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A flexible approach to business improvement

- ◆ *Connecting with the EFQM Excellence model®*
- ◆ *Understanding the nature of processes*
- ◆ *Illustrated with real life examples*
- ◆ *Recognizing processes in the organization*
- ◆ *Key principles of process management*
- ◆ *Key questions for guiding process design or validation*

A GUIDE TO BUSINESS PROCESS MANAGEMENT

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Chapter 1

Introduction

The notion of Process Management has been evolving over a number of decades but has gained real momentum during the 1990's through a number of fashions and trends including "business re-engineering", "the business as a system" and "process mapping". The introduction of national quality awards such as the Malcolm Baldrige Award in the US (MBNQA), European Quality Award, UK Business Excellence Award and many others across the world has also brought in the notion of Process Management. All of the 'excellence' models are based upon a number of common, underlying principles, namely Leadership including organisational culture; Planning including strategy, policies, stakeholder expectation, resources; Process and Knowledge Management including innovation and problem solving, and finally Performance Results covering all stakeholder expectations. Pivotal to organisational success is effective and efficient process management. The EFQM Excellence Model® below clearly illustrates these principles and the importance of processes as an enabler of results.

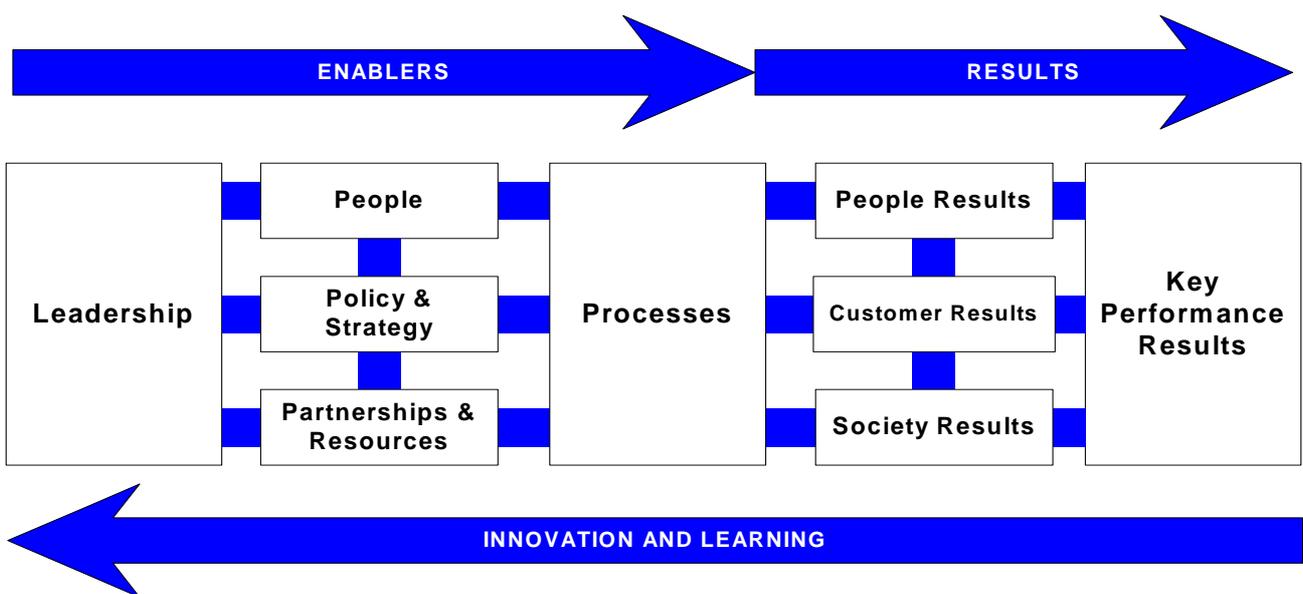


Figure 1 EFQM Excellence model®

However, on first encounter, the EFQM Excellence Model® appears to suggest that processes are separate from Leadership, People, Policy and Strategy, Partnerships and Resources because Processes are placed in a box with these factors shown as 'inputs'. This also suggests that the processes are more concerned with the 'engine room' than with the 'boardroom'. In reality, there are processes in the boardroom as well as the engine room. Clearly there must be strategic planning processes, policy-making processes, resource management processes, processes for building and maintaining partnerships and above all processes for leading the organization towards its goals. The model therefore must be viewed as representing an organisation as a system with each of the factors continually interacting with each other to achieve the goals. Whatever an organization desires to do, it does it through a system of processes. However, we must not forget that fundamentally the EFQM Excellence Model® is an assessment tool. It was not intended to be a design tool. Also it was not designed as a diagnostic tool although it can be a helpful input to a diagnosis. It is used in assessing an organizations commitment to the excellence principles and to allow comparison of such commitment and performance between organisations.

This publication sets out to examine different perspectives of processes and presents an overview of an approach that can be used as a design tool to assist organizations develop their business processes and manage them effectively.

Chapter 2

The nature of processes

Isaac Newton tells us that for every action there is an equal and opposite reaction. Therefore whether we are mixing chemicals or bringing people together, there will be a series of interactions that cause a number of results. Results comprise outcomes and outputs and have an impact on stakeholders either directly or indirectly. For example, if we place woodland waste into a shredder, a primary output is woodchips. A subsequent outcome might be a satisfied customer who purchases bags of woodchips. Another outcome, not so welcome might be the effect of the (output) noise from the shredding machine on the local community. Other outcomes might be employment in the community, and increased risk of injury due to the type of machinery being used. These results are brought about by cause and effect. The cause is the cutting blades coming into contact with the woodland waste and the direct effects are the outputs of woodchips, hazards and noise. Indirect effects are the outcomes of customer satisfaction, employment and profit for the organisation. At a simple level this relationship between cause and effect, action and reaction is what we can call process. In the shredding example there are activities such as placing waste into shredder, resources such as the shredder, fuel to power it, the woodland waste itself, the people and of course their behaviours (which we will show later) impact results.

Results
Results - the outcomes and outputs and both have impacts on Stakeholders
Outputs - the direct effects produced by processes designed to achieve them. May have a direct effect upon a stakeholder
Outcomes - the indirect effects of a process upon a stakeholder

It would therefore be reasonable at this stage to declare that in the context of business management:

A process is a set of interrelated activities, behaviours and resources that achieve results.

To understand the implications of this definition, let us examine its components (the words underlined) using the forestry example. *(The order has been changed to simplify the explanation given)*

Interrelated activities

When we examine what the forester does when shredding woodland waste, he:

1. Places empty bag at output end of shredder
2. Switches on the shredder
3. Places woodland waste in hopper
4. Removes bag when full of wood chips
5. Repeats steps 1-4 until there is no more woodland waste
6. Switches off shredder
7. Cleans shredder of debris

These actions are clearly not a random set of actions. They are related to one another. Each appears to follow in sequence. This places a dependency on the actions. Step 3 depends on step 2 being completed before it can commence. This is a sequence of actions for converting woodland waste into woodchips but does it describe a process? It certainly does not describe the action of the shredder – no mention of cutting blades here. Neither does it describe the arrangements that need to be in place to comply with relevant legislation nor the fuel needed to keep the shredder running. So at best it's a description of the sequence of direct actions the forester carries out to shred and bag woodland waste ie a work method instruction. It does not represent everything needed to achieve a desired result but it could be a vital element of managing a woodland waste shredding process. Conversely, if you have a shredder, woodland waste, a forester and fuel these too are impotent without a method.

Results

The purpose behind the results

With an instruction as brief as "Shred that woodland waste" the forester could do any number of things. In an extreme case the forester could shred everything for miles around, endanger the local wildlife and annoy the nearby community unless constrained. In such a case it might be interpreted that the forester achieved the specified result but not the desired result. Further definition of the task might limit the result but it is not

Results

Results - implies any results, good or bad

Specified results - implies results that are communicated

Required results - implies results that are imposed by stakeholders

Desired results – implies results that are wanted by stakeholders.

until the forester is aware of what he is trying to achieve by shredding woodland waste that he becomes empowered to manage the operation effectively.

The result of implementing an instruction to “Shred that woodland waste” is woodchips, but what quantity and what size of woodchips? This brings us closer to the desired result. Any one of three questions might provide the answer:

- ◆ What is it that is required as a result of shredding woodland waste?
- ◆ Why do we want to shred woodland waste?
- ◆ What is the purpose of shredding woodland waste?

A purpose of shredding woodland waste might be to clear an area around a number of felled trees in a forest but it might also be a means for bringing revenue into the forestry services. But why do we want to do this? Little work is carried out in isolation even when it is the sole job of a person or an organization. Shredding woodland waste is therefore an activity within a stage of another process – possibly a woodland management process. Another stage in the same process might be tree felling. The message here is that when the instruction is task centred, the receiver often does the task without knowing the required outputs or desired outcomes he is supposed to achieve. Following the procedure becomes the purpose of the job. Completing the task becomes the objective. However, when the instruction is output centred, the procedure becomes only one of the factors necessary to deliver the results and is capable of being altered to suit prevailing circumstances if by doing so the results are achieved more efficiently.

This example of a person being task focused or objective focused has many parallels particularly in government and local authorities. People undertaking official duties are in fear of reprimand if they do not complete the task regardless of the consequences. We have a phrase for this in the UK. It's called 'more than my job's worth'. When requested to bend the rules, the official responds that it is more than his job is worth. In the 1970's a popular UK TV programme, 'That's Life', gave the nation a weekly journal of 'Jobs Worth' incidents with a specially designed cap as an award. The campaign brought these ludicrous situations to the public's attention but regrettably it did not change the culture –it might have alerted the bureaucrats to their stupidity but after years of similar incidents, it apparently did little to introduce pragmatism into decision-making.

The importance of stakeholders

Knowing that woodland waste shredding is part of the woodland management process enables us to place the forester in the right process but we are no wiser about why we are managing the forest. After all, the forest looked after itself for thousands of years before man came on the scene. So what or who causes these foresters to manage the forest? To find the answer we have to go outside the

process – beyond the forest and ask “For whom is the woodland being managed and what is it that they require? These are the stakeholders.

Stakeholders are persons or organisations that have the freedom and therefore the ability to provide a vital resource to an enterprise and to withdraw it should they feel it might be better utilized elsewhere. Without that resource the enterprise cannot meet the required and desired results. The stakeholders comprise customers, ‘shareholders’ (who could be private owners, public owners or trustees), employees, suppliers and society. The primary stakeholder and the only one that brings in revenue is the customer (or in some cases tax payers through government). In our example any one of the stakeholders could withdraw their stake and bring the woodland waste shredding operation to a complete halt. We have established that there is more than one product so presumably there is more than one customer. There is a customer for the woodchips and a customer for the timber that results from the tree felling service – possibly the owner of the forest. Each has different needs and expectations but in establishing the purpose of the woodland waste shredding process we quickly identify the primary customer as the forest owner because, woodchips are merely a by-product. A forester who focuses on the wrong objective might start felling trees at random in order to increase sales of woodchips!

Stakeholder

Stakeholders are persons or organisations that have the freedom and therefore the ability to provide a vital resource to the enterprise and to withdraw it should they feel it might be better utilized elsewhere

Each of the stakeholders has different needs and expectations that give rise to the process having to satisfy multiple objectives.

- ◆ Customers may want timber for the construction industry and woodchip mulch for garden use
- ◆ Employees may want fair pay for a fair days work, equipment and methods that are safe and reliable and to be provided with the necessary protective clothing
- ◆ Society may want conservation of the natural environment, peace and quiet and free access to the woodland for leisure activities.
- ◆ The Shareholders who own the forest may want sustainability and growth for their investment
- ◆ Suppliers may want to be treated fairly and to have their bills paid on time.

It is therefore not enough to simply shred woodland waste in ignorance of the stakeholders. We have therefore moved beyond a simple sequence of activities. The woodland waste shredding operation is now part of a greater process –

woodland management which serves the conservation of the natural environment, which has to satisfy a series of objectives, some of which may be in competition or conflict but all of which need to be derived from the needs and expectations of stakeholders.

Distinguishing outputs from outcomes

In the above analysis the organisation produces results, which are derived from the needs and expectations of stakeholders - results that comprise outcomes and outputs. Outputs are the direct effects of the processes and can be directly measured, for example, in the woodland management process timber and woodchip mulch is produced. These are under the direct and immediate control of the process. These are the intended process outputs. The achievement of these intended outputs are also directly measurable within the process.

There are other outputs such as carbon dioxide from the combustion of fuel, the oil from the machinery, noise from the operation of machinery, the waste from food consumption and damage to the wildlife and other environmental impacts. We often refer to these as unintended outputs. We don't set out to produce these outputs but cannot avoid doing so to some degree. In an effectively managed process, these outputs are measurable and regulated within set limits.

The indirect effect of producing these outputs on the forest is regeneration - a process outcome. Other outcomes are satisfied customers, continued employment for the foresters, business for the suppliers of fuel and machinery etc. Among the outcomes are also psychological effects such as stress, friendship and motivation arising from the work environment. In general the measurement of these outcomes can only take place subsequent to the process outputs being produced and the impact on the stakeholder assessed. For example, despite the woodchips achieving the specified and required results and being controlled by the process, customer satisfaction (the desired result) cannot always be controlled by the shredding process because of changing customer (and other stakeholders') expectations.

Clearly the relationship between outcomes and outputs needs to be recognised, analysed and understood. It is also necessary to 'translate' outcomes into outputs because processes are focused on and are designed to produce and control outputs. Processes cannot be controlled effectively by lagging measures such as outcomes – more immediate results are needed so that the effects of any adjustment can be readily observed. In order to be effective the organisation must continually manage the 'translation' between outcomes and outputs and define measurements for outputs that correlate most closely with the measurement of outcomes.

Resources

If we return to the list of actions we described previously for shredding woodland waste, we find that other than the shredder and woodland waste, none of the resources are indicated. Clearly there are issues of capability that arise out of what the tree-felling plan was designed to achieve. The woodland management process has a capability limited by the organization's resources. If a specific tree-felling plan cannot be achieved with these resources, the results are in jeopardy. If there are sufficient resources in the organization, but insufficient were allocated in the plan, this indicates a resource planning process failure. It would therefore be reasonable to conclude that in order to shred woodland waste we need much more information.

Time resource

We need to know how much time we have got to do the job - the date and time the job is required to start and how long it is expected to take. Is the woodland waste to be shredded in an hour or can we take all day over it? The time taken will depend on the quantity of waste to be shredded, the number of shredders we have and the number of competent foresters to do the work but time is usually the first dimension we need to determine as it will dictate the quantity of other resources needed.

Physical resources

If the foresters are simply felling a few trees and have to get the job done in a day, one shredder with a competent operator might be sufficient. But if we have to clear a 20-mile stretch of woodland close to a road and complete the job in less than 4 weeks, we will probably need several shredders. For a small job a lightweight shredder might do. For a big job a heavy duty shredder is needed. We also have to think about fuel supply not only for the shredders but also the chainsaws. If we are 100 miles from the nearest petrol station, we might want a fuel bowser on site. Should the organization not possess adequate equipment and supplies or they were not allocated; this would indicate a process failure.

Human resources

On the people side of the equation, the machines need operators and there might be restrictions on who can use the shredder because it is a dangerous piece of equipment. If there are 5 foresters and only 2 qualified to use the shredder, the capacity of the process is fixed. If one of the two qualified foresters goes sick, the capacity of the process is naturally reduced. Therefore a foreman,

Resources

Resources include anything of which there is an available supply.

Time resources

Physical resources

Property

Equipment

Materials

Energy

Land

Space

Human resources

Employees

Contractors

Volunteers

Financial resources

Knowledge resource

driven by deadlines would be contravening regulations if he were to assign an unqualified forester to the shredding operation. If there were no restrictions, assigning an inexperienced forester might well slow down the throughput. If the foreman does allocate an unqualified person to the task this would indicate a process failure, but it is a failure of the human resource planning process for providing a person who sacrifices the organization's values for expediency.

Financial resources

Imagine in our example that there is rather more woodland waste to shred than expected and the foresters run out of fuel. No one has enough cash to buy fuel. The foreman has a company credit card so off he goes to get some fuel. When he gets to the petrol station he finds they don't take the type of credit card he has and therefore the whole job is now in jeopardy. The process is no longer capable of delivering woodchips. This could be once again a resource planning process failure but it might be process design failure if no provision has been made in the design of the process for dealing with this eventuality.

Knowledge resources

On arrival on site, the foreman issues instructions to his team. With a small team, the instructions might be verbal only, but with a large team dispersed through the forest, there might be a need for a map showing access roads, logging dumps and equipment depots. After 50 hours of duty the shredder breaks down. The foresters have been trained in operating the equipment and in routine maintenance but not in diagnosing failures. They are isolated and in a remote part of the countryside. No maintenance manuals on the equipment have been provided so there is nothing they can do. Work stops. The process has failed to ensure adequate information is provided to maintain the equipment on site. Without information therefore the foresters are unable to do the job and without accurate information achievement of the objectives is in jeopardy. The shredding procedure is probably committed to memory but every job is different. Where, when, who, what, how are questions that need to be answered relative to a specific job. The information might be available, but if it is not conveyed to those with a need to know, it is ineffectual. Knowledge or information is therefore a resource that enables a process to run. It is also needed to restore the process when things go wrong.

Clearly risk assessments need to be carried out during process design to identify the risks and opportunities necessary to achieve and protect stakeholder results.

From the foregoing, one concludes that before a process is capable of delivering against set targets, it is necessary to define the human, physical, knowledge and financial resources required – not simply the numbers of people, the items of equipment and pieces of paper but the competences of the people, the capabilities of the equipment and the accuracy of the information. Before the

process can deliver the required outputs, these resources in the quantity and quality required need to have been supplied.

Behaviours

Three foresters are asked to explain what they are doing. The first says he is shredding woodland waste, the second says he is clearing the forest and the third says he is conserving the natural environment – who is right? They all are but the third forester has a greater sense of purpose and thus will be able to balance the priorities of his job and make the right decisions. The first forester stops work when the shredder runs out of fuel. The second forester replenishes the fuel but buys the cheapest thus inducing greater engine wear. The third forester replenishes the fuel with a grade that is least harmful to the environment. The first forester deals with the woodland waste in front of him then stops. The second forester looks around for other woodland waste to shred when the first pile has been removed. The third forester stops shredding periodically to reduce the noise and in the quiet periods spreads some of the woodchips on the young samplings to aid their growth. This awareness a person has for the job they are doing makes a great difference to the results – a difference that cannot be discerned from the simple sequence of actions. It therefore becomes apparent that the behaviour of the foresters is guided and conditioned by the knowledge and understanding of what results (both outputs and outcomes) are intended. It is also clear that if different behaviours are used different process results will occur.

Summary

We have shown that in a business context a process is a more sophisticated entity than merely a sequence of actions that on its own does not produce an output. We also conclude that armed with only method statements, work instructions or a procedure, a person cannot produce the desired results for the business, only unpredictable results that may be undesired. We have also shown that processes only exist to produce measurable outputs. It is therefore vital to have a clear understanding of stakeholder needs that have been interpreted into appropriate results and translated into those measurable outputs. We have also shown that without the necessary human, physical, financial and information resources the desired outputs will not be achieved. Finally we have shown that the behaviour of people has a direct bearing on the outputs and outcomes

We have used the woodland waste-shredding example to illustrate the nature of processes in a business context and demonstrate that they are quite different from procedures. The context is important because we are taking a commonly used word and ascribing a special meaning in order to convey an important message. Processes generate outputs that are related to outcomes and both have impact on stakeholders. Therefore when we examine a process we are not

simply looking at a sequence of actions but examining the factors that effect and affect results.

Returning to our definition. *'A process is a set of interrelated activities, behaviours and resources that achieve results.'* We can now see why each of its components is essential. All processes do deliver results. However, there are of course processes that do not deliver *desired* results. Does this definition help us distinguish between an effective and ineffective process? For instance, have we understood and defined the *desired results* and have they been derived from stakeholders needs? Are we measuring the appropriate outcome and output performance and are these correlated? Have we *designed and managed* the *set of interrelated activities*, and identified the *behaviours and resources* required? We would say that if we have not done these things our processes are ineffective processes. We therefore need a less ambiguous definition and perhaps the following is more appropriate:

'An effective process is a set of interrelated activities, behaviours and resources that is designed and managed to achieve desired results'

Hence, if we want to design an effective process we should firstly establish what it is intended to achieve, ie its objective, then determine how success can be measured, ie the desired results We would then identify the factors that affect our ability to achieve the objective relative to the measures of success. This will produce a list of factors from which the process outputs can be identified. Once we have the outputs we can determine the process stages and activities required to produce them and the way in which these interrelate and interact. These and other features of process management are examined in the pages that follow.

Postscript

An accepted definition¹ of a process is 'a set of interrelated or interacting activities which transforms inputs into outputs'. From the foregoing it should now be clear that this definition is inadequate. Not only does it take no account of resources without which no process could transform any inputs but also it denies the impact of human behaviour on process outputs and lacks utility. Definitions need to be accurate and useful otherwise they will generate poor practice or futile debate.

¹ ISO 9000 Fundamentals and vocabulary clause 3.4.1. (2000) International Organization of Standardization

Chapter 3

Recognizing processes

Problems with process recognition

It is not certain that we would recognize a process if we saw one or were involved with one. We are sometimes aware that what we are experiencing is not an isolated event – there is a chain of events and we are somewhere in that chain. We may have an objective but it soon becomes clear that the process we think we are in appears to be achieving different objectives and therefore is not the one we should be in. As a manager, we may be clear about the process but perhaps our staff have different perceptions. We may think they know what we are trying to achieve. However, they appear to have tunnel vision and are focused on the job in hand not recognising which process they are in. As a consequence, the results we receive are not those we expected. However, it may be us as managers who have tunnel vision, having failed to make those important linkages contained in the definition of a process.

Focus on results

By applying our definition of a process, it follows that processes are directly related to results, therefore to recognize processes we firstly need to define the results we have achieved or those that we want to achieve and then ask,

“What process or processes deliver these results?”

We can apply the question to any results but we need to be clear about what we mean by results in this context. We are referring to results that impact business performance which as stated earlier were derived from stakeholder needs and wants. Let us examine some routine activities in an office to illustrate the point.

In one office of a company a person is writing a report using a PC, the report is printed onto paper, the paper is stapled, the bound report sent to a manager along with other reports which together form the basis of a response to an invitation to tender. The tender is reviewed by a team of specialists, possibly rejected and changes made and eventually submitted to a potential customer. The potential customer evaluates all the tenders submitted and chooses a

supplier. Now which results are we trying to achieve, how is our performance measured and which process should we establish to achieve these results?

- ◆ Are we trying to write reports and is our performance measured by the number of reports produced? If so perhaps we should establish a report writing process.
- ◆ Are we trying to use PCs and is our performance measured by the number of PCs used? If so perhaps we should establish a process for using PCs?
- ◆ Are we trying to print documents and is our performance measured by the number of pages we print per month? If so perhaps we should establish a document printing process.
- ◆ Perhaps we are trying to produce tenders where our performance is measured by the number of tenders produced/year. If so perhaps we should establish a tender producing process.
- ◆ Maybe we are trying to stop poor tenders being submitted because our performance is measured by the number of tenders reviewed and rejected. If so perhaps we should establish a tender review process.
- ◆ Or perhaps we are trying to create a demand for our services because our performance is measured by the value of contracts won – a measure that is of primary interest to a number of stakeholders including owners, suppliers, employees. If so perhaps we should establish a demand creation process in which key stages may be producing and presenting tenders.

Clearly the latter example is more likely to be closely related to the mission than the others. It would also appear that there is a link between our performance and what we are measured on. If the managers count the number of reports we produce rather than the value of contracts we win, there will be a disproportionate effort applied to reports at the expense of winning contracts. Similarly if the managers count the number of pages printed there will be a disproportionate effort applied to the consumption of paper and ink at the expense of winning contracts. Managers who recognize the process for creating demand will therefore be more successful than those who are content with counting reports and paper and ink consumption.

Bottom up or top down

If we recognize the myriad of activities possible at the bottom of the organization as processes, we will start with identifying activities that are result contributors but not result producers. If we start at the top of the organization we immediately identify the result producing activities. It follows therefore that processes should be identified from knowing the results that need to be achieved by the organization rather than knowing the activities to be performed by the employees. Business processes are identified from the business objectives not work instructions. In the above example of a person writing a report, it would make no

sense to classify that task as a process in its own right. There might be thousands of report writing processes in an organization each slightly different. Treating each as a process that needs to be managed would result in the organization clearly losing sight of its objectives. In the example above there were six possible outputs. The bottom up approach might well direct us to an inappropriate output that leads outsiders to accuse us of lacking 'joined-up thinking'.

Key business processes

No business survives without customers therefore to create demand we would need a demand creation process. Once there is a demand for our services we would need a demand fulfilment process to satisfy the demand. To ensure these processes are supplied with the resources they need to achieve the business goals we would need a resource management process. Finally we would need a process for establishing the mission, vision, values and policies – a mission management process. This is illustrated in Figure 2.

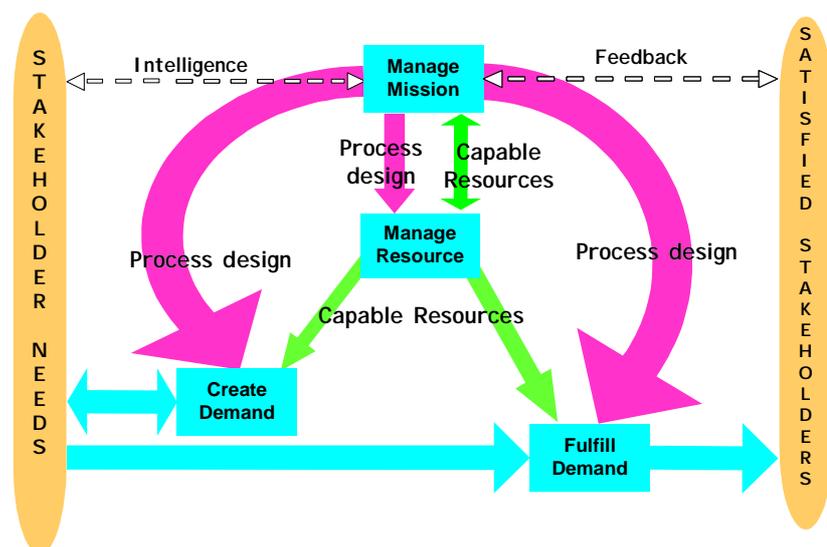


Figure 2 System model

When we put the woodland waste shredding operation into the context of the UK Forestry Commission’s mission to *‘Protect and expand Britain’s forests and woodlands and increase their value to society and the environment’* we realise that it forms a small part of the contribution the Commission makes to the UK infrastructure. Woodland waste shredding is therefore not the business process – it is merely one group of activities within a stage of the UK Forestry Commission’s Demand Fulfilment Process.

Function versus process

Organizations are usually structured functionally where a function is a collection of activities that make a common and unique contribution to the purpose and mission of the business². The contributions are usually assembled by specialism so that those who sell the organization’s products

Responsibility determines
Function
Whereas
Results determine
Process

² Drucker, Peter F (1977). *Management: Tasks, Responsibilities, Practices*. Pan Business Management.

or services work in the Sales Department. Those who design the organization's products work in the Design Department, those who make the organization's products work in the Production Department etc. However, the combined expertise of sales, design and production are needed to fulfil a customer's requirements which is why most departments of an organization would be involved in the Demand Fulfilment Process, but perhaps the Production Department would not be involved in the Demand Creation Process. It rather depends upon the responsibilities of the particular departments. Business outputs are generated by the combined efforts of all departments so processes tend to be cross-functional. Rarely does a single department produce a business output entirely without support from others. The interfaces are shown in Figure 3. In principle the green arrows indicate direction in which the process flows across departments. In reality it is probably not as simple as this because there will be transactions that flow black and forth between departments. The organization structure shows that functional outputs are indeed different from process outputs and obviously make an important contribution, but it is the outputs from business processes that are purchased by customers not the functional outputs.

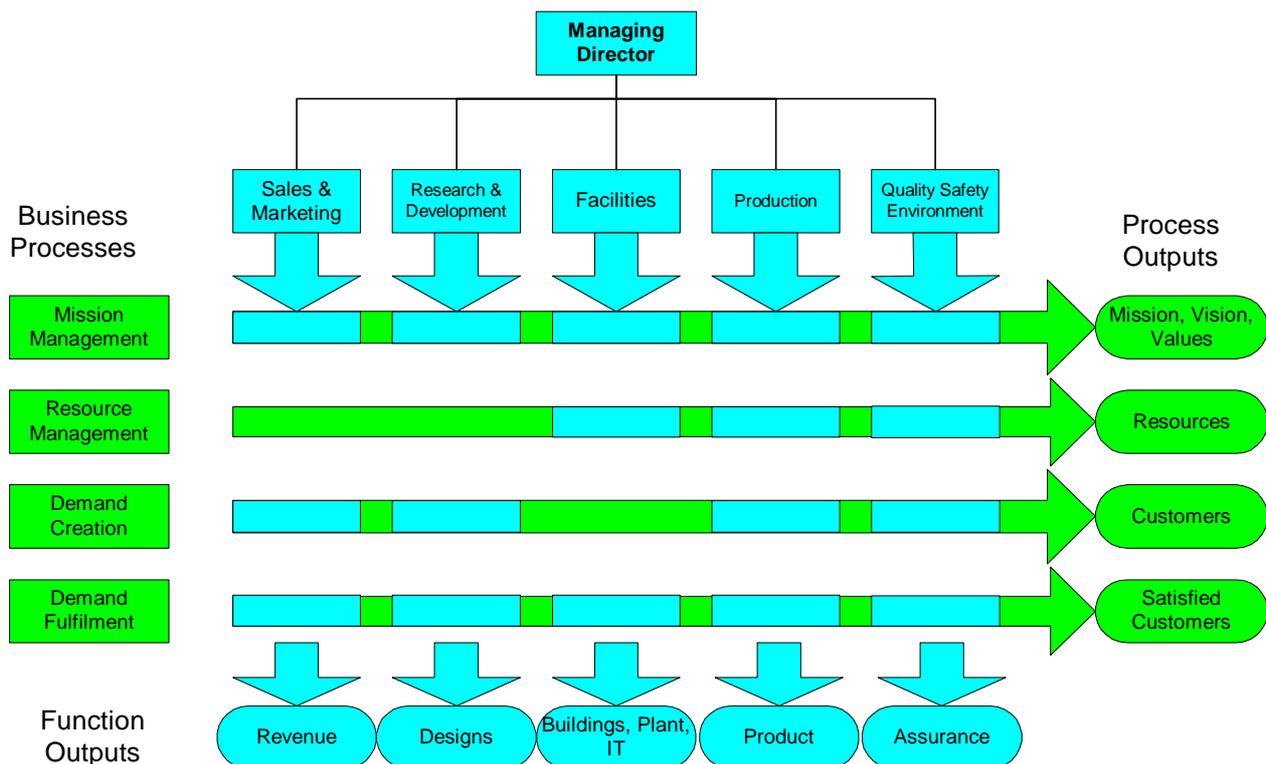


Figure 3 Function vs process relationship

Transactions and value streams

If we think about processes as a sequence rather than results we can get drawn into detailing all the activities that we carry out and depicting them on activity flow charts or what are also referred to as process maps. Activity flow charting

and process mapping does have its place in process improvement but is a distraction when used in process identification.

Another method is Value Stream Mapping which produces work flow diagrams that can be used as a visual tool to enable managers to pinpoint activities that are not directly adding value to the customer. An example of this is given in Figure 4.

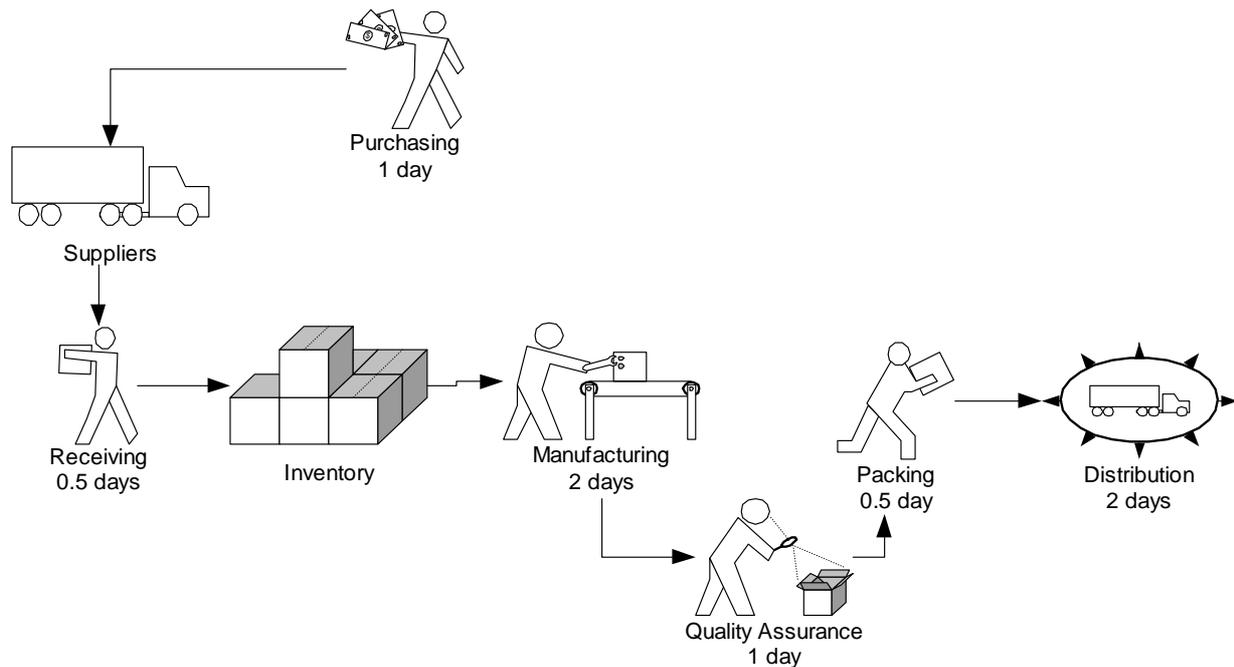


Figure 4 Value stream mapping

Activity flow charts (as opposed to data flow charts or decision trees) follow the sequence and interaction of activities from input to output. There are several types. An example of transaction flow is shown in Figure 5. This is also referred to as Team Flow or Deployment Flowcharting.

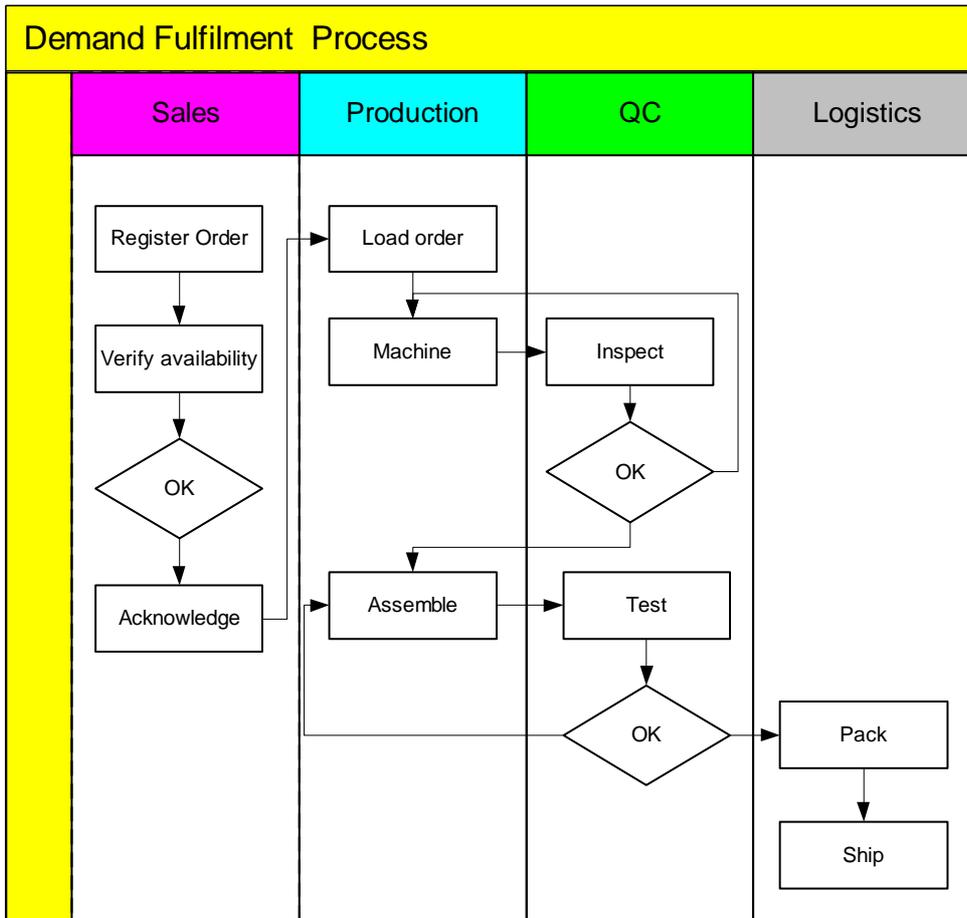


Figure 5 Deployment flow chart

The sequence of activities we described previously relative to shredding woodland waste is a typical example of activity flow-charting. We could illustrate the 7 steps in a flow chart as shown on the right in Figure 6.

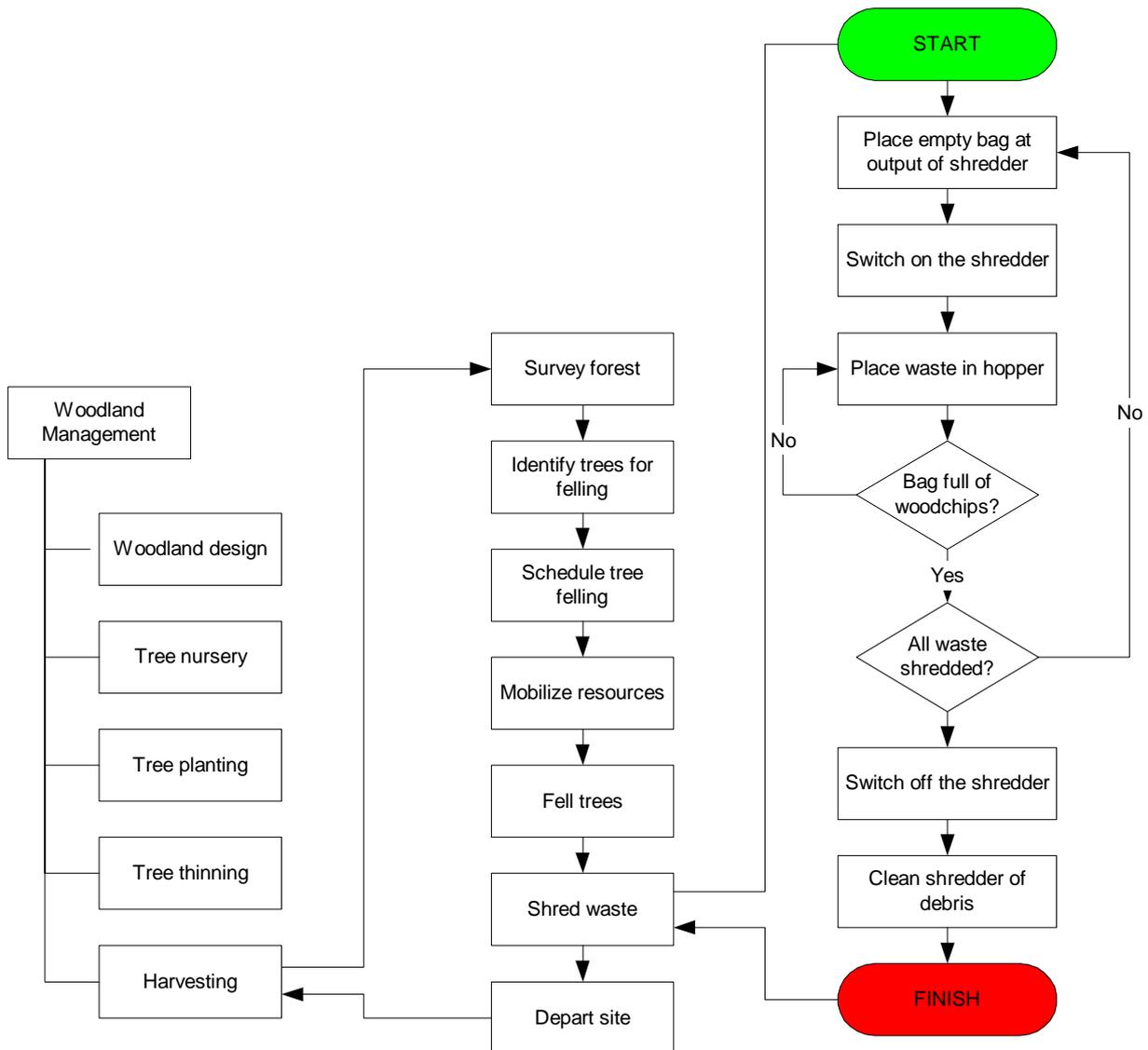


Figure 6 Process decomposition

At a level above this, shredding waste might be one of several tasks in the harvesting operation which itself is only one stage of the Woodland Management Process, which is only one of several processes needed to accomplish the organization’s mission. When shredding is seen in this context, it becomes apparent that regardless of how good we are at shredding woodland waste it is of minor significance in the harvesting operation. Harvesting will probably not be measured by how much woodland waste is shredded but how much useable timber is obtained from the woodland.

Mapping these activities will advance our understanding of the Woodland Management Process but we need much more information to help us manage it. For instance we need to know the critical success factors and these might be:

- ◆ The location and design of the woodland

- ◆ The quality of seedlings from the nursery
- ◆ The survival rate of saplings
- ◆ The effectiveness of the thinning operation
- ◆ The productivity of the harvesting operation.

It is these things that need to be measured and the result of any measurement will have been produced by a Woodland Management Process. If the results don't meet the target we can then investigate the process, find the root cause and take corrective action. If the targets are no longer relevant to the Mission to *'Protect and expand Britain's forests and woodlands and increase their value to society and the environment'* they will need to be changed and the processes redesigned so as to meet the new targets. In the course of investigating the cause of poor performance or determining what changes are needed to deliver improved performance, flow charting, transaction analysis, value stream mapping and process mapping techniques can be used to find better ways of managing the process but they are not techniques for identifying processes to begin with.

Summary

We have shown that the identification of business processes emerges from an understanding of the mission and the stakeholder needs and that by focusing on what workers do the manager mistakes task output for process output. We have also shown that processes are designed from an understanding of the organization's objectives rather than worker activity and can only be realistically developed top down. Whilst an organization will have many work processes, it has very few business processes – in fact probably no more than four and these will cut across departmental or functional boundaries. We have shown that organizational functions produce outputs that are often not business outputs although they will undoubtedly contribute to such outputs. This leads to the conclusion that a focus on departmental outputs alone will result in sub optimization of performance. By focusing on process outputs the organization creates a clear line of sight between results and objectives.

Tools such as process mapping, deployment flowcharting and value stream mapping have been shown to be unsuitable for process identification – in fact they can be a severe distraction but they are useful when analysing processes and finding opportunities for improvement.

If one starts analysing activities and drawing flow charts, it should now be easy to understand that the results will simply be a diagrammatic representation of transactions. In order to describe the organization's processes, one has to start with the objective, then establish how it is achieved.

Chapter 4

Managing processes effectively

Processes in Context

Before we proceed further we can now establish the context that helps us develop a common understanding of what is meant by business processes. That context is described by the following tenets:

- ◆ An organisation has a mission derived from an analysis of its stakeholders needs and expectations
- ◆ Business objectives (deliverable results) have been identified which if achieved would fulfil the Mission
- ◆ Business processes deliver business objectives.
- ◆ There are no other influences, covert objectives, and no hidden systems.
- ◆ There is only one system.

From the above statements we develop the simple perspective as illustrated in Figure 7.

What this diagram illustrates is that the mission arises out of stakeholder needs and the business processes exist to fulfil that mission. The results achieved that satisfy those stakeholder

needs are delivered by the business processes. Over time stakeholder needs and expectations change which in turn will modify the demands upon the business and its mission. The Business cycle is a system.

The organisation cannot successfully exist outside this cycle. The organization although it may be arranged into functions, fulfils its mission through 'horizontal' processes because the organization's results are produced cross-functionally not vertically.

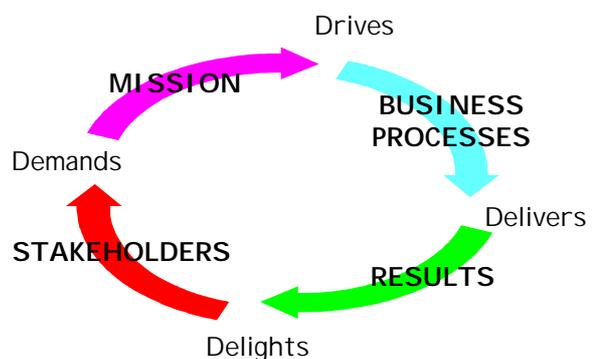


Figure 7 Business cycle

Determining purpose

Without a clear idea of what we are trying to do, work has no purpose. To discover the purpose we need to ask this key question

“What are we trying to do?”

- ◆ At a strategic level, the answer to this question represents the mission, goal, vision and values of the organization.
- ◆ At the business level the answer represents an operational business plan specifying desired business results.
- ◆ At process level the answer represents the process outputs.
- ◆ At the tactical level it represents the contract, order, requirement that needs to be satisfied.

Determining stakeholders

Inseparable from purpose are the people for whom the work is being done so a key question is

“For whom are we doing it?”

These are the stakeholders – those who demand your performance in return for providing a stake in your organization. They include:

Shareholders	those who own or are liable for the organization, directly or on behalf of others and provide funds in return for growth of their investment
Customers	those who receive the products of the organization in return for payment
Employees	the human resources employed to direct, manage and perform the organization’s activities in return for fair and safe conditions and for payment
Suppliers	those who supply the organization with labour, materials, services, equipment etc in return for partnership and payment
Society	the community – local, national and international that might be affected by the operations of the organization and provide legislation and censure for those operations in return for wealth creation in the community

Stakeholders also have the ability to withdraw their ‘stake’ in the organization should they choose to do so. Shareholders can withdraw their investment,

employees can withdraw their labour, customers can take their business elsewhere, suppliers can refuse to supply and society can invoke the law or cause laws to be enacted that force the organization to comply or cease to exist. It is the stakeholders that enable any organization to exist. Perhaps the most important of these is the customer, for without customer demand there is no revenue to fuel the organisation.

Stakeholder wants

The organization will only accomplish its mission if it satisfies the needs and expectations of its stakeholders. We therefore need to ask:

“What do the stakeholders want from the organization?”

It is only from determining what the stakeholders want that processes can be identified and process objectives determined.

There are three ways to determine what the stakeholders want.

- ◆ Ask
- ◆ Predict
- ◆ Observe

If the organization has been operating for some time it may have good information of what the stakeholders want – good enough to identify what is needed to satisfy those wants. If it’s a start-up company, there is no history so it might be prudent to conduct some market research prior to start-up. Having predicted stakeholder wants or approached the stakeholders directly, we may obtain on-going confidence in the information by periodic observation, backed up by formal research.

Stakeholder success measures

It is important that we understand how our performance will be judged. We will obviously have our own idea but what if the stakeholders operate to different measures or scales? We could find, as did Enron, that what might seem OK to us is completely unacceptable to those who have invested in our future. So a key question is

“What measures do we believe the stakeholder would use to determine if their needs had been met?”

So when a customer wants on-time delivery, conforming product and problems to be resolved promptly, what is meant by on-time, conforming product and promptly? How will these characteristics be measured? If we don’t use the same

measure as our stakeholder we could be failing to satisfy our stakeholder and not know it until it is too late.

Success factors

Whatever we set out to achieve, we will not get very far unless we are conscious of the factors critical to our success. Many people do this subconsciously - always being aware of waste, relationships, customers etc. But we can be a little more scientific about this. Our question here is:

“What factors affect our ability to get it right?”

The answers identify the critical success factors – the factors upon which our success depends. Get these wrong and we will undoubtedly fail. Different factors apply at different levels. For example we can ask the question of the mission and produce a list of factors critical to the business as a whole. This might be turned into a set of corporate values and strategic objectives. If we ask the question of the ‘stakeholder measures’ the result will be a list of factors that enable us to determine the business outputs. For example if one of the stakeholders intended to use ‘utilization of people’ as a measure of success, we would ask, “What factors affect the utilization of people?” The answer might be

- ◆ Understanding the market – if we don’t understand the market we won’t develop the right services. If we don’t have the right services there will be no demand and consequently the people will be underutilized
- ◆ Attracting customers – if we have the right market but don’t attract customers we won’t have any opportunities to bid for work so our bid teams will be underutilized
- ◆ Winning bids – if we attract customers but don’t win bids we won’t be able to utilize the people we have available
- ◆ Scheduling jobs – if we win bids but don’t schedule jobs effectively, we will end up with some of our people being over worked and others underutilized.

This type of analysis is necessary in order to tease out the relationships between the measures and the processes. As this example shows, one measure does not necessarily lead to one success factor. There are often several dependencies and it is often where common dependencies arise that critical processes are identified.

Taking another example to illustrate the point. If the customers seek innovative solutions, product innovation becomes critical to our success and therefore we need a product innovation process. Also if the analysis of the market reveals that our competitors are bringing out new products every year and yet we still offer the

same products year after year, time to market becomes a measure of success. We would therefore ask what factors affect time to market? Many organizations are built upon a single product or service where the design was done prior to start up. In these circumstances, market innovation is critical to success; therefore a market innovation process is required.

Process outputs and outcomes

We started this guide by examining the EFQM Excellence Model® and pointed out that processes enabled (caused) results. We have shown that all processes produce results and some of these results are business outputs. We therefore should ask

“What will the stakeholders be looking for as evidence that their needs and expectations are being satisfied?”

We could skip all the analysis, go back to the mission and ask a similar question; “What results do we need to deliver to accomplish our mission?” or “What results do we want from fulfilling our mission?” We will get a different answer to each question because the former question is related to stakeholder needs and is outwardly focused whereas the latter takes no account of stakeholder needs and is inwardly focused. Inwardly focused organizations survive when demand exceeds supply as it did after WWII. In the 21st century, the customer is more discerning, society has more influence and there is more competition causing organizations to become outwardly focused in order to survive.

If we use the sample success factors above and apply this question we might reveal the following outputs.

- ◆ The stakeholders will be looking for a realistic marketing plan as evidence that the organization understands the market
- ◆ The stakeholders will be looking for growth in the number of enquiries as evidence that the organization is attracting customers
- ◆ The stakeholders will be looking for increasing sales as evidence that the organization is satisfying customers
- ◆ The stakeholders will be looking for optimum staff utilization as evidence that the organization is scheduling jobs effectively

Once again we could predict the answers, ask the stakeholders or simply observe what is important to them. As before we can develop processes that come pretty close to delivering the right outputs using our understanding of the business and the market and then validate them later.

Identifying the processes

As processes produce outputs, it is now time to ask the obvious question:

“What process delivers this output?”

Without being able to recognize the real processes in the organization we might come up with the following:

- ◆ The marketing process delivers the realistic marketing plan
- ◆ The sales process delivers the growth in the number of customers
- ◆ The sales process also delivers increasing sales
- ◆ The ? process delivers optimum staff utilization

The last output is more difficult because there is no one department that delivers optimum staff utilization – all departments do this. This illustrates the difference between function and process. Functions do deliver outputs but not necessarily business results on their own. They need the cooperation of other functions to do this. If we think process – ignore the functions – ignore who does what and focus on results the processes that deliver these outputs might be as follows:

- ◆ The mission management process delivers the realistic marketing plan
- ◆ The demand creation process delivers the growth in the number of enquires
- ◆ The demand fulfilment process delivers the increase in sales
- ◆ The resource management process delivers optimum staff utilization

These are just some of the outputs, but we have identified all the business processes as we did in Figure 2.

Critical to the business being successful in its chosen market place might be being better and faster than its competitors at delivering leading edge technology/products. This would lead to outputs such as x new products delivered within y months - leading to the need for an effective innovation/new product development process.

Process objectives

Further analysis of stakeholder needs, success measures and outputs will define all the process outputs. As the objective of any process is to deliver the required results, it follows that we can discover the process objectives from an analysis of its outputs. All that is required is to construct a sentence out of the output.

- ◆ If the output is a realistic marketing plan the process objective is to produce a realistic marketing plan

- ◆ If the output is growth in the number of enquires the process objective is to grow the number of enquiries
- ◆ If the output is increase in sales the process objective is to bring about an increase in sales
- ◆ If the output is staff utilization the process objective is to ensure optimum staff utilization

In some cases the wording might need to be different whilst retaining the same intent. For example, a measure of employee satisfaction might be staff turnover and management style may be considered a critical success factor. The output the employee is looking for as evidence that management have adopted an appropriate style is a motivated workforce. Motivation is a result but there is no process that produces motivation. It is an effect not an output. Instead of expressing the objective of the process as to motivate the workforce, it becomes "To maintain conditions that sustain worker motivation."

Process measures

Having established the process objectives there needs to be measures of performance. Some call these performance indicators. They respond to the question:

"What measures will reveal whether the process objectives have been met?"

Here we are concerned with process measures not stakeholder measures – these we dealt with previously. However, process measures do need to be derived from stakeholder measures. A typical example of where they are not is currently the case in the UK National Health Service. Performance of hospitals is measured by waiting time for operations but the patient cares more about total unwell time. Even if the hospital operation waiting time was zero, it still might take 2 years getting through the system from when the symptoms first appear to when the problem is finally resolved. There are so many other waiting periods in the process that to only measure one of them is totally misleading.

Taking our example, the process measures for the four objectives we have identified might be as follows:

- ◆ A measure of success for a process objective which is to produce a realistic marketing plan might be an acceptable plan produced on time
- ◆ A measure of success for a process objective which is to grow the number of enquiries might be the month on month increase in the number of qualified leads
- ◆ A measure of success for a process objective which is to bring about an increase in sales might be month on month increase in the order book value

- ◆ A measure of success for a process objective which is to ensure optimum staff utilization might be staff overheads

Process measures need to tell us how the process is performing today not how it performed a year ago. If we don't measure the right variables, we won't know what to change if the results are not what we require.

Measurement methods

The integrity of the measurement depends on the method of measurement. If we use crude measurement methods such as gut feel, perceptions or hearsay evidence the results will be suspect. Results need to be obtained using soundly based measurement methods that extract facts from the process. The most common method will be analysis of data but some thought needs to go into deciding the data to be collected and how it will be analysed.

Targets

Measurements will produce data but not information. Managers need to know whether the result is good or bad. So when someone says "Are we on target?" the target obviously needs to be known and related to what is being measured which is why the targets are set only after determining the measurement method. Setting targets without any idea of the capability of the process is futile. Setting targets without any idea what process will deliver them is incompetence – but it is not uncommon for targets to be set without any thought being given to the process that will achieve them. Staff might be reprimanded for results over which they have no control; staff might suffer frustration and stress trying to achieve an unachievable target. Managers can only expect average results from average people and perhaps there are not enough extraordinary people to go round to produce the extraordinary results they demand.

A realistic method for setting targets is to monitor what the process currently achieves, observe the variation, then set a target that on an 80:20 basis the process can deliver. There is clearly no point in setting a target well above current performance unless we are prepared to redesign the whole process. However, performance measurement should be iterative. There should be learning from the results as indicated in Figure 1.

Process stages

The key stages of the process emerge from answering the question:

"What are the key stages we need to perform to achieve these objectives"?

Note that we cannot even contemplate this question until we have derived the process objectives from an analysis of stakeholder needs. We should assemble a

small team of people who appear to be involved with achieving the particular objective. When they get together, they might start the brainstorming like this:

OK, we need a process to increase sales enquiries, so:

- ◆ Where do the sales enquiries come from?
- ◆ How does the customer know we exist?
- ◆ What prompts the customer to call?
- ◆ When we receive a sales enquiry what is the first thing we do?
- ◆ Then what do we do?

All the time ignoring departmental boundaries, who does what and where. Eventually everything that the people do is revealed in the smallest detail.

Now comes the hard bit – someone has to see the wood for the trees (perhaps a shredder is required!) Activities with the same purpose are clustered to form larger tasks; tasks with the same purpose are clustered to form process stages so that a small number of key stages emerge. There are a few ways of illustrating this. We could simply list the key stages as shown in Figure 8 or draw a process map as shown in Figure 9. One advantage of the key stage list is that it is not cluttered by decision shapes and feedback loops. Not every stage is always triggered by an input e.g. a business plan will not always require a new service to be developed. A process map tends to suggest that all channels are active.



Figure 8 Process key Stages

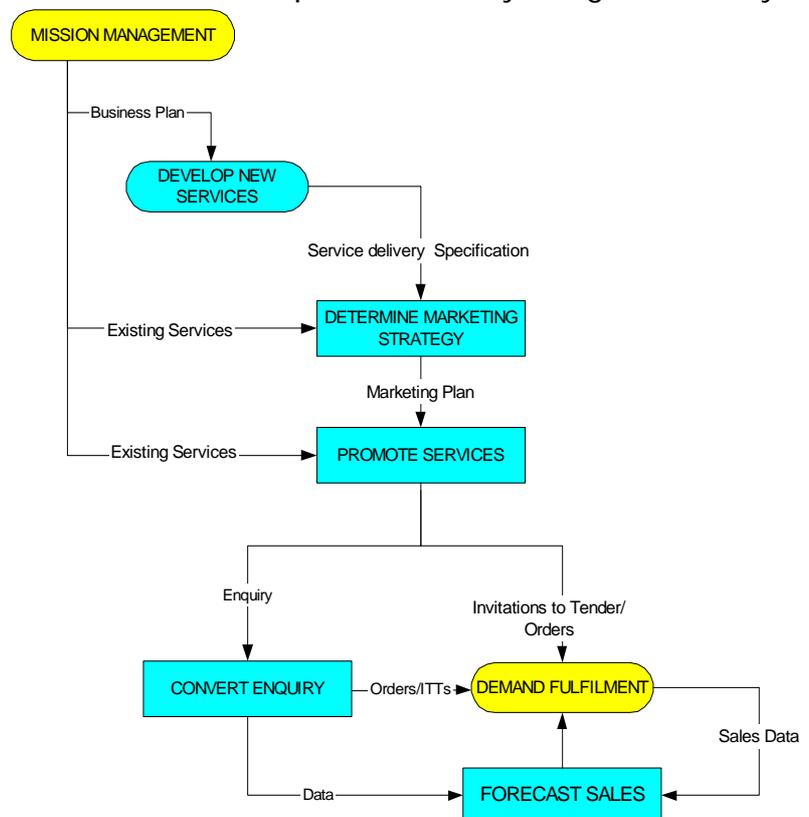


Figure 9 Demand Creation process map

Activity flow charts

Where necessary activity flow charts like the example in Figure 5 can be produced. Charts simply serve to communicate the sequence and interrelationship between activities. They rarely instruct a person how to perform the activity that is described.

Procedures

Procedures are simply a way of proceeding to do something. They may be verbal, diagrammatic or text. In order to manage the processes there needs to be a means to convey what is required, who is responsible and where necessary any preferred methods. This can be conveyed in text but is often helped by diagrams. When producing this information, it is important to bear in mind what one is doing. The information is not being documented to satisfy a third party. It is being documented to assist in the understanding of the process; assist in training the people responsible for its outputs and to assist in the improvement of the process after reviewing the results it delivers. If the descriptions do not match what actually happens, they will be of little use for these purposes.

In the ISO 9000 fraternity there is a commonly held belief that procedures are a specified way to carry out a process and therefore are documented processes. In the vast majority of cases documented procedures are used by humans not machines. They prescribe the actions that humans are intended to take in performing a task but they do not fully describe the process. When producing a procedure it is unnecessary to explain the origin and nature of the resources required, the behavioural traits required, even the competences required to perform the task. What the procedure does is to indicate the steps to follow when the resources are in place. Sometimes the precautions one should take are included. If what is wanted is a description of a process, an entirely different document would need to be produced.

Risk assessment

So far we have approached the management of processes from the viewpoint of "How do we make it happen?" The approach has been driven from the mission and stakeholder needs. However, managers would be failing in their duty if they did not take account of what could go wrong. Sit back, take a long look at the process as described or as observed in operation and ask:

"How could this process fail to achieve its objectives?" This results in the identification of failure modes. Next ask for each failure mode:

"What effect would this failure have on the performance of this process?" This results in identifying the effects of failure. Then ask:

“What could cause this failure?” This identifies the causes of failure of which they may be several so you need to get to the root cause. Now ask:

“How likely is it that this will occur regardless of any controls being in place?” This results in a list of priorities.

Now examine the process and establish what provisions are currently in place to prevent, control or reduce the risk of failure. Some failure modes might be removed by process redesign. In other cases, review or inspection measures might be needed and finally, strengthening of the routines, process instructions, training or other provisions may reduce the probability of failure into the realms of the unlikely.

This methodology can be used to test processes for compliance with requirements of national or international standards. Even if no provision has been made to remove the risk, it could be that the risk is so unlikely that no action is needed.

When performing risk assessment, the failure modes should be realistic. They should be based on experience of what has happened - possibly not in your organization but somewhere. A potential failure is not one that might never happen otherwise you will never get out of bed in a morning, but it is one that either has happened previously or the laws of science suggest it will happen when certain conditions are met.

The changes that you make as a result of the risk assessment should reduce the probability of process failure within manageable limits.

Resources

Although no process can deliver its objectives without resources, the resources are always supplied by another process – the Resource Management process. When mapping out the key stages and activities, human, physical, financial and knowledge resources will be needed to execute them. In the Demand Creation process we examined previously, there is no stage at which resources are generated. There is a process that supplies the desks, the phones, the computers, the people, the stationery, the electricity etc for the Promotion stage of the process to function.

However, none of these resources will be supplied unless a needs analysis has been performed. This analysis should take place at two levels - firstly when determining the critical resources required to achieve the objectives and secondly when determining the resources required to execute the specific activities. The first results in a set of resources unique to the process and the second results in a set of resources common to most processes such as the desks, computers etc.

A series of questions need to be asked to identify resource needs:

- ◆ What competences do we need to produce a realistic marketing plan, grow the number of enquiries etc?
- ◆ How many more sales staff are needed to bring about the required growth in enquiries?
- ◆ What unique physical resources do we need to develop the next generation of personal computer?

Process review

Performance is unknown until it is measured. The traditional business measures of profit, return on capital employed, earning per share doesn't tell us anything about the processes, except perhaps that they are responsible for these results. These are what we call lagging measures. They tell us what performance was some months ago but not what it is today. And in any case they don't help us identify what we need to change to improve performance today. We therefore need to answer the following question relative to each process objective:

"How are we doing?" or "How do we know we are doing it right?"

A process review where these questions are asked will establish whether the process objectives are being achieved. The review commences by collecting performance data and presenting it in such a way that performance relative to the objectives can be observed. Often graphical presentations are best as they show trends and the influences of previous attempts to adjust performance.

When the objectives are being achieved it is not time to be complacent. It maybe costing the organization considerable resources to achieve the objectives, therefore another question to ask is:

"Are we doing it in the best way?"

This is when such tools as process mapping, team flow, transaction analysis and theory of constraints can help identify opportunities for improvement.

The third and perhaps most vital element of process review is to ask:

"How do we know it's the right thing to do?"

By the time we have developed the process so that its achieving its objectives and undertaken improvements in effectiveness we could be wasting our time if the goal posts have moved. Maybe the needs and expectations of stakeholders have changed. Maybe they no longer measure our performance in the same way. When establishing the process objectives, we need to have some idea of their

permanence. Some objectives remain unchanged for years others change rapidly. If we identify any objectives in the latter category, effectiveness reviews might need to be performed more frequently than once a year.

Process improvement

The process should have been designed to achieve the objectives, therefore if the objectives are not being achieved, process design is not yet complete – more work needs to be done. This work is not process improvement – it's putting in place the provisions that should have been in place to start with.

Process improvement comes about for two reasons. When objectives or targets change and when the resources needed to deliver the objectives change. Therefore a project designed to improve the hit rate for the tendering process is a process improvement project. A project designed to reduce the cost of tendering for business is a process improvement project. A project design to enable a process to achieve its objectives is a process design project. However, a project designed to reduce variation so that the process delivers more outputs that meet target is a process control project. This subtle distinction is important when formulating budgets. A manager might well place the effort to improve performance in line with the declared process objective in the 'improvement bucket' when in fact it should be in the 'maintenance bucket'.

Summary

We have explained the nature of processes, used examples to illustrate the composition of processes and stressed the difference between the notion that a process is simply a sequence of steps from input to output, and the concept that processes deliver business results.

We have demonstrated that an *effective process is a set of interrelated activities, behaviours and resources that is designed and managed to achieve desired results.*

We have also shown that to manage processes effectively one needs to:

- ◆ Understand what the organization is trying to do and who it is doing it for
- ◆ Understand stakeholder needs and expectations and how they will measure the organization's performance
- ◆ Ensure the process objectives are expressed in measurable terms and derived from stakeholder needs and expectations
- ◆ Establish measures of success - the factors that will indicate whether the objective has been achieved.
- ◆ Define the key stages that deliver process outputs.

- ◆ Define the resources, information and competences required to deliver the required outputs.
- ◆ Identify the risks and put in place measures that eliminate, reduce or control these risks.
- ◆ Determine how performance will be measured against the objectives and variation reduced.
- ◆ Establish how process efficiency will be determined and improved.
- ◆ Establish how process effectiveness will be determined and policies and objectives changed to reflect the needs of the interested parties.

Throughout the guide there has been connectivity - a connection between enablers and results. If the organization does not make this connection, the results will arise by chance. Nothing happens in isolation there is always a cause and effect and this concept is vital in understanding how to manage the organization's processes effectively.