Process Mapping

A consistent approach using Microsoft Visio

Prepared for Finance in the University of St Andrews
Plan for today

Process Mapping in our Unit
What is Process Mapping?
Completing a Process Map
  Identifying a process and mapping it
Using Microsoft Visio to Map
  Quick Visio Tutorial
  Use Visio to map the process identified

Process Mapping is being used increasingly, and it is key that where process maps are shared, they follow consistent conventions. This tutorial aims to give you an overview of what Process Mapping is, and how to complete a process map.
A flow chart of the lyrics to Bonnie Tyler’s song “Total Eclipse of the Heart”, demonstrating that diagrams, especially flow charts, can express things powerfully.
WHAT IS PROCESS MAPPING?
What is Process Mapping?

- **Process**
  
  *... an action or series of actions; ... being done; in progress*

- **Mapping**
  
  *... drawing, making, or provision of a map ... planning*

- OED

Any action can be broken down into a series of smaller actions, where one step leads to another. A diagram which indicates these actions and demonstrates the links between them is a process map.

There are many forms of Process Map used for different disciplines. This course focuses on simple, clear, functional mapping.
Process maps are typically read from left to right using a series of simple standard conventions. There is some cross over with flow chart and software process mapping methodologies.

A process is typically indicated by a rectangular box, flow by an arrow, a decision by a diamond, and options for a decision written on the lines exiting that decision.
COMPLETING A PROCESS MAP
The theory behind process mapping is pretty common sense, however, it is worth making some things explicit.
Reason for mapping

Making improvements
• May be no requirement to store the old process
• Emphasis is on developing new solutions

Procedural guidelines
• Will be a requirement to store current processes
• Emphasis is on consistency and maintaining process

The process mapping methodology used should fit the reason behind producing a map. Be it for an institution-wide view of a mega-processes, or in order to produce clear procedural guidelines.
Where there is no clear process to be undertaken, or no discernable steps it may be that another approach would suit better. It can be difficult to define a process where it involves human judgement, however, it is not impossible.

In case of doubt, seek advice from a colleague rather than ploughing on alone.
Assessing the right level of detail to be mapped in the process needs to be done in relation to the reason for the creation of the process map. The question “is this level of detail right for the purpose of this map?” is probably a good guide to these.

Don’t be afraid of going over the map again to get it right, and remember, aim for simplicity.
Each action itself can be further broken down (like above) to any number of levels.
In finance process mapping for procedural purposes a distinction is made between a Process Map and a Process Note, although the two may be combined into the same document.

See the example provided.
Process or System Note

Process Map
- Contains process decisions
- Contains physical actions
- Does not contain a high level of detail on the system
- Generally does not contain screen shots
- The “super-process”

System Note
- Does not contain process decisions
- Does not physical actions
- Contains a high level of detail in specific actions on the system
- Contains screen shots
- The technical “sub-process”

System notes refer specifically to how to use the appropriate system, and are themselves flow-chart maps at a higher level of detail than is needed for the high level Process Map.

If it reaches the point at which the Process Map requires a system screen shot, it may be too detailed; stop and check.
Where maps are being used across an organisation, consistency in layout conventions is key. There are industry standard layout conventions for process mapping, for example Business Process Modeling Notation (BPMN). However, for most purposes simpler conventions are sufficient.

Check out http://www.bpmn.org/
Standard layout conventions

• Title information in top left corner
• Process map in centre, running from left to right
  – As simple as possible
• Reference information in bottom left corner

Generally speaking, process maps should be kept to as few lines as possible, running from left to right.

Normally they are drawn beginning from the left, however in some process mapping approaches the first step drawn is the one nearest to the customer, on the right hand side of the map.
Standard Naming Conventions

• Title
  – Typically the description for the process

• Owner
  – Named individual responsible for the process

• Creation & Review Dates
  – Date process published & Date for review

Naming conventions should follow the agreed record management protocols.

Each map should contain the map’s title, the named individual who is responsible for the process, along with dates that the map was published and when is due to be renewed.

This information should be carried through to the process library.
PROCESS CONTENT
The information in a process map is relatively simple, however, there are some important conventions to follow.

**Process content**

- Process grammar
- Types vs instances
- Adding data
- Value Stream Mapping
- Keep it simple
Like a sentence, the contents of each process box should be a stand-alone unit of meaning, able to be understood out of the context of the map.

This might seem overly fussy when the process in hand is obvious, however, it means that the map is more easily understandable by a different staff member, or over a significant period of time.
Types or Instances?

Type
- A category
- Is standard
- Is consistent

Instance
- An example
- Is unique
- Is variable

Debtor
Ledger
Finance Office

Fred Bloggs
Aptos
Old Burgh

Be aware of the distinction between types and instances. Sometimes it is important for a process to name the exact thing that is being used, and at other times it is more helpful for a broader reference.

Also, don’t forget singular vs plural. For example “record sent” has a different implication than “records sent”.
Examples of Process Data

This simple map illustrates how some Process Data could be attached.
Using process data

• Demonstrating efficiency gains
  – Work time reduced (staff time released)
  – Delay time reduced (delivery time increased)

• Planning
  – Estimating capacity (time by volume)

Process data doesn't need to be recorded on every process map. Process data is very useful when using the process map as a tool for identifying effectiveness gains, to calculate the benefits of any changes and make a business case.

It may be also useful when modelling a business process to plan for required capacity, eg what resources (person or material) will be required to complete the process.
Keep it simple

• Remember the reason for making the map
  – Identifying opportunities for improvement
  – Capturing operating procedures

• Use the minimum possible to meet that reason
  – Post it notes & photographs
  – Microsoft Visio

Bear in mind the reason for completing the map, and try to avoid over-processing. It is very tempting to add more and more data to build a more complete picture, however, it should be completed to the level required for the purpose of the map.

Similarly, the technology used for mapping should be appropriate. Is it really necessary to transfer a process map into Visio when that process will be no longer operating?
Any process map has a number of supporting documents that should be linked to it, following the accepted naming conventions.

References

• Business Process Note (Operating Procedure)
  – Document title and location

• System Note
  – Document title and location

• Proceeding and following processes
  – Name in Process Library
If a process map is being used to store procedural information, reference to the map and the map itself needs to be stored in a consistent structure. This is called a Process Library.

Process Libraries can take many forms, but whether they are an excel spreadsheet or purpose built software. If they are not maintained as a living structure, they are a waste of time and effort. Responsibility for maintaining the Process Library needs to be clear, as each process itself needs an owner.
Mapping Hints & Tips

• Start out high level
• Use the high level map as roads signs
• Be prepared to go back and re-evaluate in order to reach the right level of detail
• Practice makes perfect
• They are living documents and will change

As with all things Lean, remember the plan-do-check-act cycle for how you do individual process maps and how you undertake process mapping as a whole.

Make sure though, as part of the act step, that any improvements to how you do process mapping are captured and made standard across the whole group.
GROUP ACTIVITY
Group Activity

• Applying Process Mapping to a Domestic Chore
  – Get into small groups, and agree a chore
  – Using post it note technique create a map for the chosen chore, applying consistent techniques
  – Present your map back to the whole group

Processes to choose from might be:
• washing the car
• preparing an item of food or drink
• doing laundry
INTRODUCING VISIO
Microsoft Visio is an industry standard process mapping software, in the University of St Andrews is available by request from the helpdesk.

It is very powerful software, capable of linking to external data sources and performing calculations, but in this course we will be focussing on simple process mapping.

More assistance (including videos) online at: http://office.microsoft.com/en-us/visio-help/

Screenshots Copyright Microsoft
Visio opens at this screen, to allow you to open a pre-existing document, or create a new one.

Each new Visio document is created from a template, the template determining how Visio behaves, and the options that are available to you. To start with a new process map, select the template category “Business” as above.
To create the new document from this template selection screen we will be using the template Six Sigma Diagram. We won’t be using all the Six Sigma tools here, but this template provides a good starting point for process mapping.

Once the “Six Sigma Diagram” is selected, click “Create”.

1 Six Sigma Diagram

2 Create
This is the main view of Visio.

The “Ribbon” will be familiar to you from other Microsoft Office applications, in the centre of the screen is the main workspace where the map will be completed, and to the left is the “Shapes” window, where you can select the boxes you want to add to your map.
Adding elements to the workspace is done by dragging and dropping from the Shape window.
Visio allows you to automatically attach shapes to each other. Hover over the shape until you see blue triangles appear, then click on the triangle for a little menu of shapes you can choose. Select the shape you desire, and Visio will insert it, and a connection to the previous shape.
When adding shapes manually, Visio provides suggestions as to where they should go in relation to others that already exist.

Note the orange lines that appear here as you drag a shape over the workspace.
Visio can automatically connect objects that you have inserted using the blue triangle, or alternatively use the Connector function to manually draw a line between points on the Workspace, or to points on an object.

After using the Connector function don’t forget to reselect the Pointer tool.
Once you have a decision point you may have to add options to lines. Click it, the workspace zooms, then you can enter your text.

Once your text has been entered if you click on the workspace it zooms back out again
Navigating around the document is the same as other Office applications, using scroll bars and the Zoom control.
For larger process maps the Pan & Zoom Window enables you to move around the process easily, by clicking and dragging the red workspace selection box.

If you start getting to the edge of the paper, just drag and drop a shape off the workspace, Visio will add another page beneath the shape you have added.
Of course, the title and references, following your agreed format need to be noted, and the document should be saved in the appropriate place (if you haven’t saved it already!).

Auto align is worth playing with to see how it can help.

Finally, don’t forget to add the details of the document to your Process Library.
MAPPING USING VISIO
Mapping Group Process

• Using Visio, create a Process Map from earlier
  – Using consistent conventions
  – Types or Instances
  – Proper Grammar

• Now, add the Process Note

Any questions, in undertaking this exercise, do just ask.
Summary

- Explored Process Mapping theoretically & practically
- Started to Learn about VISIO & made a simple process map

Thank you & good luck!

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Feedback

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