

A Guide to Process Mapping

Process mapping helps represent work processes visually and identify problem areas and opportunities for process improvement. It provides a common understanding of the entire process and specific roles and contributions of process participants.

This information sheet aims to provide basic guidance on the principles of process mapping.

Processes

Processes are simply sequences of actions designed to transform inputs into outputs. For example, baking a cake involves taking various ingredients (inputs) and producing the cake (output) using the recipe (process). Similarly, the steps required to deal with a project from conception to delivery will involve a process, or series of processes.

The characteristics of a successful process are:

- several tasks/jobs are combined into one
- workers make decisions at the lowest possible level and monitor their own progress
- steps in the process following a natural order
- work is being performed where and when it makes sense (with the fewest possible people involved)
- there are as few interfaces and handling points as possible
- there are as few backward movements possible
- there are as few activities possible.

Process mapping

Process mapping is an exercise to identify all the steps and decisions in a process in diagrammatic form, with a view to continually improving that process.

There are many different types of chart, each designed to capture particular aspects of work. This focuses on the two most common techniques:

- Flowchart or Outline Process Map - which provides a basic overview of all the actions undertaken
- Deployment Charts - which not only provide a basic overview but also indicate where or by whom the actions are performed.

Note: It is important to make the chart as clear as possible, so that the process under review can be readily understood and improvements identified by almost anyone, even someone unfamiliar with the process.

Why process map

Making system changes without truly understanding how the process is working, and why, can lead to costly mistakes. It can also create conditions that make it difficult for staff to work effectively, and often creates further problems.

Process mapping enables organisations' to clearly define the current processes in chart form, identifying problem areas such as bottlenecks, capacity issues, delays or waste. Once identified, this knowledge provides a solid basis from which to develop solutions and introduce and plan new improved processes.

Process mapping enables an organisation to:

- Establish what is currently happening, how predictably and why
- Measure how efficiently the process is working
- Gather information to understand where waste and inefficiency exist and their impact on stakeholders
- Develop new improved processes to reduce or eliminate inefficiency.

Types of process map

There are two basic types of charts used in processing map:

Process Flowchart: This chart simply sets out the sequence of activities and decision points. These are useful for capturing the initial detail of the process.

Deployment Flowchart: This shows who does what along with the interactions between people and departments.

Basic flowcharting symbols

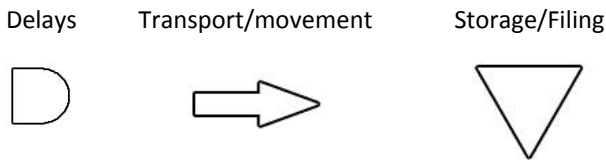
The two most important symbols are:
A rectangle, representing an activity or task:



A diamond, representing a decision:



It is also useful when considering process improvement to label certain actions on the chart to highlight. For example:



Delays Transport/movement Storage/Filing

Preparation for process mapping

Assemble a small team of all those working in and around the process including representatives for:

- Those who do the work
- The suppliers to the process
- The customers of the process
- The supervisors / managers of the process

Key points to ensure are that:

- Participants clearly understand what the aims are and what is involved
- Sensible deadlines are set to allow enough time to complete the exercise properly.
- Team members receive some basic guidance on process mapping /charting techniques
- There is clear and visible management commitment and support to the exercise.
- All staff are made aware of the exercise, terms of reference and likely impact on them, together with an invitation to contribute or voice any concerns
- Any available IT experts are utilised, to draw up charts from handwritten drafts using software

charting packages or using Microsoft Excel if required.

Creating a process flowchart

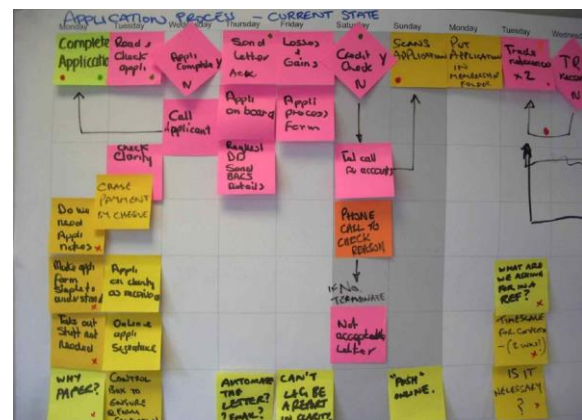
Roughly and simply sketch the process (without too much detail) describing the sequence of tasks and decision points as they actually happen. The sketch should indicate:

- Who does what
- What is done and when
- What decisions have to be taken
- What possible paths follow from each decision

Draw the flowchart initially to represent the operation, as it actually is - not what you might prefer it to be. Try to lay the sequence out by working in a downward direction rather than across. This will help later if you want to convert your process chart to a deployment flowchart.

Having thought through the main steps of the process, flowchart them in sequence as they are performed using rectangles for tasks and diamonds for decisions. Use connecting arrows between boxes to represent the direction of the sequence.

It can be helpful to use post-it notes on a large whiteboard or wall. Each note can represent a step in the process and save a lot of pain when it comes to re-shuffling the sequence to get it right. Use a colour to represent the person carrying out the task.



Concisely describe each task or decision in its own box. If necessary number boxes and provide a key to where the activity is described in more detail.

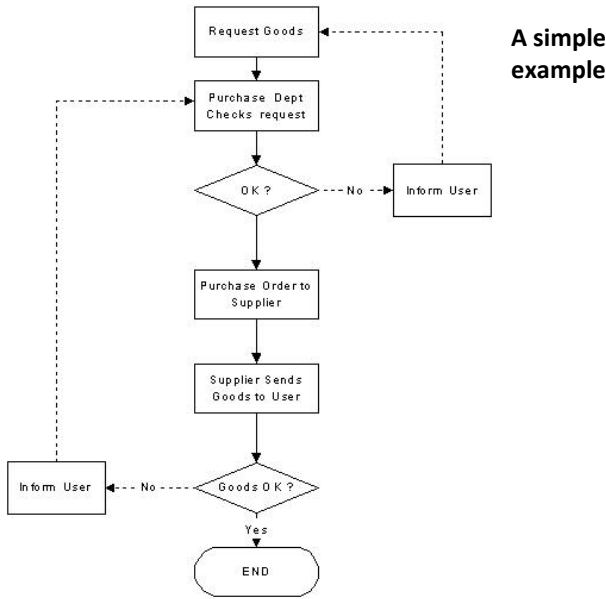
If the process includes decision points, this will normally imply some return-routing causing some boxes to have more than one input. In the example below the return routing or loops indicate an inefficiency or waste.

Decisions often pose questions answerable by YES or NO. It can be convenient to structure the questions so that the preferred answer is YES whereas NO leads to re-routing etc.

The most efficient process takes the form of a straight line down the page.

It is usual to draw:

- The YES route out of the bottom of the diamond (ie normal flow downward through the chart)
- The NO route as a line out of the side of the box



Simple Process Flow chart

Constructing a deployment flowchart

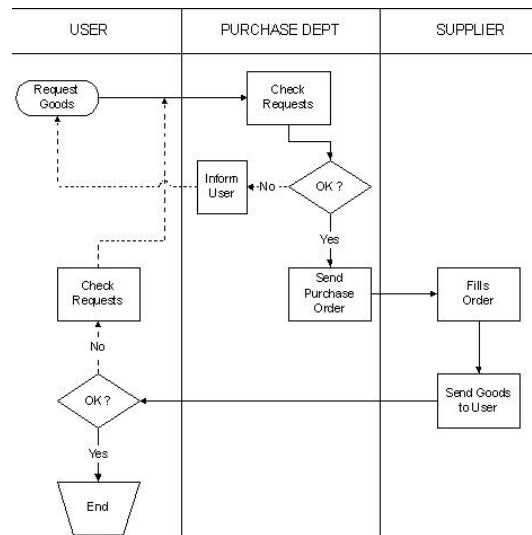
Here a department dimension is added horizontally along the top of the chart. These can be individuals, groups, departments, agencies, functions etc - whatever kinds of units play major roles in the process.

Draw vertical lines to separate the functional boundaries. When the flow moves from one function to another, this is ideally denoted by a horizontal line.

Apart from the ideally horizontal moves between functions, aim when possible to draw the sequence of activities from top to bottom.

Use the task and decision-making symbols as before and always connect symbols with arrows indicating the direction of flow.

Example of a simple deployment flowchart



Process improvement

Having selected and recorded key processes, the next stage is to critically examine them and develop new processes where necessary.

Critical examination

In many instances the thoughts and discussions required to chart existing processes will lead to easy identification of improvements. These should be noted and retained for the improvement stage. Many improvements will leap off the page once an existing process is charted.

Examine the process maps and ask the following questions:

Primary Questions	Why?	Secondary Questions	Selection
Purpose - What is achieved	Why?	What else could be achieved?	What should be achieved?
Means - How is it achieved?	Why that way?	How else could it be achieved?	How should it be achieved?
Sequence - When is it achieved?	Why then?	When could it be achieved?	When should it be achieved?
Place - Where is it achieved?	Why there?	Where else could it be achieved?	Where should it be achieved?
Person - Who achieves it?	Why that person?	Who else could achieve it?	Who should achieve it?

Wasted work

An alternative to examining the whole process in the way outlined above is to focus on wasted work.

Wasted work is:

- Spending time doing things again which have not been done right first time
- Duplicating effort
- Doing things that add no value to the organisation or its stakeholders

Wasted work should be evident from the process maps and discussions with team developing the process map and other staff.

Charting process improvements

Having completed the initial process examination and improvement stage, new processes should now be charted. This is important as it can be used as a training aid for all staff and should clearly define who is responsible for each action. These charts should also form the basis of any future work aimed at improving processes further.

It is also important to remember that process mapping is merely the first stage in a continuous cycle of incremental improvement and refinement of processes which is ultimately aimed at:

- Eliminating duplication of tasks and to reduce costs
- Improved efficiency and co-ordination of working practices
- reducing the transportation of materials eg files between locations
- improved quality and timeliness in the organisation
- improving the effective deployment of staff