Finding the right place to start

In this article David Hoyle & John Thompson of Transition Support look at the various ways people have commenced the application of ISO 9000 and arrived at a result that is less effective for the organization than might have been the case had they started from a different point.

Introduction

There is an old Irish story told of a tourist passing through Ireland and seeing an old man sat on a wall, stops to ask him the way to Dublin. The old man replies "Dublin is it you want? - Oh I wouldn't start from here".

This illustrates the dilemma of those making the transition to ISO 9000:2000. They get so far along the road and get lost only to find they have to retrace their steps because they have started in the wrong place. Or, they assume they have reached the right place but then discover months later that they are nowhere near it.

By proceeding in the direction in which they set out, it may look like they have built a 'quality management system'. In reality they have probably done no more than create a collection of documents – a 'Quality Manual', 'Quality Procedures' and Forms - which describe a set of responses to clauses contained in ISO 9001 in the form of a series of transactions.

A system, in the organizational sense, is a chain of linked operations that produce specific and desired results. Therefore when designing a quality management system you need to decide whether the result you want from the 'system' is simply ISO 9001 certification or in fact improved business performance. Surely there is no difference? In theory, these are the same thing i.e. you should not gain or retain ISO 9001 certification unless the 'quality management system' represents the way in which the organisation achieves its objectives and improves its business performance. But the really is far different.

If the result is no more than that a collection of documents ***you will not have improved performance, nor have an effective (quality) management system.***

So, where is the right place to start? What are the options? The following statements reflect some common advice:

- "What you need to do is to document all your activities"
- "All you need to do is to turn your procedures into flow charts"
- "You need to map your processes"
- "A good place to start is to define your objectives"

In reality none of these is the right starting place simply because one never starts a journey without some preparation, planning or a vision of success

So let us assume that you:

- Have read all three standards in the ISO 9000 Family - ISO 9000, ISO 9001 and ISO 9004 (only those committed to business improvement will).
- Have understood the underlying principles and grasped the essence of the change that is required i.e
    - a change from documents describing tasks derived directly from clauses in ISO 9001 to a results based system of clearly defined and managed business processes that enable the organization to achieve its objectives
    - a capability to demonstrate through objective evidence how the organisation has implemented the underlying management principles in achieving its purpose
- Have established how the current (Q)MS is perceived in the organization i.e.

- What it is,
- Which activities it covers, which it does not,
- What it achieves for the organization and what it does not,
- What it should achieve.

♦ Have tested understanding i.e

- It is accepted that the concept of a QMS cannot be separated from the concept of a Business Management System. The organisation has only one system of linked processes designed to meet its objectives
- Perceptions are beginning to change and the QMS/BMS is no longer perceived simply as a means to put a badge on the wall but an effective means to drive business performance.

Now having some idea of the journey you need to take let us go back to the 'helpful' advice above and find where each might take us if we were to start from there. However, look out for *sharp rocks and crevices along the way!*

Should we start by "documenting activities"? (Option1)

To start here you can simply ask everyone to write down what they do with reference to ISO 9001 and construct lists or flowcharts from the results. You will end up with pages and pages of information that may not in fact link together because different people may see the same job differently from others. The questions you need to ask is "What have we documented?" "Are these processes?"

We understand that processes have a start point, an end point and convert inputs into outputs - but is that all there is to a process? Processes also achieve certain results therefore the outcomes of these documented activities need to be defined. Let us take an example to explain the concept.

An operator has documented the activities concerned with assembling a gearbox. The result is a gearbox; surely we have a successful 'process result'. But how do we really measure the process success? One measure might be the number of assembled gearboxes that meet the specification - but conformity to specification is only one parameter, there may well be others. Is it the gearbox the customer wants? Does it meet the specification **and** is it delivered on time - **and** within budget? The gearbox has to be assembled in a certain time therefore; measuring assembly time against target is another measure. What happens if it's the wrong gearbox? It still meets the spec and is delivered on time. What activity is carried out to ensure only the right gearboxes are assembled? If this is not shown as part of the gearbox assembly process it must be part of another process. Also what happens if the customer doesn't require gearboxes? What action ensures that the products assembled are those actually required by the customer? Again, if this is not shown as part of the gearbox assembly process it must be part of another process.

Another situation is where the assembly process stops because of the unavailability of materials or the absence of skilled personnel. Is there another process to ensure this does not happen? The gearbox assembly process may identify these as inputs but does not ensure their quality, quantity and timeliness.

By starting with activities at a low level, you are, in effect, assembling the pieces of a jigsaw without knowing what the finished picture looks like, being prompted only to look for pieces where there is no straight edge. You will eventually complete the picture but it will take a long time and in several cases you will believe that you need a piece that does not actually exist.

People starting down this road inevitably end up with lots of areas that are not defined because connections cannot be made. Tensions develop. Where this occurs at departmental level, one often finds that each department starts to devise new 'processes' to fill the gaps resulting in mass duplication.

At the end of the documentation exercise, you sit back and look at what you have accomplished. The results are not good because you have not identified the 'vital few' processes that really deliver the organization's results. What you have are countless descriptions of partial 'processes' that give the appearance of an analogue telephone switchboard - a birds nest of connections through which no one can see the complete picture. Most people know what it is that they do, but trying to relate this to the goals of the organization in a coherent manner becomes impossible. It is so complex that you cannot be sure that there is a linkage between customer requirements and their achievement. Of course, know one will have documented things they are not aware of doing such as creating a motivating environment, building customer relationships, building supplier partnerships and yet these are important for the organization to achieve its objectives.

If the result is no more than a collection of documented activities, not the results that they set out to achieve and the activities they perform to achieve them, you will not have improved performance, nor have an effective (quality) management system

…….you clearly wouldn't start by "documenting your activities".

Should we start by turning procedures into flow charts? (Option 2)

To start here you could assemble all the existing documentation that constitutes the quality management system. This will probably be a Quality Manual, a set of documented procedures and lots of work instructions. The procedures may be predominantly described by paragraphs with lots of references to forms and tables and other documents such as design reviews, contract reviews, training records, purchasing, and internal audits. The work instructions may be a series of one line commands that define how an individual task should be carried out, such as receiving an order, setting up a machine, filling in a form, processing a complaint or inspecting a product.

Previous experience concluded that you could not audit conformity with procedures unless procedures existed – however this usually produced more procedures than were actually required (although, many organisations and external auditors failed to spot this). For example because there was a clause in the Standard you probably had procedures for Management Review and for Responsibility and Authority – the former might be sensible but procedures for responsibility and authority would only be procedures if they defined how responsibility was determined and assigned and authority delegated. If they merely contained a list of responsibilities and authority they would not be procedures at all.

So if you listed all of your existing procedures you might come up with something like the table below.

Having made the list you could now compare the existing procedures (which, of course, as some auditors advise can now be called 'processes') with the clauses of ISO 9001:2000. Making the assumption that anywhere it requires the organization to "ensure" something, there needs to be a process you are now able to identify the gaps and therefore the 'actions' required.

A cursory examination of ISO 9001:2000 will reveal that there are only six mandatory documented procedures required and you notice that you already have procedures for document control, records control, internal audits, nonconformity control, corrective action and preventive action. So no problem here! In examining clause 4.2.1d) you find that you also need documents that will ensure the effective planning, operation and control of your processes. You look at your existing procedures and find that all have a starting condition, a procedure and an end condition – in other words the 'inputs' and 'outputs' appear to be defined. You are delighted to see that your procedures look like processes because they convert inputs into outputs. You hear about flowcharting and from the information you have gathered you could come to the conclusion that the "sequence and interaction" required by clause 4.1b) can be resolved by simply turning the existing procedures into flow charts and having a 'route map' showing how they 'fit' together.

`

	Procedures/ requirements	1994 Clause	2000 Clause	Action on existing procedure	Gaps
1.	Document and data control procedures	4.5.1	4.2.3	Convert to flow chart	
2.	Control of quality records	4.16	4.2.4	Convert to flow chart	
3.	Determining customer requirements		5.2		New process required
4.	Determining quality policy		5.3		New process required
5.	Determining quality objectives		5.4.1		New process required
6.	Quality management system planning		5.4.2		New process required
7.	Responsibility and authority	4.1.2.1	5.5.1	Convert to flow chart	
8.	Internal communication		5.5.3		New process required
9.	Management Review	4.1.3	5.6	Convert to flow chart	
10.	Provision of resources		6.1		New process required
11.	Identification of competence needs	4.18	6.2.2	Modify to address competence and convert to flow chart	
12.	Infrastructure maintenance		6.3		New process required
13.	Quality planning	4.2.3	7.1	Convert to flow chart	
14.	Determining product requirements		7.2.1		New process required
15.	Contract review procedures	4.3.1	7.2.2	Change title and convert to flow chart	
16.	Customer communication		7.2.3		New process required
17.	Design control procedures	4.4*	7.3	Convert to flow chart	
18.	Purchasing procedures	4.6.1	7.4	Convert to flow chart	
19.	Receipt inspection	4.10.2	7.4.3	Convert to flow chart	
20.	Production procedures	4.9*	7.5	Convert to flow chart	

	Procedures/ requirements	1994 Clause	2000 Clause	Action on existing procedure	Gaps
21.	Special processes	4.9	7.5.2	Convert to flow chart	
22.	Installation procedures	4.9*	7.5	Convert to flow chart	
23.	Servicing procedures	4.9*	7.5	Convert to flow chart	
24.	Product identification procedures	4.8*	7.5.3	Convert to flow chart	
25.	Traceability procedures	4.8*	7.5.3	Convert to flow chart	
26.	Customer supplied product	4.7	7.5.4	Change title and convert to flow chart	
27.	Storage procedures	4.15.1	7.5.5	Convert to flow chart	
28.	Packaging procedures	4.15.1	7.5.5	Convert to flow chart	
29.	Preservation procedures	4.15.1	7.5.5	Convert to flow chart	
30.	Delivery procedures	4.15.1	7.5.5	Convert to flow chart	
31.	Handling procedures	4.15.1	7.5.5	Convert to flow chart	
32.	Calibration of inspection measurement and test equipment	4.11	7.6	Change title and convert to flow chart	
33.	Application of statistical techniques	4.20.2	8.1	Convert to flow chart	
34.	Customer satisfaction monitoring		8.2.1		New process required
35.	Internal quality audits	4.17	8.2.2	Convert to flow chart	
36.	Process measurement		8.2.3		New process required
37.	Inspection and test procedures	4.10	8.2.4	Change title and convert to flow chart	
38.	Control of nonconforming product	4.13	8.3	Convert to flow chart	
39.	Data analysis		8.4		New process required
40.	Continual improvement		8.5.1		New process required
41.	Corrective action procedures	4.14.1	8.5.2	Convert to flow chart	
42.	Preventive action procedures	4.14.1	8.5.2	Convert to flow chart	

On this basis there are 13 new process documents that need to be produced as all the existing procedures can be converted so as to comply with the new standard.

The problem with this approach is that the effort is simply focused on producing documentation perceived to meet the clauses rather than designing a system of processes to meet the purpose of the system, ie fulfilling the organisational objectives.

What it does is produce discrete documents that might appear to be descriptions of processes but are in fact no more than descriptions of activities. In fact it could be said that the result from this approach to the transition is to produce “more of the same”. No fundamental change here!

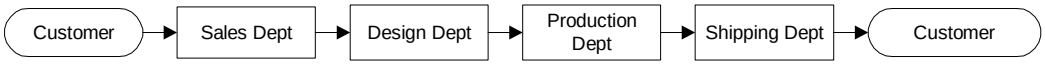
The documents produced remain based on what people do now. By treating the new areas as processes, it puts activities into groups that in reality do not stand-alone. For example, Data Analysis is a routine that should form part of every process. By producing a separate document it makes it appear that there is an organizational objective that is served by this process when in fact, it serves objectives that are achieved in each and every process such as the order to cash process or resource management process (processes that have not been identified by this approach). You can’t achieve the process objectives without performing data analysis. Several different methods of analysing data may be used and the collection, transmission, analysis and decision-making activities will differ depending on what is being measured or monitored.

If the result is no more than a collection of procedures turned into flowcharts you will not have improved performance, nor have an effective (quality) management system.

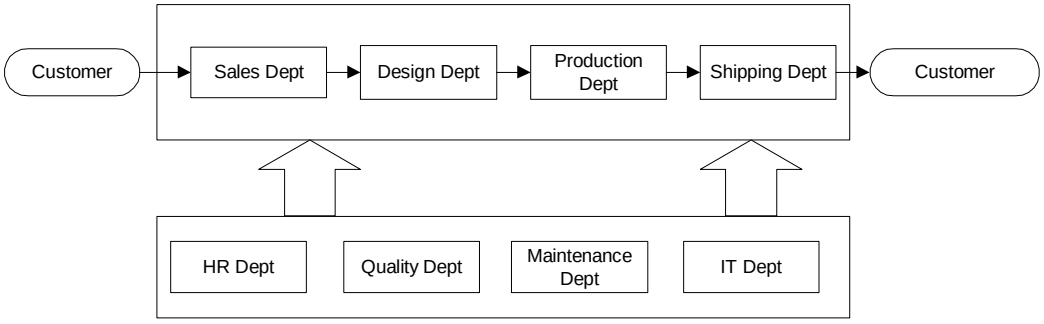
……. you clearly wouldn’t start by turning your procedures into flowcharts.

Should we start by mapping our processes? (Option 3)

To start here, you would need to know what a process is. The guides will tell you that a process converts inputs into outputs, so what you will probably do is to examine each department and identify their inputs and outputs. The guides also show you that processes are connected together to form a chain from the supplier through the organization to the customer. In response, you treat each department as a customer and as a supplier and link them all together to form a supply chain. This might look like this.



Doing it this way you then find that many departments have been left out of this ‘supply chain’ and define the notion of ‘support processes’. Modifying the diagram you would then create something like this:



While this model looks as though you have included all departments, you observe that top management is not included. An examination of the flow charts for the Quality Dept reveals that there is a process for generating the quality policy and as this is approved by top management you believe you have addressed the requirements in the standard on top management.

Also, you discover that not all the outputs of the Sales Dept become inputs to the Design Dept and that not all inputs come from the customer. You notice the same situation with other departments – where are Finance and Marketing? You soon discover that this diagram is too simplistic. However, you persevere and compile a Quality Manual that includes this diagram and flow charts for each department.

You now consult the standard and find that you need to define quality objectives and measure processes. The solution, you think, is to ask each department to define its quality objectives and tell them that a quality objective is, according to ISO 9000:2000, something sought or aimed for, related to quality. The result is a long list of statements that appear to be "quality objectives". Statements where the departmental managers have defined objectives in terms of a reduction or an increase in a parameter such as, a 10% reduction in customer complaints, a 14% reduction in first fit defects, a 25% increase in test equipment availability. The managers now report that the identified processes are measured by the extent to which the objectives are met. It does not occur to them to measure the factors upon which stakeholder satisfaction depends.

Now you sit back and look at the result. It looks OK you think but is it an effective system? Is it a system at all? *Let us now test its effectiveness.*

Test	Result	Conclusion
A system should have a purpose, so what is the purpose of this system?	It has been put together from responding to requirements of ISO 9001:2000, so it appears that the purpose of the system is to demonstrate compliance with ISO 9001:2000.	According to ISO 9000, the quality management system should enable the organization to satisfy the needs and expectations of customer and other interested parties. *It is therefore reasonable to assume that this system was not built on this premise and therefore may not be effective.*
What are the needs and expectations of your customers and other interested parties and to what extent are they currently being satisfied?	The system as designed only shows a Sales Dept which processes orders and undertakes after-sales activities.	There is no Marketing function – or a process that establishes customer needs and expectations *therefore the system cannot be effective.*
On what basis was the quality policy established?	Top management produced the policy statement having studied the requirements of ISO 9001.	The policy is supposed to be appropriate to the purpose of the organization, which, according to ISO 9004, is to identify and meet the needs and expectations of its customers and other interested parties and to do this in an effective and efficient manner. *This policy appears to bear no relationship to the organization's purpose.*

Test	Result	Conclusion
What objectives have been defined and how were they established?	Each department established quality objectives on the basis of aiming for quality improvements.	The objectives are supposed to be consistent with the quality policy and relate to the needs and expectations of its customers and other interested parties. *These objectives may target opportunities for improvement but such opportunities are not related to the needs and expectations of customers and other interested parties.* There are no objectives addressing the factors that affect the organizations ability to satisfy the needs of its customers and other interested parties, therefore the objectives do not appear appropriate to the organization's purpose. *This system cannot be effective.*
How has the quality policy been used?	The policy has been used to notify everyone of management commitment to quality.	The policy is supposed to provide a framework for setting quality objectives. *As the relationship between the policy and the objectives is not consistent, (there is only a linkage in terms of continual improvement) the policy is not effective.*
How were the processes identified?	The processes were defined by each department and the inputs and outputs matched so as to form a chain between receiving customer orders and shipping product to customers	The processes are supposed to be linked to the objectives so that they become the means by which these objectives are achieved. *As the linkage is between departments there is no traceability to show how the specific requirements of customers and interested parties are achieved. The processes are therefore serving departmental interests not those of customers and interested parties and are therefore ineffective.*

The conclusion we draw from this example is that by starting with identifying processes it draws you away from customers and tends to put the focus on departmental activities. You end up with a set of processes that are serving internal, departmental needs and not the needs of external stakeholders. Consequently there is a mismatch between processes, objectives and policies and hece little alignment with the real needs and expectations of customers and other interested parties. Therefore if you were trying to describe an effective system you wouldn't start by defining your processes.

If the result is no more than a collection of functional or departmental 'processes' which are created to serve internal objectives derived from narrowly defined 'quality objectives' you will not have improved performance, nor have an effective (quality) management system.

……. you clearly wouldn't start by defining processes.

Should we start by defining our objectives? (Option 4)

"To be sure!" said the old man, "that would be the place to start from!"

If you start by understanding and defining the organization's strategic objectives, you are in the right place. If you start by defining departmental objectives or the objectives of tasks and procedures, you may be in the wrong place if these objectives have not been derived from the organization's objectives. It is not uncommon, when asking top management to define their objectives to find that they believe they are in business to make money. In reality making money is the result of what they do. If they manage their operations effectively they will achieve their aim. If they manage them poorly they will lose lots of money, generally other peoples'! It is therefore what they are trying to do that counts and many organizations refer to this as their vision, mission or goal. It does not matter too much what it is called, what it does is to indicate what the organization wants to achieve in the short and long term. It therefore makes sense to start at this point.

Having established or clarified the vision, mission or goals, one should consider the needs and expectations of the stakeholders. Whatever an organization is trying to do, it won't get very far if it fails to satisfy its stakeholders.

Without understanding customer requirements you are unlikely to establish a system that will enable the organization to satisfy them. It also expresses the principle illustrated by Figure 1 in ISO 9001:2000. However, you need to ask "Which customers needs and expectations should we be seeking to understand?" and "Is it only customers whose needs need to be understood?"

If you start by examining current customer requirements through the orders they place on the organization, you are likely to overlook the needs of potential customers that the organization wishes to attract. You may also overlook customer expectations, as often these are not written in contracts and orders. Customers require products to be safe, reliable, economic, durable etc and expect a courteous service, honesty and integrity in their dealings with you but may not specify requirements for these characteristics. These are often taken 'for granted' and as such ignored! You will also overlook the exciting requirements – features and benefits that customers have neither specified nor expect but would beat a path to your door if they know you could provide them.

Do not be fooled by the results of mailed 'customer satisfaction' surveys that are completed within the wrong context by the wrong people at the wrong time! Understanding customer needs and expectations requires a little more effort, competence and imagination. An analysis of current orders/contracts is also not the whole answer. Such analysis tends to focus on specific products when what you need to know are the needs and expectations of the market in which you are trading. The system you are building is not for specific products but for the organization as a whole. It needs to be capable of coping with the range of products and services offered, the range of markets in which the organization operates and any variations that might arise.

An organization will not survive if it only focuses on satisfying customers – it could go bankrupt. There are other parties with an interest ("interested parties or stakeholders") in the business and their needs should also be satisfied for the organization to grow stronger, avoid prosecution, attract the right type of people and retain the support of the community.

From an understanding of stakeholder needs and expectations one can then work out how success will be measured and what processes will be needed to deliver this success.

By starting with an understanding of the organizations goals and developing a linkage between goals, stakeholders, success measures, processes and results, the organization will create an effective management system.

Conclusions

Clearly if you start by documenting activities or flow charting existing procedures you will not create an effective management system. At best you will address all the requirements of the standard and at worst create a set of documents that is akin to sticking a thermometer on the wall in the vain hope that someone will notice it and adjust the temperature, when what is perhaps really needed is climate control.

If you begin by mapping your processes, you need to be careful how you go about identifying them. Using the headings from the standard is not recommended. No organization operates in this way. You might derive your objectives from the process outputs and be mislead into believing that your system is effective if the process objectives are achieved. But you will have overlooked stakeholder needs. If the process objectives have not been derived from the stakeholder needs then it is questionable whether the system is effective at all. Clearly if the satisfaction of stakeholder needs is so critical, understanding stakeholder needs should be one of the first thing you do but you can't do it in isolation – it has to be done in context, which is why the best place to start is by defining the organization's objectives. So ask yourselves, "What are we really trying to do around here? – Because if this is unclear, no amount of procedures, process maps or quality manuals will make any difference to the outcomes.

Once you have started on the right road you can take advantage of other Transition Support publications.

- Converting a QMS using the Process Approach
- ISO 9000:2000 Auditor Questions using the Process Approach

Produced by:

David Hoyle & John Thompson. Directors of Transition Support