



Process Mapping

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What is Streamlining? Why do it?

Let's admit it. As business people, we all have the annoying habit of overcomplicating things, particularly when it comes to running a business or a project.

Whether its work allocation, quality inspection, project monitoring, or simply going through a to-do list, project managers and teams often complicate processes which are easy to implement.

The most effective way to make things right is to identify where you are wasting your time, streamline the work process, and find opportunities to improve your workflow.



What is Streamlining? Why do it?

A streamlined process reduces complexity and redundancy of processes. This means less opportunity for errors and delays.

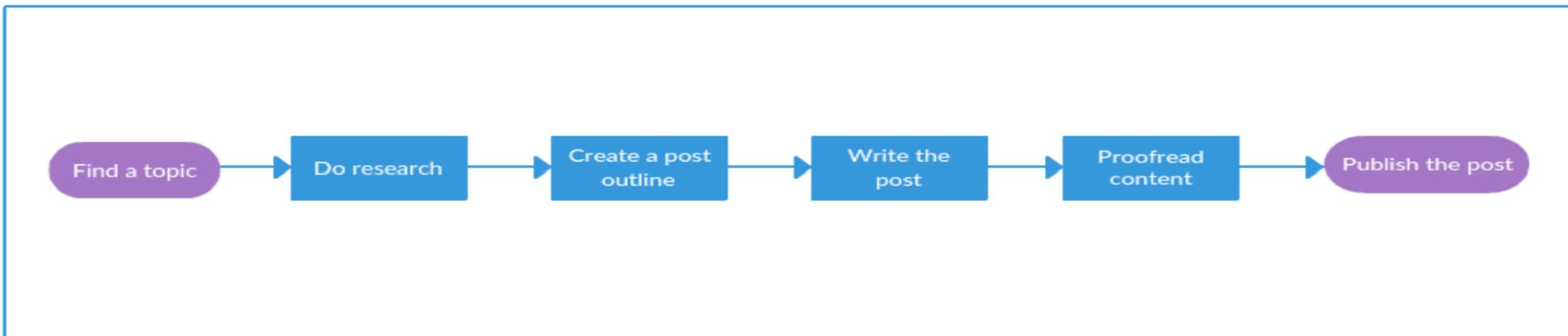
By definition, streamlining a business process means improving its efficiency by either ***removing any unnecessary steps, adopting other methodologies, or using new technology.***

To streamline the process, you need to start with what is actually required...

Process Mapping

What is a Process Map?

- A process map visually shows the steps of a work activity and the people who are involved in carrying out each step.
- When mapping a process you simply draw a box for each step and connect them with arrows to show a flow. A basic process map to publish a blog post could look like this;





How to Create a Process Map

Step 1: Identify the Process You Need to Map

Step 2: Bring Together the Right Team

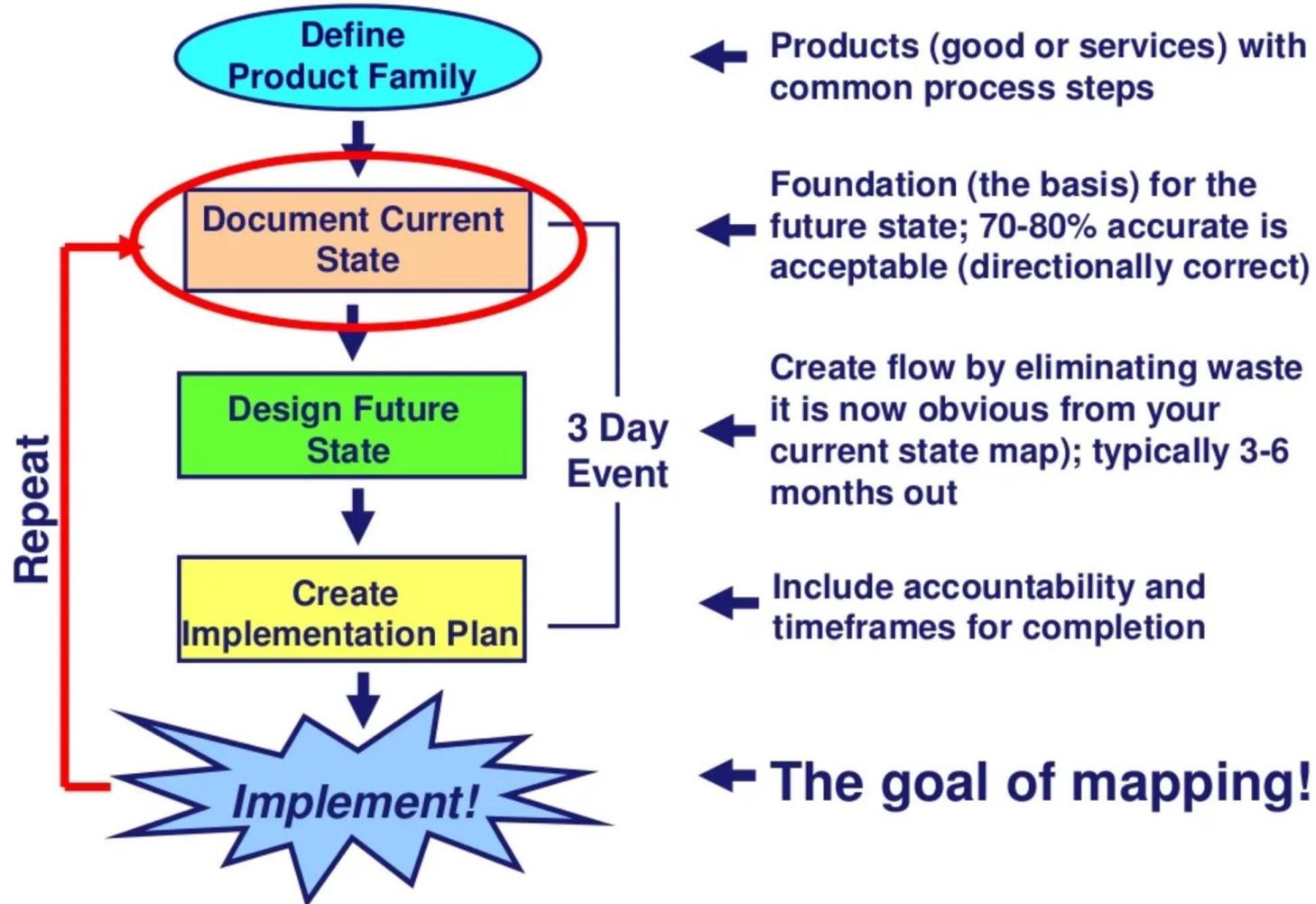
Step 3: Gather All the Necessary Information

Step 4: Organize the Steps in Sequential Order

Step 5: Draw the Baseline Process Map

Step 6: Streamline Process - Analyze Map to Find Areas for Improvement

Process Mapping Process





Documentation & Process Mapping Techniques

Unless you know what, exactly, the process consists of, you can't really streamline it. Putting it down on paper makes analysis significantly easier, as it gives you a top-down view of the process. Depending on what you're looking to improve, there are several different process mapping techniques you can use.

- Written Procedures
- SIPOC (Supplier, Inputs, Processes, Outputs, Customers)
- Turtle Diagram
- Value Stream Map
- Flow Chart



Process Documentation – Traditional Written Procedure

SOP Procedure Format

1.0 Purpose

This process is used to

2.0 Responsible Parties

Which position is responsible to ensure proper planning, communication and providing necessary documents to interested parties?

3.0 Related Documents

What are the referenced documents used in this SOP/Process?

4.0 Revision History

Date	Revision	Description of Revision	Author	Approver
	IR	Initial Release		

5.0 Procedure

5.1 -----

5.1.1 -----

5.1.1.1 -----

5.1.1.2 -----

5.1.2 -----

5.1.3 -----

5.2 -----

5.3 -----

6.0 Records

Pros –

- Can be very detailed
- Can include photos of how to perform tasks

Cons –

- Often becomes cumbersome and difficult to comprehend

Process Mapping Technique: SIPOC

S – Suppliers (Who are the suppliers)

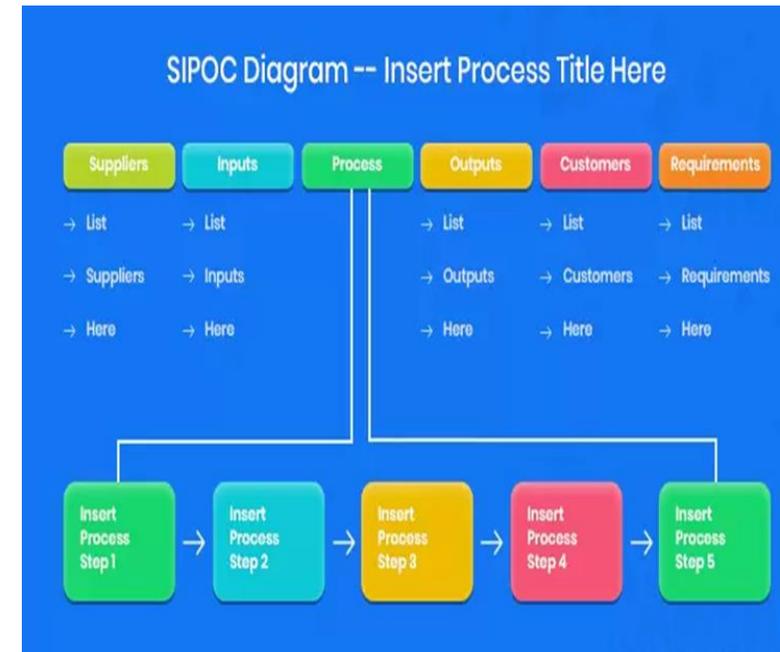
I – Inputs (What are the suppliers supplying)

P - Process Steps (What are the key steps in the process – 10K Foot View)

O – Outputs (What are you trying to achieve?)

C –Customers (Who are your Customers?)

R –Requirements (What are the requirements that must be met)



Pros –

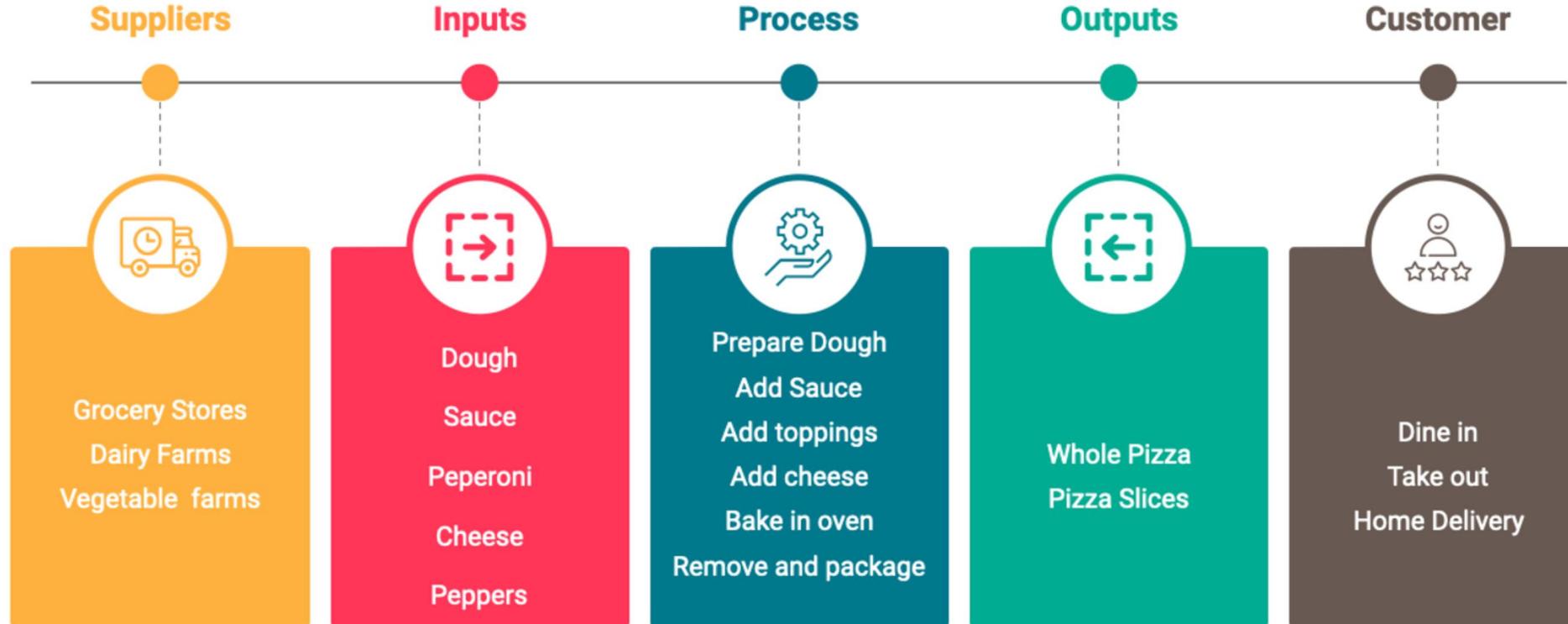
- Provides a high-level overview of the process.
- Keeps all the team members updated about their respective roles and responsibilities.
- Makes redefining a process easy.
- Identifies liabilities hidden each step of a process.
- A great tool to maximize overall efficiency.

Cons –

- Does not provide details about steps.
- Very simplistic.
- Starting point for process mapping.

Example: SIPOC - Pizza

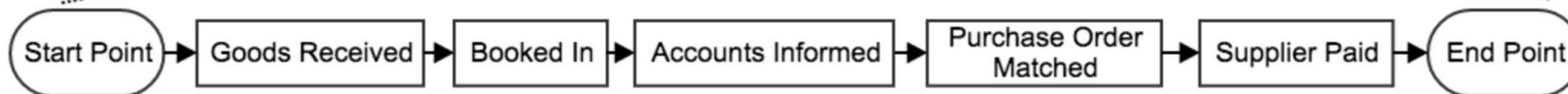
SIPOC Diagrams



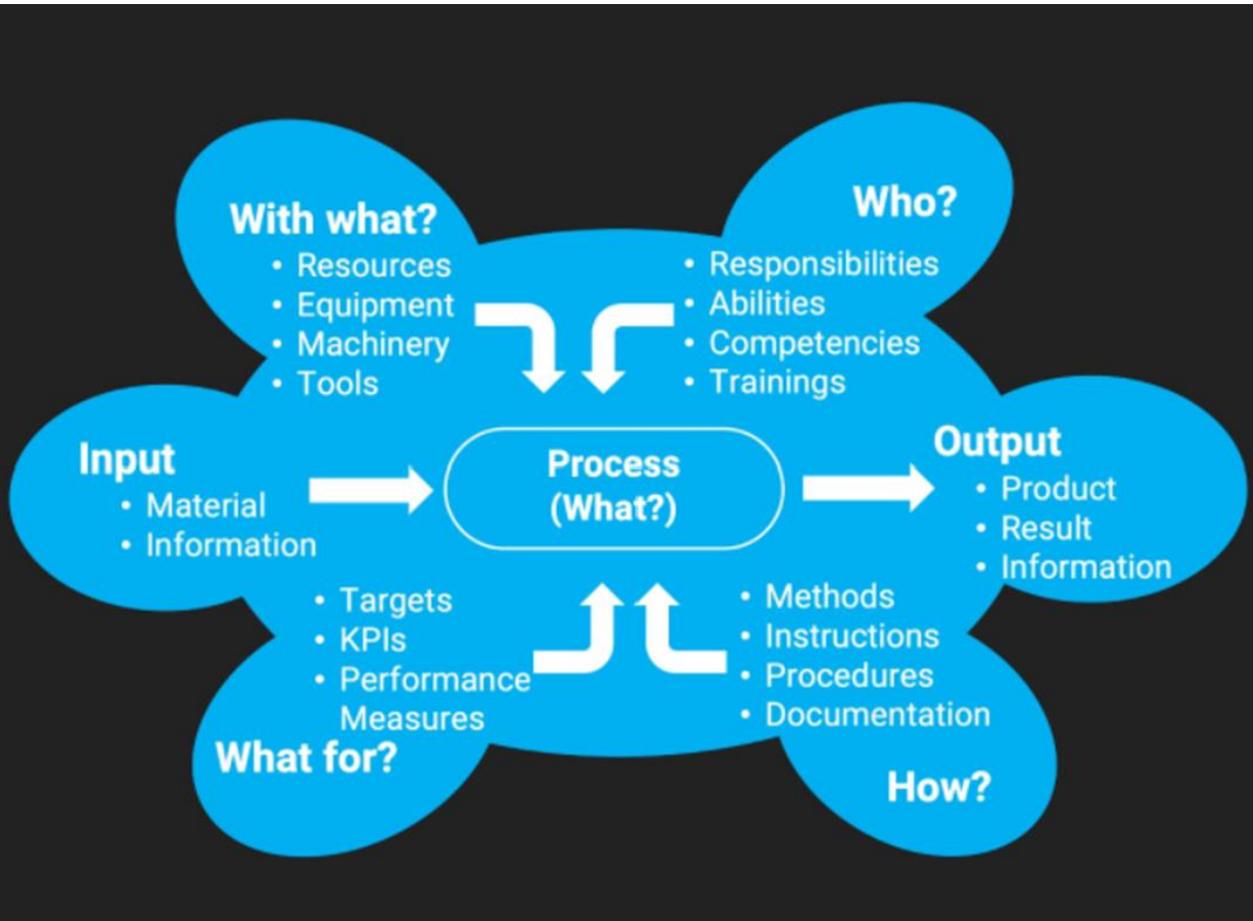
Example SIPOC: Receiving

Supplier	Input	Process	Output	Customer
Purchasing	Purchase Order	Goods Received	Delivery Note	Accounts
Goods Supplier	Sales Order	Booked In	Stock	Stores
		Accounts Informed		
		Purchase Order Matched		
		Supplier Paid	Remittance Advice	Goods Supplier

High Level Process



Process Mapping Technique – Turtle Diagram



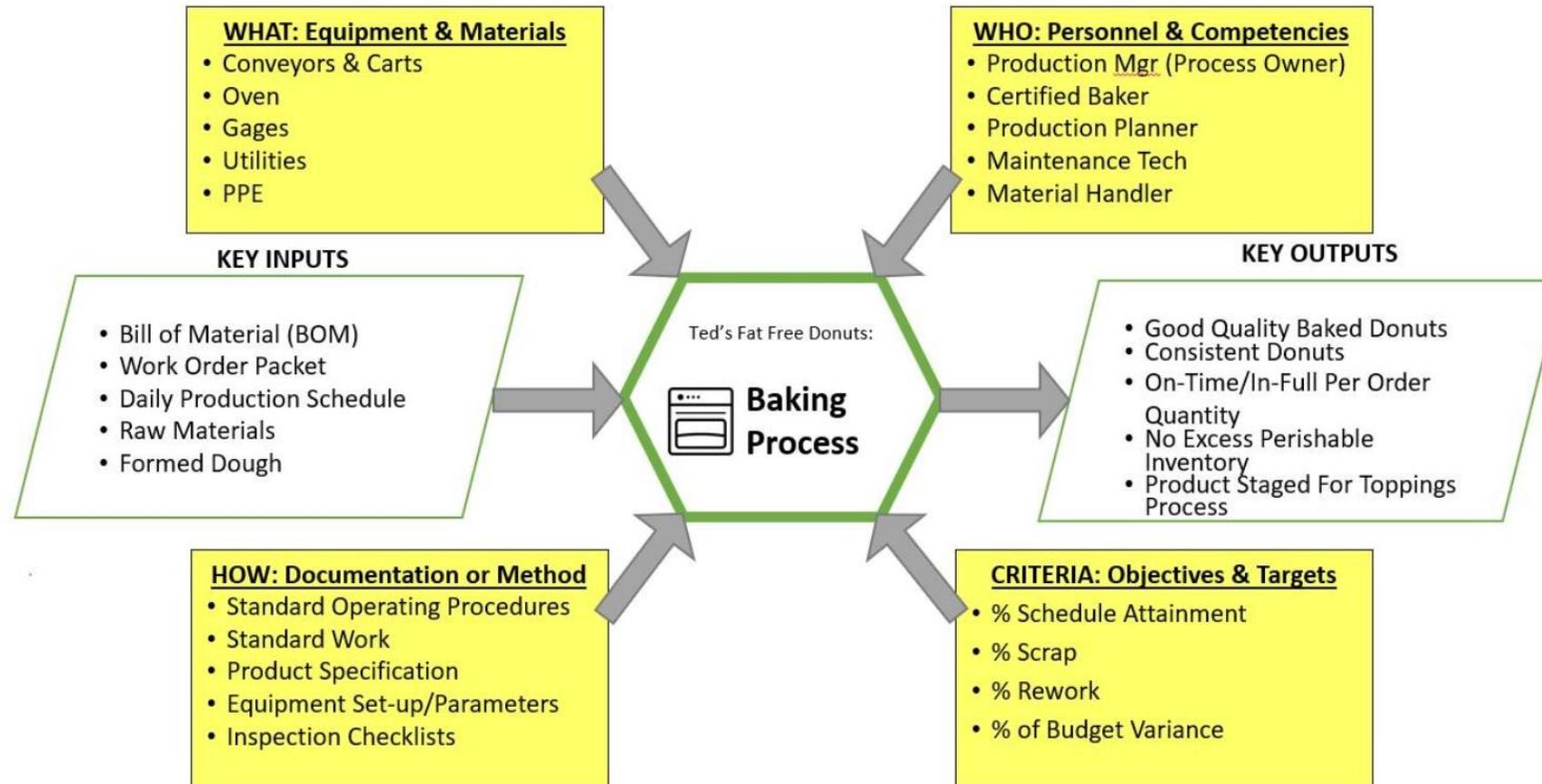
Pros –

- Provides More Detail of the process

Cons –

- Not as Intuitive as SIPOC
- Steps within Process are not depicted
- Decision Points are not identified
- Not as Easy to see Activities and flow of decisions as SIPOC or Flow Diagram

Example: Turtle Diagram - Baking



Process Mapping Technique: Value Stream Mapping



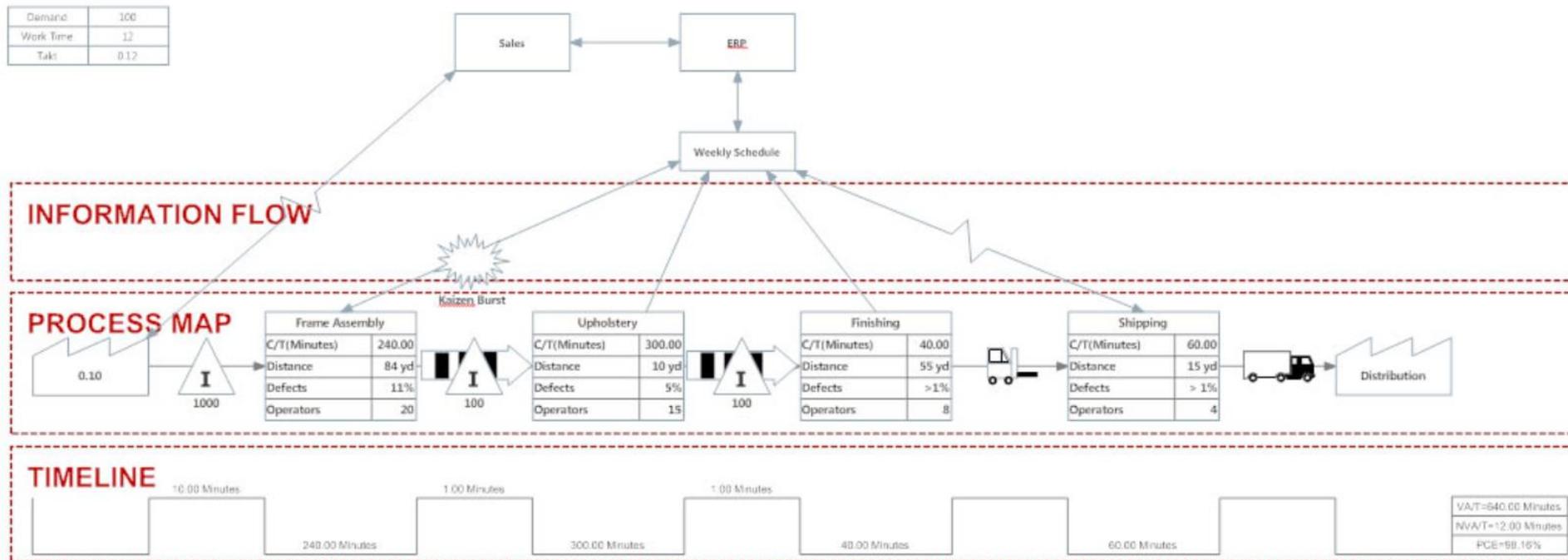
- A value stream map illustrates the flow of materials and information from supplier to customer.
- Value stream mapping (VSM) is a lean manufacturing technique used to analyze, design, and manage the flow of materials and information required to bring a product to a customer.
- VSM helps identify waste and streamline the production process.
- The main goal of a value stream map is to visually record information such as:
 - Work and wait times along each step in a process
 - Labor needs at individual work steps, including the identification of overtime, if necessary
 - Error rates at individual work steps
 - Downtime at individual work steps
 - Inventory excess or shortfall
 - Production or process delays



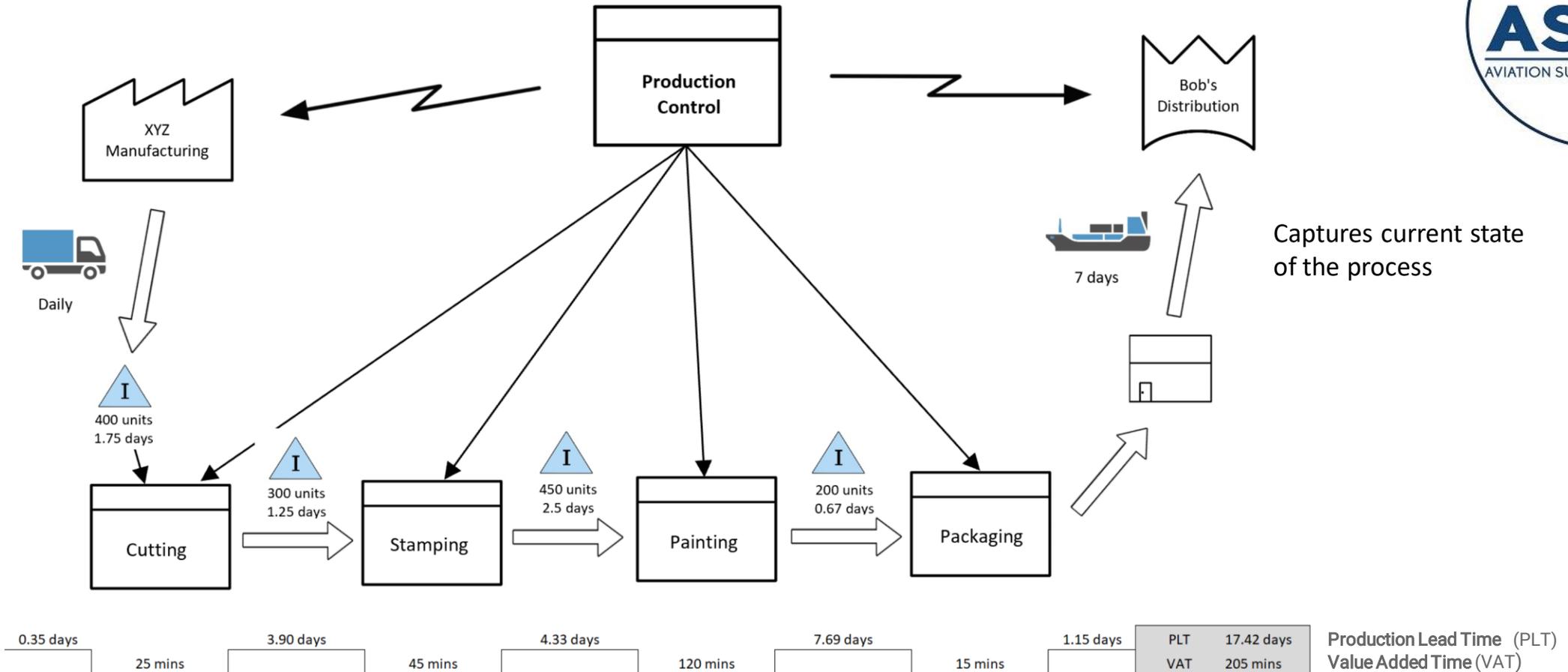
Steps to create a VSM

1. Identify the product or process. That is, what is it that you wish to map? If multiple products are involved, you may want to start with those with the highest value, volume, or potential.
2. Define the scope of the mapping project. Most value stream maps follow the production process from supplier to customer. Some map the supply chain, which would continue upstream to raw materials.
3. Map the process steps. This may take some time and will certainly require "working the floor." Some document the process from customer back to supplier, others go from start to finish. We are not breaking down tasks; these are the major steps in the operations performed on the product.
4. Include information flow. How does communication flow during the order, production, and delivery steps?
5. Collect process data. This will require some effort to develop a clear understanding of important aspects of each step in the process. Some of the data needed may include:
 1. Inventory
 2. Cycle time (how long it takes to make one unit of product)
 3. Actual work time versus unused/wait time (including number of operators, shifts, etc.)
 4. Machine uptime and downtime
 5. Unnecessary movement (of items, material, and workers), scrap rate, etc.
6. Create a time line. This information tells us about total process time, inventory demands, and total lead time. This usually shows how lead times may be considerably longer than processing times, indicating how much waste exists in the system.

Value Stream Mapping Symbols and Components



Example: Value Stream Mapping - Manufacturing



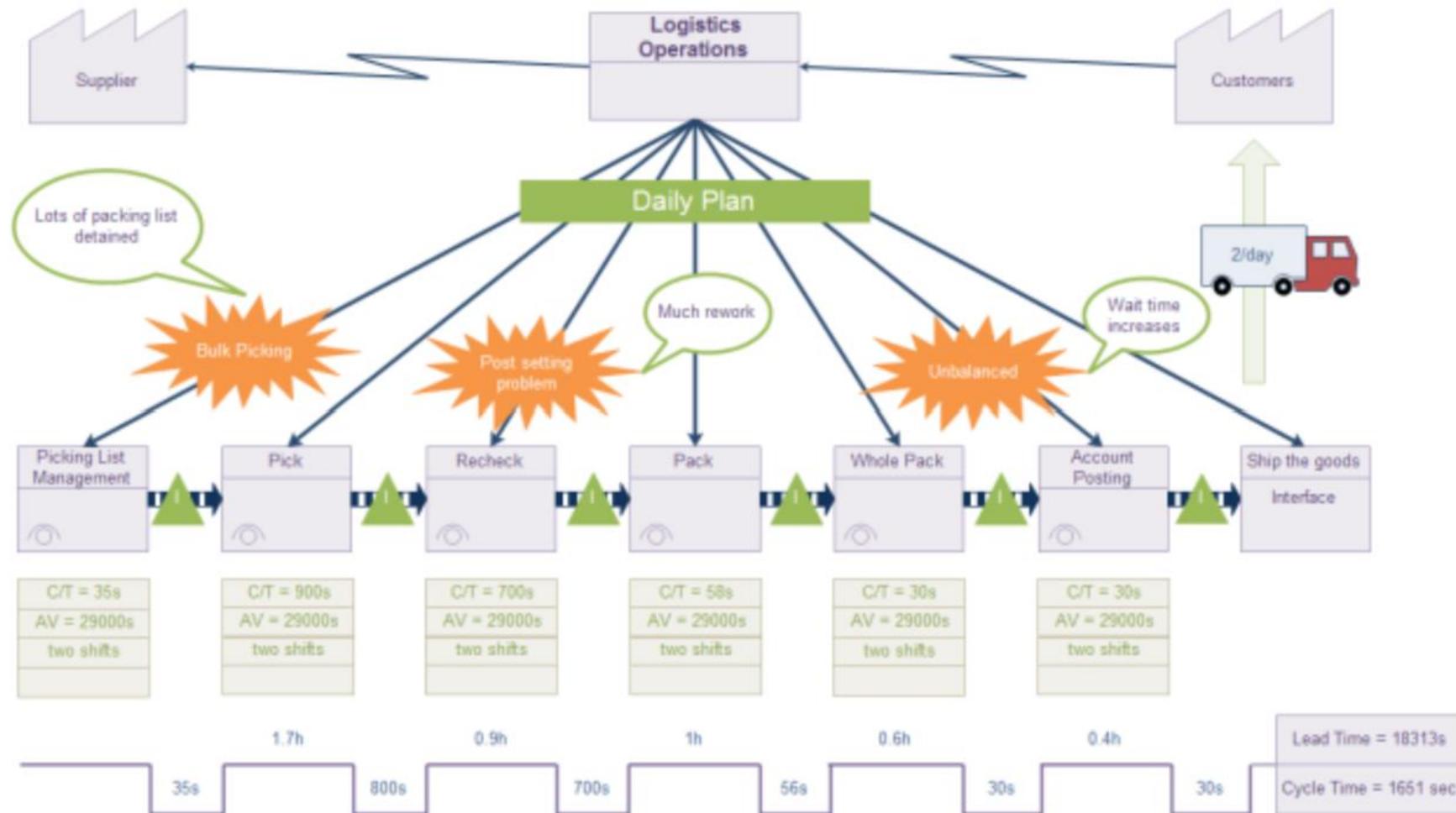
PROS:

- Performed fast and easily
- Cheap method, does not require a lot of equipment and staff

CONS:

- Only one type product can be analyzed
- Provides snapshot of process at a certain moment of time
- Difficult to work with new technologies

Example: Value Stream Mapping Logistics

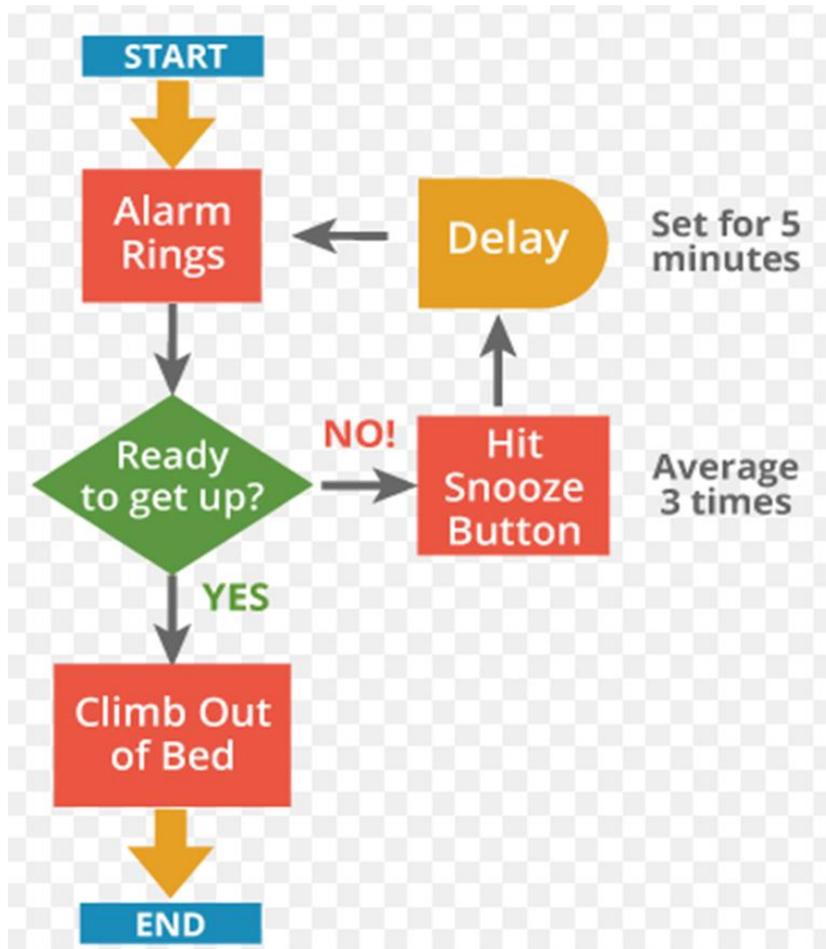




Value Stream Mapping Software

- **Lucidchart:** With a free account, you can open up [a value stream mapping template in Lucidchart](#). As a value stream mapping software, it offers plenty of shapes and makes their arrangement for presentation easy.
- **Smartdraw:** [Smartdraw](#) includes plenty of templates and shapes for value stream maps, in addition to flowcharts and other [charting tools](#). You can add data to your individual process shapes that are then automatically calculated into complete information about your process.
- **Companion by Minitab:** Chock full of [Lean tools](#), [Companion by Minitab](#) includes templates for different size value streams and a template for comparing current and future state maps. You can add data to your individual process shapes that are then automatically calculated into complete information about your process.

Process Mapping Technique – Flow Chart

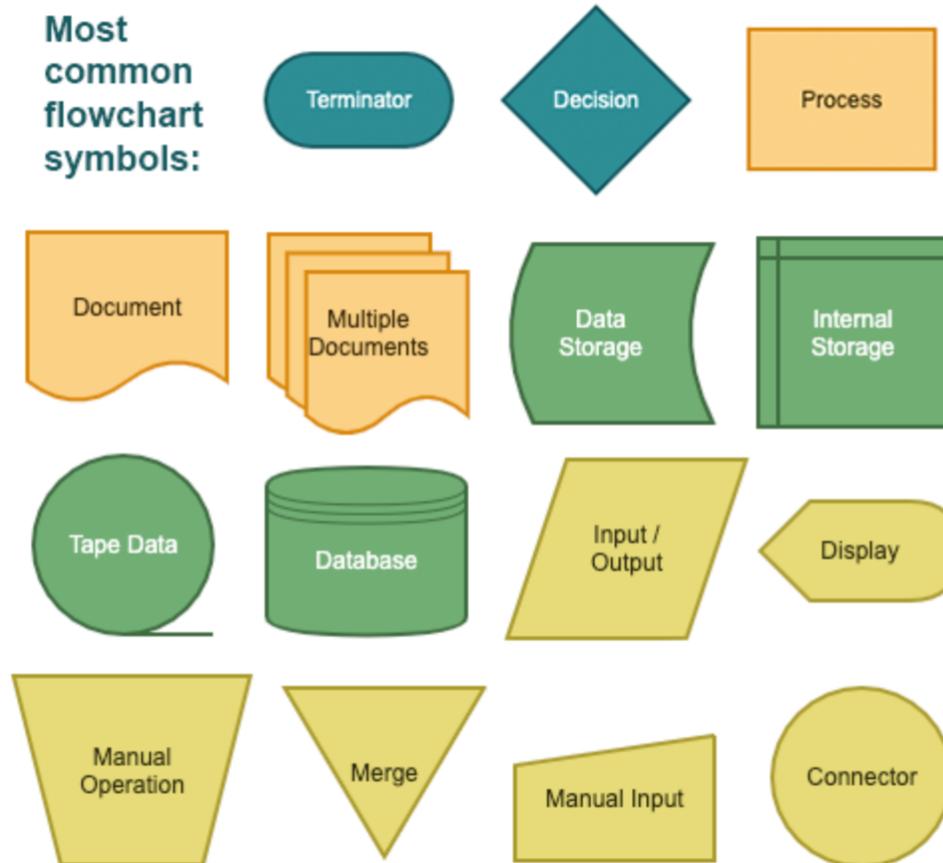


Pros – Easy to follow for simple processes

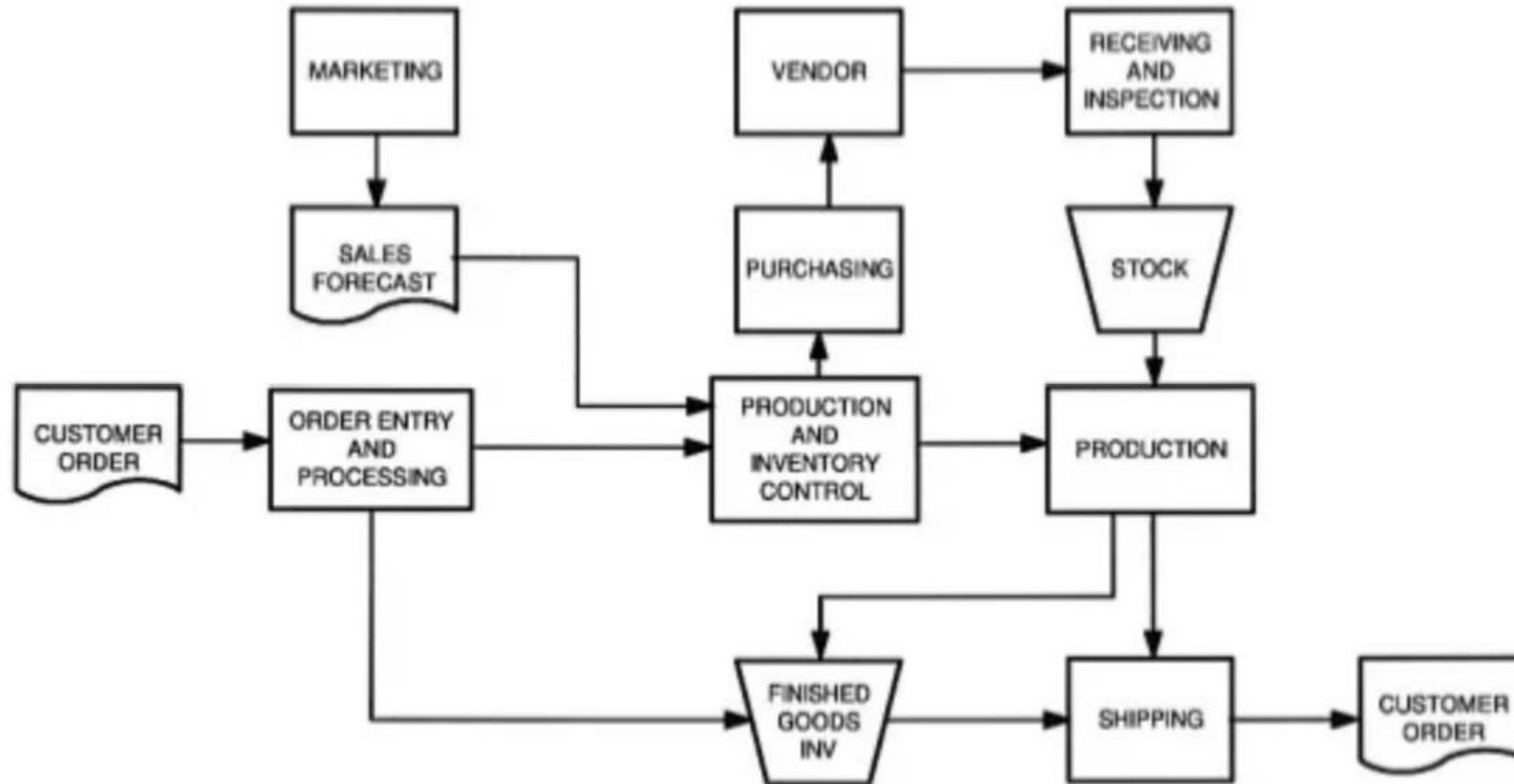
Cons – Complex processes are difficult to depict when there are multiple inputs/outputs and decision points

Common Process Flow Chart Symbols

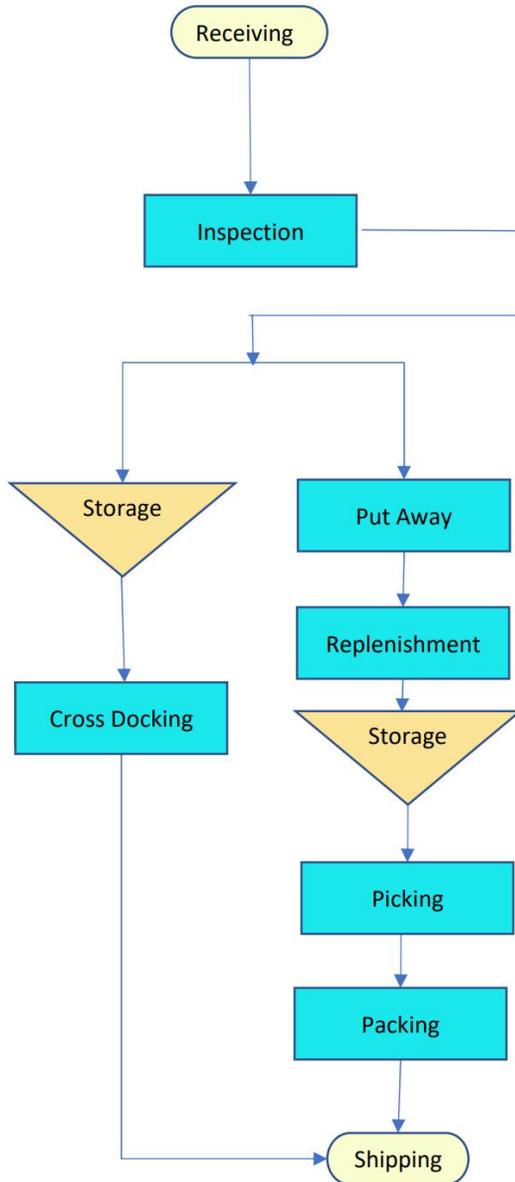
Most common flowchart symbols:



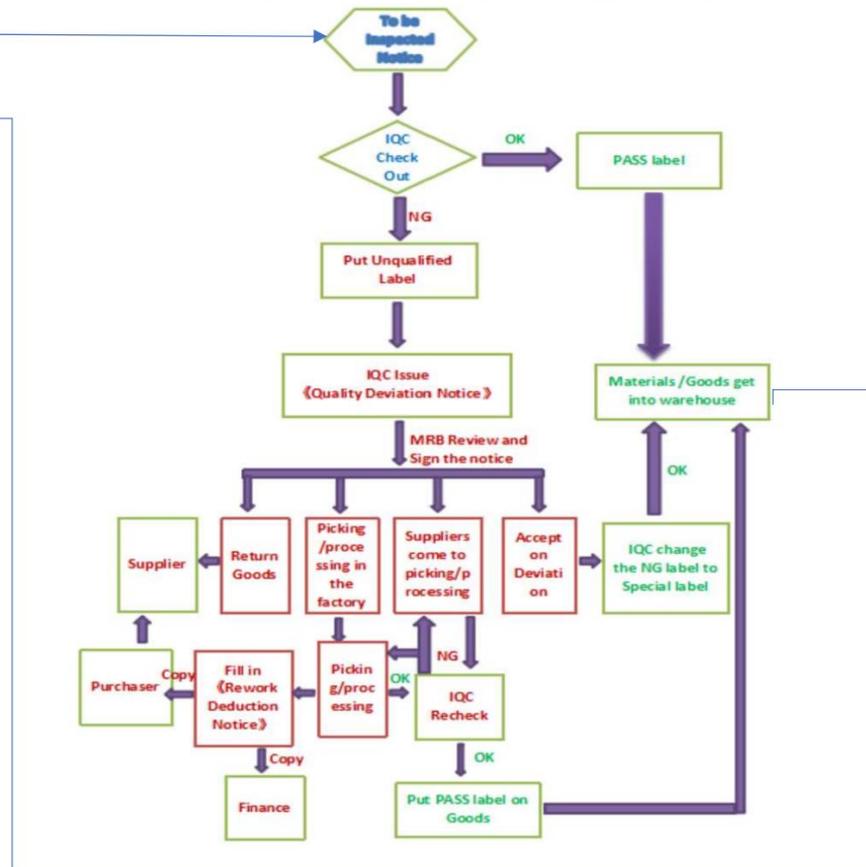
Example: Flow of Material & Information from Supplier to Customer



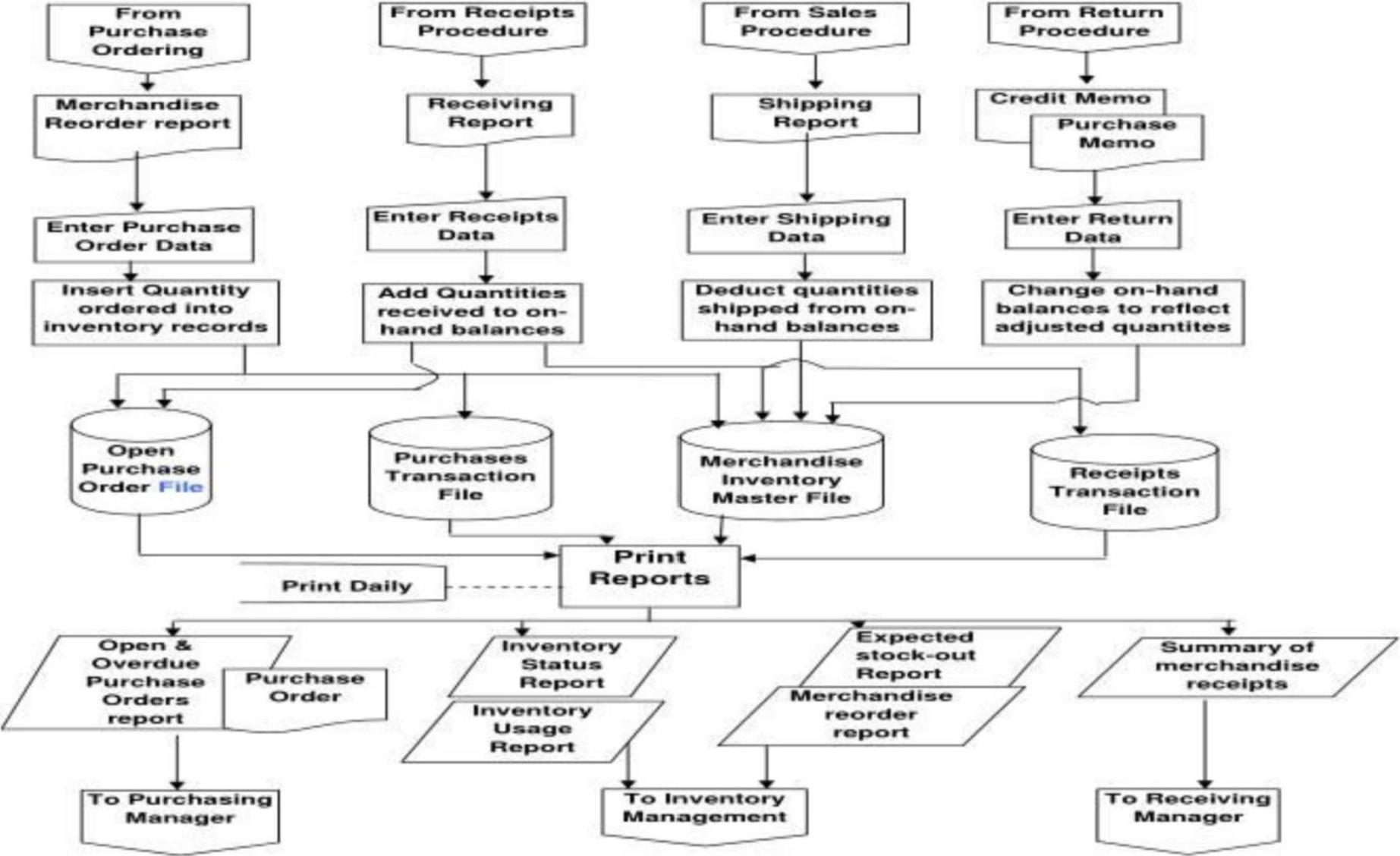
Example: Warehouse Process Flow



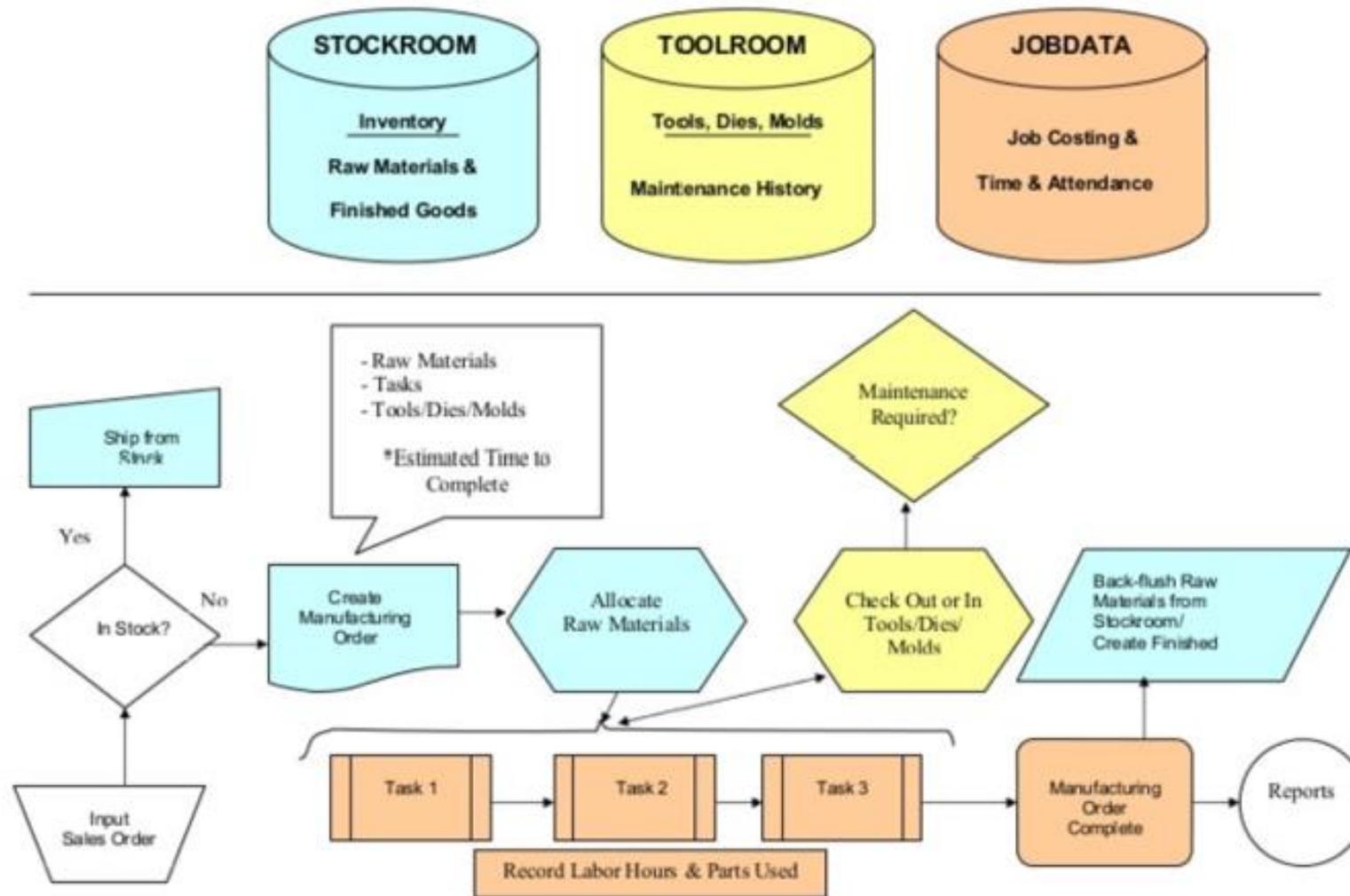
Incoming Inspection Flow Chart



Example: PO, Receiving, Sales, Returns Flow



Example: Manufacturing Process Flow





Process Mapping - Tools

Pen & Paper – The simplest option is to just grab a piece of paper and draw the process map. The fact that it's a physical document, however, makes it harder to share, get feedback on, etc.

Flowchart Software – Dedicated software for creating online process diagrams. This can be extremely helpful if you don't want to remember different symbols used for process mapping.

Workflow Management Software – A tool that allows you to create a process diagram and enforce it at the same time. You can use it to track work in real-time, as well as make modifications to established processes.



Questions/Comments