internal and external sources.

5. Identify who the suppliers are. Identify the external and internal suppliers who provide the inputs. Suppliers are the sources that contribute to the inputs needed for the process. Understand the relationships with suppliers and the impact of their performance on the process.

Create the SIPOC Diagram:



Draw a table or diagram with five columns labeled S, I, P, O, and C. Fill in each column with the information gathered in the previous steps.

S (Suppliers): List the suppliers for each input.
I (Inputs): Correspond each input to the suppliers.
P (Process): Map the high-level process steps.
O (Outputs): Connect the outputs to the process steps.
C (Customers): Link the customers to the outputs.
Review and Validate:

Review the SIPOC Diagram with relevant stakeholders to ensure accuracy and completeness. Validate the information with those directly involved in or affected by the process.

Refine and Iterate:

Based on feedback and additional insights, refine the SIPOC Diagram. It's often an iterative process, and multiple iterations may be necessary to capture all relevant details.
Use and Update:

Use the SIPOC Diagram as a reference for process improvement initiatives, communication, and decision-making. Update the diagram as needed to reflect changes in the process.
By following these steps, you can systematically create a SIPOC Diagram that provides a clear and comprehensive understanding of the key elements of a process and its interactions with suppliers and customers.

- **General rule:** Try to limit the process steps to 7 to keep the overall perspective.

- **Facilitation tips:**
  - Use a team approach
  - An output does not have to have an input
  - There can be more than one relationship for a process, inputs and outputs
  - There can be multiple customers and suppliers feeding the same steps
  - Try to limit the process steps to a maximum of 7 steps