Module: Business Processes
Unit: Process Design
Lesson: Process Mapping

Process Mapping

Introduction

In the previous lesson we introduced briefly the idea of a process based approach to management. Central to that idea is the technique of process mapping. As with other concepts and techniques in management, different writers often take slightly different approaches when they describe process mapping. In this lesson we will present one approach to process mapping and then refer you to other similar but slightly different approaches. Knowledge of a number of different approaches should give you a good awareness of the main features of process mapping.

Practical Process Mapping

Our initial approach to process mapping consists of six stages; we will describe them below. You may get most benefit from this if you identify a process yourself, e.g. one you are familiar with at your place of work and apply each of the stages to it. If you do that you will effectively be going through a process mapping exercise yourself.

Stage 1: Define the boundaries of the process that will be under consideration.

Some of the definitions of a process, which we encountered in the previous lesson, stated that processes took a group of inputs and transformed them into an output. These inputs and outputs can be seen to be the boundaries of the process that is being examined.

To give you an example, you will have gone through some form of enrolment process with RDI to be participating on this course. One could say that the inputs into that process are student enquiries to RDI, while the outputs are student registrations.

The final definition of a process we encountered in the previous lesson - that of Hammer and Champy (1993) - suggested that effective processes would have a strong focus on the requirements of the customer or user of the process. As part of this first stage, it is good to identify the user or customer so that their interests drive the design of the process. It may even be necessary to consult with or research the user's views so that a given process reflects or delivers their requirements as well as possible. In our example above the customer or user of the process is you - the student.

group learning activity

Think about a process and identify its inputs and outputs. Post your findings in the group learning space on ilearn. (N.B.- this is a multi-stage activity: feel free to post to the group learning space at each stage or at the end).

Process Stakeholders

Processes will - just like organisations as a whole - have stakeholders other than the process user. For example, other stakeholders of the enrolment process we mentioned earlier would include RDI staff, Anglia Ruskin University, and RDI's parent body, Capella Education Company. Many would argue that the design of the process may be influenced to an extent by the interests of at least some of these other stakeholders. However, Hoyle (2007) argued that if an organisation was totally committed to a customer focus, the process should be designed with only their needs and requirements in mind. My own view is that that may be unrealistic and that other stakeholder interests may need to be taken account, not least as constraints on what may be achievable.

Nonetheless user needs should be paramount in process design and technological developments and organisational commitment to continuous improvement and customer orientation may well lead to such constraints loosening over time.

group learning activity

For the process you identified at stage 1, identify its user/customer and also any other beneficiaries/stakeholders whose interests might be reflected in its design. Post your findings on the group learning space.

Stage 2

Returning to our six-stage approach to process mapping, stage two is to clarify the desired exact output of the process identified. In stage one the output of the process was stipulated in broad terms. Here we go a stage further and clarify the exact nature of the desired output. Typically this will be stated as a particular output:

- within a specified time frame
- to certain quality standards
- within certain resource constraints.

group learning activity

For the process you have selected see if you can specify its output in these more detailed terms.

Stage3

The next stage is to map the process you have identified as it is currently being carried out.

It is important to do that and not map the process in other ways, e.g. how you think it is being carried out or how management said it should be carried out. This stage may involve a fair bit of observation and possibly some interviewing of staff - the latter would need to be done in a non-threatening and non- judgemental way to get the desired results.

A range of symbols exists for process mapping. At the end of this section we refer you to a UK government publication 'A Guide to Process Mapping and Improvement', produced in December 2012 by the Crown Prosecution Service Activity Based Costing Team. This is available at:

http://www.cps.gov.uk/publicat ions/finance/abc_process_mappi ng_guide_v2.pdf .

If you go to that now you will see a basic range of symbols for process mapping in section 4.2 and also examples of simple process maps in sections 4.5 and 4.6 of the report.

group learning activity

For the process you have been considering produce a simple, initial process map, using the symbols presented in the report. Remember to try and map the process as you think it is actually being carried out. Post your map as an attachment to a posting on the group learning space.

Stage 4 - Confirm functional responsibility for element of the process map.

This stage identifies who is responsible for carrying out each element i.e. activity or decision - in the process map you have just produced. For simple processes these may all be in the same department or unit but in more complex ones that may not be the case. Quite often the greatest gains or improvements from process mapping and analysis come from processes that cross different units or departments with resultant problems of communication and coordination. At this stage it is often the case that more activities and decisions within the process become apparent and can be added to the map. Also it may be challenging to identify and assign all responsibilities or clarify the exact roles of all process participants.

group learning activity

Try and assign responsibility for each decision/activity in your process map to a particular person. Add job titles or names to your map alongside the elements of the map for which they are responsible. Post this extended version at the group learning space along with comments as to how far the process crosses unit or departmental boundaries - do not worry though if yours is a simple process that crosses few if any boundaries.

Stage 5 - Identify Failure Points

Having completed the map of the process as it is currently carried out and assigned responsibility for each element of it as best one can, one can begin to try and identify areas of the process that could be improved. These would typically be:

- duplicated or repeated activities/decisions
- unnecessary activities or decisions
- poor communication or coordination between people responsible for different elements of the process, possibly because they each work in different units or departments.

Some of these things can be put right quite simply now that the mapping exercise has revealed them. Some may be areas to which management will need to allocate particular attention and possibly resources. At this stage it may also be necessary to collect more information about the process or measure the process in order to better understand certain issues and problems. Such measurement might include timing the duration over which activities and decisions take place and identifying the resources (and their cost) allocated to different parts of the process.

At this stage one may discover that at least some process failure may be a function of inability to cope with the level of activity that the process is required to deal with. If this is a function of fluctuating demand i.e. the process normally works well but has problems at times of peak demand, then a response might be to build in some flexibility so that capacity can be increased at peak times. Also it might be necessary to have a look at the influences upon the levels of activity that the process needs to deal with, e.g. one can examine the nature of 'feeder' processes that generate work for the process being examined.

group learning activity

See if you can identify any likely failure points or areas for improvement in your process map. Post your findings.

Stage 6

Decide if the failure points identified can simply be corrected or if further mapping or analysis needs to take place.

As we have suggested above, it may be that process maps will clearly point out solutions e.g. removal of unnecessary steps, need for greater clarity or management attention in communication or coordination. However, some problem areas may need further analysis e.g.:

1. Micro-mapping. Generally it is possible to carry out process mapping at different levels of detail; problem areas for which no obvious solutions present themselves can be looked at in more detail by 'drilling down' to a lower level and micro-mapping those areas.
2. As we shall see later, process maps can be used as a basis of a form of benchmarking where process maps of different organisations can be compared in order to learn lessons or share good practice. Very often similar organisations will share maps and thus benchmark their processes e.g. two or more hospitals will map and compare their admissions processes. It has been suggested, though, that often more significant lessons may be learned by mapping and comparing processes across organisations in different industries that still carry out similar processes, e.g. a hospital and a hotel mapping and comparing their booking and admissions

processes.

think about it

Why do you think significant lessons might be learned by two organisations in different industries e.g. a hospital and a hotel comparing a similar process that they each undertake?

feedback

Significant lessons may be learned because, in each industry, the process may have developed in very different organisational cultures with different assumptions and possibly different objectives and with staff from different backgrounds. All these things may contribute to the processes having been designed or developing quite differently in some respects, allowing some useful lessons to be learned.

The Crown Prosecution Service's Guide to Process Mapping and Improvement.

You should now read the entire UK Crown Prosecution Service document we referred to earlier, A Guide to Process Mapping and Improvement. It can be accessed at: http://www.cps.gov.uk/publications/finance/abc_process_mappi ng_guide_v2.pdf (Permission to reproduce pending)

In addition you might want to watch the video on process mapping by Vanguard Scotland which has some interesting things to say about the value of process mapping. This can be accessed at: http://www.youtube.com/watch?v =0tzGS8igTdE

Benchmarking

As we suggested above, process mapping can be the basis of an activity known as benchmarking. Below we reproduce an article from the website About.com - accessible at: http://logistics.about.com/od/ qualityinthesupplychain/a/benc hmarking.htm (Permission to reproduce pending)

This looks specifically at benchmarking in the supply chain but usefully defines benchmarking and identifies three types of benchmarking i.e. internal, external and competitive. Different writers on benchmarking tend to use different categories but these are sensible and coherent ones.

Benchmarking Overview

Supply chain operations within an organisation should be constantly reviewed to identify where improvements can be made or deficiencies eliminated. One method to help do this is to perform a series of benchmarking tests on their supply chain processes. Benchmarking or goal setting allows a company to assess the opportunities they may have for improving a number of areas in their supply chain including productivity, inventory accuracy, shipping accuracy, storage density and bin-to-bin time. The benchmarking process can provide a company some estimate of the benefits achieved by the implementation of any improvements.

History of Benchmarking

Benchmarking is the process whereby an assessment of an act or performance is measured by

some means, whether this is by a measurement of time, value or quantity. For example, an assessment of moving items from one storage location to another can be measured by time for a single movement or by quantity if the performance is over a set period. A benchmarking project will gather the assessments and develop a plan of action to improve the process that was assessed. The popularity of benchmarking was spearheaded by the Xerox corporation in the 1980s and is now used in corporations throughout the world.

Types of Benchmarking

Three types of benchmarking can be identified; internal which is focused on the processes of a single company, external which examines processes outside of a company's direct industry and competitive, which examines processes at firms within the same industry.

Internal Benchmarking

The internal benchmarking process allows a company with a number of facilities that operate the same supply chain processes to compare and contrast the ways in which the process is performed in those facilities. For example if a company operates five distribution centres in the US and Canada, the benchmarking process can examine a number of operations that take place at each of the distribution centres and compare how they are performed and what improvements can be made by comparing the results of the benchmarking. If a company benchmarks the processes around inventory accuracy, shipping accuracy and storage density, the results of the assessments of the facilities can help a company to improve on those processes at all of the facilities.

External Benchmarking

For companies that have performed internal benchmarking and want to investigate new ways in which to improve performance of their internal processes, external benchmarking can produce significant improvements. Many companies believe that their processes are as efficient as possible, but quite often, the efficiencies are limited by the knowledge within the company. The external benchmarking process takes a company outside of its own industry and exposes them to different methods and procedures. For example, a manufacturer and distributor of electrical components have internally benchmarked their warehouses for a number of years and have exhausted ideas on improving efficiencies. They approached a very successful retail company to visit their central warehouse and benchmark the processes that occur there to compare to their own warehouse processes. The external benchmarking allowed the manufacturer of the electrical components to assess the processes seen in the retailer's warehouse and develop an improvement plan for their own facilities based on the results.

Competitive Benchmarking

For companies that are not performing as well as their competitors they may want to identify the reasons why their processes are not as efficient. Consulting and research firms can perform competitive benchmarking studies for companies that will identify the strengths and weaknesses of their processes based on those of their competitors. The company can then produce improvement plans based on the results of the competitive benchmarking.

Components of Benchmarking

There are a number of components to a benchmarking study. Not every benchmarking project will incorporate these components, but a combination of these can be used.

- Financial benchmarking - This involves a financial analysis of the operations that are assessed. For example, a company can compare the cost of storing a component in each of its warehouses.
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- Performance benchmarking - This can compare the efficiency of performing a task in one company location to another, or to a competitor's.
- Product benchmarking - This method compares the product of one company against another, or comparing between facilities in the same company.
- Strategic benchmarking - This method observes how other companies compete. This can be within the same industry or outside of the company's industry.
- Functional benchmarking - This is considered to be traditional benchmarking where a company will benchmark a single process at a location or a number of locations to identify where efficiencies can be made.

group learning activity

Think what the advantages and disadvantages are of each of the three forms of benchmarking discussed above; post your view at the group learning space.