Organizational Development

Human Resources

Here to assist you

Process Mapping

February 2009

Developed by Ernie Kinney, Organizational Development, Human Resources

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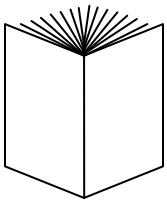
Overview

The objective of today is to capture and illustrate information about your current work process.



In addition to documenting your work process, during this time together, you will also be trained in the quality tools used to document your process (Process Mapping).

Process During today's session, you will work as a group, to document one of your current work processes.

Outcomes At the end of today, you will be able to:

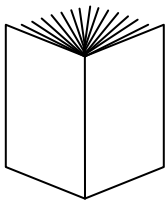
- Document a work process.

Why Document and what is Process Mapping?

Process Mapping provides a systematic and standard approach to documenting your work processes. A properly documented process can help you achieve the following:

Improved Communication

A well-documented process is an effective tool, which enables you to demonstrate the operation within a department or between interrelated departments.



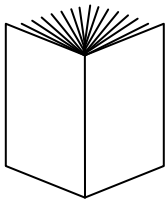
It also provides participants with a common base of knowledge and understanding about how a work process is conducted, from beginning to end.

The discussion involved in documenting a process allows the team to come to agreement about the process' activities, responsibilities, time, etc., as well as providing the opportunity for team discussion and agreement on mission, objectives, etc.

Reduced Training Time

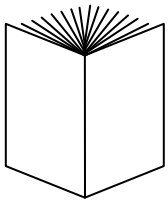
Your documented process can be used as a:

- functional guide for training employees,
- means of communicating or reviewing and clarifying policies, procedures, and processes with employees
- framework for consistent approaches to work despite personnel changes



Since responsibilities for activities are defined in the process documentation, this tool can also be used to discuss roles and responsibilities with employees.

Process Improvement

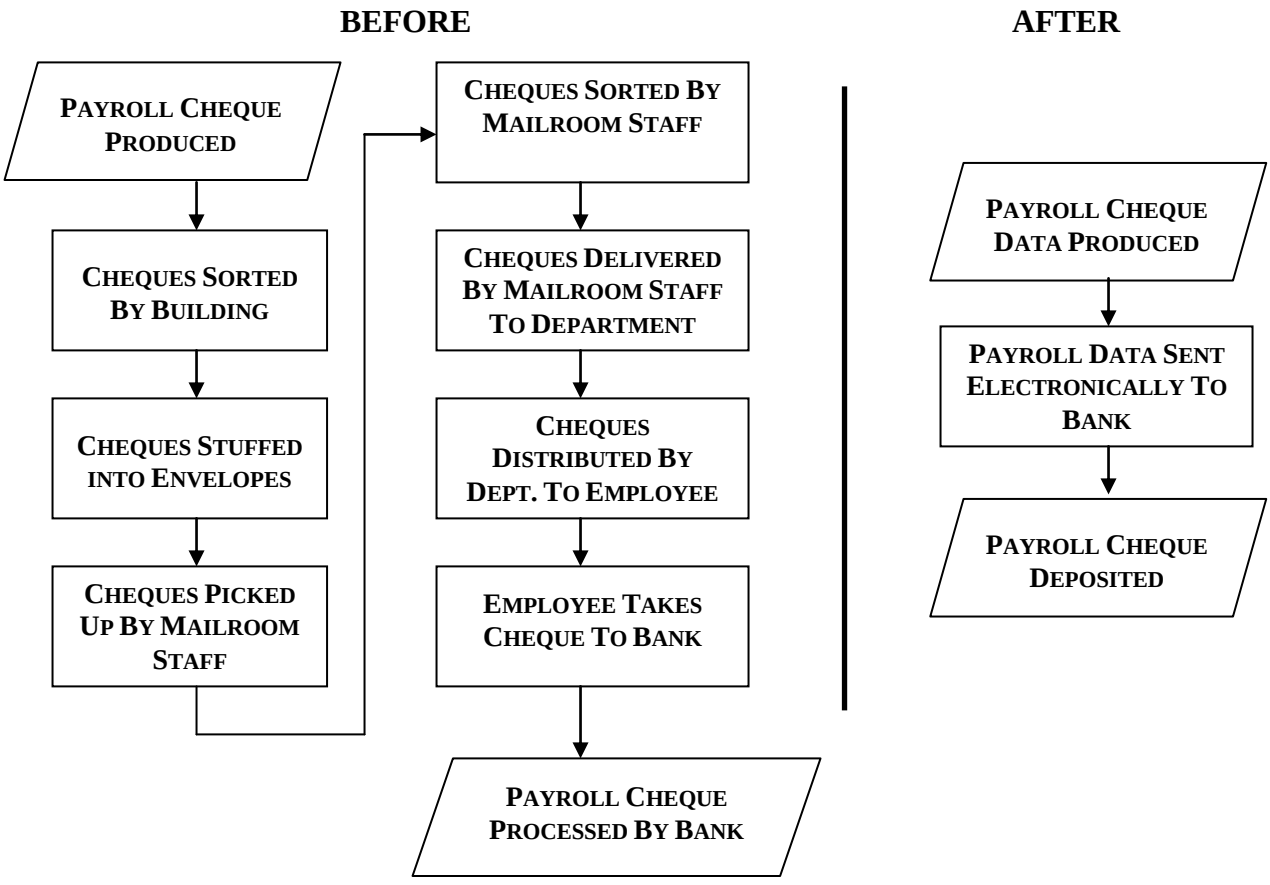


Documenting your work process can lead to immediate process simplification or can be used as a foundation for future process improvements or change. If the current process is being replaced or altered by the implementation of new technology, it provides a common base from which to start.

Because metrics are obtained when documenting a process, this then provides a way of subsequently measuring success in the event of process changes.

Since the ideal team will consist of cross-functional participants in the process, it is easier to effect changes, which are supported and promoted by the group, since they stem from the process participants.

Example of Process Simplification: Employee Payroll Cheque Deposit Process



What is a Work Process?

Even in a University, work can be defined in terms of a work or business process.

Essentially, the work you do is a work process, which can be defined as a set of related events or activities, that begin with a specific input and produce a specific output (which is then handed off to the customer (the next in line)).

Sample Work Processes

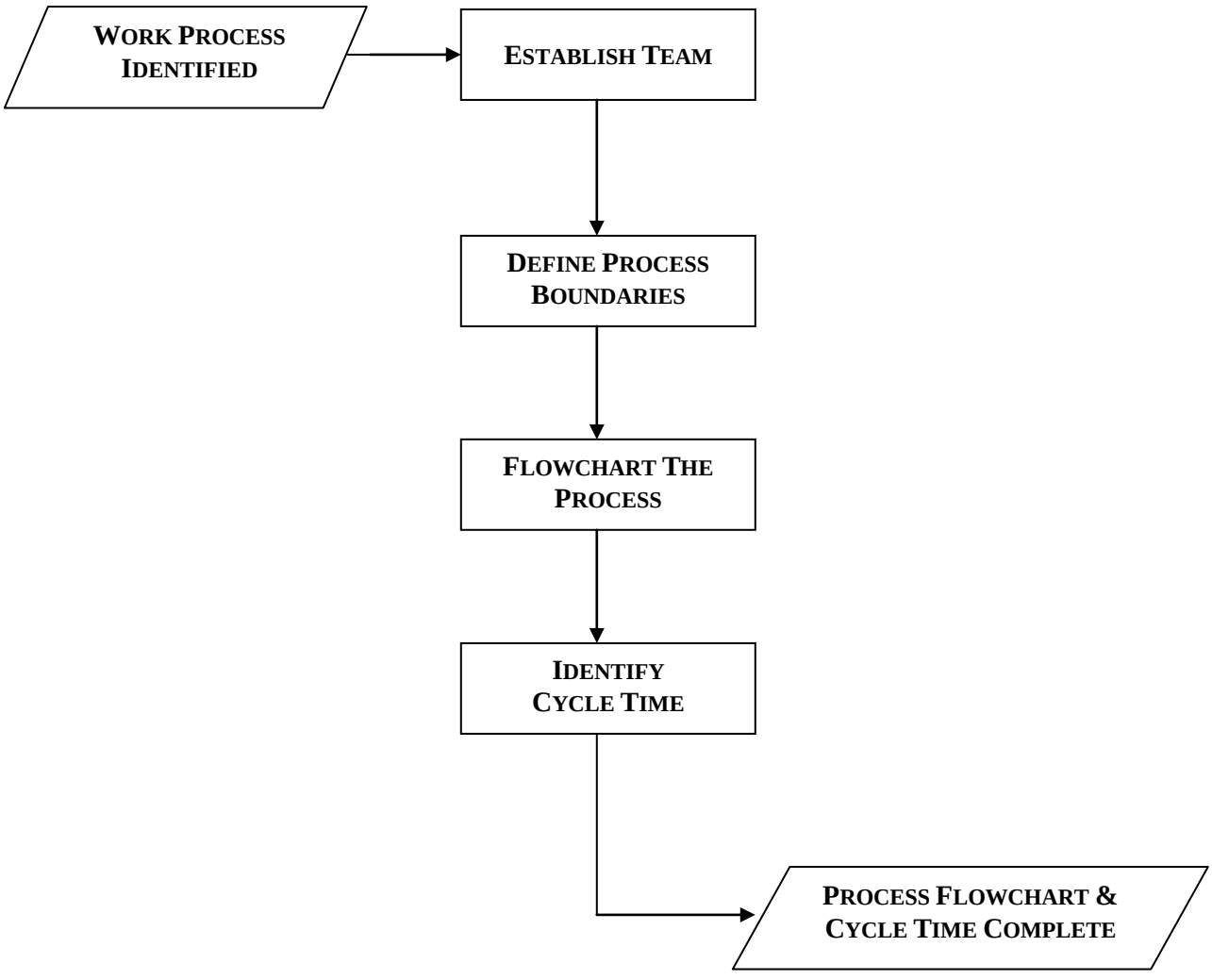
Here are a few examples of work processes:

- Preparing the annual report
- Entering an order
- Distributing the mail
- Creating a document
- Paying an invoice
- Filling an order
- Planning a project
- Recruiting staff or students
- Cutting Grass

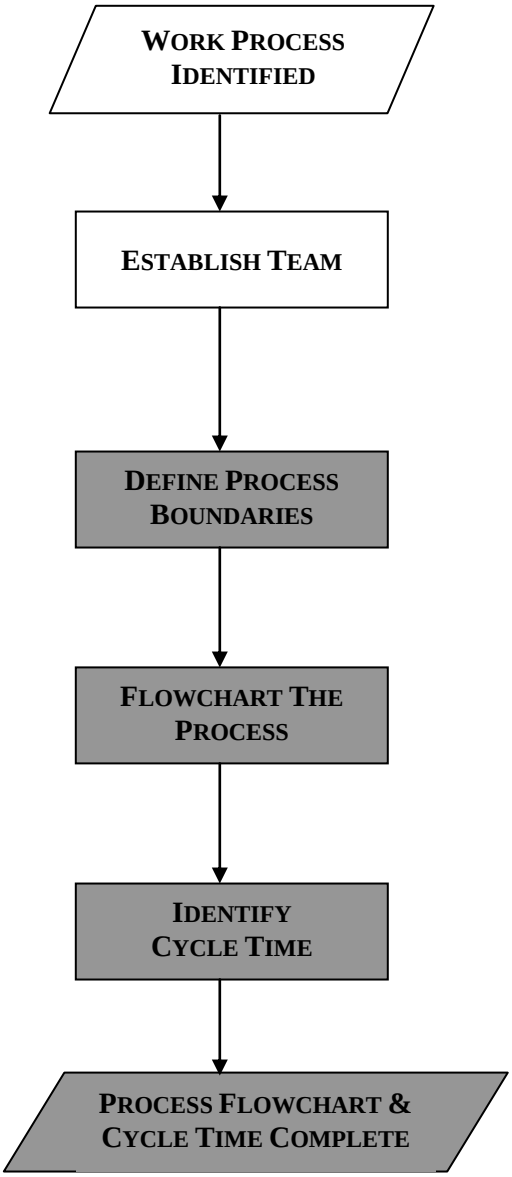
A work process transforms an input into an output, as illustrated in the flowchart below:

GETTING STARTED

The flowchart below describes the process that you will be using today in mapping your work process. Detailed procedures for each step are shown on the following pages.



Work Process Identified / Establish The Team



Work Process Identified

By now you have identified the process you wish to document.

Establishing the Team

Setting up the right team is important. Be sure to involve the people who actually do the work. Without them, you may not gain an accurate or complete picture of how the work is **being done now.**

Obviously the number of people related to documenting a work process is directly proportional to the size and complexity of the process. An ideal number would be 3-6 participants.

At this time, you may even want to have cross functional people or customers participate.

Define The Boundaries of Your Work Process

It is important, right up front, to define the parameters of the process you are going to document, where it begins, ends, the objectives of the process, etc.

Activity: In your group, select a scribe and on a flipchart, define the boundaries to your work process identified in pages 7-10. WRITE BIG!

Timeframe: 1 Hour

- **Input:** *Where, or with what, does your process start?* For example, it could be a product or service obtained from others (suppliers), it could be a request, which would initiate the process, it could be a regularly scheduled item, etc.

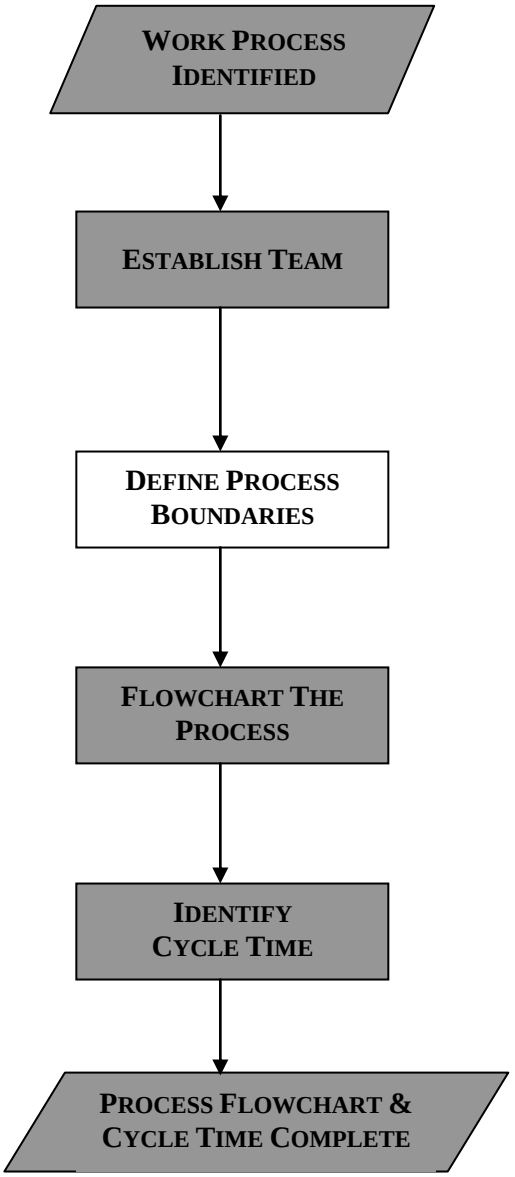
  Inputs may occur at various points during the process.

  Format: Noun + Verb

- **Output:** A product or service that is "handed off" to the customer, who is the next person in line. The result or endpoint of a work process is an output. Other outputs may be generated during the process as well.

  Format: Noun + Verb

- **Customers:** The person or persons who receive your output - the next in line. Whether your customers are internal or external, they use your output as an input to their work process(es).



Define The Boundaries of Your Work Process Continued

- **Process Owner:** The person who coordinates the functions and work activities at all levels of the process. The process owner has the authority to make changes in the process, and manages the process beginning-to-end.

  The process owner is the key decision maker and can allot organization resources to the process participants.

- **Process Participant(s):** The people who actually perform the steps of the process. Process Owners are not necessarily process participants.

  Process participants can be listed by name, but job title is preferable.

- **Process Stakeholder(s):** Someone who has a vested interest in the process and stands to gain or lose, based on a change in the process. Process stakeholders are generally neither customers nor owners.

  Most processes have a number of stakeholders – such as senior managers or managers from other departments or organizations.

- **Process Name:** What is the process that you are documenting usually called?

  (e.g. Staffing, Purchase Order, etc…)

Define The Boundaries of Your Work Process Continued

- **Mission or Purpose:** Describe the mission or purpose of the work process.

  e.g. The mission/purpose of the …

  …*Staffing Process* is to select quality staff for the University

  …*Purchase Order Process* is to formalize an agreement between the University and a Vendor when acquiring goods or services for the University.

  …*Graduate Admissions Process* is to accept quality graduate students to the University.

- **Objectives:** Describe the objectives of the work process.

  e.g. One of the objectives of the…

  …*Staffing Process* is to hire staff for departments while respecting the University's Human Resource policy and procedures, Government rules and regulations and any negotiated agreements.

  …*Purchase Order Process* is to ensure that University policy and procedure are applied and are in accordance with generally accepted accounting standards.

  …*Graduate Admissions Process* is to admit graduate students to departments in accordance with admission standards, established by the departments/faculty.

- **General Description:** Provide a General Description of the process.

  e.g. *Staffing*

  A staffing need is identified by the Department. Based on the requirements, we advertise the position, interview potential candidates, screen candidates, coordinate with the Department in the final selection and make offer to the selected candidate.

Define The Boundaries of Your Work Process Continued

Purchase Order

Based on the needs of the requestor and subject to the University's policies and procedures, a request is analyzed, the appropriate level of intervention (bidding, vendor selection, etc…) is considered, financial considerations are approved and a formal purchase order is produced to the selected Vendor.

Graduate Admissions

An application is made by a student to the University, we validate and review the information received, and subject to the student meeting or exceeding admission standards, we send a letter of acceptance to the student.

- **Metrics:** Provide estimates/numbers/measurements, etc. which are important to your process. This will be important later on if you are assessing the success of changes to the process. It also gives the reader a better idea of the size of your process

  e.g. *Staffing*

  We receive approximately XXXX applications for XXXX positions per year.

  Purchase Orders

  In 2006, we issued XXXX purchase orders.

  Graduate Admissions

  We receive XXXX applications per term and we accept approx. XXXX applicants.

- **Factors:** You may want to provide general comments about your process as to what works really well with your process, or, conversely, areas which the team feels need to be improved.

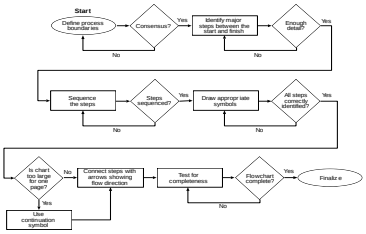
Define The Boundaries of Your Work Process Continued

- **Process Contact:** The name of the individual who can provide general information about the process. Include name, telephone number, e-mail address etc.
- **Policies:** List existing written policies, which are applicable to this process.
- **Procedures:** List existing written procedures, which are applicable to this process.
- **Supporting Documentation Contact:** The name of the individual who can obtain, submit or provide the location of supporting documentation related to this process.
- **Process Mapping Session Participants:** List the names of the individuals participating in today's session.
- **Process Mapping Creation Date:** Provide today's date.
- **Legends and Definitions:** On separate flipchart paper capture any acronyms or definitions that you refer to during the mapping of your process.

Defining the Boundaries of your Work Process:

Don't rush or make snap decisions. Part of the value of this step is the thoughtful discussion it can generate - leading to a deeper understanding of the impact your process.

Flowcharting the Process
Why use a flowchart?



- ✓ a flowchart provides a good visual representation of how a whole process works, including the flow of steps/events and people and their relationships to each other from start to finish

- ✓ a flowchart quickly shows the complexity of a process

- ✓ by using a standard methodology, it is easy to read and to compare one process to another

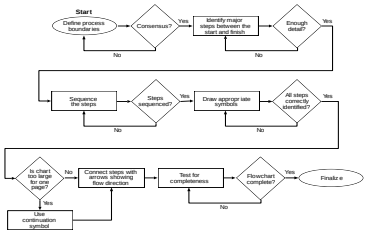
- ✓ it is easier to spot redundancies in a process using a flowchart

- ✓ it can help identify critical points in a process and where teams need to collect more data.

Determine the Flowcharting Level

Levels of Flowcharting

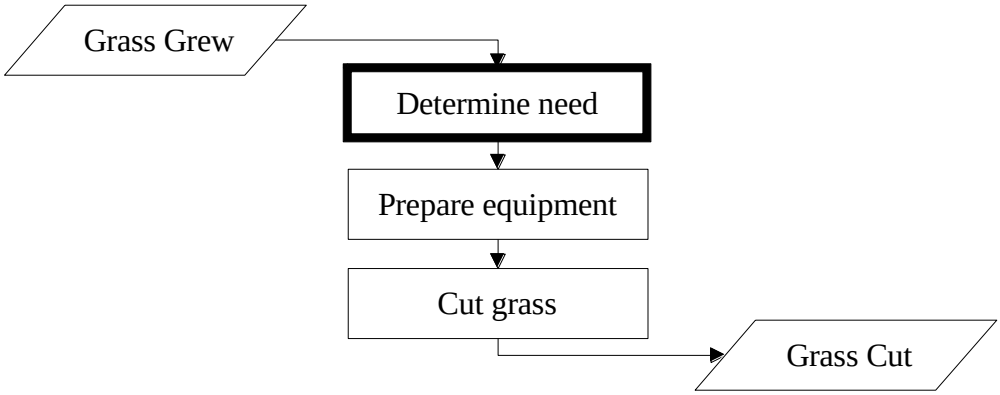
Work processes can be documented at varying levels of detail, ranging from a macro level flowchart (sometimes called a high level flowchart) to a micro level flowchart (sometimes called a detailed flowchart).



Macro Level Flowchart

Shows the broad flow of a process or several processes in the minimum number of steps.

Major activities on a macro level flowchart may, in fact, correspond to several activities or an entire process or sub process.



Cutting the Grass Process – Macro Level Flowchart

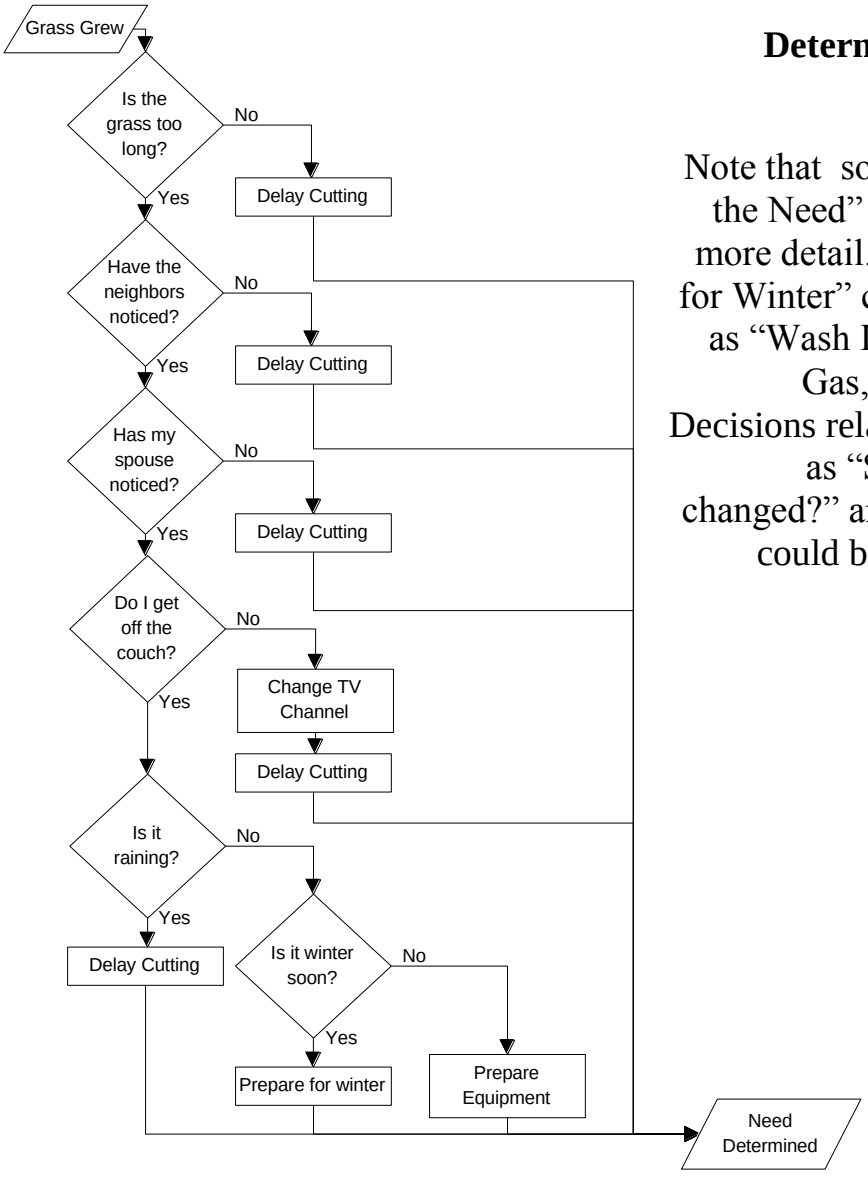
A macro level flowchart doesn't take long to construct, and it's a good place to start before going into detailed (micro) flowchart.

Determine the Flowcharting Level Continued

Micro Level Flowchart

Sometimes referred to as a detailed flowchart, the micro level flowchart shows a much more detailed picture of the activities and decision points within a single work process.

The flowchart below further breaks down the activities from "Determine Need," which was a single activity in the macro level flowchart, "Cutting the Grass Process."



Determine the Need Activity
Micro level flowchart

Note that some steps in "Determine the Need" could be shown in even more detail. For instance, "Prepare for Winter" could include steps such as "Wash Lawnmower," "Remove Gas," "Remove Sparkplug." Decisions related to those steps, such as "Should the sparkplug be changed?" are additional details that could be shown on a flowchart.

Here are some general guidelines:

- Prepare a **macro level flowchart** any time you need an initial understanding of the size and scope of a process.

- Prepare a **micro level flowchart** after a macro level flowchart has served its purpose, and when you need a more in-depth understanding of the work process **or part of the process.**

Flowcharting Tips

- Strive to show an accurate picture of the work process *as it is done now*.

- Process flowcharts are working documents. While you are in the process of creating one, be prepared to make mistakes, try things out, change, mark up and revise the Workboard and the paper shapes often.

- If you get stuck at any point, bring in someone familiar with your process. His/her insight and freshness can add clarity and get you going again.

- Provide only as much detail as is necessary for the people who will use the flowchart.

Position Inputs and Outputs

*1. **Position process Input and Output on the Workboard.***

Parallelograms represent **inputs** and **outputs** to or even within a process. Transfer Input and Output to parallelograms.

- Inside one parallelogram, print the **input** that **begins** this work process.

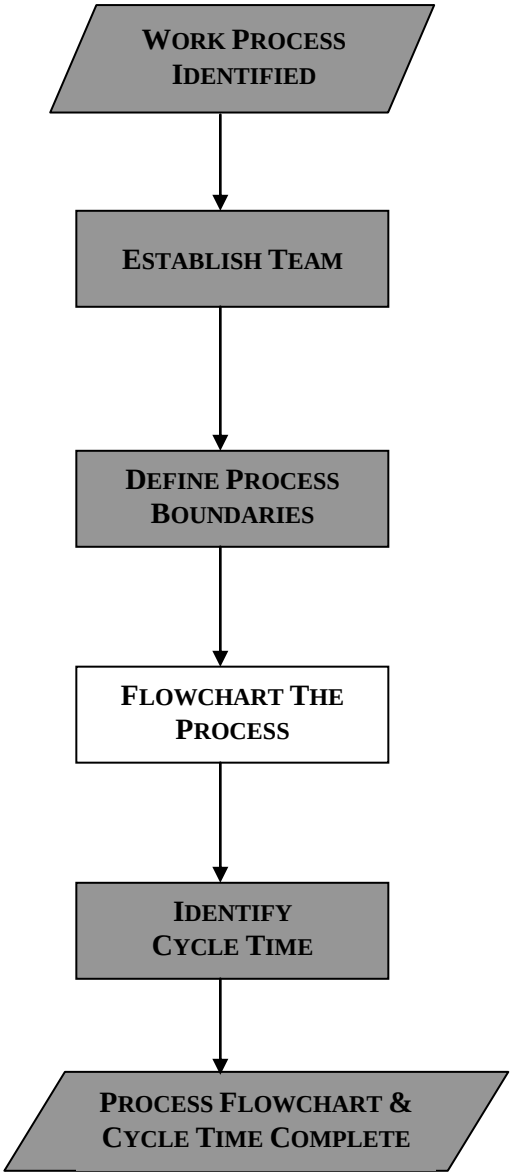
  Place this shape at the top left of Workboard.

  Use a noun + verb format (for example, Application received, Order provided). Add words for clarity (for example, Student Application received, Customer Order information provided).

- Inside the other parallelogram, print the **output** that **completes** this work process.

  Place this shape at the bottom right of the Workboard.

  Use a noun + verb format (for example, Application approved, Order received). Add words for clarity (for example, Student Application approved, Customer Order processed).



*2.**Write Activities onto Rectangles.***

You will be using rectangles as well as circles in this step. Include as much **detail** as you believe is necessary to correctly describe the work process **as it is done now.**

Rectangles represent individual process **activities**; for example, "Verify Student Standing" or "Submit Request for Quotation"

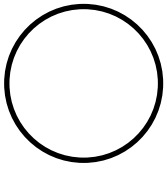
By writing each activity on one shape, make this a complete list of the activities **as they are done now.**

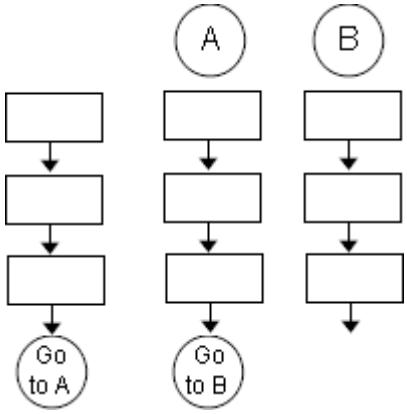
Use a verb + noun format (for example, Open mail, Sort parts). Add words for clarity (for example, Open First Class mail, Sort used parts).

Sequence doesn't matter a lot now. However, an approach that people find brings out every activity in the process is to start either at the beginning or at the completion of the work process and proceed to the end. Later you will return as many times as needed to clarify your activities, your wording, and the sequence.

If you can't decide/agree about an activity, leave it on the Workboard, visible and available, but away from the main work area. Come back and make a decision about it later. You'll also return to verify the sequence later.

Circles represent **connectors** when a process flowchart is continued.





List Activities Continued

3. Clarify and Sequence Individual Activities

From top to bottom, review the activities and start refining and organizing them.

- **Add** missing activities, inputs, or outputs to level of detail needed.

- **Remove** activities from the Workboard if they are

  -Duplicate

  -Outside the boundaries of this work process

- **Combine** related activities to reduce detail where desired (for example, "Find Lawnmower" and "Take Lawnmower out of garage" and "Check Gas in Mower" are parts of the same activity, "Prepare Equipment").

- **Edit** or rewrite activities to achieve clarity and consistency of wording, by either adding or subtracting clarifying words (adjectives, adverbs).

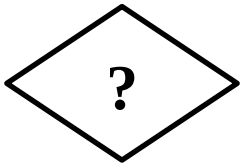
4. Verification Point

- **Double check** and see whether your flowchart

  -Contains the right level of detail for your purposes

  -Describes the process as it is now

Identify the Decision Points in Your Work Process



Decision diamonds are of two general types. The most common type is the Yes/No decision diamond. The other, which is also used frequently, offers a choice between two or more alternate paths.

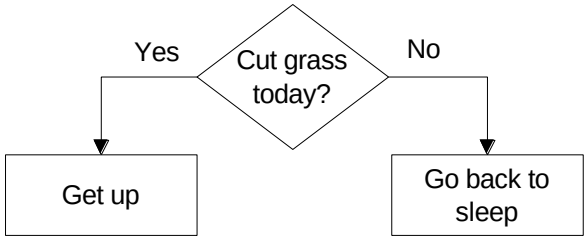
In this step, you will be looking closely at each activity on the Workboard and showing, with a diamond shape, the decisions that are being made during the process.

Tips

- A decision diamond ALWAYS poses a Question.
- Resist the temptation to put diamonds everywhere. Place them only where the decision is critical to the process.

Yes/No Decisions

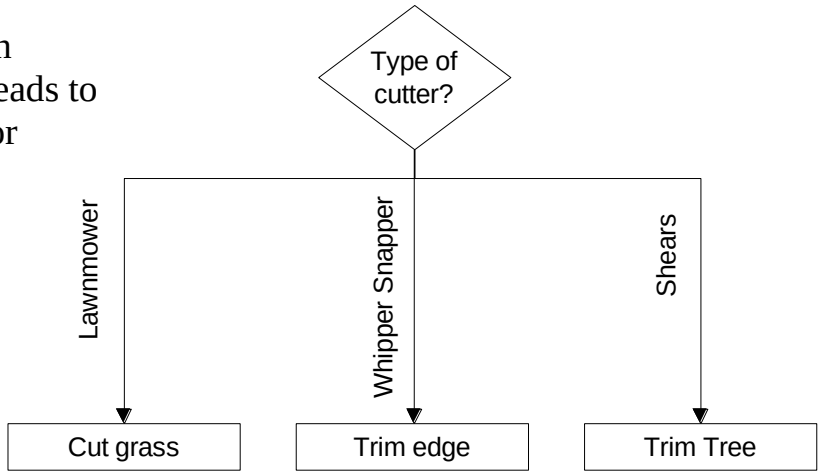
Usually, the question will require a Yes/No response, as in this example.



Notice that an activity that follows a "Yes" response is generally shown below the decision, and the "No" activity is generally placed to the right.

Other Decisions

Sometimes the question asked in the diamond leads to a choice between two or more options.



Identify the Decision Points in Your Work Process Continued

For each activity on the Workboard:

- Read the activity statement carefully to decide whether the ‘activity’ is itself a decision.

  If it is not a decision, look at the next ’activity.’

  If it is a decision, rephrase the activity as a question, and write the question on a diamond shape.

  - Phrase the question as objectively as possible.
  - Phrase the question for each decision diamond so that, with the answer ’Yes’, the process continues to flow down. If the answer to the question is ’No,’ the process generally (but not always) exits to the right.

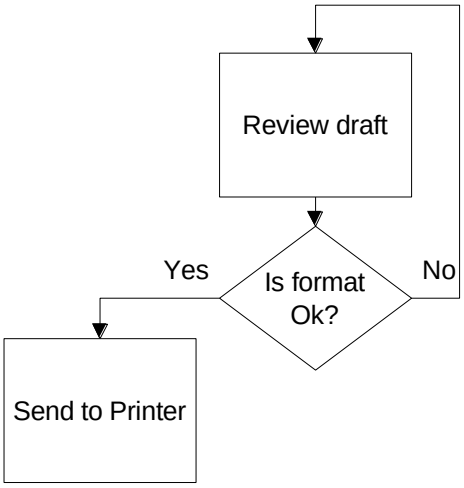
- Position or reposition the activity that follows the ’Yes’ or path most often taken below the diamond.

- Position the activity rectangle(s) that describe what happens when the answer to the question in the diamond is ’No’ to the right of the diamond.

The NO Path

The three common paths a process may take when the answer at a decision diamond is NO are;

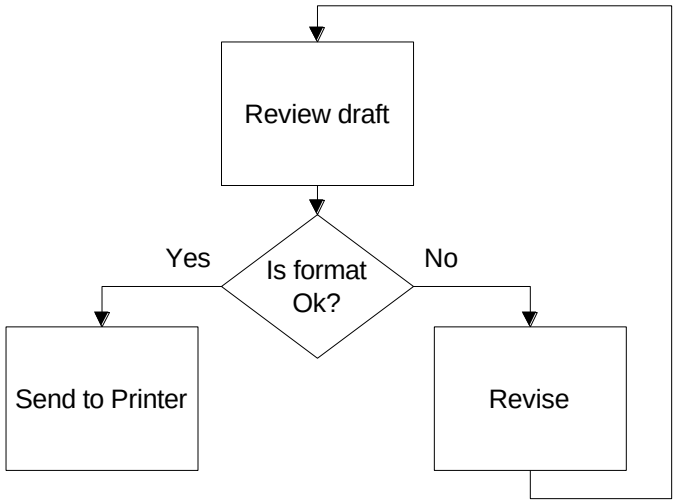
- **Do-Over Loop** A simple do-over loop looks like this:



No additional activities have been added to the right of the diamond. The work simply recycles to an earlier step in the process. This loop may be repeated several times - until the draft is approved.

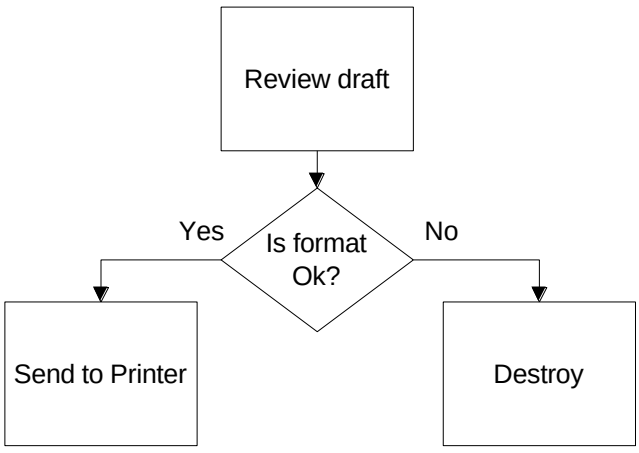
Identify the Decision Points in Your Work Process Continued

- **Revision Loop** A revision loop looks like this:



This is the same work process shown in the do-over loop on the previous page. In this example, a discrete step called "Revise" has been added to the right of the diamond.

- **Stop Action** The No path does not always lead to a do-over loop or a revision loop. In the example below, the process simply comes to a stop. No additional steps are taken. This stop may be the start for some other work process.



- As a group, "Talk through" every path, making certain that the elements are in the correct place and sequence. Make any necessary changes.

Swim Lanes

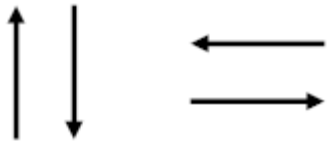
Swim lane process maps are very similar to flow charts except they explicitly show the **organization structure**. They differ only because they arrange the map on a table where the rows indicate the "who" does the process step. Where the "who" can be specified as an individual, a department, or an organization.

□ For each activity, write the person responsible to perform the activity on the activity post-it note

Complete the Flowchart

Finally and to complete your flowchart, draw the connecting lines.

Lines with arrowheads connect symbols to show the progression or direction of the activities.



Final Verification of the Flowchart

Now is a good time to pull in someone else to review your flowchart with you.

☐ Does it identify suppliers and customers?
☐ Does it identify all inputs and outputs?
☐ Does it describe the work process as it is actually done?

Your flowchart should receive a checkmark for all three questions.

If you have a checkmark missing for one or more questions, find out why and reenter the process at a point of your choice.

Documents used in the Process

Document: A recording of information in a manner suitable for human comprehension, with a recognizable start and finish.

Document State: Documents in your work process can include:

- Hard Copy
- Electronic
- Voice

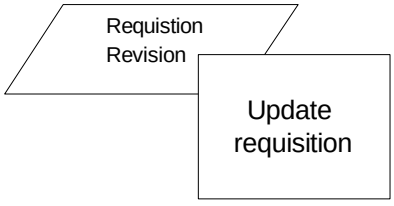
Documents can go through a series of **phases.** They are:

- Creation
- Storage
- Revision
- Distribution
- Reproduction
- Retrieval

□ Write the name and **phase** of each document used or produced within your flowcharted process onto individual sticky ½ parallelograms.

□ Place the ½ parallelogram adjacent to the relevant activity on the Workboard.

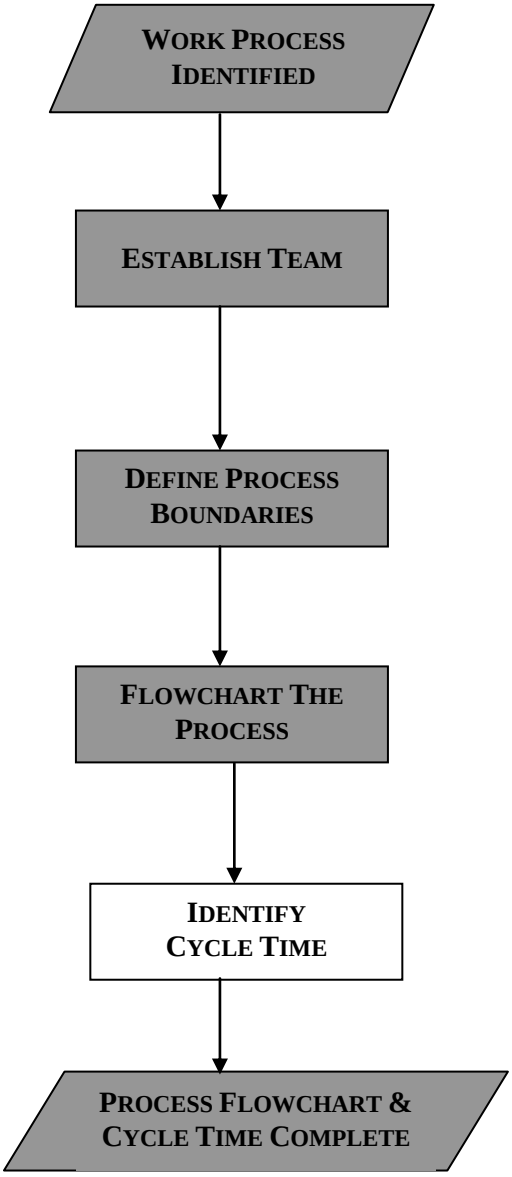
Example:



Cycle Time: The total time that it takes to complete an output from the customer's request to his/her acceptance and/or use of the product or service. This is sometimes referred to as "throughput time".

Cycle time includes process time (time to complete each step) as well as any other time that may occur due to delays, absenteeism, process errors, etc.

- Number ALL activities in your flowchart.
- Using a dotted line, identify the *critical path*. The *critical path* is the most likely route that the process will take.
- Complete the worksheets below on a flipchart.
- Include *waiting time* which is the time spent waiting between activities.



Critical Path					
Activity No.	**Activity**	**Person Responsible**	**Min.**	**Max.**	**Normal**

Non Critical Path		
Activity No.	**Activity**	**Person Responsable**

Congratulations!

You have now completed your Process Map.