Continuous Improvement Toolkit

SIPOC Analysis

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SIPOC Analysis

A high-level summary of the process

Allows to provide an **overview of a process** at a glance
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SIPOC analysis provides a big picture view of the important elements of the process to better understand the context in which it operates.
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A **data collection tool** for gathering information related to a process including customers, suppliers, inputs and outputs

- ** Suppliers **
- ** Inputs **
- ** Process **
- ** Outputs **
- ** Customers **

Represents the **main components** of the process
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Widely used in process design and improvement initiatives (such as Six Sigma) to define the **scope** of a project when it is too early for a detailed process mapping.
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Used to identify important elements of a process before starting a **project**

- **DMAIC**
- **Kaizen Events**

Also used when defining and **designing new processes**
SIPOC analysis can be used **before drawing a process map or a flowchart** as it helps gather relevant information about the process.
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SIPOC analysis can also be used when investigating a process to present the collected information on an easy-to-view format
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It is a practical way of making sense of the Voice of the Customer
### Benefits

- Help ensure **everyone understands** the core process
- Helps define the **scope** of work for a project
- Helps understand the **relationships** between the inputs and outputs
- Helps communicate information about the process to other stakeholders
- Helps identify the areas that are **within or beyond** the control of the team
- Helps to begin thinking in terms of **cause and effect**
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SIPOC Map

Helps specify the main activities of the process and identify the potential suppliers, inputs, outputs, and customers
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SUPPLIERS

Any person or company that supplies inputs
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INPUTS

The materials, energy, information, people, customer requirement, customer feedback, and financial resources which are needed to execute the process
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PROCESS

The collection of activities that together transform inputs into outputs that is of value to the customer

These are just the **major high-level** process activities
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OUTPUTS

The tangible product or service that results from the process

Outputs can be goods, services, information, reports, decisions, ...
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CUSTOMERS

The person or company that receives the outputs of the process

Customers have requirements to be fulfilled
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CUSTOMERS

There may be many stakeholders who have something at stake in the success of the process. They don’t have to be actual customers of the process.

Obtain input from the primary users/recipients of the process.
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**Suppliers**
- Resource suppliers
- The provider of the necessary inputs that directly contribute to creating the outputs

**Inputs**
- Resources needed by the process
- Materials, people, information, and other resources required to execute the process

**Process**
- Macro description
- The sequenced activities that transform the input into value-added outputs to customers

**Outputs**
- Process outputs
- The product or service results from the process (wanted and unwanted)

**Customers**
- Process customers
- The users / recipients of the outputs
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Suppliers and customers may be external or internal to the organization or department.

You receive inputs from your internal suppliers and send outputs to your internal customers.
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SIPOC doesn't ask to provide **links** between suppliers and inputs, or customers and outputs.
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Process inputs can be reviewed based on the **voice of the customer** feedback on whether the outputs met their requirements.
SIPOC analysis helps the team to identify potential gaps such as unnecessary inputs, outputs that customers don’t want, and process steps that add no value.
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**EXAMPLE – Submit and Implement an Idea Process**

<table>
<thead>
<tr>
<th><strong>SUPPLIERS</strong></th>
<th><strong>INPUTS</strong></th>
<th><strong>PROCESS</strong></th>
<th><strong>OUTPUTS</strong></th>
<th><strong>CUSTOMERS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees</td>
<td>Idea description</td>
<td>Submit an idea</td>
<td>Implemented Improvement</td>
<td>Departments</td>
</tr>
<tr>
<td>Evaluation panel</td>
<td>Estimated benefits</td>
<td>Review and evaluate the idea</td>
<td>Appreciation letter or reward</td>
<td>Employees</td>
</tr>
<tr>
<td></td>
<td>Costs</td>
<td>Implement the idea</td>
<td>Records</td>
<td>HR team</td>
</tr>
<tr>
<td></td>
<td>Evaluation criteria</td>
<td>Report results</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Appreciate / reward employee</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Representing the process and its key elements in a **tabular format**
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EXAMPLE – Submit and Implement an Idea Process

SUPPLIERS
- Employees
- Evaluation panel

INPUTS
- Idea description
- Estimated benefits
- Costs
- Evaluation criteria

PROCESS
- Submit and Implement an Idea

OUTPUTS
- Implemented Improvement
- Appreciation letter or reward
- HR records

CUSTOMERS
- Departments
- Employees
- HR team

Submit an idea → Review and evaluate the idea → Implement the idea → Report results → Appreciate / reward employee
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**EXAMPLE – Purchase a Car Process**

<table>
<thead>
<tr>
<th>SUPPLIERS</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Dealers</td>
<td>Models</td>
<td>Determine car option</td>
<td>Car</td>
<td>Individuals</td>
</tr>
<tr>
<td></td>
<td>Specifications</td>
<td>Review specifications</td>
<td>Payment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Price</td>
<td>Test drive</td>
<td>Paperwork</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Availability</td>
<td>Negotiate price</td>
<td>Service contract</td>
<td>Companies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sign paperwork</td>
<td>Delivery date</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Collect car</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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EXAMPLE – Purchase a Car Process

SUPPLIERS
- Dealers
- Individuals

INPUTS
- Models
- Specifications
- Price
- Availability

PROCESS
- Purchase a Car

OUTPUTS
- Car
- Payment
- Paperwork
- Service contract
- Delivery date

CUSTOMERS
- Individuals
- Companies

Steps:
1. Determine car option
2. Review specifications
3. Test drive
4. Negotiate price
5. Sign paperwork
6. Collect car
## SIPOC Analysis

**EXAMPLE – Conduct a Job Interview Process**

<table>
<thead>
<tr>
<th>SUPPLIERS</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Job agencies</td>
<td>Interview purpose</td>
<td>Notify applicant of schedule</td>
<td>Interview notes</td>
<td>Recruitment team</td>
</tr>
<tr>
<td>Job applicants</td>
<td>Applicant profile</td>
<td>Notify interview panel</td>
<td>Updated applicant profile</td>
<td>Departments</td>
</tr>
<tr>
<td></td>
<td>Interview place</td>
<td>Prepare questions</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Time and date</td>
<td>Arrange room</td>
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<tr>
<td></td>
<td></td>
<td>Meet applicant</td>
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<td>Ask questions</td>
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<td>Close interview</td>
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</tr>
</tbody>
</table>
EXAMPLE – Conduct a Job Interview Process

**SUPPLIERS**
- Job agencies
- Job applicants

**INPUTS**
- Interview purpose
- Applicant profile
- Interview place
- Time and date

**PROCESS**
- Conduct a Job Interview

**OUTPUTS**
- Interview notes
- Updated applicant profile

**CUSTOMERS**
- Recruitment team
- Departments

If there are more than **seven steps**, then the process is too detailed!
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How to Construct a SIPOC Map

Clearly explain the **purpose** for creating the SIPOC map

*Emphasize that the map must represent the situation as it exist, now how it should be*
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How to Construct a SIPOC Map

Hang out five flip-charts representing the five SIPOC categories

Allow the team to provide inputs on each of the five elements

S  I  P  O  C
How to Construct a SIPOC Map

Begin with the process by listing the key highest-level steps

Start with verbs whenever possible
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How to Construct a SIPOC Map

Identify the primary outputs of the process

Identify customers who will receive outputs

S

I

P

Xxxx

Xxx

XXX

Xxx

O

Xxx

XXX

XXX

C

XXX

XXX

XXX

XXX

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How to Construct a SIPOC Map

Identify the **inputs** required for the process to function properly

Identify the **suppliers** of those inputs
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How to Construct a SIPOC Map

Take time to **ensure** the appropriateness and completeness of the recorded information

Discuss the SIPOC map with key stakeholders to verify accuracy

<table>
<thead>
<tr>
<th>S</th>
<th>I</th>
<th>P</th>
<th>O</th>
<th>C</th>
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</thead>
<tbody>
<tr>
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<td>XXXX</td>
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How to Construct a SIPOC Map

Identify **KPIs** to ensure the capability of the process to deliver an output that meets customer requirements
## SIPOC Analysis

How to Construct a SIPOC Map

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<tbody>
<tr>
<td>5 Who supplies each input?</td>
<td>4 What inputs are needed by the process to meet the customers' expectations?</td>
<td>1 What is the process?</td>
<td>2 What are the process outputs?</td>
<td>3 Who are the customers of each output?</td>
</tr>
</tbody>
</table>

1 Where does the process start?  
2 Where does it process finish?  
3 What inputs are needed by the process to meet the customers' expectations?
# SIPOC Analysis

## Useful Questions

<table>
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<tr>
<th>SUPPLIERS</th>
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<tbody>
<tr>
<td>❖ Where does the inputs of the process come from?</td>
<td>❖ Identify what is needed for the process?</td>
<td>❖ What are you producing with the process?</td>
<td>❖ What product does the process make?</td>
<td>❖ Who are the customers of these outputs?</td>
</tr>
<tr>
<td>❖ How do you communicate requirements to the suppliers?</td>
<td>❖ What effect do the inputs have on the process and on the outputs?</td>
<td>❖ At what points does the process start and finish?</td>
<td>❖ What other outputs does the process make?</td>
<td>❖ Are they individuals, departments, other processes?</td>
</tr>
<tr>
<td>❖ How do they affect the process flow?</td>
<td>❖ How do they affect the process flow?</td>
<td>❖ How can you summarize the process in few steps (seven steps or less)?</td>
<td>❖ What are the customers needs &amp; requirements?</td>
<td>❖ What are the customers expect from each output?</td>
</tr>
<tr>
<td>❖ What are the requirements for each input?</td>
<td>❖ What are the requirements for each input?</td>
<td>❖ Does the process feed into another process?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In your SIPOC analysis, you have created a top-level process map showing the basic steps of the process.

You may add the details to the process map that you will draw later.
Further Information

Sometimes it is useful to display on the SIPOC map **guides** to describe the process, and the **resources** that are required to transform the inputs into outputs.

**Guides**
- Policies, procedures, specification, legislation, standards, objectives and targets

**Resources**
- People, equipment, hardware, software, systems, tools and facilities
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Further Information

Another SIPOC model is the SIPOC+CM

C stands for the constraints facing the process

M stands for the measures being used

Constraints
Such as the shortage in human resources or limited funds

Measures
Such as the number of defects or defective units
The **IPO** is a simpler model that represents a simpler structure for describing a process (widely used in the IT industry).