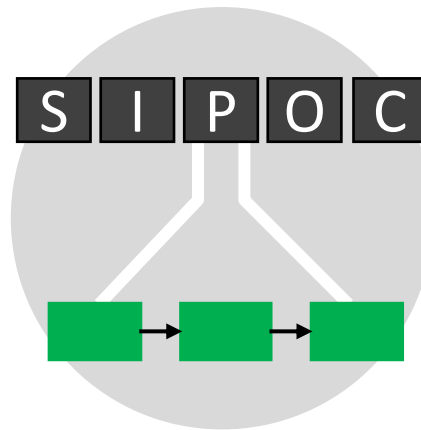


# Continuous Improvement Toolkit

## SIPOC ANALYSIS



# SIPOC ANALYSIS

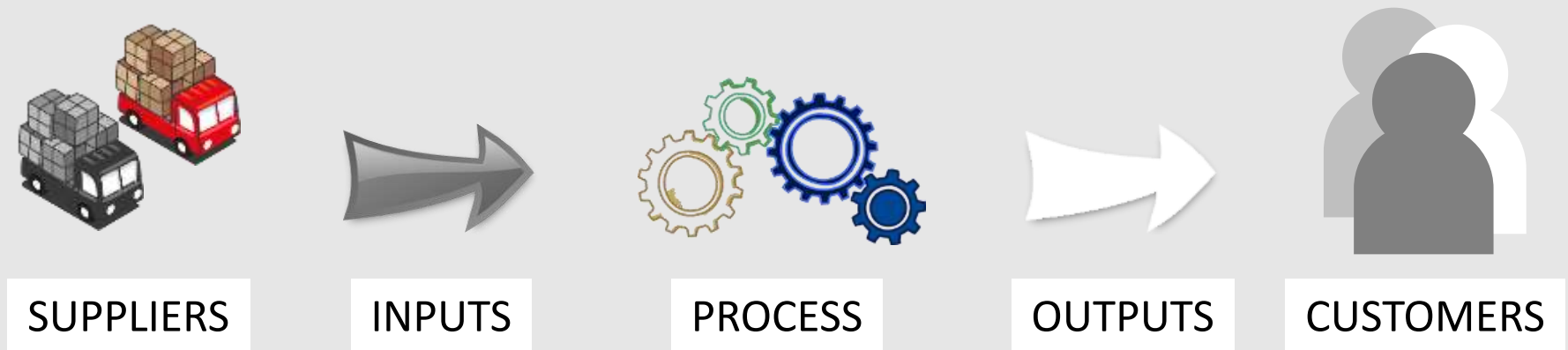
A **SIPOC Map** is a high-level summary of a process which provides an overview of the process at a glance.

**SIPOC analysis** provides a big picture view of the key elements of a process to understand of the context in which the process occurs.



# SIPOC ANALYSIS

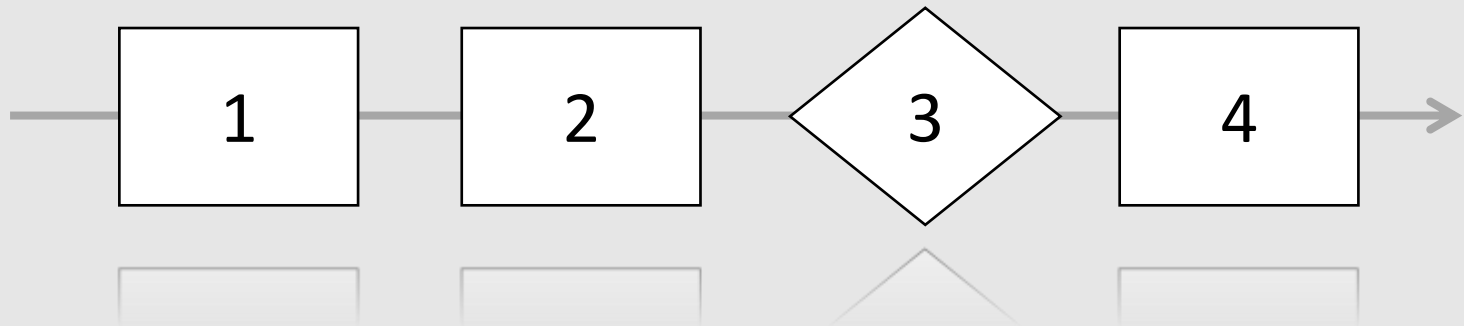
Represents the **main components** of the process . . .



And allows to gather information related to a process including customers, suppliers, inputs and outputs

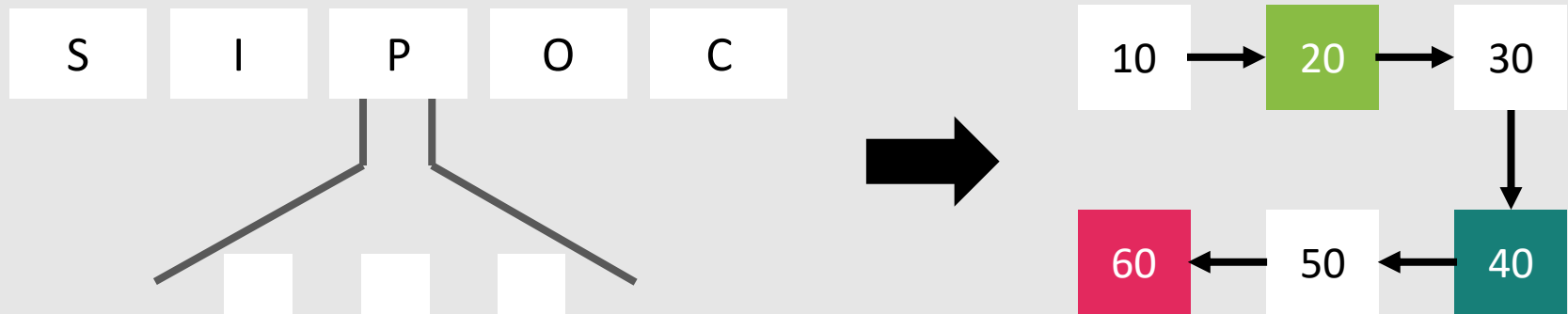
# SIPOC ANALYSIS

SIPOC analysis is widely used in process design and process improvement initiatives such as Lean Six Sigma to define the **scope and boundaries** of the process.



# SIPOC ANALYSIS

This will help to gather **relevant information** about the process when it is too early for a detailed process map or flowchart.



# SIPOC ANALYSIS

SIPOC analysis is often conducted at the **beginning** of the process improvement initiative.

During the **Define** phase of the DMAIC methodology or during the **planning** phase of Kaizen events.



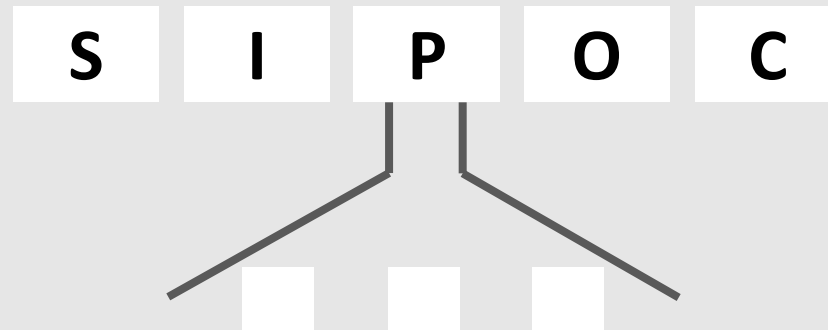
**DMAIC**



**Kaizen Event**

# SIPOC ANALYSIS

SIPOC analysis can also be used when **investigating** a process to present the information in a format that is easy to view and understand.



# SIPOC ANALYSIS

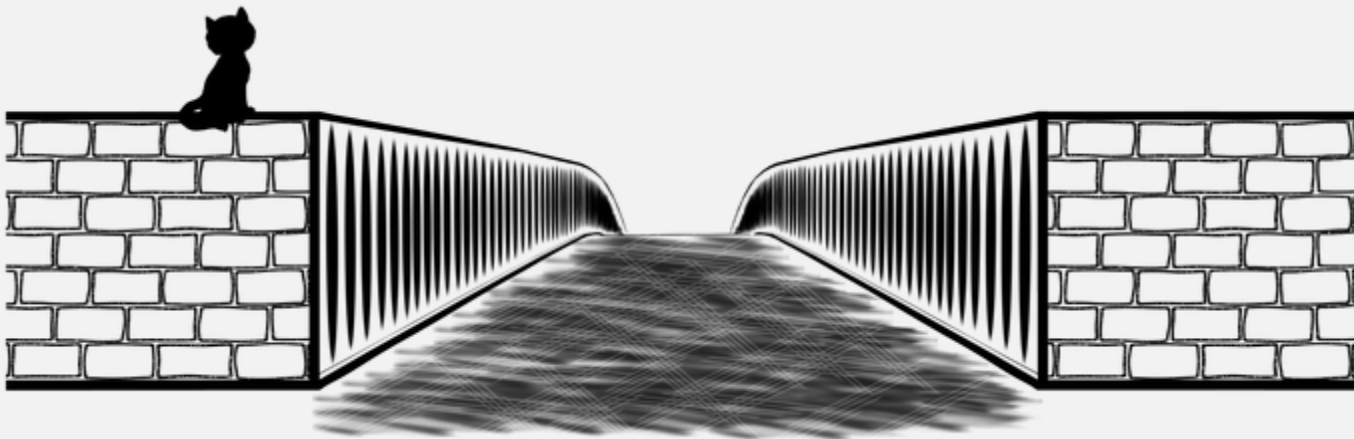
And since it considers the customers and their needs, it is a practical way to make sense of the **Voice of the Customer**.





# SIPOC ANALYSIS

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.



# SIPOC ANALYSIS

## BENEFITS

Ensures **everyone** understands the core process

**Communicate** information about the process to other stakeholders

Defines the **scope** of work for a project

Identify the areas that are **within or beyond** the control of the team

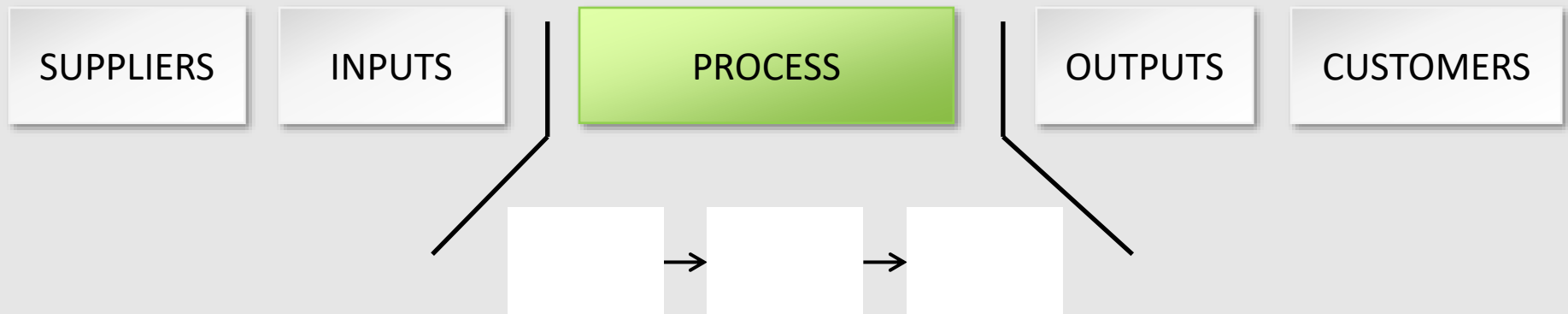
Helps understanding the **relationships** between inputs and outputs

Helps to start thinking in terms of **cause and effect**

# SIPOC ANALYSIS

## SIPOC Map

Specifies the **main activities** of the process and identifies the potential suppliers, inputs, outputs, and customers.



# SIPOC ANALYSIS

## SUPPLIERS

Any person or company that  
supplies inputs



# SIPOC ANALYSIS

## INPUTS

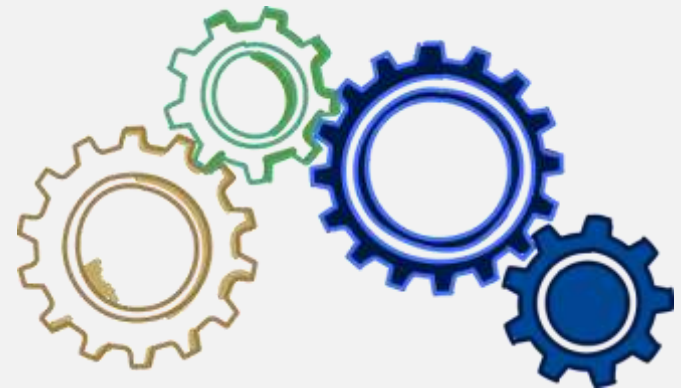
The materials, energy, information, people, customer requirement, customer feedback, and financial resources which are needed to execute the process



# SIPOC ANALYSIS

## 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

# SIPOC ANALYSIS

## OUTPUTS

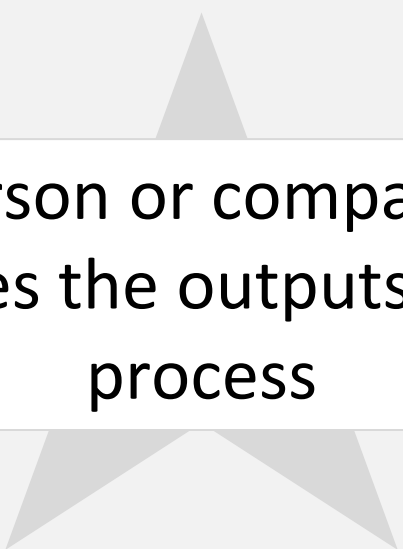
The tangible product or service that results from the process



Can be goods, services, information, reports and decisions

# SIPOC ANALYSIS

## CUSTOMERS



The person or company that receives the outputs of the process



Customers have requirements to be fulfilled



# SIPOC ANALYSIS

## 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

# SIPOC ANALYSIS



SUPPLIERS



INPUTS



PROCESS



OUTPUTS



CUSTOMERS

Resource  
suppliers

The providers of the necessary inputs that directly contribute to creating the outputs.

Resources needed  
by the process

Materials, people, information, and other resources required to execute the process.

Macro  
description

The sequenced activities that transform the input into value-added outputs to customers.

Process  
outputs

The products or services resulted from the process (wanted and unwanted).

Process  
customers

The users or recipients of the outputs.

# SIPOC ANALYSIS

Suppliers and customers may be **external** or **internal** to the organization or department.



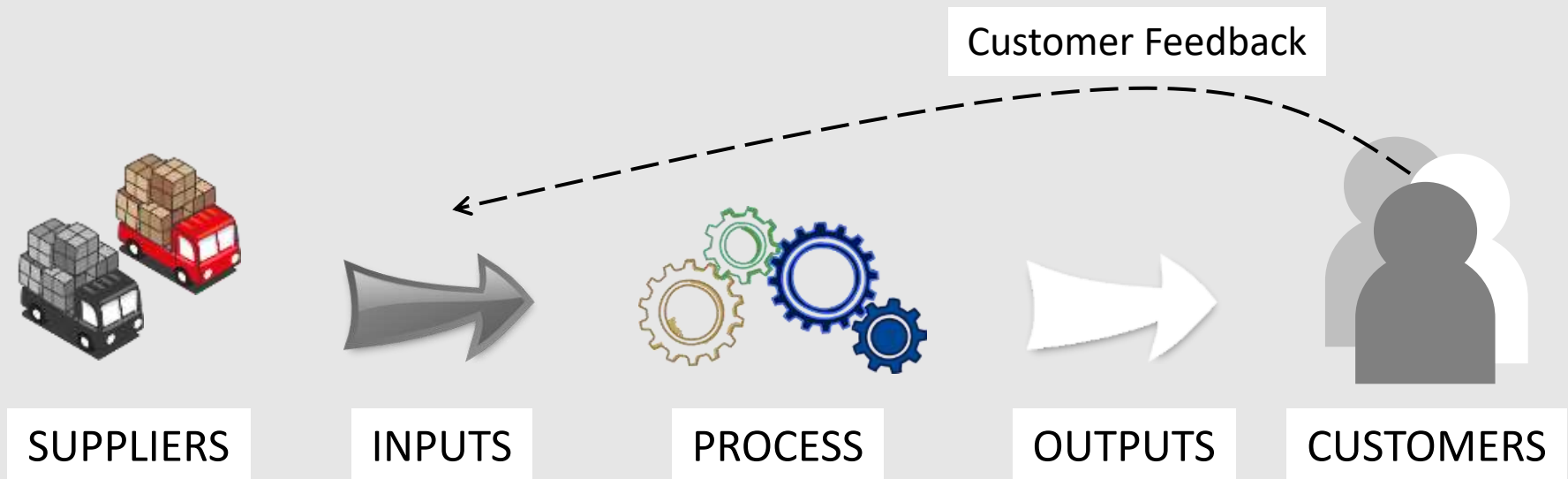
INTERNAL OR EXTERNAL

INTERNAL OR EXTERNAL

You receive inputs from your **internal suppliers** and send outputs to your **internal customers**

# SIPOC ANALYSIS

Process inputs can be reviewed based on the **voice of the customer** feedback on whether the outputs met their requirements.



# SIPOC ANALYSIS

To give the analysis further depth, you may **link** between suppliers and inputs, or customers and outputs.



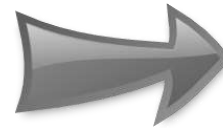
SUPPLIERS



INPUTS



PROCESS



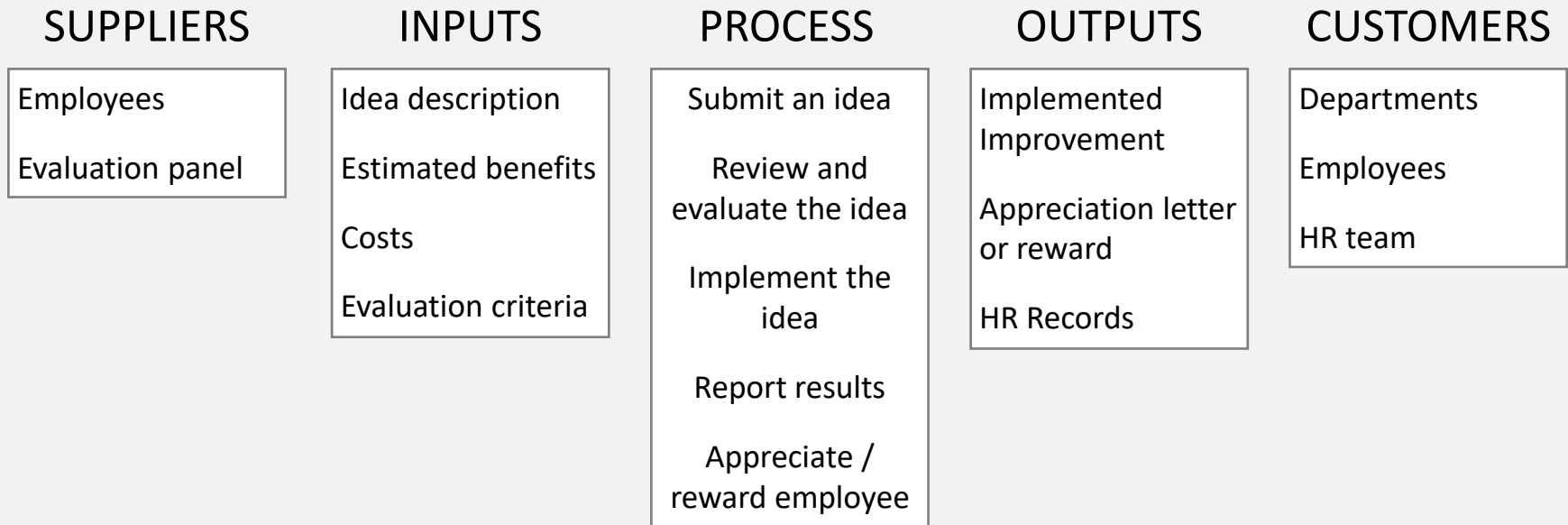
OUTPUTS



CUSTOMERS

# SIPOC ANALYSIS

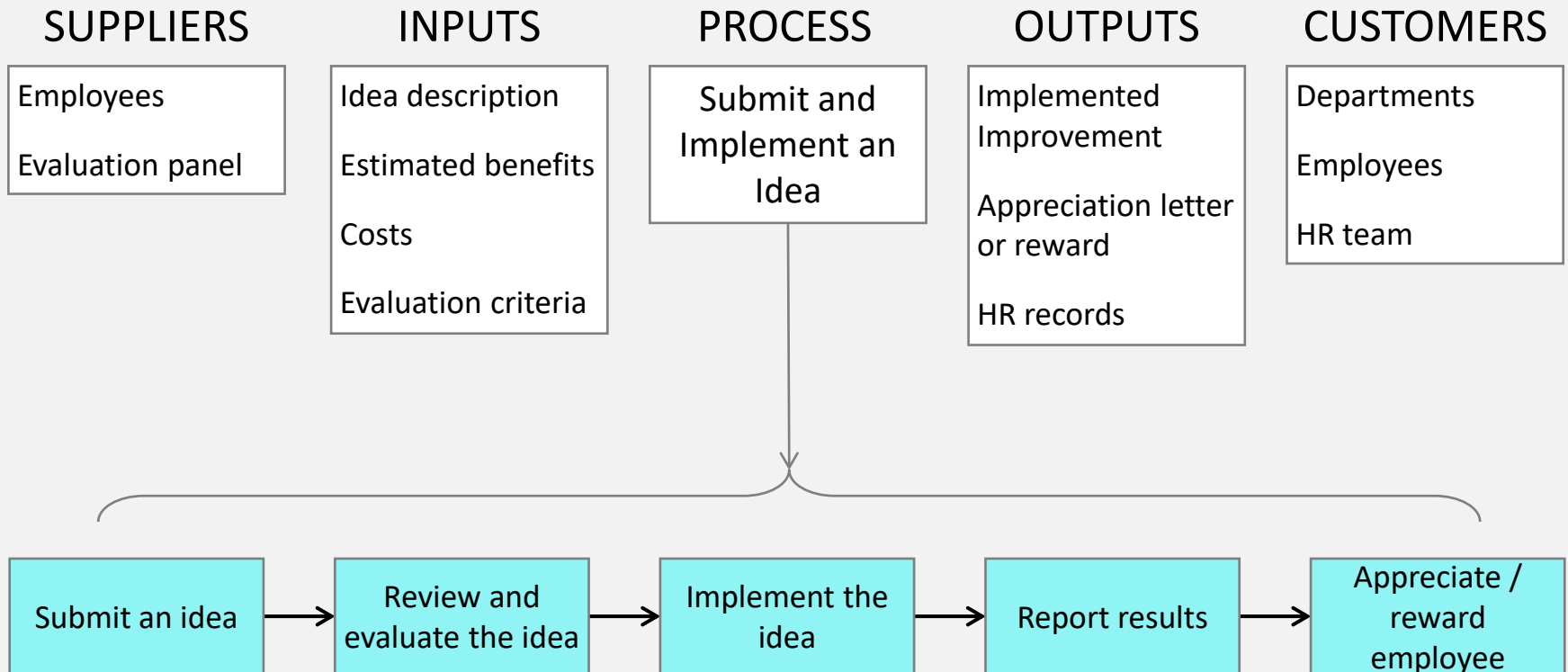
## EXAMPLE – Submit and Implement an Idea Process



Representing the process and its key elements in a **tabular format**

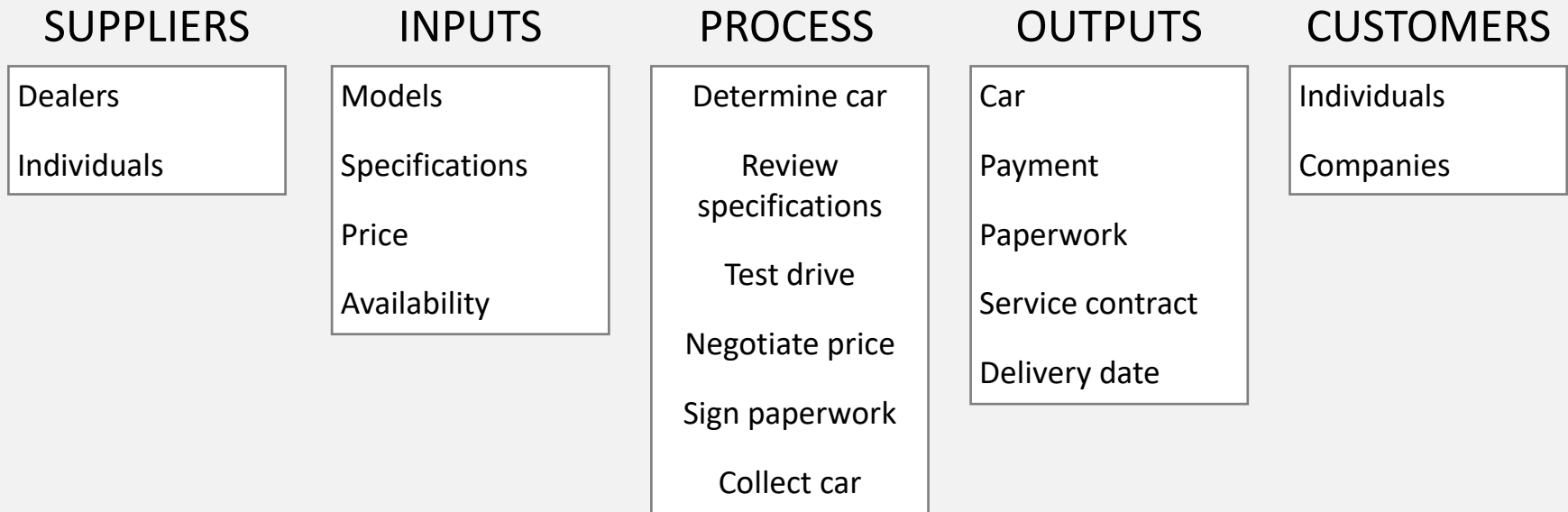
# SIPOC ANALYSIS

## EXAMPLE – Submit and Implement an Idea Process



# SIPOC ANALYSIS

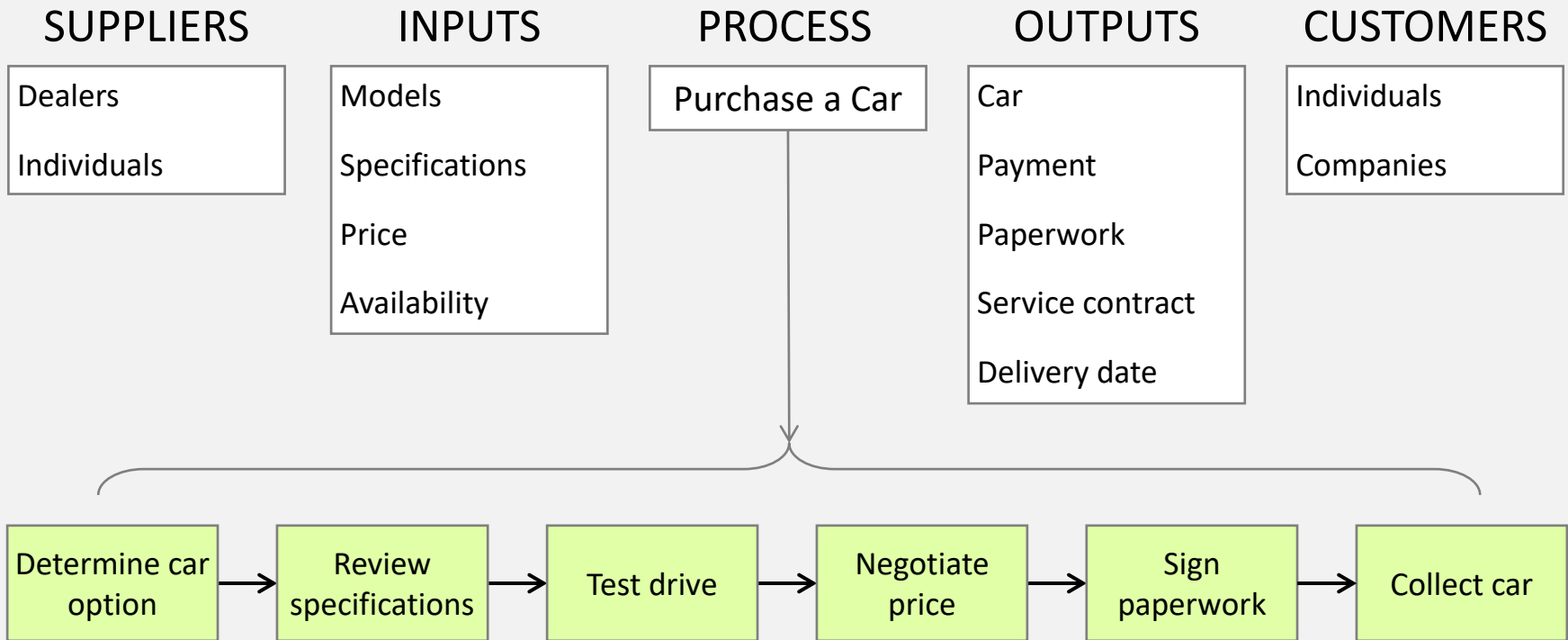
## EXAMPLE – Purchase a Car Process





# SIPOC ANALYSIS

## EXAMPLE – Purchase a Car Process



# SIPOC ANALYSIS

## EXAMPLE – Conduct a Job Interview Process

### SUPPLIERS

Job agencies  
Job applicants

### INPUTS

Interview purpose  
Applicant profile  
Interview place  
Time and date

### PROCESS

Notify applicant of schedule  
Notify interview panel  
Prepare questions  
Arrange room  
Meet applicant  
Ask questions  
Close interview

### OUTPUTS

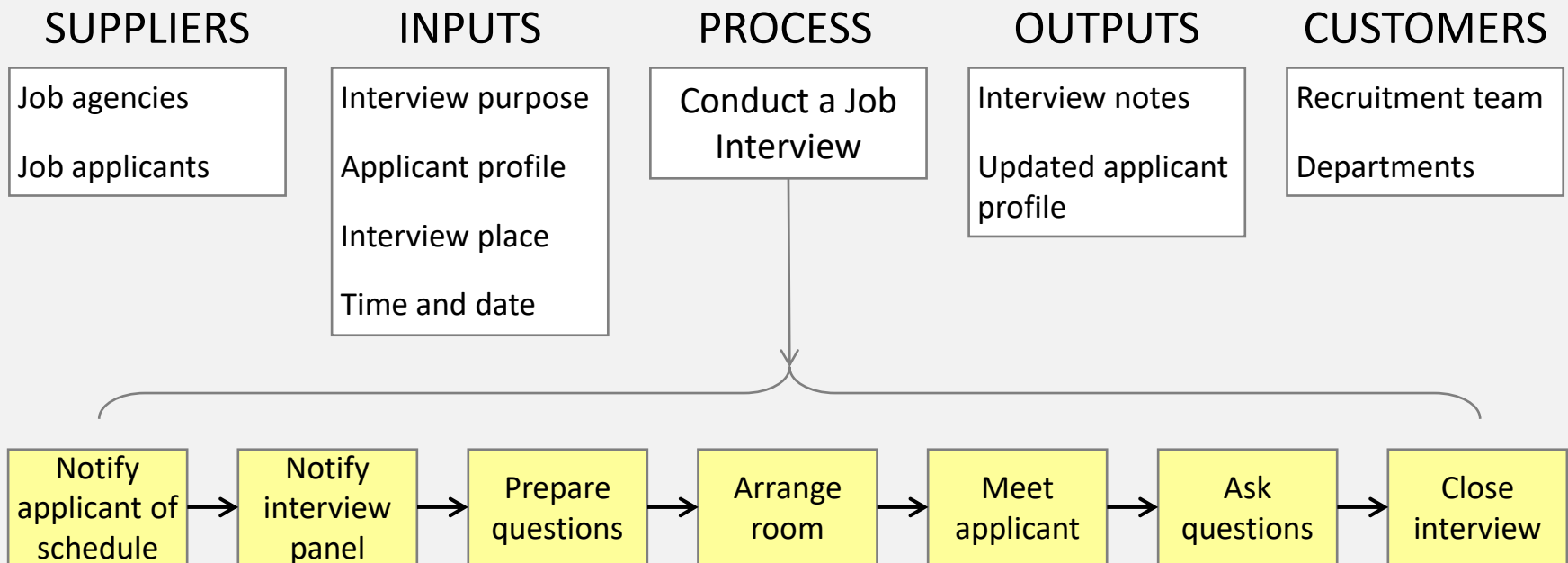
Interview notes  
Updated applicant profile

### CUSTOMERS

Recruitment team  
Departments

# SIPOC ANALYSIS

## EXAMPLE – Conduct a Job Interview Process



# SIPOC ANALYSIS

## How to Conduct a SIPOC Analysis

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

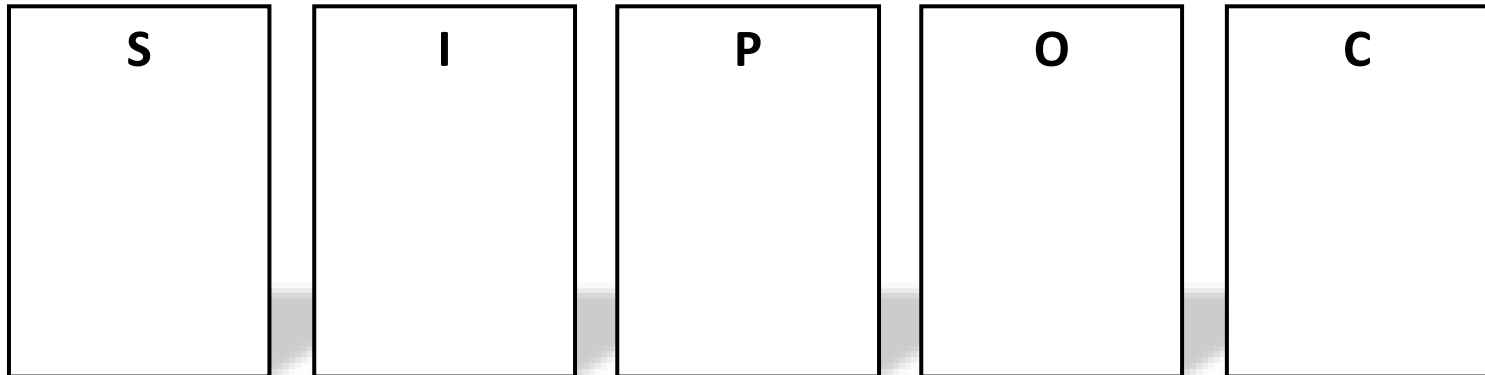


# SIPOC ANALYSIS

## How to Conduct a SIPOC Analysis

**Hang out** five flip-charts representing the five SIPOC categories

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

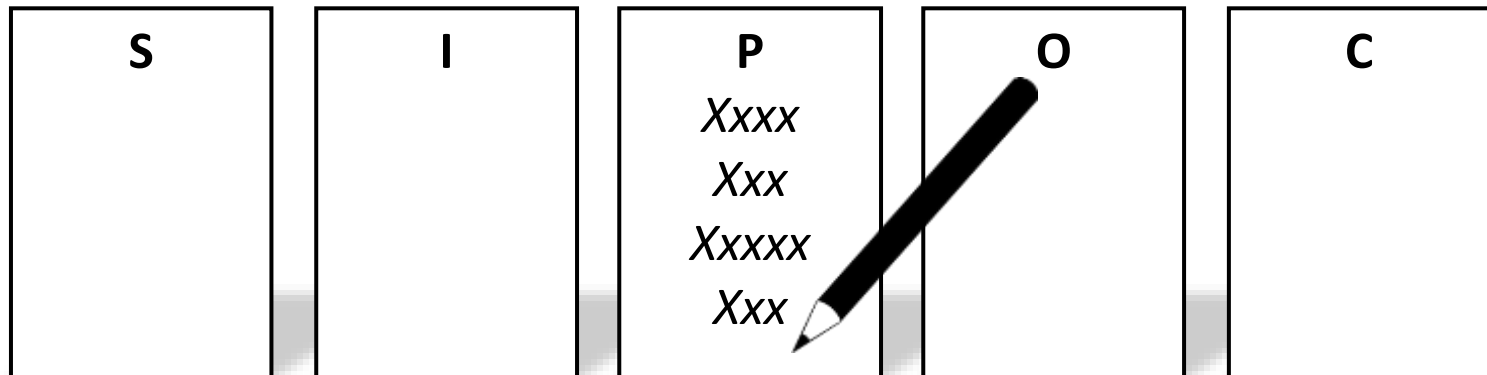


# SIPOC ANALYSIS

## How to Conduct a SIPOC Analysis

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

Start with verbs whenever possible

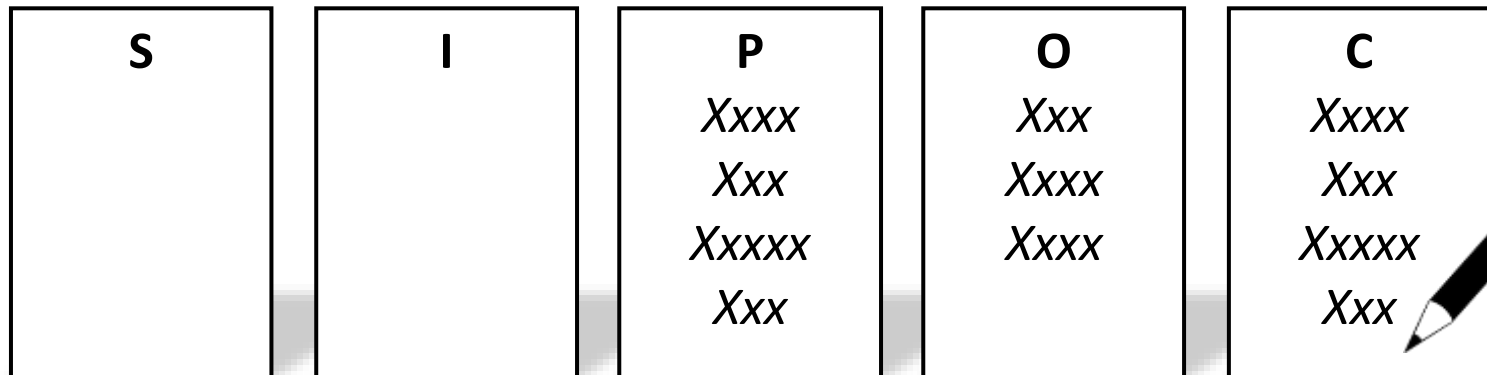


# SIPOC ANALYSIS

## How to Conduct a SIPOC Analysis

Identify the primary **outputs** of the process

Identify **customers** who will receive outputs

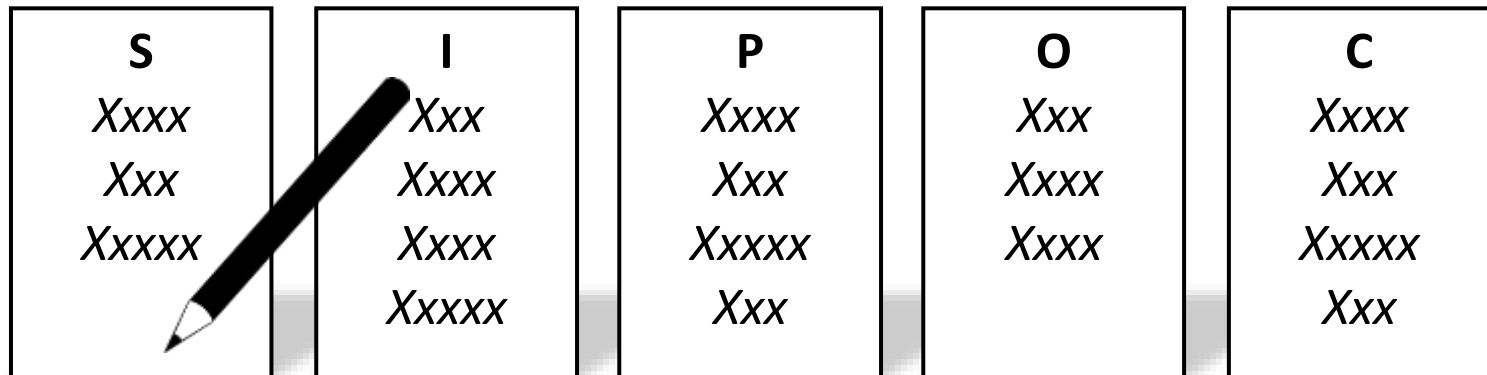


# SIPOC ANALYSIS

## How to Conduct a SIPOC Analysis

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

Identify the **suppliers** of those inputs



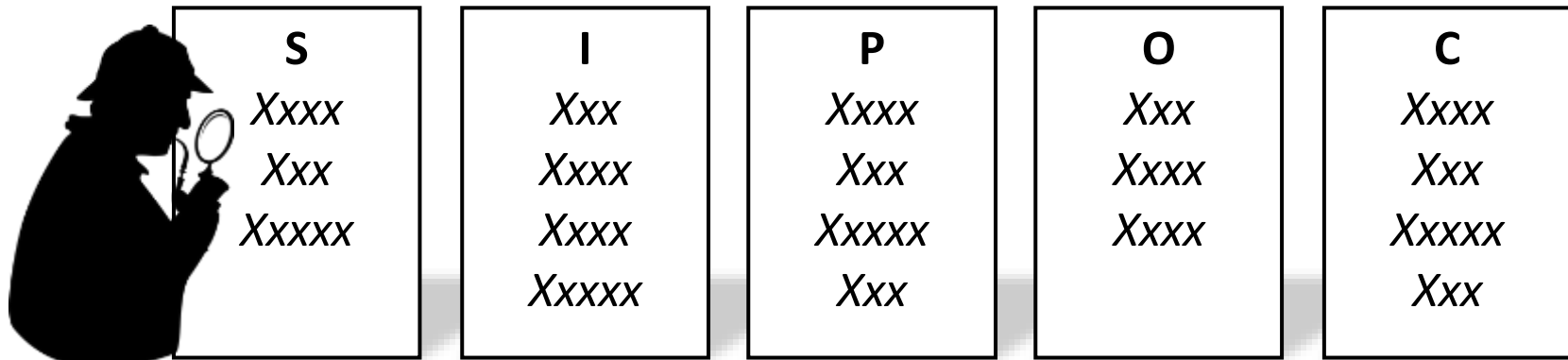


# SIPOC ANALYSIS

## How to Conduct a SIPOC Analysis

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

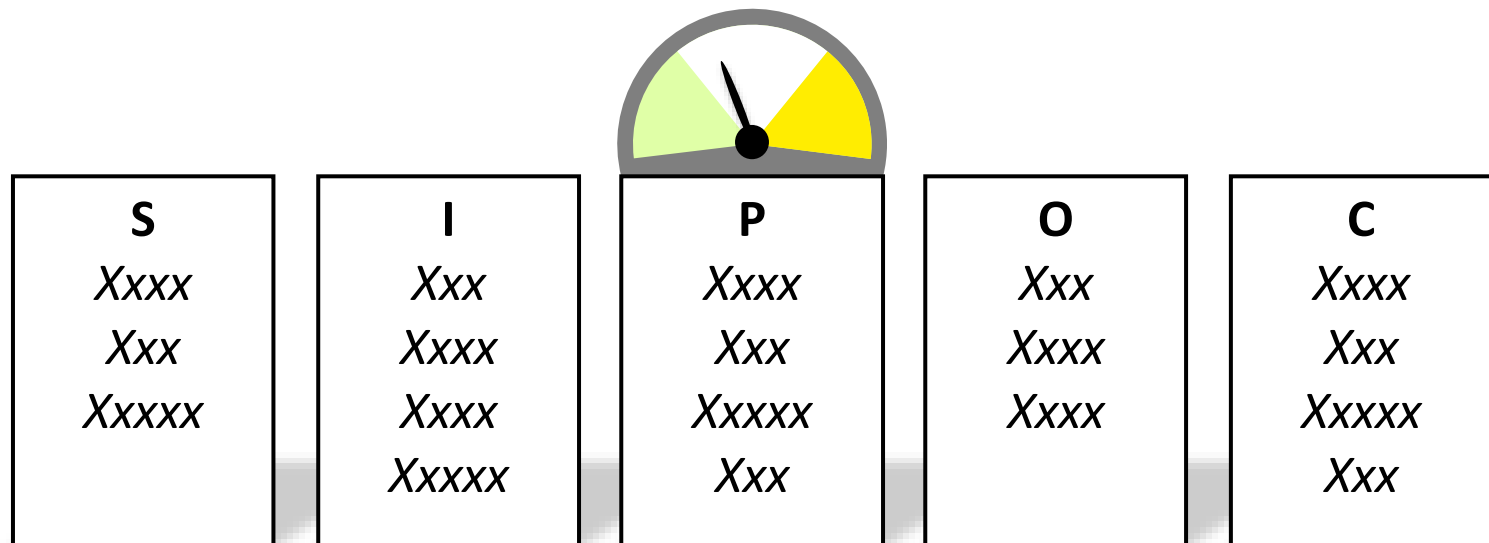
Discuss the SIPOC map with key stakeholders to verify accuracy



# SIPOC ANALYSIS

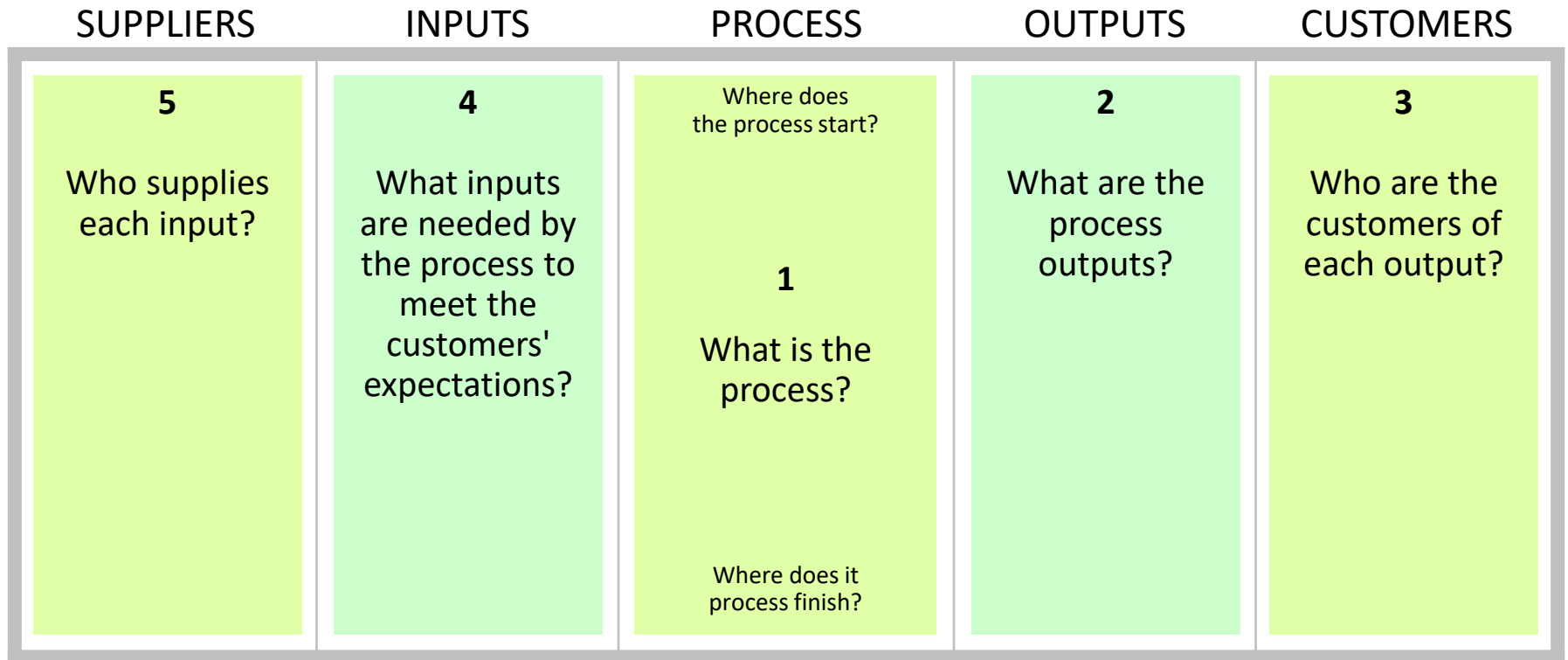
## How to Conduct a SIPOC Analysis

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



# SIPOC ANALYSIS

## How to Conduct a SIPOC Analysis



# SIPOC ANALYSIS

## Useful Questions

### SUPPLIERS

- ▶ Where does the inputs of the process come from?
- ▶ How do you communicate requirements to the suppliers?

### INPUTS

- ▶ Identify what is needed for the process?
- ▶ What effect do the inputs have on the process and on the outputs?
- ▶ How do they affect the process flow?
- ▶ What are the requirements for each input?

### PROCESS

- ▶ What are you producing with the process?
- ▶ At what points does the process start and finish?
- ▶ How can you summarize the process in few steps (seven steps or less)?
- ▶ Does the process feed into another process?

### OUTPUTS

- ▶ What product does the process make?
- ▶ What other outputs does the process make?

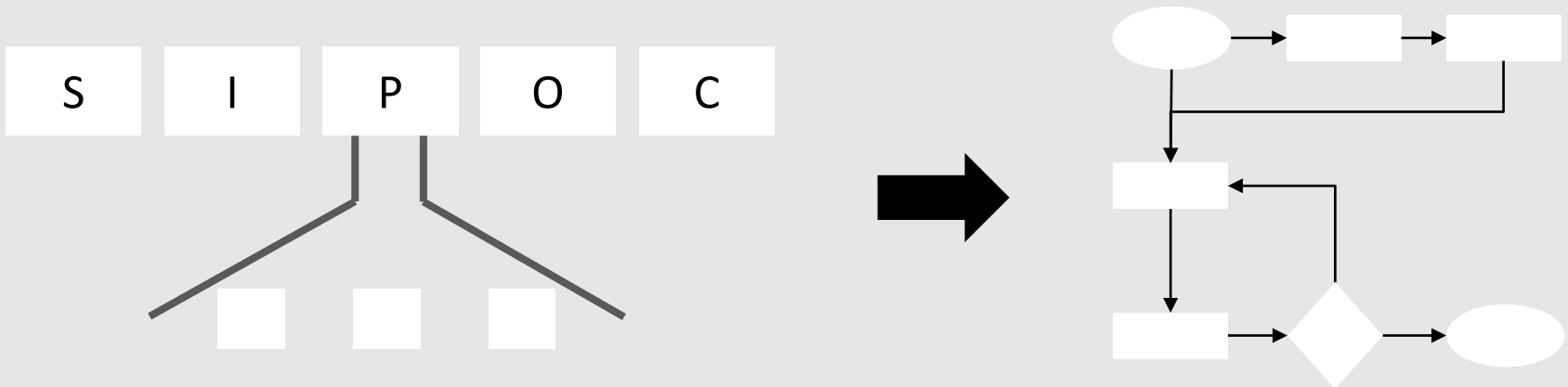
### CUSTOMERS

- ▶ Who are the customers of these outputs?
- ▶ Are they individuals, departments, other processes?
- ▶ What are the customers needs & requirements?
- ▶ What do the customers expect from each output?

# SIPOC ANALYSIS

## Further Information

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

# SIPOC ANALYSIS

## 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

# SIPOC ANALYSIS

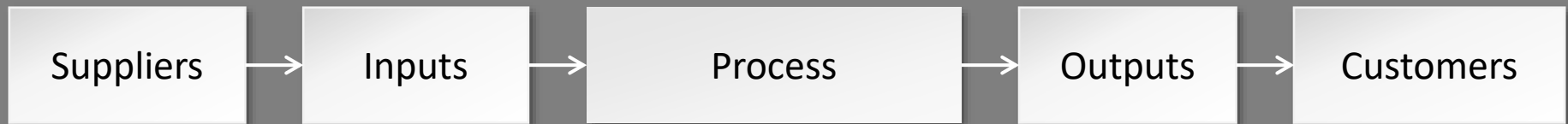
## Further Information

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



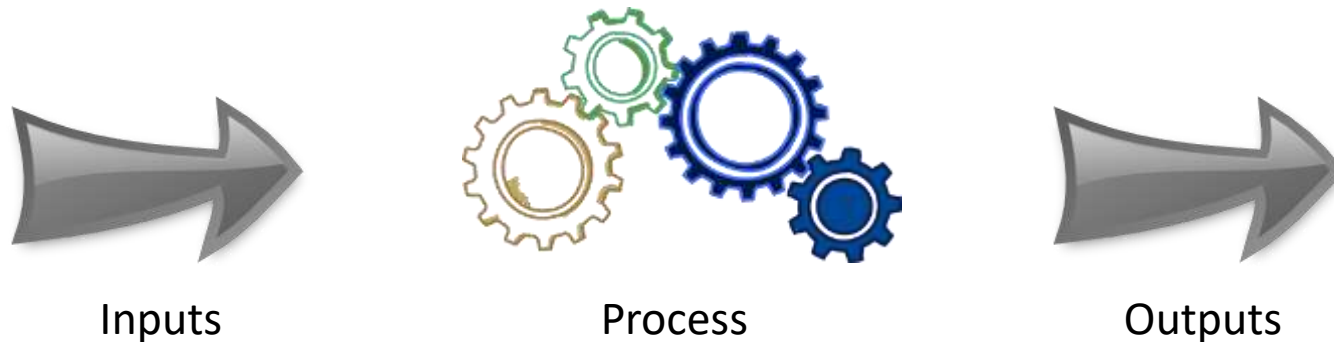
### MEASURES

Such as the number of defects or defective units

# SIPOC ANALYSIS

## Further Information

The **IPO** is a simpler model that represents a simpler structure for describing a process.



Widely used in the IT industry



# SIPOC ANALYSIS

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The Continuous Improvement Toolkit

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