THE SCOPE OF TOOLS AND TECHNIQUES

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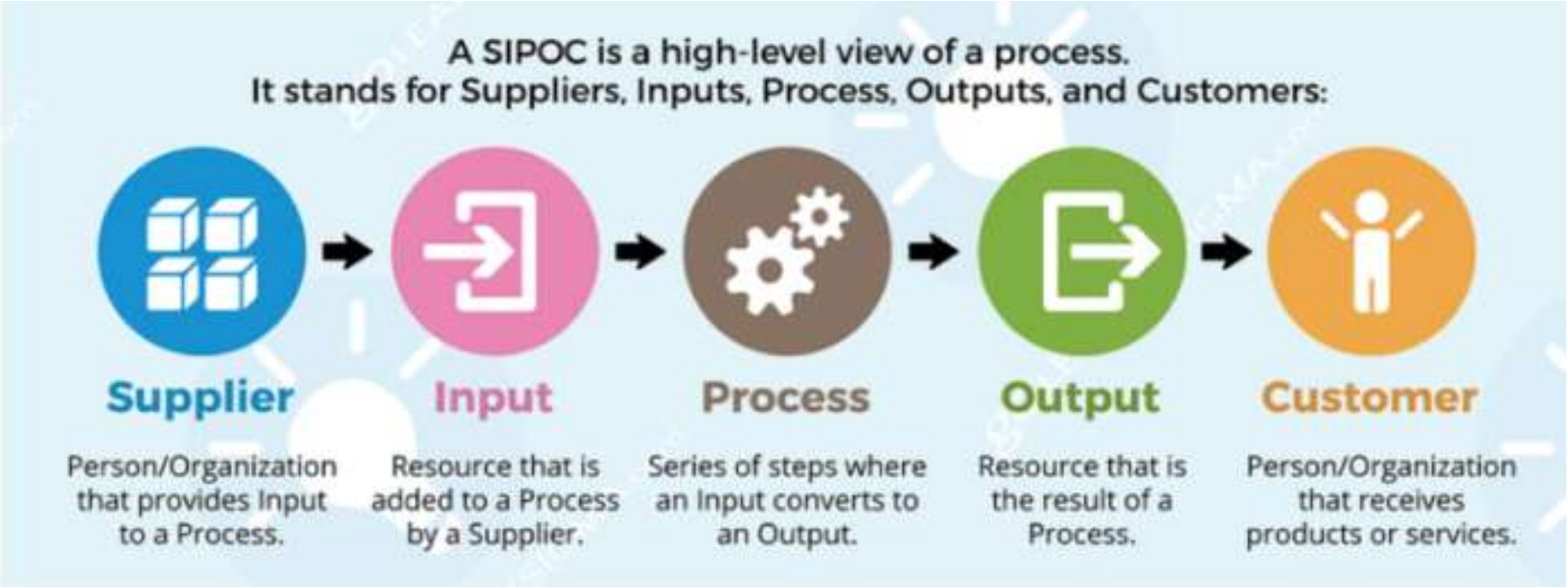
TOPIC


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.

WHAT IS A SIPOC?

A SIPOC is a high-level view of a process which stands for

- Suppliers
- Inputs
- Process
- Outputs
- Customers

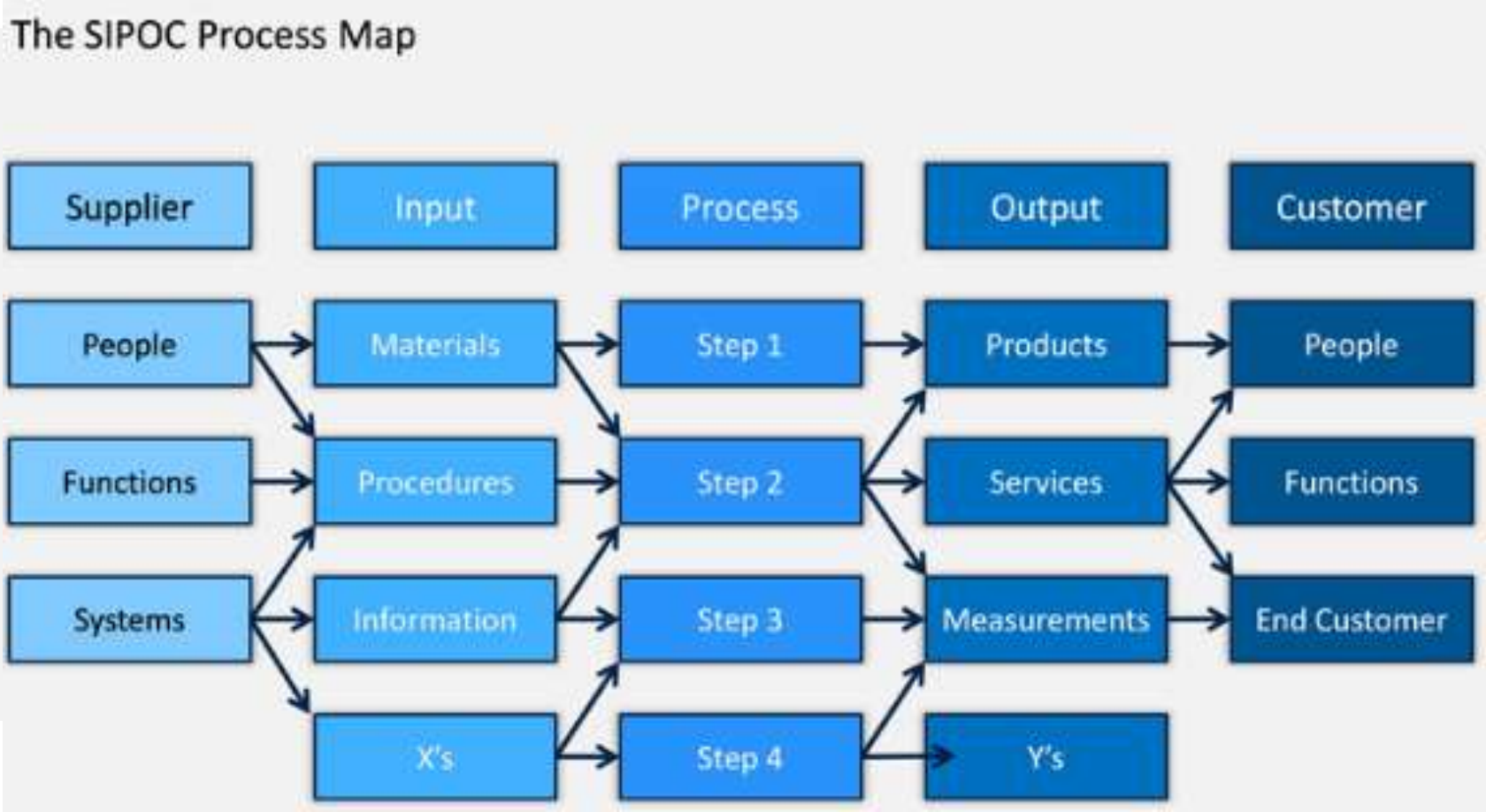
Every Process starts with Suppliers who provide Inputs to the Process which results in an Output that is delivered to Customers

EXAMPLE

SIPOC Diagram

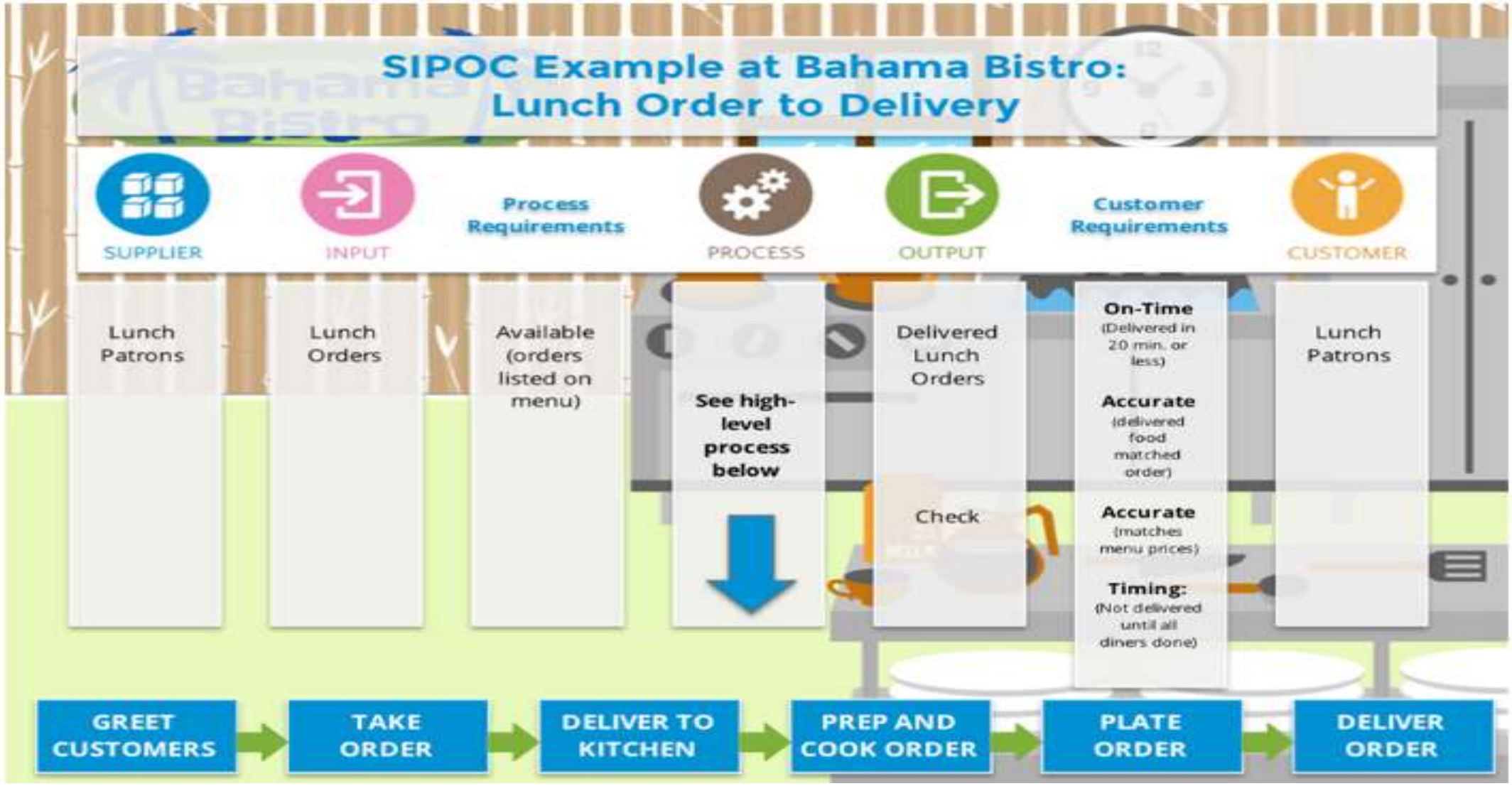
Supplier(s)	Inputs	Process	Outputs	Customer
Husband Supermarket	Teabag Kettle Electricity Water Milk Cup	Add water to Kettle Put kettle onto boil Add tea bag to cup Add milk to cup Pour boiling water into cup Remove teabag from cup and serve	Cup of Tea Used teabag	Wife

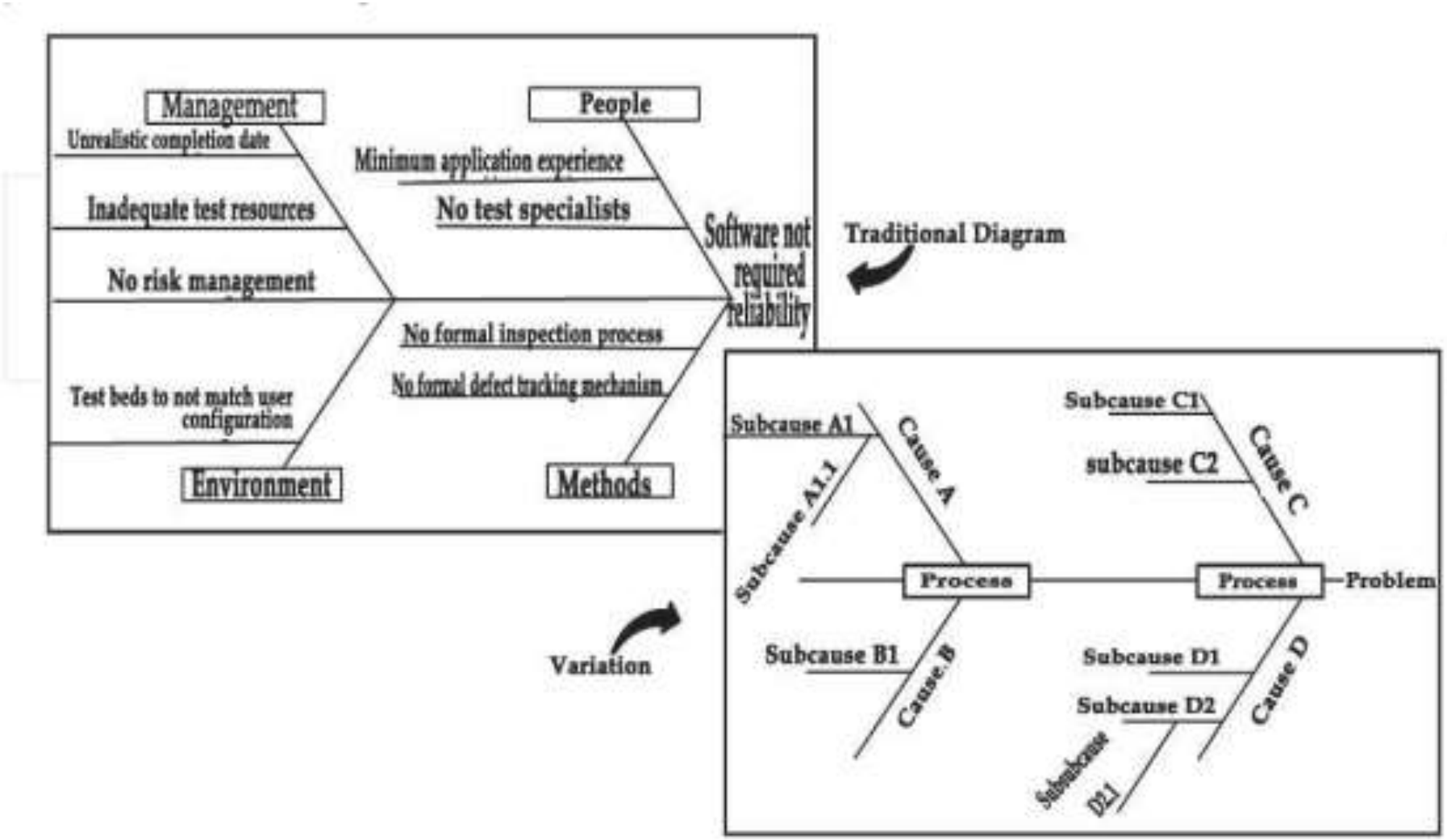
ACTIVITY



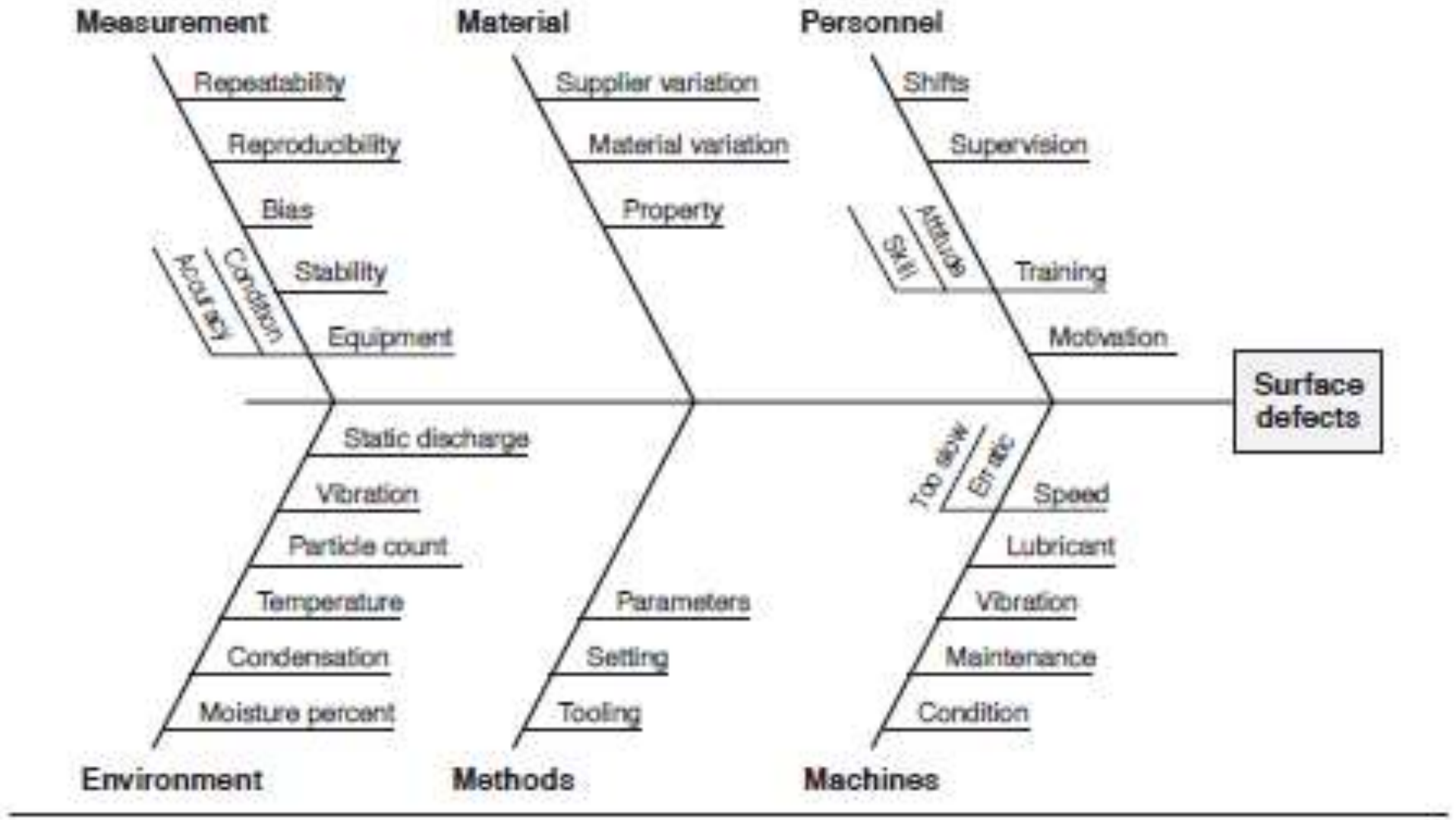
Input
Materials
Procedure
Products
Services
Functions
People
Measurement
Information
End Customers

EXAMPLE OF A SIPOC

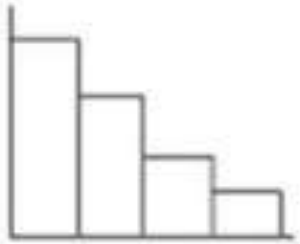




6. Cause and Effect Diagram


Measurement
Material
Personnel
Repeatability
Reproducibility
Bias
Accuracy
Condition
Stability
Equipment
Supplier variation
Material variation
Property
Shifts
Supervision
Skill
Attitude
Training
Motivation
Surface defects
Static discharge
Vibration
Particle count
Temperature
Condensation
Moisture percent
Parameters
Setting
Tooling
Too slow
Erratic
Speed
Lubricant
Vibration
Maintenance
Condition
Environment
Methods
Machines

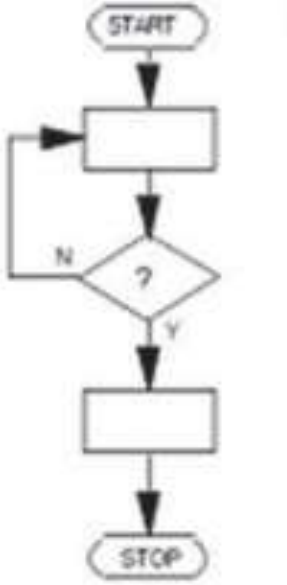
BRAIN STORMING



PARETO CHART

FISHBONE DIAGRAM

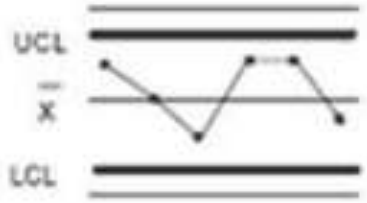
SCATTER DIAGRAM



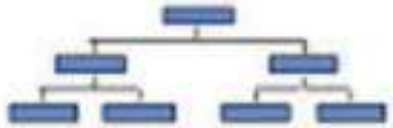
FLOW CHART

RUN CHART

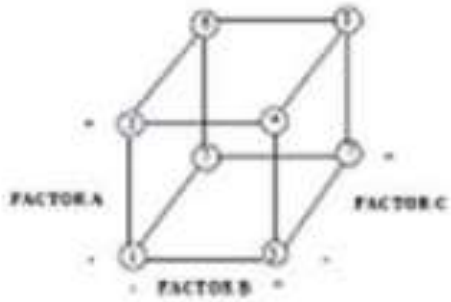
HISTOGRAM



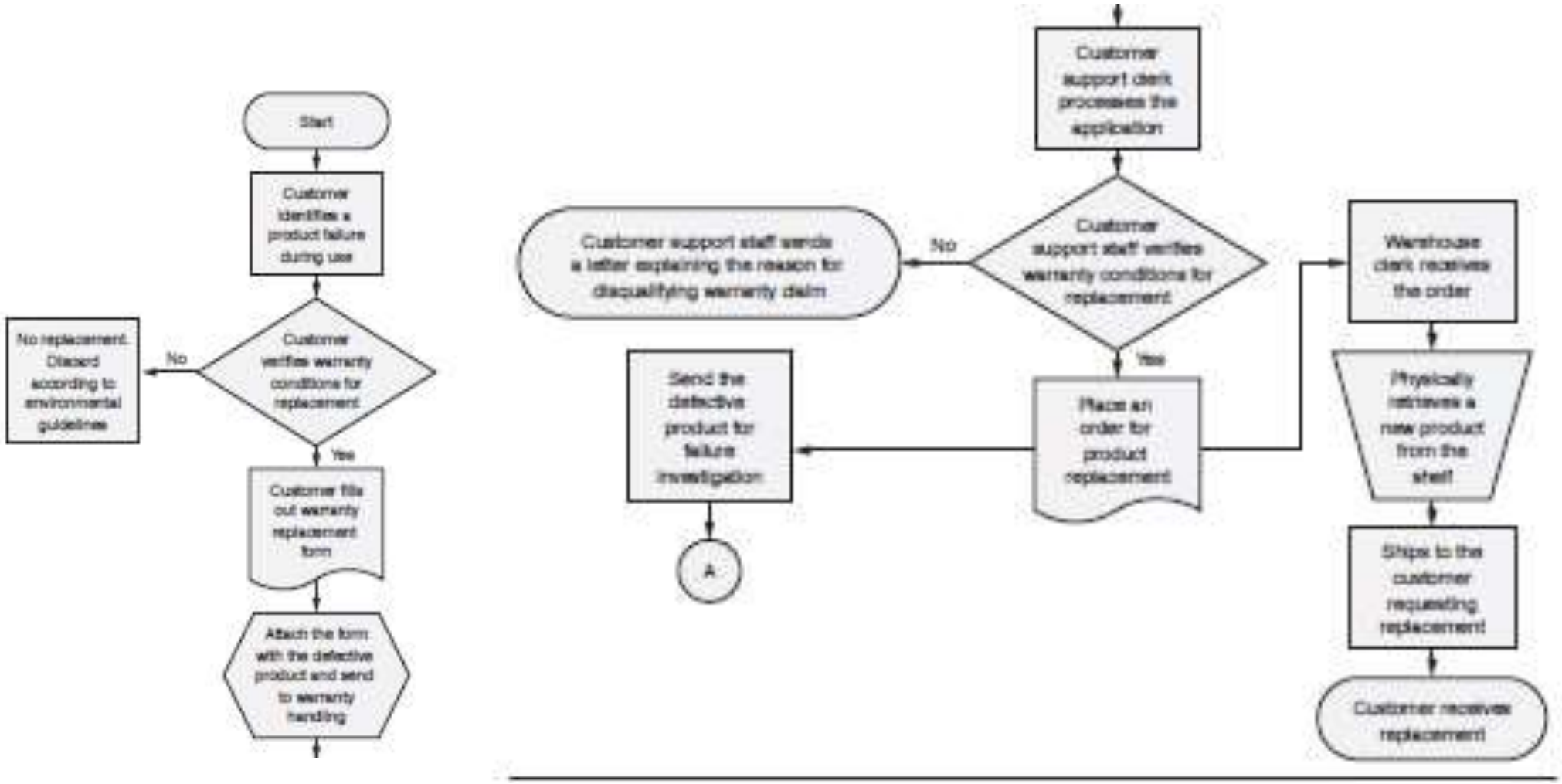
CONTROL CHARTS



TREE DIAGRAM



DESIGN OF EXPERIMENTS


Start
Customer identifies a product failure during use
Customer verifies warranty conditions for replacement
No
No replacement. Discard according to environmental guidelines
Yes
Customer fills out warranty replacement form
Attach the form with the defective product and send to warranty handling
Customer support clerk processes the application
Customer support staff verifies warranty conditions for replacement
No
Customer support staff sends a letter explaining the reason for disqualifying warranty claim
Yes
Send the defective product for failure investigation
A
Place an order for product replacement
Warehouse clerk receives the order
Physically retrieves a new product from the shelf
Ships to the customer requesting replacement
Customer receives replacement

REFERENCES

1. https://api.intechopen.com/chapter/pdf-preview/17405
2. https://goleansixsigma.com/sipoc/
3. **What is Lean Six Sigma** By Michael L. George, David T. Rowlands, Bill Kastle

THANK YOU