Integrated Management Systems Series

IMS: Continual Improvement Through Auditing

IMS Risk Solutions Ltd

BSi
Business Information

IMS:
Continual Improvement
Through Auditing

Integrated Management Systems Series

The Integrated Management Systems (IMS) series of books provides practical guidance and advice on integrating the systems operating within an organization. The IMS series provides a framework into which additional management systems can be incorporated.

Each volume is written by an acknowledged expert in the field. The series editor is David Smith of IMS Risk Solutions Ltd, who has been involved in writing management system standards since the early 1990s and is himself the author of a number of BSI books on the subject.

IMS: The Framework
IMS: Implementing and Operating
IMS: Customer Satisfaction
IMS: Creating a Manual
IMS: Information Security
IMS: Managing Food Safety
IMS: Risk Management for Good Governance
IMS: The Excellence Model
IMS: Continual Improvement Through Auditing

Integrated Management Systems Series

IMS: Continual Improvement Through Auditing

IMS Risk Solutions Ltd

IMS: Continual Improvement Through Auditing

First published by BSI 2004

ISBN 0 580 44448 1

BSI reference: BIP 2011

A catalogue record for this book is available from the British Library.

Typeset by Monolith – www.monolith.uk.com
Printed by PIMS Digital

Contents

Figures

1. The requirement of continual improvement

Any organization of any kind should seek to improve its performance all the time. No business can plan to stand still just as it is, because if it does it will inevitably decline. Everyone should try to reduce their costs, improve their performance, increase their sales, make more profits or satisfy more customers or clients.

That is obvious, and nothing new. What is new is that some management system standards now specify continual improvement as a requirement, not just an intention; and it is the system itself that has to be improved, not merely some aspect of the operation of the business. The integrated management system (IMS) framework (see Appendix 1) states that 'The organization should establish, document, implement and maintain a management system and seek to continually improve its effectiveness' (section 0). It continues 'The organization should … implement actions necessary to achieve planned results and continual improvement of these processes'. That is a statement of intent, but elsewhere continual improvement is a mandatory requirement. ISO 9001:2000 includes the following requirement: 'The organization shall continually improve the effectiveness of the quality management system …' (8.5.1) and ISO 9004 is entitled 'Guidelines for performance improvements'.

ISO 14001:1996 requires that 'Top management shall define the organization's environmental policy and ensure that it … includes a commitment to continual improvement …'.

The same applies in the field of occupational health and safety. OHSAS 18001:1999 requires that an organization's policy 'shall include a commitment to continual improvement' (4.2).

It may well be asked how one can undertake to achieve continual improvement in anything. Surely if something is working as well as can be imagined, further improvement is not possible, let alone continual improvement? The old adage 'If it ain't broke don't try and fix it' suggests that it is not always sensible to try to improve things. That is only partly true.

No matter how good something is, it is always sensible to consider how it might be improved – in terms of efficiency or cost or performance. However, change for change's sake is never a good idea unless you are a politician trying to leave your mark on the world and changes need to be controlled sensibly. One large engineering company, mass producing consumer goods, was almost brought to a standstill by the flood of changes implemented – design office instructions coming out of the design department made life almost impossible for the production engineers. Similarly, it is not uncommon to hear complaints from the National Health Service, schools and almost every public service of how they are handicapped by the constant stream of 'new initiatives' imposed on them by government departments desperately anxious to show the public that they are doing something. But that is not to say that looking for ways to improve is wrong – improving products, services and systems by which a business is managed. It is how to achieve these improvements in practice which is the subject of this book.

If a goal is to improve a product or service, an obvious start point is to look at the ways in which the existing product is failing to meet the needs of the customer, and how these shortcomings can be remedied. It may be that the product is too expensive, or too unreliable; that hospital waiting lists are too long; that school exam results are unsatisfactory; or that the clear-up rate of crimes is unacceptably low. All these things can be measured, and performance indicators compiled, so that improvement can be measured. To be able to demonstrate that improvement has taken place, some kind of measurement is essential if the judgement is not to be entirely subjective, but defining meaningful performance indicators is not always easy.

The task may be particularly difficult when one is considering improvement in a management system. Clearly one can look at failures in the system, and their elimination, just as a production system can be improved by reducing the numbers of rejects, but that will provide only a small part of the answer. Improvement should also be sought in a system that is working well, but could work better, which is less easy to measure. As will be seen, this is best achieved by an audit system which not only looks for failures, in a negative fashion, but looks proactively at how things could be improved. Any control system requires feedback if it is to work properly, and auditing provides that feedback.

Improving the processes

So how does one get to grips with improving a business? (We use the term 'business' rather than 'organization' for a number of reasons. It is shorter. It serves as a reminder that a hospital or school or a government department

are all businesses in the sense that they are all seeking to satisfy customers or clients and other stakeholders.)

It is the processes in the businesses that we are seeking to improve. A process is any activity carried out within the business where value is added to an input to produce an output. At its simplest, it can be answering the telephone or opening a letter. Often, or indeed usually, the output from one process forms the input to another. Having opened the letter, perhaps it is acknowledged and then passed to the person who will deal with it. Processes are normally planned, carried out under controlled conditions (ie there are rules or procedures) and add value to the input. The quality standard ISO 9001:2000 requires that the business shall 'identify the processes needed for the quality management system and their application throughout the organization' (4.1).

A model of a process-based management system is illustrated in Figure 1.1. This is based on a diagram in ISO 9001 where it is used to illustrate continual improvement in relation to a quality system, but it is by no means peculiar to product quality. As will be seen, it is equally applicable to environmental systems, to health and safety or indeed to any management system. Continual improvement is a requirement for all of them.

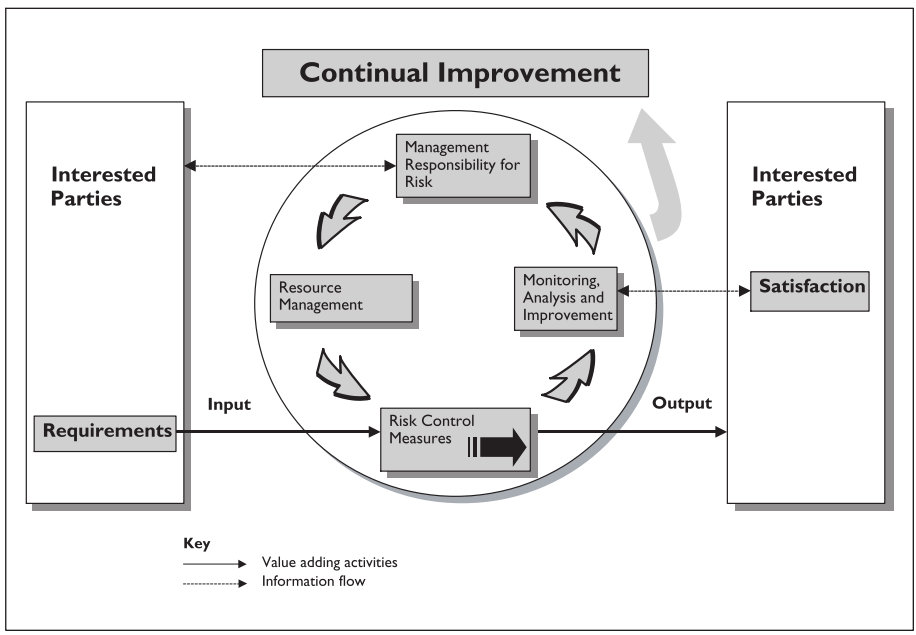


Figure 1.1 Continual improvement in a process-based system

Another model frequently employed is the Plan–Do–Check–Act model, which similarly applies to any management system. This is illustrated in Figure 1.2.

This is of universal application at any scale, almost reminiscent of a fractal. It can be applied to the business as a whole, to the management of a department or function, right down to the simplest process. Whatever is involved one starts off:

- planning what is to be done;
- doing it;
- checking that the system is working properly; and
- acting to improve it.

For example, this is the basic framework adopted for this book – planning how to do the audit; carrying out the audit; checking the results; and acting to improve the auditing system.

Contrary to opinions sometimes expressed, the Plan–Do–Check–Act (or PDCA) approach is totally compatible with a process-based system.

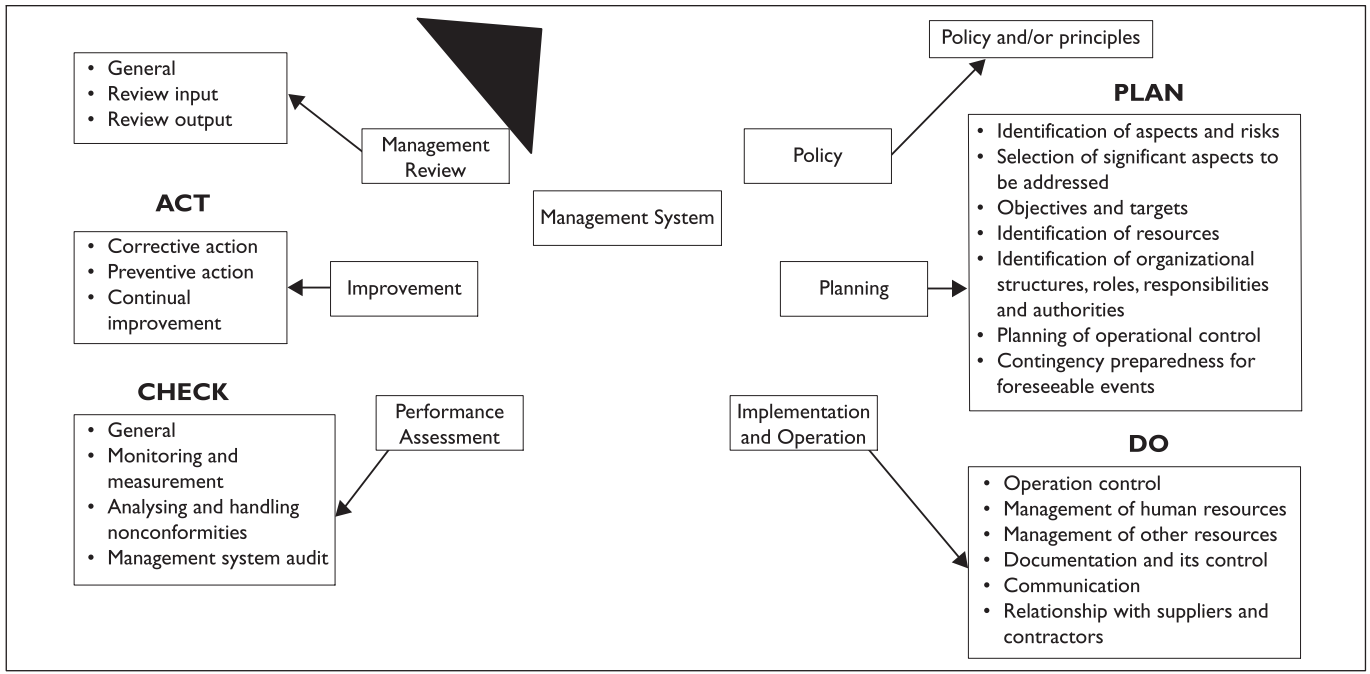


Figure 1.2 Continual improvement in relation to the PDCA model

2. Measuring improvement

If we are to achieve improvement we need to have a means of measuring it. Otherwise we do not know whether we are making an improvement or not.

The standards talk about 'improving the system'. The only purpose of having a management standard is to enable the business to do better.

Different views of improvement

The business' different stakeholders will have different views of what constitutes improvement in the business.

In a commercial business the owners will, of course, be looking for profits (short and long term). They will also look for security in their business, a positive cash flow and the ability to invest in growth and improvement. They will want freedom from prosecution for infringements of regulations, a good business reputation and to be well regarded by all stakeholders.

Customers will be looking for the right products or services at the right price at the right quality and at the right time from a business that responds to their requirements pleasantly and efficiently. Achieving customer satisfaction is a major consideration of some complexity and forms the subject of a separate book in this series (*IMS: Customer Satisfaction*). If we are buying something from a manufacturer or a shop we, as customers, know when we are satisfied with the service that we get and when we are not, and the owners of the business will, or should, know what these criteria are. But with a school, who are the customers – the pupils, or their parents, or (in the case of a state school) the authority who pays for the school? The answer should be that they all are and all need to be satisfied. A hospital needs to satisfy its patients, but also the medical practitioners who arranged for them to be there and in the case of a state hospital the authority providing

the funds. An income tax or VAT office should have good relations with the public, answer queries quickly, but also work at an acceptable level of cost set by the government department involved, ie within their agreed budgets. With every sort of business the various 'customers' may be measuring their satisfaction in different ways, but achieving customer satisfaction is probably the single most important thing that a business has to do.

Employees are another group of stakeholders for whom continual improvement should be sought. Every business depends on them (except for the sole trader). Their employment should be safe and not present risks to their health, and an occupational health and safety (OH&S) system is obviously essential, but the need goes further than this. If a business is rated as a good employer by its workforce it will be able to get the staff that it wants, staff turnover will be low as will all the associated costs of recruitment and training, and the business will avoid the difficulties sustained by poor employers. This is not all to do with levels of pay; increasingly job satisfaction is regarded as the most important factor by employees.

Neighbours, and society at large, are another important group of stakeholders. Whilst environmental legislation helps to ensure that emissions of all kinds (including noise) are kept within bounds, the considerate business will not only keep well within legal limits but will make every effort to be as good a neighbour as possible. This is not only for purposes of altruism; the damage to reputation from the publicity of unsocial behaviour can be very damaging.

Suppliers are stakeholders, too. They may depend on the business for their livelihood and will be willing and able to offer a better service to a business that treats them as an extension of their own activity than it will to one that treats them like a tap to be turned on or off at will.

Although there are many different sorts of business, the areas in which we have to look for continual improvement are commonly shared. All businesses are concerned with customer satisfaction, costs and the efficiency of their operations. If we examine the way that a commercial business has to tackle these areas it will be found that almost all solutions have an application in other areas – public services, schools, and so on.

Measuring performance

In a commercial business the prime indicator of performance is profit (along with cash flow), but that is something that cannot be addressed directly. Profit is the (usually relatively small) difference between two much larger numbers – the income from sales and the costs of achieving those sales.

Profit can be improved by increasing the one or reducing the other, or both. The accountant will usually know precisely what the constituents of these amounts are, but it is not his/her job to suggest how they could be improved – that is the function of management. Managers need indicators of performance to see how the business is doing and how it might be improved. The financial figures may well not be sufficient, or even helpful to achieve this. For example, production managers will want to know the volumes of production rather than their value, as the latter is a function of other factors, notably price, which is outside their control. They will want to know whether they have made the right mix of products – it is no good having a record week for product A when what the salespeople really wanted was product B, and the accounting figures may not show that. The salesman will certainly want to know the value of sales, but also the mix and the prices at which the sales were achieved – if they were at give-away prices it may not have done the business much good.

All managers need to consider how performance is going to be measured and should agree these measures with line management. These measures may have been defined in the job description, but more often they are expressed in general terms and need to be more closely defined before they can be measured. They should be matters within a manager's control, or at least matters over which the manager has a considerable influence. If the figures have to be provided by somebody else managers need to understand how they are derived and be satisfied that they are fair and accurate; otherwise each manager will feel the need to generate personal figures and much time will be wasted arguing about why they are different. Many will have had the experience of management meetings spent arguing about the figures rather than getting round to discussing the business' real problems.

So in the production field, for example, the production manager may feel figures for volumes of output are necessary, the percentage of rejects or failures, the amount of (process) scrap, the cost per unit of output (compared with the standard cost if a standard costing system is used), plant utilization and machine down-time, and perhaps the labour cost per unit of output. Managers may want to know how often corrective action has been necessary, how serious the problems were and how quickly they were corrected. Managers will want to examine what preventive action has been taken, and how effective it has proved to be, and so on.

All these refer to a principal responsibility, for production; but there are other responsibilities also. In the field of occupational health and safety managers will need to know of any accidents or near misses, of unsafe acts observed, of any health problems that have arisen, and so on. In the environmental area managers will want to watch energy consumption,

discharges, waste, emissions, recycling or any other factors in which the activities of their area of responsibility impact on the environment.

All this is, of course, nothing more than what managers' jobs are, and it goes without saying that they will always be trying to improve things. The object of the current exercise is to apply a system to the business of improvement so that we can get a handle on it and measure how a business is actually doing.

The start, then, should be for each manager to consider what performance indicators are necessary to measure how well objectives are being achieved, and hence how they are improving. Ideally one should consider virtually every individual process that is carried out within the department, as shown on the process map (see Appendix 2), and identify the appropriate performance indicators and constraints so that means of improvement can be implemented and progress measured. In practice it may not be feasible or even helpful to consider each process separately at the lowest level, but rather to move up a level to the point where the overall processes can be studied. It should always be remembered that individual processes interact with each other to influence the overall total process. You cannot optimize a total system just by optimizing its constituent parts.

Throughout the business there will be many people trying to improve the performance of the business in many different ways. Pursuing the example of a manufacturing business, in addition to the production example considered above, there may be:

- designers trying to make the product better, cheaper, more attractive, etc;
- production engineers looking for better methods of making the product;
- systems analysts looking for better ways of working;
- buyers looking for better, cheaper, more secure supplies;
- production planners seeking better plant utilization, reduced stocks;
- warehousing staff looking for improved stock management;
- despatch and delivery staff seeking better transport utilization and methods;
- invoicing and accounts staff looking for speedy, accurate invoicing and collection;
- personnel staff seeking reduced staff turnover, improved training, industrial relations;

and so on throughout the organization.

Although this example is taken from a manufacturing business there will be similar lists for any organization. Consider a restaurant. The chef will

be designing new dishes to appeal to the clientele, whilst cooks will find the best ways of cooking them. The restaurant manager will be looking to improve the booking system to try to ensure that the restaurant is always full without keeping diners waiting too long. The buyer will be looking for better sources of supply, and the marketing manager will try to ensure a regular stream of customers. The accountant will be trying to reduce the charges from the credit card companies and getting quicker settlements, and so on.

Other businesses will have different lists, but many of the functions will be similar. A simple retail shop will be concerned with buying, marketing, sales, staff, returns, complaints and profit. A public sector organization will have the primary purpose of serving the community instead of making a profit, but it will still wish to perform as well as possible. A hospital will be concerned with the throughput of patients, utilization of facilities, operations cancelled or postponed, waiting lists, readmissions, mortality rates, length of stay, and so on. A government department will be looking at the throughput of work, the turnaround of correspondence, the costs of output, the number of complaints, the response to enquiries, social accountability (however it is measured), its public image, public relations, etc. Local government has much the same concerns but is more directly accountable to its customers in those functions for which it is responsible and hence will have a ready supply of feedback on its operations from its customers.

All these things are essential elements of the business of managing, and are nothing new. What is new is that the activity of seeking improvement is formalized and subject to measurement. Improvements in relation to a particular process or activity are measured and recorded (preferably in physical rather than financial terms). The impact of this on the overall process chain can then be assessed so that an achievement of continual improvement can be demonstrated.

Establishing a baseline

Before you can measure improvement you need to know your current position, to establish a baseline. For example, if one objective is to reply to correspondence more quickly, you need to know how long it is taking now – not just the average time, but the worst cases, too. Perhaps a new system will be needed for tracking this so that you will be able to demonstrate the improvement. Whatever you are seeking to improve you should establish where you start from, whether it is answering letters, absenteeism, scrap rates or customer complaints.

In exercising management over the sections for which they are responsible, managers will be using a number of techniques. Various management system standards use terms like monitoring, inspection, measurement, and so on, and all these can play a part whether they are used formally or informally. The important thing is that they are used proactively.

The first and basic technique is measurement. As far as possible the outputs of any process or group of processes should be expressed in specific, numerical terms. It has memorably been said, 'If you can't measure it you can't control it'. Objective data are always to be preferred to subjective assessments, but that is not always possible. In many areas, such as production in factories or exam results, there is no problem. It is less easy in areas such as employee satisfaction or industrial relations. Blunt measures such as days lost by strikes or unfilled vacancies can be used, but these are all measurements of failure, and are available only when the system has failed in some way. Preventive measures which avoid such failures should be in use. It is up to management to discuss the problem and come up with a considered view of the most meaningful indicators that can be used. It is important to get this right. We frequently read of new 'targets' being set by government – for the health service, for example – where the effect has been the exact opposite of that which was intended. Concentration on that particular measure has led to a reduced performance overall.

It is important that the correct indicators are used, but at the same time it is important that not too much extra burden is imposed in producing a lot more figures. In the public sector particularly there have been many complaints that the demands of producing extra figures for this and that have impeded the business of getting on with the job. Schools, hospitals, local authorities have all expressed their concerns at this trend, and the same is true in the private sector. When considering performance indicators, try not to demand new information if something already exists which, although not perhaps ideal, can be made to provide the same information. Accountants often have figures available which, with slight modification, can be made to serve the purpose. It is a good idea to carry out a survey of all the returns and statistics which each department is being asked to provide. It will frequently be found that there is a lot of duplication, and even that reports are still being produced that were asked for years ago to answer a particular problem at that time but the need has long since passed and no one has told them to stop. A good way of checking whether these returns are still needed is to stop submitting them, and seeing how long it is before anyone notices or complains. The growth of paperwork is something that we all complain about, and we should not add to this burden unless there is a genuine need.

Monitoring performance

Having decided on the measurements that are needed as performance indicators, the next stage is to decide how they will be monitored. It is no good producing figures if no one will pay attention to them and what they mean. The value of information is only in the action that we take as a result of receiving it. The *Titanic* received a message warning it to look out for icebergs, but because no one took any notice the message might just as well not have been sent.

The primary responsibility for looking at the performance indicators and learning from them lies with the managers of the departments from whom the figures emanated. They are the ones who should be watching to see not only that performance standards are being maintained, but also that improvement is being achieved. That is their job as a manager. But *quis custodiet custodies?* (Who will guard the guardians?) The monitoring needs to be part of the overall business system which ensures that it is happening and also that it is effective. The managerial hierarchy should ensure that monitoring is carried out at each stage, and that notice is taken of the results. The most effective way to ensure that the measurement and monitoring systems are functioning as they should is by system audit and subsequent review. That forms the next part of this book.

3. The function of auditing

There are many misconceptions about auditing. Most of them stem from the role of financial auditors, with their reputation for looking for lost pennies or making sure that a column of figures has been added up correctly. Their function is quite different from that of a system auditor. For one thing, your own company auditors work for your shareholders, not you, (in theory, at least) and they are responsible for ensuring that your shareholders can believe the accounts that they receive. Whilst the role and responsibilities of financial auditors have tended to expand recently in the light of some well-publicized financial scandals, principally in the USA, their function remains primarily that of checking figures that express or represent amounts of money.

Auditors of systems are different. Their job is to make sure that a system that has been defined is in fact being followed in the organization. But again there are a number of different situations.

Different kinds of audit

What we are talking about in this book is known as first-party auditing. The auditors are working for you, for your organization, doing the work that you have asked them to do for your own benefit. They are probably your own employees. This is different from a second-party audit, where the auditor comes into your organization from one of your customers or prospective customers to make sure that the systems you are using meet their requirements. Second-party auditors are only concerned with the requirements of your customer or client, and will choose whatever aspects of your systems that they want to look at so that their employers, your customers, can be assured that your business will be able to provide the necessary service.

Third-party auditing is something different again. This usually arises when a business has sought certification to a particular standard, and is being assessed for compliance with that standard. The auditor here will examine the whole system comprehensively so that you can be certificated as operating in compliance with the standard, such as ISO 9001 or ISO 14001.

Auditor skills

These three sorts of audit are looking to achieve three different things, and the skills and knowledge needed by the auditors are equally different. A third-party auditor is usually assessing the organization for compliance with a particular management system standard, such as ISO 9001. Third party auditors should be expert on the requirements of the standard, and also qualified to audit any sort of business. They will have sufficient training and experience to qualify as a registered auditor. Occasionally they will be similarly registered in respect of other standards such as ISO 14001. They are the top of the tree in auditor terms. (In the past such auditors working for certification bodies were often called 'assessors', but nowadays the term 'auditor' is generally used.) Their task is to audit the business to see if it meets the requirements of a particular management system standard. They are not allowed to give advice to the business being audited on how to overcome problems in compliance with the system. All they are allowed to do is to say whether a proposed solution would be acceptable or not.

Auditors of second-party audits do not need the same qualifications. They are working on behalf of their employers, and need to establish that the systems operated by the company result in an acceptable service to the customer. This is predominantly concerned with product (including service) quality, but not exclusively. A customer may wish to be assured that its suppliers are operating in an environmentally responsible way, that it does not employ slave labour, and so on. Instances have occurred in recent years of a company's reputation being severely damaged when it became public knowledge that they were using products from developing world countries where child labour was being used in the factories. The reputation of a business is the most valuable asset that it has and has to be safeguarded at all costs. If a supplier has a poor safety or environmental record, this again may reflect on its customers who may not wish to be associated with such a company. Second-party auditors have rules laid down by their employers, but they will usually be permitted to discuss any proposed solutions to problems encountered.

The requirements for an internal, or first-party, auditor are different and are for you, the employer, to decide. You are employing an auditor (either as an employee or as a contractor) to carry out the work to be completed. Different businesses may choose to do this in different ways. Some management systems are based on 'self-assessment' rather than external assessment, but here it is especially important to be able to demonstrate independence of the function being audited.

Objectives of the audit

ISO 19011:2002 lists a number of possible objectives of an audit programme, which can be based on consideration of the following:

- management priorities;
- commercial intentions;
- management system requirements;
- statutory, regulatory and contractual requirements;
- need for supplier evaluation;
- customer requirements;
- needs of other interested parties;
- risks to the organization.

The guidelines go on to give four examples of audit programme objectives:

a) to meet the requirements for certification to a management system standard;
b) to verify compliance with contractual requirements;
c) to obtain and maintain confidence in the capability of a supplier;
d) to contribute to the improvement of the management system.

In our present context it is the last of these (item d) with which we are principally concerned. Incidentally, the results of the audit programme may well serve to meet demands under the other headings, but in this book we are most interested with improvement and the contribution that auditing can make to its achievement.

To do nothing is not an option if you are to meet the requirements of any management standard. Every one of these includes a requirement

that the system is regularly audited. The IMS framework (see Appendix 1) specifies that:

> a) The organization should establish and maintain an audit programme for periodic management system audits to be carried out in order to determine whether or not the management system:
>
> b) conforms to planned arrangements for the management system
>
> c) has been properly implemented and maintained, and is being adhered to.
>
> (4.3)

Every management system standard has a similar requirement. Clearly it is no good going to a lot of trouble to install a management system if you are not going to use it, and the only way to make sure that it is being used is to check. Parts of it will need to be checked frequently if they are particularly critical, others less frequently, but the whole system will need to be covered at least once a year. At the time of the management review the question will need to be examined whether the systems you have put in place are meeting the needs of the business. Clearly you will not be able to form a judgement on this if you cannot be sure that the system is being followed. You cannot claim to be working in accordance with a system unless there is an auditing procedure in place to demonstrate that it is being followed. This is the reason why every management system standard imposes the obligation to implement an auditing programme.

In the present context the aims of auditing are rather wider than this. We want to be looking not only at whether the system is being followed, but what can be done to make it work better. How far does the system meet the needs of a particular process? Does it involve any difficulties in operation which could be overcome if the system was changed? What would enable people to work better or more easily or more cheaply? Is everything really necessary, or can the system be simplified and still do what it is intended to do? Does the system truly meet the needs of the business? And so on: this is where improvement lies.

The start point should be to check whether the system is being strictly followed, and if not, why not. There are many possible reasons. Is it that the people concerned do not understand the system and what is wanted? Is it inadequate training of the people who are expected to follow the system? Or is it that there is something in the system that makes it difficult, or even irrelevant, in that particular context? All these may be pointers to the path of continual improvement.

What is to be audited?

So what is to be audited? In the past, systems auditing has usually been in the context of a system designed to meet the requirements of one particular management system standard. The most common of these was (and still is) a quality system; for many this was the first formal management system to be installed in the organization. If a business operated in compliance with ISO 9001 (or its antecedents) the job of the internal auditors was to see that the requirements of the standard were being followed throughout the organization. This was not done directly by comparison with the standard, but with reference to the quality manual which the business had compiled. This described the quality system in use in the business, largely by reference to specific procedures which had to be followed in the various activities of the company, principally those which related to the production of the end product. Initially the auditor would have to check that the quality manual did indeed cover all those aspects which were demanded by the standard. Once this was established, auditing could then be carried out solely by reference to the quality manual to make sure that what the manual said was being done was in fact happening. In just the same way, a safety manual would be compiled to describe how the business would meet the requirements of, say, OHSAS 18001, and activities throughout the business checked against that manual.

In this book we are considering the problem of auditing an integrated management system. The business has recognized that quality, environment, health and safety, and so on are all part of the business of running the organization and part of an overall system. If the company wishes to be certificated as complying with ISO 9001 or ISO 14001 it will still have to meet the specific requirements for quality or for environment, but these will just be aspects of the overall integrated system, which may well include functions which are not the subject of any specific management system standard – such as sales and marketing, or distribution. The overall integrated management system framework (reproduced as Appendix 1) can cover all the activities of a business. Some organizations will use it merely to integrate the requirements of the three most common management system standards, those covering quality, occupational health and safety and the environment. Others will have progressed further and have incorporated many if not all the systems in use throughout the business, covering activities such as sales, personnel, accounts, distribution, information security or customer satisfaction. The IMS framework is designed so that it can incorporate as many or as few of the systems the business uses as is wished. The average business will have many different systems operating.

Most of them will have been devised for use within a single department or function. The accounts department will almost certainly have its own system, and so will the personnel department, and so will sales, although initially they will probably not have been recorded formally, or perhaps not even written down. They will, however, all have a number of features in common, and all can be brought within the IMS framework and the integrated system if wished, to the great benefit of the business. The more that everyone recognizes the unity of purpose behind all these systems the more the business will progress.

This book describes how to audit such an integrated system; but the principles of auditing are the same whether dealing with a single simple system such as might be in use within a personnel or despatch department, or whether the business has a fully integrated system incorporating them all. Even if the business has only a single formal management system, such as quality, the principles and practice are just the same and the suggestions are still applicable.

Procedures and processes

Traditionally systems were described in a manual – perhaps a quality manual or a safety manual – at the high level, and put into practical effect by sets of procedures which described how each task was to be performed, unless this was obvious from the training that the operative had received. If, for example, a business operated a fleet of delivery lorries, it was not necessary to have a procedure telling the driver how to drive the vehicle. The fact that the driver had an HGV licence was sufficient evidence of training. There would need to be procedures, however, describing how the driver would know what vehicle to take, where to get fuel, what to do in an accident or breakdown, and so on. For every activity there had to be a procedure or evidence of training in that task.

The emphasis is now less on procedures and is much more on processes. These describe what is to be done and in what sequence to add the value which is the purpose of the operation. In the past auditing has often involved little more than checking for compliance with a particular procedure; auditing based on processes should check that each process is delivering what it is intended to deliver. Whilst the current version of the quality standard, ISO 9001:2000 still requires written procedures for a few activities, the fundamental requirement is that all processes (impacting on

quality) should be identified and controlled. Section 4.1 of ISO 9001:2000 stipulates:

> The organization shall
>
> a) identify the processes needed for the quality management system and their application throughout the organization;
>
> b) determine the sequence and interaction of these processes;
>
> c) determine criteria and methods needed to ensure that both the operation and control of these processes are effective.

It goes without saying that these processes should be recorded as otherwise they cannot be controlled.

It will be recognized that this requirement is virtually identical to the first section, section 0, of the IMS framework. Approaching a business system through its processes instead of through its procedures has many advantages, perhaps the chief being that it enables the risks to be assessed in respect of each of the disciplines covered by the integrated system.

In practical terms the most satisfactory way of identifying the processes and their interaction is by process mapping. The methods of doing this are described in other books in this series and will not be repeated here, but a brief note on the principles is included in Appendix 2.

Just as a quality manual is demanded by the quality standard, so it is necessary to have a system manual for the integrated system. The IMS framework says:

> The organization should establish and maintain a manual that includes
>
> a) the scope of the management system …;
>
> b) the documented procedures established for the management system …; and
>
> c) a description of the interaction between the processes of the management system.
>
> (3.4.2)

The manual itself will probably be a small document describing the system at a high level. As a minimum it will contain a statement of the business objectives (probably) and policy (essential); roles and responsibilities;

process identification and mapping; and risk management and control. These are the essentials, each of which is likely to be expanded in appendices and annexes.

Whilst an auditor will certainly need to be familiar with the manual, the heart of the system will be in the process maps and the information that they contain.

In an earlier book in this series *IMS: Creating a Manual* a simple example was given of an operation which takes place in almost any kind of business – receiving an order from a customer or client and entering it into the company's sales system. In other kinds of organization it may be the admission of a patient into a hospital, a pupil to a school, an enquiry or a report to a police station, but the processes are similar in each case. The process diagram is reproduced in Figure 3.1.

When auditors come to audit this part of the business, the first thing they will do is to look at the process map and understand how the process fits into the business as a whole. That is obvious in this example, but may be more complicated in other processes. The next thing is to talk to the people doing the job to understand what they do, how they check their work, what they do if they meet a problem, and so on so that the process map can be verified as being factually correct and complete – that it really does represent what happens, not what the management would like to happen, and that it is complete. Often additional sub-processes get added 'unofficially' and these need to be examined. It may be that the process as originally described proved to be difficult to work with, or inadequate for one reason or another and in practice the employee is doing things differently. The reasons need to be understood. Is it because of laziness on the part of the employee (rare) or inadequate training, or is there some genuine weakness in the process as described and some system improvement is called for? This is the whole purpose of the exercise – to improve the system. In the context of this book that is what auditing is all about.

As part of describing the processes any specific requirements of particular standards which the business has adopted will have been noted and built into the system. For example, ISO 9001:2000 has quite a lot to say about taking orders from customers. As a principle it lays down, under the heading of 'Customer focus' the requirement that: 'Top management shall ensure that customer requirements are determined and are met with the aim of enhancing customer satisfaction' (5.2).

More specifically the standard goes on to say:

> The organization shall determine:
>
> a) requirements specified by the customer, including the requirements for delivery and post-delivery activities;

b) requirements not stated by the customer but necessary for specified or intended use, where known;

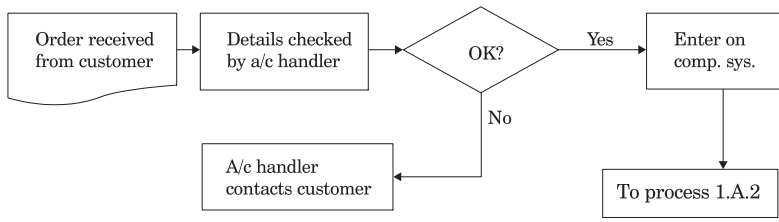
c) statutory and regulatory requirements related to the product; and

d) any additional requirements determined by the organization.

(7.2.1)

Process Reference 1.A.1.

Order Receipt and Handling



Input, realization and output

Resources needed

Facilities and Equipment

A safe environment
Sales office and services*
Telephone*
Computer/internet*
Fax machine
Printer

* denotes shared resource

Materials

Paper

Personnel

Sales assistant, account handler

Special requirements

Manager responsible

Sales Office Manager

Required output

Order entered on computer system

Figure 3.1 A simple example of process mapping

In other words, it is essential to understand what customers really want, not just what they have asked for. Before accepting the order the organization should:

> … ensure that:
>
> – product requirements are defined;
> – contract or order requirements differing from those previously expressed are resolved; and
> – the organization has the ability to meet the defined requirements.
>
> (7.2.2)

The standard also says that records have to be maintained to show that this review has been done, and furthermore that:

> Where the customer provides no documented statement of requirement, the customer requirements shall be confirmed by the organization before acceptance.
>
> (7.2.2)

Clearly the standard has to cover all situations, from buying a bar of chocolate in a sweetshop to placing an order for a major construction contract. In everyday shopping transactions, or ordering a standard item from a catalogue, the application of these requirements can be in the simplest form, but if the standard is to be satisfied it should be possible to show that they have all been followed. Looking again at the simple flow chart for the process they all come in the second box 'Details checked by account handler' – is it clear what the customer wants, can we supply it, can we provide it when it is wanted etc? Only when all these are satisfied can the order be pronounced 'OK'. A written procedure may spell this out and also stipulate that entering the order onto the computer system forms the record that the standard requires to show that these things have been done. The auditor will need to check that this is happening as it should – that the account handler has had the training needed, knows what to do if difficulties arise, and so on.

In the process of order entry, the implications for the environment or health and safety are likely to be less significant than for quality but will have to be considered and audited. Risks will, or should, have been assessed in respect of all these fields. With other processes the implications for environment, health and safety and so on will be much greater, and there may also be implications for information security, for example. Points to look for in respect of particular management system standards are noted later in this book, but auditors will need to have these requirements

continually in mind to make sure that none has been missed. They will go through these risks with the personnel concerned, not in any way to 'second guess' them but just to check that they are still valid and current, that the necessary actions have been taken, and that the responsible manager is regularly checking that no new risks have emerged since they were formulated. For example, if a new arrangement means that an operator now has to work at a computer terminal, the Display Screen Regulations will have to be taken into account.

That in outline is what we would expect the system auditor to do when auditing this particular process. The function will be considered in more detail later, but the example leads on to a consideration of further questions which have to be answered when planning an audit of the complete system:

- Who should do the audit?
- What sort of person is necessary?
- Can we find one, or them, from within our own organization?
- What training will they need?
- How do we provide that?
- How are we going to organize the audit?
- Is it to be by department, or function, or process, or how?
- How long is it going to take?
- How disruptive is it going to be?
- What is it all going to cost?
- What are the benefits?
- Is it worth it?

All these are considered next under the heading of organizing the audit.

4. Organizing the audit

Having decided on what we want the audit to achieve, the next issue is how to carry it out. This starts with the question of who is to do it.

Finding the auditors

A large organization may have a full-time specialist system auditor, or even a system audit department, whose sole job will be to spend time with each part of the business seeing how the system is working. A smaller business will not need, or even be able to afford, this and will probably rely on its existing staff to do some auditing along with their regular jobs. Although this will involve a lot of extra work to start with, it has many advantages over other methods, as will be seen.

You can, of course, employ an outside auditor. If yours is a small business certificated to, say, ISO 9001 and your chief concern is to maintain your certification, then employing a consultant – perhaps the one who helped you to achieve certification in the first place, and who therefore already knows your business – may be the sensible thing to do. If on the other hand you are looking to achieve more from your audit programme than just a tick and a certificate, it is better to employ your own staff. No outsider, no matter how brilliant, can ever know your business as well as you do, and will in general not be as good at spotting scope for improvements in the general business process. Your own staff, too, will benefit from the experience of auditing their colleagues' work. They may have sympathy for their problems and develop a new understanding of what they do. In short it can work wonders for the team spirit of the business. But this depends on picking the right sort of people to do the auditing.

The British Standard BS EN ISO 19011:2002 'Guidelines for quality and/or environmental management systems auditing' lists a number of principles relating to auditors:

- ethical conduct – trust, integrity, confidentiality and discretion;
- fair presentation – the obligation to report truthfully and accurately;
- due professional care – the application of diligence and judgement;
- independence – impartial and objective;
- evidence-based approach.

(4)

These personal requirements are expanded later in the standard:

An auditor should be:

- ethical, ie fair, truthful, sincere, honest and discreet;
- open-minded, ie willing to consider alternative ideas or points of view;
- diplomatic, ie tactful in dealing with people;
- observant, ie actively aware of physical surroundings and activities;
- perceptive, ie instinctively aware of and able to understand situations;
- versatile, ie adjusts readily to different situations;
- tenacious, ie persistent, focused on achieving objectives;
- decisive, ie reaches timely conclusions based on logical reasoning and analysis; and
- self-reliant, ie acts and functions independently while interacting effectively with others.

(7.2)

If this seems rather demanding for our purpose, bear in mind that the standard is written to be of general application in auditing including second- or third-party audits. For internal audits it is still important that auditors are not noticeably lacking in any of these qualities. They should not be seen as police, still less as management 'narks', but more as mentors or coaches ensuring that non-compliances or problems are not occasions for condemnation but rather are opportunities for improvement. Whilst an external third-party auditor is not allowed to give advice on the solutions

of problems, there is no such constraint on internal auditors who should try to be as helpful as possible, although should not be regarded as an authority on the improvement of the system. (In the terminology of formal management system standards any departure from a standard is described as a 'non-compliance' or 'nonconformity'. In this book we use the shorter word 'problem' to describe such a situation – it avoids any suggestion of guilt, is shorter, and suggests that it is something to be solved by a combined effort rather than correcting something that someone else is doing wrong. So when considering which members of your staff might take part in an audit programme as auditors (they will all be auditees at some stage), avoid anyone who you might think could use the situation to make difficulties for a colleague with whom they do not always see eye to eye.

At what level of management should our selected auditors be? An auditor needs to have an easy relationship with the people being audited, and these auditees will be at all levels. That means that auditors should not be seen as too junior, but neither should they be so senior that the auditees will feel intimidated. The chief executive would not be a good choice, for example. This problem does not arise with external auditors – they are strangers who will only be around while the audit is going on. The relationship with an internal auditor is ongoing, although it will be in a different context. The level of departmental manager is probably the best one to aim at for most purposes, although others in staff positions, such as personnel officers, might well be considered. Primarily, it is the person rather than their position that is important.

If the business has an established system, such as quality, and is already certificated to ISO 9001:2000, there will already have been internal audits carried out by staff members (using internal staff members is usually the case, although external contractors could be employed) who have been trained for the purpose. The question arises whether these personnel can be used as auditors on the integrated system. The answer is clearly that they should be – they will already have been trained in the principles of auditing, although the application has been only in relation to quality. They will, however, need training in respect of auditing the integrated system, which is a lot broader than just the quality system that they have been used to. They will therefore need the same training as anyone who has not previously carried out any auditing, although they will have a head start. They will also have to be clear that there can be no restriction of scope on the integrated system as there almost certainly would have been on the quality system. If the experience of the quality auditors was limited to earlier versions of ISO 9001 then their experience would be less relevant.

Once selected, the potential auditors will need to have explained to them what they are being asked to do, and given some training to enable them to do it effectively.

These are two quite different areas. If the management system has been embedded into the way that the business works, the need for auditing will have become apparent to anyone in any managerial position. When the potential auditor is first approached about undertaking some auditing, the usual reaction is that they are already busy enough with their regular job and cannot possibly undertake any further duties. They will need to be persuaded by their immediate manager, or the chief executive, it being made clear that participation is expected of them. If they are still reluctant they can then be asked which part of their present responsibilities they would like to be relieved of, and the amount of time they would need to spend on auditing; the frequent reaction is that perhaps they could manage to do it after all. An alternative is to suggest that if they could not manage to do it themselves, could they suggest one of their subordinates who could undertake the work. However, a manager will usually be reluctant to see something that the chief executive clearly regards as important being delegated to a subordinate.

When asking managers to prepare to do some auditing in addition to their existing duties, it should be explained that the activity is one that they will find valuable in doing their regular jobs. The opportunity to understand more completely the activities – and difficulties – of a department on whose output one's own section depends is often of practical use in arriving at an improved method of working, sometimes resulting in improved methods for both departments. Understanding other people's problems is often a good way of understanding one's own and can be a valuable contribution to the ultimate objective of continual improvement.

How many auditors?

How many auditors will be needed? This will depend on various factors, and the true answer will be discovered only by experience. As a starting point, assume that each departmental manager will audit the department immediately 'upstream' from their own; that is to say, if Department B receives the output from Department A, then the manager of Department B will audit Department A. If the process map shows that the order department passes orders to the production planning department, then the manager of the latter could audit the former, and so on throughout the organization. In

practice this is unlikely to provide a satisfactory answer across the business, but it will provide a guide to the numbers required.

The time taken to audit a specific department will depend on the size of the department, but more significantly on the number of different activities that take place there. A department of 50 people all doing the same thing will need less auditing than a department of 10 people all carrying out different and complex tasks. As a rule of thumb and to get things started, assume that each department will need one day a year for auditing. Experience will soon show that this is not correct – some departments can be audited in half a day or less, whereas others may take much longer – but as a first approximation this will provide an indication of how many auditors are required. The system manager or whoever is managing the audit programme may use their knowledge to assess the time needed for each departmental audit. As the auditors themselves become more experienced they may find that a pre-audit visit to the department is worthwhile to assess the work involved. This is common practice amongst external auditors where the lead auditor will use it to assess the magnitude of the job.

Training the auditors

Whoever is selected to carry out the audits will need adequate training. This does not compare with the training that a third-party auditor needs in order to become competent in assessing an organization prior to certification, but there are still basic skills that should be acquired. There are the skills of auditing in general irrespective of the system being audited. There is also the need to be thoroughly familiar with the system being audited. It is not necessary for an internal auditor to acquire the same depth of knowledge needed by an external auditor working for a certification body who has to determine whether a business qualifies for certification to, for example, ISO 9001 or ISO 14001. For internal auditing the principal needs are to understand the integrated management system of the business, to understand the processes involved and how they relate to each other. This is less demanding and less time consuming.

Some outside help may well be needed to train in the principles of auditing (unless you have a training department which happens to have the necessary skills). One day may be sufficient but two days is preferred as this will enable some practical exercises to be undertaken. If more than two or three people are going to be involved it will probably be better to arrange a course to be run internally so that it can be relevant and specific to the circumstances of your business. The training in the operation of your integrated management system can probably be carried out by your system

manager or whoever is responsible for the operation of your overall system, perhaps with assistance from your training manager if you have one. Again, one day should be sufficient for a small or medium sized business unless it is particularly complex. In the case of a large business it is normally possible to divide the work into a number of specific areas that can be considered separately. There is no need for all auditors to be expert on the systems operating in every part of the business, although a general knowledge of the overall process map of the business is certainly desirable.

Let us imagine that you have selected the managers who are going to be your audit team, and have explained in outline what the work involves. You have gathered them all together for a training course. Although they may well be experienced and fully competent managers, auditing a system will be something quite new to them. They will have little idea of what is wanted or how to set about it and they may well still harbour doubts about its usefulness.

It would be useful to start by reminding them of the purpose of management systems in general, those specific standards which the business follows (eg ISO 9001, ISO 14001) together with any others which are incorporated into the integrated management system of the business. A reminder of the principle of an integrated system would also be useful. They will have been told this before, and may well have been involved in its implementation but a refresher will not go amiss.

The need for a systems audit will then be explained. Start with examples of what the audit process consists of – doing some homework on the operations of the department which is going to be audited, examining its process maps, the dimensions of the system (environment, health and safety, etc) the risks that have been identified, etc. Of all the reasons for carrying out an audit, the first one that people usually recognize is that it is demanded by all management system standards. This is true, but is the least important. In the past a lot of auditing was merely checking for compliance to a standard, but that should no longer be the case. An audit of a process-based system should check that each process delivers what it is supposed to – that the process is performing as was intended. This way auditing adds value to the business in its own right. The audit results will feed into the periodic management review. The review will examine how well the system is serving the needs of the business, and it is not possible to form a judgement on this unless one can be sure that the system is actually being followed. In our present context the most important reason of all for carrying out an audit is to find ways in which the system can be improved, and to ascertain that improvement is in fact happening.

The trainee auditors will then be taken through the various stages of an audit. The first stage is the written authorization from the chief executive

enabling the auditors to ask questions in someone else's department. The chief executive initiates and authorizes the audit taking place. Then comes the initial discussion with the department manager, auditing through the department, recording the results, the closing discussion with the manager, and so on. All these stages will be considered in more detail later in this book, but all will need to be covered in this initial training.

As the process will almost certainly be new and even foreign to the managers who are going to become auditors, there will probably be quite a lot of uncertainty at the end of the training period. The greatest help is experience, and that cannot be acquired immediately. Confidence will rapidly rise after they complete their first audit.

The programme of work

There will be a programme of work to ensure that the whole business is covered in, perhaps, the course of a year, but also that the areas requiring particular attention are visited more frequently. This may be because they are high risk areas, where a departure from the system could have serious consequences for the business – often the case in food processing or pharmaceuticals, for example. Or it may be that the department has experienced difficulties in the past in adhering to the system and needs help in avoiding nonconformities. Or it may be that there have been staff changes where additional training was required. The programme should be geared to risks and needs, rather than a mechanical timetable, with care being taken that no department is missed out entirely. It is important that the programme is adhered to. There will always be areas where some postponement is requested because of urgent needs that have arisen. These should be resisted except in extreme cases; any variation in the programme should be authorized by the audit manager – system manager in the case we are considering – and if they do not agree, the case should be referred back to the chief executive for a decision.

The IMS framework summarizes the requirement:

> The audit programme, including any schedule, should be based on the results of risk assessment of the organization's activities and the results of previous audits. The audit arrangements should cover the scope, frequency, methodologies and competencies, as well as the responsibilities and requirements for conducting audits and reporting results.
>
> (4.3)

Only experience will enable a meaningful programme to be built up. The first time that a system is audited the programme will have to be based on common sense with the overriding need to cover the whole system over a set period of time, ensuring that the areas of greatest risk are covered early in the programme. This initial audit will almost certainly point to particular areas which are more prone to difficulty and which may be identified as requiring special attention on subsequent audits. The importance of full recording of all audits, together with notes for reference on future audits, is obvious. The matter of recording will be considered in more detail later in this book.

In the past, auditing has often been regarded as a mechanical process. Auditors have been provided with sheets of questions and tick boxes, going through the procedures issued to implement a standard and checking that each was being followed – has this item been signed off? Are the inspection records complete? Has this instrument been calibrated? Is the training record complete? And so on. That is auditing at a very superficial level, and will be totally inadequate to meet the purpose that we are now considering. Quality, for example, in ISO 9001:2000 requires a lot more than blindly following a set of rules (procedures) that might have satisfied the earlier versions of the standard. The auditor needs to establish not only that the system is being followed, but that it is understood. If people do not understand what they are being asked to do, and why they are doing it, any system will soon fall into disuse.

If your business is large enough to justify employing a specialist department of professional system auditors, then planning and carrying out the necessary audits will present few problems. Most businesses are not in that category. Either the auditing has to be done by one's own staff or help should be hired externally – a less satisfactory route, but unavoidable at times.

It is one of the requirements of any system that the auditing is '… conducted by personnel independent of those having direct responsibility for the activity being examined' (IMS framework 4.3). This is common sense. It does not imply that managers cannot be trusted to give truthful answers, but rather ensures that there are no misunderstandings about what is required. It is not uncommon for an auditor to find that an employee is missing out part of the system because they did not understand what was required or did not realize the importance of a particular aspect. Taking short cuts may be acceptable, and even laudable in some instances – they often lead to better ways of doing things – but what may appear an innocent omission on the part of one person may lead to severe difficulties elsewhere. At the other extreme an auditor will occasionally discover that someone is doing a lot of unnecessary work because they have misunderstood what the

system is asking of them, and that in reality things are much simpler than they thought. For all these reasons an independent auditor is necessary.

So how does the one-man business audit his/her business? In practical terms there are very few businesses where a sole proprietor works without any other help at all. They will usually have someone who types their letters for them, someone who keeps their accounts, and so on, and one of those might be suitable and willing to audit the system. Clearly they need to be the right sort of person – that is something which will be considered later in this book. They will also need training of some kind – training in the system so that they know what to look for, and also training in the practice of auditing itself. As well as this book there are various publications which give guidance and there are also training courses, but it is hoped that for most purposes the guidance contained in this book will prove sufficient.

If the sole proprietor has no one in or linked to the business who is considered suitable, then the services of an outside auditor or consultant may be required to carry out an audit once a year or so. That has the advantage of providing an independent and expert view of the operation of the system, but from other points of view is less satisfactory than having someone associated with the business carry out the audit.

In any organization other than a one-man business there is usually some way in which members of the business can carry out audits in addition to their regular jobs. There will have to be more than one because of the rule that no one should audit an activity for which they have direct responsibility – so someone else should audit the job that the auditor normally does. In the case of a partnership of two, then each can audit the work of the other. The more people that there are in the business the easier it is to arrange for the auditing to be done.

Organizing the audit checklist

It is important that all of the following are checked.

- Do all the managers understand the purpose of auditing the integrated system and why it is important?
- Have all the auditors been selected?
- Have all auditors been trained, or has training been arranged?
- Were responses to the training positive, or do they suggest that further training will be needed?
- Has the provisional programme of work been compiled? Does it allow for flexibility with experience?

– Are the auditors fully conversant with the requirements of specific standards to which the business is registered or is seeking to be registered?

5. Planning the audit

Before you actually start on an audit it is vital to plan who is going to do what and when. There are a number of decisions to be made before you start. Take the example of a manufacturing business again, in the full knowledge that this does not apply to everyone, but the main principles will be the same.

Types of audit

The audit can be done in a number of ways.

There is the *horizontal audit* where a single contract, project, customer order, product or service is selected and the complete cycle from the start (eg customer enquiry) to finalization (product or service delivery) is followed through the realization process. Horizontal audits have the merit that all interfaces between the individual process realization phases are covered (it is frequently at the interfaces that problems arise). When following a product, for example, the audit needs to be conducted at a time when the product is virtually ready for despatch, as audit at too early a stage will mean that the full process for that specific product cannot be fully audited. This technique is sometimes known as an audit trail.

Different from the horizontal audit is the *vertical audit*. This is the traditional, and probably still the most common, way of carrying out an audit. Each specific organizational function such as purchasing, production, design, is audited for everything done in that department or function, covering all contracts, customers and so on. This is probably the easiest audit to arrange, but it does have disadvantages in that interfaces may not be adequately covered.

A third method is to carry out *technical process audits*. These look at the way a particular process works rather than the management of it.

The audit is looking at technical best practice to ensure the best possible use of materials, energy, etc. This is more suited to activities with a high technical context and has to be conducted by senior auditors with a deep technical knowledge.

Product audits are where a product is broken down into its base components and each is looked at in detail to see how their characteristics influence the product as a whole. It is used most frequently in conjunction with value engineering.

For our purposes in businesses in general, rather than specifically manufacturing concerns, the choice is effectively between the vertical audit, looking at a specific department and all the activities within it, and a horizontal audit based on processes.

There is no doubt the process approach has a lot to commend it. To see a business in terms of the processes that it carries out gives a much more comprehensive view of the operations of the business than was possible with the earlier concentration on procedures. It reflects the physical movement of the product – goods in production through a factory, patients through a hospital or pupils through a school. In the course of this progress the product will spend time in different departments or areas, but to concentrate on auditing these departments may make it difficult to see the whole picture and, therefore, what happens at the interfaces when the product passes from one area to another may not receive adequate attention.

There are, of course, many processes which may be carried out within a department which are not directly related to the generation of the product, and it is important that these are audited as part of the overall operation.

In practical terms, therefore, the best approach for a small or medium sized business is to plan to audit department by department or section by section, but basing the audits within each section on the process maps of activities within each area. This enables department or section managers to be involved both as auditors and auditees but at the same time ensuring that everything is covered including the interfaces when a process or product extends beyond the confines of a single section or department.

This emphasizes the need, as a first step, to ensure that the process map is up to date and fully comprehensive, covering every activity that takes place within the area being audited. If it is not totally accurate then certain activities will not be audited, and the omissions may prove important.

Explaining the audit

Before the audit starts everyone in the business should be made aware of what is going on and why. If the reasons for auditing are not properly

explained there is a danger that there will be resentment by people suddenly being asked by comparative strangers (probably from other departments or even from outside the organization) to explain what they do and how they do it. It should be made clear that the objective is not to find fault or to criticize in any way but simply to establish the way that the system works and how it might be improved. All staff should be encouraged to suggest ways in which their job might be made easier. No outsider knows as much about what is involved in a particular task as does the person actually doing it. Ideas should be encouraged and listened to seriously even if it is obvious that what is being suggested is quite impracticable. The person making the suggestion should never be made to look or feel foolish. The workforce itself is probably the greatest source of ideas for improvement but one that is frequently neglected. The average company 'suggestions scheme' is not effective for this purpose. What is wanted is a culture in the organization which encourages everyone to feel part of the same team with common objectives. How to achieve that is outside the scope of this book and in any case can only be built up over time, but the right approach to auditing and improvement can help.

Somebody has to be in charge of the whole audit operation. That person should be sufficiently senior to ensure that the job is done, and done effectively. Before people get used to the idea and purpose of auditing there are likely to be objections saying that they are too busy and cannot spare the time, they do not want people from other departments coming and criticizing their section, and so on. Taking some time to explain why auditing is not only essential and obligatory but can actually be helpful to them in achieving improvements will prove well worthwhile. Inevitably the audit process does take up some time of busy people who have a lot of other things to do, and everyone has to be convinced that it is worth it.

How much time will it take?

How much time is needed is clearly going to depend on a number of things. There is the physical size of the site. A compact operation housed within a single building will not involve the travelling time needed to cover a widespread organization – but an organization such as a hospital can still involve a lot of distance to be covered even though it is within one building. If, as suggested above, the auditing is done department by department this will be less onerous. In this respect internal auditing such as we are considering is easier to do than second- or third-party auditing. Third-party auditing, for certification purposes, say, has to be done as a single operation even if that does require a sizeable team of people working perhaps over

several days. With first-party, internal auditing, it does not have to be done all at once but can be spread out as much as is desirable – subject to the conventional wisdom that everything should be audited at least once a year. A large business may well have an audit section who audit continuously, like the proverbial painting of the Forth Bridge – as soon as they have been through the organization they start again. It is not quite like that, of course. The audit programme should be based on risk assessment – the risk attached to the failure of the system at any particular point. Where the risk is high, the audit should be carried out more frequently, as it should at any point where experience has shown that difficulties arise.

All such knowledge will come with experience. A business starting a formal audit for the first time will not have such experience to go on. It will be apparent, however, that certain processes are more critical than others. It is more important that customers are attended to quickly and efficiently than making sure the output returns are kept up to date, and the processes affecting the former should be audited more frequently than those of the latter. Following every audit a report will be raised by the auditor (of this more later in the book). These reports will indicate to the system manager (or whoever is in charge of the audit process) those areas requiring more frequent attention in future either because of difficulties experienced or because of the risks involved.

Starting the audit

For the smaller business the sensible way to begin with is to plan to audit one department at a time. After the first department has been audited there could usefully be a review involving the auditor, the manager in charge of the auditing process – say the systems manager – and also the manager of the department that has been audited. There should be such a meeting anyway (usually called a 'closing meeting') to review the findings of the audit. That will be described in more detail later in the book. But in addition to looking at the audit results the audit process should be discussed. Did the auditor (who we are assuming is the manager of another department) feel sufficiently prepared for the task? Would more training have been useful? Was the time allowed sufficient?

How did the auditee (ie the manager of the department being audited) feel that the audit went? Were there any arguments, or objections from employees? Did the auditee feel it was useful? Were any possibilities for systems improvement identified? How could the audit be done better in future?

Finally, the system manager has to decide whether the audit achieved its objectives and what lessons could be learned that can be applied to subsequent audits, not only of that department but of the auditing programme in general. These initial audits will almost certainly take longer than expected, but that does not matter – experience will enable better estimates to be made in future, and as that experience is gained audits will be carried out more quickly.

Setting the programme

The first programme of auditing should therefore be somewhat tentative as far as the timing is concerned. Experience will enable more accurate programmes to be compiled in future, and if the auditing is done by a number of different people, each auditing different parts of the business, no single departmental audit lies on the critical path and the overall time to completion is not necessarily extended. If the auditing is carried out by one or more full-time auditors then of course the position is different, but then there are fewer people involved in the learning process, so time is saved that way.

In drawing up a plan, start with a list of all the departments in the business. This has to include every one. If you were auditing to meet the requirements of ISO 9001 alone, it would only be necessary to include those departments which were impacted by the standard, ie those concerned directly with the end product. Purely administrative departments, or personnel, would not necessarily have to be included as they are unaffected by the standard. If, however, your IMS includes, for example, occupational health and safety then all should be included; the scope of occupational health and safety cannot be limited and neither can that of environmental management. If you have a fully comprehensive IMS covering all the systems in use in the business, then everyone should be included anyway.

Make an estimate of the time it will take to audit each department. This will depend on the physical size of the department, the number of people working in it, the complexity of the work, the number of junior managers employed, the number of processes involved, and so on. The first time an audit is carried out the time required can only be an estimate – experience will show what the right answer is. Unless a department is particularly large or complex, work on the assumption that each department will need a day to be audited adequately. If you are doing the auditing using your own managers, it does not matter much if you get this time wrong – the auditor can come back another day to finish the job, and it will not be holding up work on any other department.

Alongside the list of departments to be audited, list the names (and probably positions) of the people who will do the auditing (assuming that they are your own employees). Check that they have received, or are scheduled to receive, the training that they need; then allocate these names to the departments they will audit. If you are using your own staff, as is usually the case, and especially if you are using the head of one department to audit another department, it is a good idea to avoid appointing people to audit departments that they have previously managed; and, of course, avoid known antagonisms or rivalries.

Next, start to formulate a programme of audits in terms of the order in which the various departments should be audited. Do not bother with dates at this stage.

If, as has been suggested, auditing is carried out department by department and as far as possible following the processes through the business, then the 'upstream' activities should be audited first, starting perhaps with order receipt and entry and finishing with despatch, invoicing and collection. There are, of course, many activities which do not lie on this direct path – purchasing, for example – and ideally they should be considered in their logical place, such as in association with production planning, but this is not essential. The important thing is that everyone is included.

Start, then, with the mainstream activities in sequence. If the whole activity is new to your organization, it is a good idea, as suggested above, to carry out one audit of one department as a pilot and consider how that has gone before going ahead with the rest.

Depending on how many auditors you have available, and how much time each is able to spend on auditing (bearing in mind the requirements of their regular jobs) then dates can be added to the timetable. Bear in mind that when a department is being audited, the manager of that department should be present, and will not therefore be available to carry out an audit on another department at that time. Subject to this requirement work can go on in different areas in parallel.

As soon as the programme is decided it should be published to the auditors and the managers of the departments who are going to be audited. This will enable the auditors to carry out any necessary preliminary work to make themselves familiar with process maps, the activities involved, and so on. Clearly the timetable will need to be agreed with all concerned to make sure that it is suitable and as far as possible avoids periods of peak activity in the departments involved (although it is often in busy periods that staff are inclined to take short cuts through the system, so the occasional audit at such periods can be useful).

Auditor preparation

Before beginning the audit, auditors should make sure that they have all the sources of information necessary. They should have, or have available, the system manual of the business. They should have the process maps of the department being audited, and check that they appear to be complete, showing clearly the output indicators of each process or series of processes so that they can check that every process is producing the correct output. Any written procedures or work instructions should be available and all specific requirements of individual management standards and codes of practice covered. The results of risk analyses should be stated along with the process maps (see example on page 21).

It is important that the auditors understand what is expected of them. In the past, audits against a standard such as the earlier editions of ISO 9001 were largely carried out by asking a number of set questions relating to the quality manual and the associated procedures to make sure that all employees knew about them and were following them. In our present context that is not sufficient for a number of reasons.

Firstly, we are auditing not only against a single system standard, but against an integrated system covering two or more standards or other systems. In examining how employees are doing their jobs we need to check that all the aspects of their jobs are taken into account – quality, environmental, health and safety, possibly information security – all the systems that are embodied in the integrated system. Of course, if health and safety, for example, have not yet been brought within the scope of the integrated system, then it will not be possible to audit that as part of this exercise, and it will have to be audited separately on a different occasion, possibly by a different auditor.

The auditors need to be quite clear, therefore, about the disciplines that are included within the integrated system and of the implications. This will have been covered in the training of the auditors, and will vary from one business to another. Whereas one concern may have progressed to a comprehensive integrated system, another may have incorporated only two or three systems into its IMS and only those can be audited as part of this procedure. If the process map is truly comprehensive then these aspects of the system will already have been identified as part of the process map – the quality or safety checks, for example. If that is not the case, the auditor should assist the auditee in completing the process map to show them. If the auditors are themselves managers of other departments in the business, as has been suggested, they will probably know all they

need to about process mapping from when this was carried out in their own departments; but any who do not have this experience should have training in process mapping before undertaking an audit so that they are fully familiar with the subject.

Risk assessment

Each process, or group of processes, should have been the subject of a risk assessment. Risk management is at the heart of modern management systems. Whilst it is not specifically required by ISO 9001 it is a requirement of ISO 14001 and OHSAS 18001, and is likely to be included in any future management system standards. Again, as for process mapping, your own departmental managers should know about risk assessment as they will have carried it out within their own departments, but any who are not up to speed on this will need suitable training. In auditing another department the auditor should check that a risk assessment has been carried out and that the necessary actions have been taken. It is not part of the auditor's job to identify the risks or to suggest what should be done about them – that is the task of the managers concerned. The auditor does need to check, however, that the risk assessment process has been carried out, that all the required actions are up to date and that the assessment is regularly reviewed.

Earlier in this book (page 21) a simple example was given of a process map covering the receipt of an order. For this process the risks will have been considered in respect of each of the dimensions of the systems and the control measures proposed where appropriate, as shown on the following page.

Improvement

Lastly, but in our context perhaps most importantly, auditors need to look at improvements. Auditing is a principal means of achieving improvement, and every department should be able to show what improvements have been carried out since the last audit (or perhaps in the last 12 months) and what improvements are planned, or at least envisaged, during the next 12 months. Auditors should check how these improvements have been measured. This means that they should understand how the department

measures its work. How does it judge whether it is doing well or not so well? What does it measure in the way of inputs and outputs? What are its objectives – to maximize output, minimize costs, improve the working conditions of its staff, improve levels of service, or what? What would represent a significant improvement? What are the barriers to achieving that improvement? How might one envisage those barriers being removed? As noted earlier, employees often have good ideas (as well as not so good ones) and should be encouraged to discuss them without fear of ridicule. Auditors may be able to act as a catalyst in giving form to these ideas, although of course cannot get involved in their acceptance.

Order receipt and handling process Ref: 1.A.1

Dimensions of the system

A. Quality
B. Operational health and safety
C. Environment
D. Customer satisfaction
E. Sales and marketing
F. Costs/financial
G. Human resources

Aspects	**Dimensions affected**							**Impact**
	A	*B*	*C*	*D*	*E*	*F*	*G*	
1. Sales office unavailable (fire, unsafe)				X	X	X	X	(Shared)
2. Telephone system failure	X			X	X	X		(Shared)
3. Computer system failure	X			X	X	X		(Shared)
4. Fax machine failure	X			X	X	X		Process fails
5. Sales assistant absent	X			X	X	X	X	Process fails

Manager responsible: Sales Office Manager

Note: Where resources are to be shared with other processes, it is clear that the impacts need to be considered in conjunction with those attached to the other affected processes.

Proposed control measures

Aspect	**Control measures proposed**	**Cost**	**Time to implement**	**Risk reduction planned**
1.	(Shared resource)			
2.	(Shared resource)			
3.	(Shared resource)			
4.	Buy spare fax machine	£300	1 week	99%
5.	Train reserve assistant	£1,000	6 weeks	95%

Figure 5.1 A simple example of risk analysis

Having completed their audits, auditors then have to produce a report on them so that there is a record of what was found and what was agreed. The form that this record should take is considered later.

Summarizing, we are asking the auditors to:

- check each process and make sure it is in line with the IMS manual, the process maps and the specific requirements of the particular standards included in the IMS;
- check that risk assessments have been completed and actions are up to date;
- check what improvements have been achieved, and what are planned;
- report.

Another important part of the audit function is to assess the extent that employees understand how their work fits in with the overall activities of the business and the relevance of the management systems. The formulation of process maps will have contributed a lot to this (if the maps are universally distributed) and should have helped to form a team attitude amongst employees. The auditor can do much to gauge how far this has been achieved when talking to staff, and point out to managers any areas where extra attention seems to be needed. This is usually a better way than attitude surveys. How this is to be done in practice is considered in more detail in the next chapter.

Planning the audit checklist

It is important that all of the following are checked.

- Do all the staff who are going to be involved understand that the audit is taking place, and why?
- Has an audit manager been appointed? Has the audit manager had the necessary training? Has the audit manager been given a formal brief and the necessary authority?
- Does the audit plan cover the whole business? Is there a logical sequence?
- Has the audit programme been published to all the departmental or section managers?

- Do the auditors have all the background information that they need about the sections they are going to audit, or are arrangements in hand for them to receive this information?
- Are the auditors clear about the reports that will be needed from them, and who is responsible for follow-up actions?

6. Doing the audit

Before beginning the audit, the auditor will first need to agree with the department manager how the audit is going to proceed. In practice a pre-audit visit will probably prove to be time well spent. Such visits are common if not general in the case of third-party certification audits, but can be carried out informally for internal audits.

Making a start

In the case of a second- or third-party audit there are a number of items that have to be covered in this formal 'opening meeting'. ISO 19011:2002 'Guidelines for quality and/or environmental managing systems auditing' summarizes the purpose of this opening meeting as 'to confirm the audit plan; to provide a short summary of how the audit activities will be undertaken; to confirm communication channels; and to provide an opportunity for the auditee to ask questions'. These apply equally to the audit of an integrated system or any other.

In the case of an internal audit the opening meeting can be less formal, but it is important that everyone is clear about what is going to happen.

Auditors will need to agree with the manager of the department being audited which members of their department should be visited and interviewed as part of the audit. It should be remembered that an audit is not 100 per cent inspection. Sampling is at the heart of it, and if numbers warrant it formal sampling plans should be used. If there are numbers of employees all doing the same task in the same way, it will clearly not be necessary or desirable to interview everybody in order to establish that the system is being followed correctly. If everybody is doing different things, then they will probably all have to be interviewed, but not all to the same depth nor on all subjects. It may be appropriate for the auditor to be guided

around the department and show around – but not, of course, to take any other part in the audit. If the department works shifts it is important to see that each shift is covered.

Auditors should, of course, always comply with the rules of the department they are in. If the rules require that everyone wears a hard hat, or overalls, then they should do so, too. They should also be aware of emergency procedures, evacuation routes etc.

Auditors will have received a formal brief from the chief executive giving the authority and responsibility for carrying out the audit. They are going to ascertain how far the total system is being followed. This means that they will need to establish the answers to a number of questions.

- Is the process map up to date?
- Is the process map complete?
- Is the purpose of the process clear?
- What are the required inputs? Are they obvious?
- What are the competencies needed for the process?
- How is the process operated, managed and controlled?
- Are the required outputs clearly defined?
- Are the required outputs being achieved?
- What records have to be kept?
- How is the process measured and monitored?
- Are the specific requirements of individual management standards being met?
- What are the problems and critical factors in carrying out the process?
- What are the risks? Have they been identified and assessed? Have risk reduction measures been implemented?
- Have any improvements been made recently to make the process easier, cheaper, quicker?
- What improvements are planned for the future?
- What are the constraints?
- How can these constraints be overcome, and by whom?

This looks a formidable list of questions, but in practice it is not as bad as it looks. The answers to several questions will be apparent almost immediately one starts to look at the process, and others will emerge from discussions. It is not suggested that checklists should be prepared as they can too easily lead to a 'tick box' style of auditing which misses the point of what the audit is intended to achieve. However, to have a list of questions such as those above to act as an aide memoir may be found useful, together with questions about specific parts of the process such as 'What happens if…?'

A mnemonic which many find useful is to consider in respect of each process the involvement of:

- Manpower
- Materials
- Machinery
- Methods
- Measurement
- Environment
- Specification.

This is also known as the 'Five Ms and E and S'. This will help to ensure that nothing has been missed.

The answers can be obtained only by asking questions, by observing what goes on and by examining records. Of these, asking questions is the most important, but one which requires skill. Asking direct questions will not provide reliable answers to some of the questions listed above, and an oblique approach is often better. To get the answers you are after requires that you have established a relationship with auditees in which they trust you and are happy to talk openly and honestly about their work. In no sense should auditees feel that they are facing some kind of inquisition. No doubt they will have had it explained that the audit is not a policing exercise rather it is being carried out purely to improve things for them as much as for anybody else. However, it is still likely that they will harbour some reservations at the start so your initial approach is all important. Ask to be shown, rather than told, how the job is done and encourage auditees by asking questions along the way. These should be open questions which cannot be answered by a simple yes or no. There is a natural inclination on the auditees' part to try to give you the answer that they think you want, and this has to be overcome. Listen carefully, encourage and guide the auditee into those aspects you want to know about. Limit your own talking because while you are talking you are not learning anything. You do have to be sure that you obtain the answers that you need; if the auditee does not understand the question, ask it again in a different form – it may be that terminology has caused the difficulty. If you get the impression that the auditee is prevaricating, simply persist and insist. It may be, of course, that the question is outside their knowledge, in which case you will need to make a note to ask their manager when you meet later. Be wary of auditees who talk too much; they will waste your time and may be trying to divert you from the line you are following. On the other hand, casual asides can on occasion point to unsuspected problems and are often worth following up.

The process map is a good start point to the interview, asking for an explanation of the activities. As an auditor it is good practice to ask questions about things even if you understand them perfectly. Treat auditees as the experts – as indeed they are on their particular activity. You will learn far more by asking stupid questions than you will by presenting yourself as an expert. 'Show me …', 'Explain to me …','Tell me again …', 'How do you …?' are the phrases you will find most useful. If it is a difficult point that you are trying to get clear, ask the question several ways at different times to make sure you are getting the same answer each time. It does not matter if the auditee thinks you are stupid – at least you can have confidence in the answers you receive.

When you have established that the process map is up to date and complete and truly reflects what is actually happening, you can then go on to check whether the specific requirements relating to specific management standards eg quality, are being met. Auditees will, or should, be in possession of the relevant parts of the system manual that relate to their work and any related procedures . They can then explain how these are covered, what records are kept, what checks there are and so on. It may be that the particular auditee is not involved in all, or indeed any, of these, and they are covered in a later process; in which case make a note to check that these matters are indeed covered when you are auditing that later process. If the process map is truly comprehensive the keeping of records, etc, will be recorded at the points where they arise.

Why are there problems?

When a non-compliance is discovered – an instance where the system has not been followed – it is important to find out the reason behind it. It is rarely sufficient to say only that the employee made a mistake. If the error is only one among many cases where the procedure has been followed correctly, then this occasional failure may justifiably be put down to employee error. If errors are more frequent the auditor should find the reason. Much has been written about identifying the 'root causes' of non-compliances, and the subject is sometimes a difficult one. It may be that employees have not received adequate training in what they are supposed to do, or have simply misunderstood instructions. It may be that there is some inherent weakness in the system prescribed which makes it difficult to operate, or that it has failed to take cognizance of a particular circumstance. The temptation to put it down to 'pilot error' should be resisted until it is established that this really is the cause. Remember that

the object of the whole auditing exercise, in our context, is to find ways of improving the system and part of this is to eliminate non-compliances by removing their causes.

Categories of problem

Some problems are more serious than others and it may be found useful to adopt a number of different categories to indicate just how serious a problem is. An external auditor carrying out an assessment on behalf of a certification body will probably adopt a system of perhaps four categories. The most serious is 'critical', where a situation is discovered which could pose serious danger to life, health or safety. In such circumstances a certification audit would be suspended immediately whilst the matter is referred to senior management for corrective action to be taken without delay. It is unlikely that the auditor will encounter such a situation, but the possibility is always there.

The next most serious problem is usually labelled as 'major'. This is where an important part of the system has not been addressed at all but has been completely missed; or where a particular part of the system is not being followed or the system is in danger of breaking down. In the case of a certification audit this would represent a failure and certification would not be granted until it was demonstrated that the problem had been corrected.

Less serious is the 'minor' non-compliance category, where perhaps one element of the system has not been adequately covered, is not being consistently followed or there has been a momentary lapse of discipline. Whilst this will need to be put right it will not in itself mean a failure of the certification audit, but if a number of 'minor' problems are found then certification will not be granted until they are put right.

Lastly there is the 'observation' category – that is a comment by the auditor on a situation where improvement is necessary or desirable but which does not rank as a non-compliance as the situation stands at the present time. The auditor's comment is a suggestion rather than a requirement, but one which a certification body would expect to be taken seriously.

In which category a non-compliance should be placed may depend on the circumstances in which it was observed. Consider an area where company policy requires that hard hats are worn. You see someone in the area without one. There is no overhead activity; they do not normally work in the area and have entered it only briefly to collect tools. You may consider this a minor non-compliance at most. Now suppose that you see the production

director touring the site without head protection. This you rightly consider much more serious as it shows a disregard by top management of its own rules, a major non-compliance.

For the purposes of internal auditing such as we are considering it is less important to have these formal distinctions between the different non-compliance categories but it is useful to have a means of distinguishing between those problems which are serious and those which are less serious – any system will suffice, perhaps stars or numbers.

Whenever a non-compliance or problem is found it should be recorded clearly, showing what the requirement is, that is to say what the system is asking for; what the failure or problem was; and what the evidence was of the failure (something seen, record missing etc). This will save any possible argument later about what happened.

Risk management

The risk management of the process is probably the next thing to be checked. Here again auditees may not have been involved in the risk assessment, which may have been conducted in respect of an overall process of which their activity is just a part, but you would expect them to be aware of the risks that have been identified and probably the actions taken or planned to manage them. Ideally these, too, should be noted in conjunction with the process map, but many organizations treat risk analysis separately. If auditees have no knowledge of the risk management of their process, again make a note to discuss with the manager later.

The process map of a simple order entry procedure was illustrated in Figure 3.1 (page 21) showing the requirements for the process. A corresponding risk analysis of the same process is illustrated in Figure 5.1 (page 42). Five aspects are identified upon which the process depends. The failure of any of these would cause failure of the process. Three of these relate to shared resources: obviously the loss of office accommodation or of the telephone system is going to affect other activities besides order entry, and it would not be sensible to ask the responsible manager for this process (the sales office manager in this instance) to propose suitable precautionary measures – that is a matter for the top management, following discussion (probably) at the management review meeting (see page 66). It is important, however, that the sales office manager should flag these aspects so that they can be picked up for discussion and resolution at a senior level.

Apart from these three aspects which require board-level resolution, there are two others noted in this example which are more easily resolved – by buying a spare fax machine in case one fails; and training a relief sales

assistant. Both are inexpensive, easily achieved, and offer a high probability of eliminating the risk.

Note that in the example given, the dimensions affected by each failure are shown, that is to say the implications of each failure on the different management systems that are embodied in the integrated management system are specified. This is helpful when assessing the overall risks throughout the business in a particular field. If it is found that there are only one or two minor risks affecting the environment, say, then this is of no great concern; if, on the other hand, there are many risks impacting on customer satisfaction, then the sales manager may well wish to examine how these systems could be made more robust. This is clearly not a matter for the auditor to pursue, but what does need to be audited is whether the risks have been identified and assessed, and whether solutions have been proposed, approved, and actioned or whether the risk has been noted for attention at senior level. The consolidation of risk assessments in respect of a particular dimension, eg health and safety, is not a matter for the auditor but should be carried out initially by the system manager and the results discussed by the executive functionally responsible for the relevant field.

It is not the job of auditors to examine the risks that have been considered to see if anything has been missed. Auditors should in no way 'second guess' the people who actually carried out the risk assessment. The auditor's function is to check that the risk management processes have been carried out as they should have been – the risks identified, the consequences assessed, and the necessary actions (if any) decided and taken; in other words, that the risk management system is working. This is of the greatest importance to the business and is considered in more detail later when considering the management review.

Looking for improvement

Lastly, the auditor needs to ask about improvement – that, after all is the main purpose of the whole auditing exercise.

The question of improvement has been discussed in an earlier section. The need for performance indicators was explained on page 8. There has to be some measure of the output of a process – not necessarily a physical output, but some measure of achievement – in order to measure improvement. If there is no measurable achievement one may ask what the purpose is of having the process at all. Ideally the performance indicators will have been specified at the time that the process map was drawn up. In the case of direct workers – those who are engaged in the main process of the business (so the term may include for example teachers, surgeons and solicitors,

not just operatives in a workshop) – there will probably not have been much difficulty in identifying appropriate indicators of performance. In the case of overhead functions it is often more difficult to identify meaningful indicators but it should be possible as otherwise the activity has no purpose and should be eliminated!

Often the individual auditee may be unable to affect the performance of a section by themself. The worker on a production line, or a theatre nurse in a hospital, can do little on their own to increase throughput other than to ensure that they do not exert a negative effect by holding things up. Even so they may be able to think of ways in which their job could be done more easily, cheaply or quickly. They may have some reservations about making suggestions that could result in their working themselves out of a job, being conscious of the fact that the biggest improvement that could be made would be to eliminate the job altogether. If the business has a culture of continual improvement employees may feel able to make such suggestions without fear of the consequences, but that is rare.

Often, as in the case of the worker on a production line, there is little that an individual can do to improve the process as a whole. In such a case the improvement programme has to be moved up a level to the stage where the process can be looked at as a whole and the output indicators fixed at that level. One cannot exhort people to improve something over which they have no control.

Determining the appropriate indicators is a job for management at all levels although the means of improvement may often stem from ideas at the shop-floor level.

The fundamental questions to ask the auditee are as follows:

- How do you measure how well you are doing your job?
- Can you envisage it being done better?
- What are the constraints?
- How might these be overcome?
- Are there plans for removing them?
- How will the improvements be measured?
- Have such improvements already been made?

Such discussion may point to ways in which the performance indicators might be refined or amended to give a more meaningful measure and one better suited to demonstrating improvement. Clearly, any such change can only be implemented by agreement with the managers concerned.

In terms of improvement, therefore, the role of the auditor is somewhat different from that in other areas. As with risk management, the primary job of the auditor is to make sure there is a system in place and that it is being

followed. With improvement, however, the auditor may be able to make constructive suggestions on how this can better be achieved and measured. Auditors' roles can therefore be more constructive and positive than in the case of risk management, where auditors should restrict themselves to checking that the risk management system is being operated properly.

The audit we are considering is concerned only with the integrated management system: to see that it is working properly and how it might be improved. In particular circumstances, however, there may be some additional, specific, requirements. BS EN ISO 19011:2002 lists a number of possible objectives of an audit programme (5.2.1). Apart from the objective 'to contribute to the improvement of the management system', the aim with which we are particularly concerned, it instances other possible objectives, such as to meet the requirements for certification to a management system standard; to verify contractual requirements; or to obtain and maintain confidence in the capability of a supplier. One or more of these may have been included as a stated objective in the brief given for the audit by the chief executive, and additional provision will need to be made to cover any such requirement. Clearly, it is sensible to incorporate such an objective in the scope of the system audit rather than to arrange a separate audit to cover them. Any problems in doing this will need to have been sorted out before the programme is started.

So what, in practice, does the auditor do upon arrival at the department to be audited for the first time? In the case of an external audit there needs to be a formal opening meeting at which the purpose of the audit is explained, the procedures detailed and agreed, the facilities required and the programme of work laid down, and so on. In the case of an internal audit such as we are considering there is no need for such a formal opening meeting, but nevertheless an initial discussion with the manager of the department to be audited is obviously needed to discuss the programme of work decided. Whilst it should be made clear that managers are not expected to accompany auditors – indeed it is better that they do not – auditors may need guides to steer them where they want to go. The programme of work in practical terms has also to be decided at this stage. In the case of a large department where many people are doing identical or similar work, it is obviously neither necessary nor practical for the auditor to visit them all – rather to talk to just one or two. The process map can be invaluable in selecting those activities where a detailed study should be made – at the completion of a critical step in an overall process, for example – and those where a more cursory examination will be sufficient. It is adherence to the system that is being checked, not the performance of a particular operator.

When auditors go into a department they should abide by the rules of that department, eg hard hats will be worn, sterile overalls used, no mobile

telephones etc. They should check these with managers in advance, along with emergency procedures, fire exits, etc. They should be careful always to comply with these requirements.

As previously described, auditors will acquire information from a number of sources. They will ask questions – their primary source of information – but bearing in mind that objective results are required, they will also need to look at records, procedures and any other tangible evidence. They should look at the performance indicators and any feedback from customers, positive or negative, if these are relevant in that particular situation. Personal observation of what is going on is another important source of information, but for this to be effective auditors need to understand what the processes involve. At all times auditors should be aware of what is going on around them, what is being done and what is being said. The process map will, or should, show what records from the process are required, along with the specific requirements of particular management standards. Where large numbers of records are involved, sampling techniques can be used – there is no need to check each record.

In the course of the audit a number of possible situations may be found. What one always hopes to find is that the system is being followed without difficulty and that all aspects are up to date and that operators understand completely what is being done and why – including where their activities fit in with the overall objectives of the business. What should auditors do when they find that this is not the case? If the system is not being followed, they should try to find out why – not in a critical fashion, but simply through seeking information. It is not up to auditors to tell operators what they should be doing or how they should do it. They should, however, try to establish why the system is not being followed – do the operators not know or understand what they are being asked to do, or have they not been told how to do it or is the system too difficult to operate? It is important to identify the root cause of any non-compliance, not only the end result. Are the failures perhaps due to inadequate procedures? Or to lack of suitable equipment? Or inadequate training or maintenance? Auditors should not remonstrate with operators but note the situation for discussion with the operators' managers later – it is, after all, a management problem. Avoid arguing with the operator – if a disagreement looks like developing, move on, making a note for subsequent discussion with the departmental manager. The only occasion when auditors should take immediate steps to interfere is when they see an unsafe situation. Even then they should not tell the auditee directly, but go and talk to the auditee's manager to point out what is happening. It is always up to the manager, not the auditor, to put things right.

In many cases it will be found that the operator has not been involved in discussions about risk or improvement – that may have taken place at a different point or a different level. Whilst not every employee can be consulted on these matters, it should be found that within a department at least some employees at every level have been involved, as they are often more aware of risks and indeed opportunities than their supervisors, and it is important that this body of knowledge is not overlooked or ignored. That is outside the control of a particular operator, but the situation should be discussed with the manager to make sure that the spirit and letter of the system are being followed.

Recording the audit

Each audit needs to be recorded by the auditor. There are a number of reasons for recording the audit in some detail.

Apart from the general principle that 'if it is not recorded it has not happened' it should be remembered that in our present context the principal reason for carrying out the audit in the first place is as a means of improvement of the management system as a whole. The overall audit result will be an important part of the input to the periodic management review of the system. This review will be considered in more detail later, but an essential element is to know whether or not the system is being followed and what difficulties are being encountered, and this can be determined only from the audit results.

A further reason for recording the audit is so that the non-compliances that have been found can be checked later so that the corrective actions are confirmed. It may possibly be that a corrective action requires a change in the system, possibly of only a minor nature, but it may have a knock-on effect further down the system which needs to be examined. This will need to be checked by the system manager who will be reliant on the audit reports to assess the consequences of the change. These audit results are the main source of improvements to the management system.

Other uses of audit reports will include the possible identification of risks that had not previously been identified – although this will be a by-product of the audit, not a main objective – and a record of improvements that have been made and those planned.

The audit report should be discussed with the manager of audited department and the facts agreed before the report is passed on to the systems manager (assuming that the systems manager is the executive responsible

for the audit operation). If the manager does not agree with anything contained in the report comments should be noted on the report before it is passed on.

In compiling a report the auditor should check that all the topics required have been covered. The list of requirements shown on page 50 may be used as a checklist, although as previously explained not all will be relevant in all interviews. The report drawn up should relate to the auditee department as a whole, it is not necessary to make a report on every interview although the auditor should of course make notes of any significant findings so that they can be incorporated in the overall report. The auditor may find it useful to have the list of requirements mentioned above on hand at all times as a checklist from which the relevant items can be applied in each interview.

Format of the auditor's report

A possible format for an auditor's report is shown on page 61. This can be modified in any way convenient, but the adoption of a form such as this will serve to ensure that nothing has been overlooked. It is also useful to have a common format for all audits throughout the business as this will ease the task of system managers when they come to put together an overall audit report for submission to the management review. If further detail is needed of, for example, specific non-compliances or difficulties found, this is best added as a note or appendix to the report.

In the formal language of management standards any deviation from the system is described as a nonconformity or non-compliance, and the actions taken to put things right are described as corrective actions. While this nomenclature can be used if wished, it may, for our internal audit purposes, be preferable to use less formal terms which perhaps carry less implication of error or criticism. On the form shown, these divergences are described not as non-compliances but as problems. This may describe better the objectives of the audit, to see what problems have been encountered in the operation of the system and what needs to be done to overcome those problems. The actual terms used are optional so long as the meanings are clearly understood.

The report should be signed by the auditor and countersigned as accepted by the manager of the auditee department. If there is failure to agree on any particular point on matters of fact this should be noted as an appendix to the report, but it should be rare for such points to be incapable of resolution before the report is issued. Where preventive action is proposed to avoid recurrence of observed non-compliances, brief details should be given and a

date quoted (which has been agreed by the auditee) by which time the action will have been implemented. In the case of external auditors it is up to the auditor to keep a note of this and check later that the action has been taken and is proving effective. In the situation that we are considering where the auditing is carried out by departmental managers it is probably preferable for the responsibility for follow-up to rest with the system manager or whoever has been given overall responsibility of the audit programme.

The audit report should be completed at the time of the audit and passed to the audit manager immediately to record the fact that the audit has been completed and to convey the results.

Auditor's report

Dept/Section audited	**Date of audit:**
Dept manager:	**Auditor:**
Processes audited:	
Reference nos	
Problems found:	
Actions agreed:	
State actions by whom, and agreed completion dates	
Signed	**Signed**
Auditee	Auditor
Actions completed	
Signed	**Date**
Audit manager	

Doing the audit checklist

It is important that all of the following are checked:

– Have the auditors had preliminary discussions with the managers of the departments they will be auditing to agree how the audit is to be conducted?

- Is each auditor clear about any specific requirements of the audit?
- Is the auditor clear about what to do when finding instances of where the system is not being followed; and is the auditor clear about the need for objective evidence wherever possible?
- Is the auditor clear about the report which is to be made?
- There is sometimes a reluctance to report problems, to give bad news. Do the auditors recognize that it is the bad news that is important, for only that will show where action needs to be taken?

7. Checking the results

As the audit reports from different departments come in to the system manager (the executive responsible for the audit) they will be able to start on the next part of the process.

Looking ahead, the main task will be to consolidate the reports so that a summary report can be made to the management review body on the findings of the audit. It will, however, be some time before this can be done as reports will have to be received from all departments before a meaningful report can be delivered. A start can be made from the time that the first report is received. This should be examined to see that it is complete in that all the areas of responsibility of the departmental manager have been addressed. Was the process map found to be complete and up to date? If there were wide divergences between the map and the reality this may point to serious shortcomings in the mapping process not only in that department but elsewhere. Do the changes necessitated in Department A have implications for those in Department B or elsewhere in the business?

It is unlikely that the reports from a department of any size will show a complete absence of problems, particularly in the early years of the system when staff are only just getting used to it. Some problems are to be expected, but if these are relatively few – few, that is, in relation to the total activity being audited – and scattered, then they are not a source of concern. However, if problems are numerous or concentrated in one area they should be tackled. It may be that the staff training was inadequate or that the system itself has some shortcoming. This will need to be addressed further as more audit reports become available.

In the early days of the audit programme it may well be useful for the system manager to have a brief meeting with the auditor and the manager of the department audited to discuss how the audit went, what difficulties were encountered, whether the time was sufficient, whether sufficient areas of difficulty were explored, and so on. Experience is invaluable but cannot be bought and it is highly desirable to make the best use of any experience

that may be available. It may be that such a discussion will immediately suggest a revision of the audit programme, although this should not be done lightly. It is also interesting to hear from the managers of the departments audited what benefits, if any, they felt they obtained from the audit. It is essential that both auditor and auditee recognize the value of the audit process and are happy with what is going on notwithstanding the time and effort that it entails.

The report will almost certainly contain notes of problems which have been found. Corrective action may have been taken already, or at least planned; in either case it needs to be demonstrated that the action taken will prevent a recurrence. The system manager should ensure arrangements are in hand to check at appropriate times that corrective actions have been implemented and proved effective. In the case of an external audit this would be done on a return visit by the auditor, but in the internal audit situation that we are considering this is probably better done by the system manager or under their direction. The result of this follow-up should be the subject of a separate report; if this report shows that the agreed preventive action has not been taken or that it has proved ineffective, then the system manager should pursue the matter with the line managers involved.

As further reports are received in respect of other departments the system managers will be able to compile a complete picture of how the system is working. They will need to check against the overall process map of the business to make sure that no part has been missed. This is particularly important in the interface areas between departments, although auditing on the basis of processes rather than procedures reduces the risk of this happening. They will also begin to see whether all departments are showing the same pattern of non-compliances or whether there are noticeably more problems in some areas compared to others.

As the overall results of the audit become apparent, the system manager will be able to prepare the report to the management committee on the audit for their management review.

They will not be interested in the details of the audit results. They will want to see whether or not the system is being followed.

If only a small number of non-compliances have been found (taking into account the size of the business and the size of the system), if the root causes of those non-compliances have been established in each case, and if the necessary corrective action needed is clear and has been put in place, then the management committee can work on the assumption that the system is indeed workable, that it is being followed and that further experience will reduce the number of non-compliances in future.

If there have been a number of problems in a particular department or area, the system manager has to determine the reason. It may be that there

are many new, inexperienced staff, or that there has been less training in this area. These problems can be overcome. It might be that the system makes too great a demand on the competencies of the staff involved, or that it imposes too great a workload on the staff involved, or that there is something in the design and demands of the system that causes these particular difficulties. If so, the system manager needs to consider whether the system needs to be changed in some way in order to make it more workable, what changes would be needed and how such changes would affect the overall system. The consequential effects of such changes would then need to be examined to assess the effects on the overall system.

If a situation similar to this has arisen in several areas, then there are more significant decisions to be taken. Is the overall system too complex for the staff to handle? It might possibly be that too many fields – eg quality, health and safety, information security – have been incorporated into the integrated system too quickly and the staff have had difficulty in coping with the special requirements of each. Perhaps the integration could have been extended over a longer period. In such a case (which is extremely rare, but this book is trying to cover all eventualities), the system manager needs to formulate a plan to put things right. It would not be right to try to correct the situation by removing any of the fields. The need is to examine more closely how the difficulties arise, assess what extra assistance, training or even staff is needed to get the system back on track, produce a plan and budget proposal for doing it, and include that proposal in the report to the management committee.

It should be said that it is extremely unlikely that a situation such as this will be shown up for the first time by the system audit. If difficulties such as these have been found in operating the system, the system manager will almost certainly have been aware of them as the system was installed.

Planning better programmes

After the first audit has been completed, the system manager will be able to draw up a more meaningful timetable for subsequent audits. To start with a simple rule has to be applied, such as making sure that every part of the system is audited in the course of 12 months. As an ongoing principle the frequency should be related to the risks involved.

In the course of the original process mapping, the risks attached to each process will have been specified and evaluated. Those processes which are essential to the mainstream operations of the business will probably have had their associated risks examined in detail, but nevertheless these areas

should be audited more frequently than other areas in less critical situations. The likelihood of system failure may be low, but the consequences of failure are greater and additional audits are justified.

On this basis each department or area can be graded to indicate the frequency of audit needed. This grading needs to be amended to reflect the difficulties that the audits have shown up in practice. Areas that have experienced no significant problems can have their ranking reduced, whilst those that have experienced a lot of difficulties should have increased frequency of audit until such time as the difficulties are reduced.

Has it all worked (checklist)?

It is important that all of the following are checked:

- Are the audits taking place according to the agreed timetable? If not, what changes need to be made and what are the effects?
- Are the reports being received promptly? Do they contain the information needed?
- Have problems been discussed with the managers concerned? Have corrective actions been agreed? Are arrangements in hand to follow up to check that they have been effective?
- Do the overall results reveal any significant difficulties in the operation of the system? If so, has this been reported to the management committee and have proposals been made? Is there an agreed plan to put things right?

The final check

To make sure that nothing has been forgotten it is useful at this point to check through the clauses of the IMS framework (see Appendix 1) to make sure that nothing has been missed.

1. Management system
- Is the system documented (is there a system manual)?
- Is there evidence that the organization is striving for continual improvement?

- Have all processes been identified? Are they all measured and monitored?
- Are the necessary resources available?

2. Policy
- Is there a published statement of policy?
- Does it cover all the relevant requirements, including those demanded by specific management standards to which the business subscribes?
- Is it regularly reviewed?
- Is it understood throughout the business?

3. Planning
- Are risks identified and managed throughout the business?
- Are responsibilities and roles identified and communicated throughout the business?
- Is there planning for foreseeable emergencies?

4. Implementation and operation
- For each process, are there procedures in place for measurement and monitoring and are results recorded (not necessarily on paper)?
- Are all personnel aware of the relevance and importance of their activities?
- Are all personnel assessed as competent to carry out their tasks?
- Are resources, including infrastructure, adequate?
- Are documented procedures in place as required by specific standards?
- Are all necessary documents available and under control? Are records under control?
- Is communication, internal and external, effective and satisfactory?
- Are suppliers subject to formal arrangements?

5. Performance assessment
- Are the output requirements of each process defined and measured?
- Is performance measured against requirements and recorded?
- Is corrective action taken and tested when problems arise?
- Is the audit system comprehensive?

6. Improvement
- Is there a system for corrective action and is it effective?
- Are stakeholder comments taken into account when reviewing nonconformities?
- Are risks considered in deciding on the action to be taken?
- Is there a system for measuring improvement?

7. Management review
- Are management reviews taking place regularly?
- Are records of the reviews maintained?
- Is the review effective in identifying opportunities for improvement and are these followed up? Does this include improvements to the integrated system itself?

8. Acting to improve the system

The main vehicle for achieving improvement is through the management review. Management review is a requirement of the IMS framework and also features in the requirements of every management system standard. The framework says:

> Top management should review the organization's management system at planned intervals to ensure its continuing suitability, adequacy and effectiveness. This review should include assessing opportunities for improvement and the need for changes to the management system, including policy and objectives.
>
> (see Appendix 1, 6.1)

It goes on to list a number of inputs required for the review, the first of which is the results of audits.

In considering the audit results, the principal questions that the management committee will need answered are: is the integrated management system being followed? If not, why not? What needs to be done to improve things?

The departmental audits that have been described will show the extent to which the integrated system is being followed.

If they show that the system is being followed without too many problems, that non-compliances, or problems, have been, or are being addressed, and that no inherent difficulties have appeared in the operation of the system, then the committee may be reasonably assured that at least the system is being followed.

On the other hand, if the audit results show that a lot of difficulties have been experienced and that the system has not been truly embedded in the organization, then the committee has other problems to consider. It will

need to find out why the problems have arisen, and decide what to do about them. Here the report of the system manager and the auditors will be the main source of information. There is no point in discussing whether the system is suitable for the business if, for one reason or another, it is not being followed.

The reason for the difficulties may be insufficient training of those employees who are expected to operate it, usually because there was insufficient appreciation of how difficult the staff would find it. It is a general rule that systems always appear much simpler to those who have devised and installed them than to the people who are expected to operate them. This situation should not arise if employees have been involved in the mapping of the processes and the development of the system. There is a tendency in many organizations to skimp on training. This sometimes arises in the final stages of the implementation of a new system, such as a computer system, when the whole installation is running late and over budget, the pressure is on to complete it with minimum additional expenditure, and the training programme gets cut down to try to save time and money. This usually proves a false economy, as without adequate training employees find themselves unable to operate the new system and the whole thing becomes a failure and a waste of money. It never pays to economize on training.

Major difficulties may be caused where an inappropriate system has been imported from another organization in the hope that it will fit the present business and thereby save time and money. It never works. All organizations are different in some degree, and any ready-made system will need to be tailored to fit. The problem was experienced not infrequently in the early days of quality system certification where a business had bought a ready-made 'quality manual' in the hope of achieving approval quickly and cheaply. For many it proved a very expensive attempt at economy. It is vital that a system fits a business rather than trying to make a business fit a system. The management committee will have to decide what has gone wrong, why the system is not proving workable, and what has to be done about it. It may, in the extreme, require a completely fresh look at what the system requirements of the business really are. In this situation the system manager should, as soon as the position is recognized, compile a (costed) plan to retrieve the situation and submit it to the review meeting for approval and authorization.

The primary object of the management committee when conducting a management review is to '… review the ... management system to ensure its continuing suitability, adequacy and effectiveness'. The objective of the integrated system, or indeed of any management system, is to enable the business to work more effectively in achieving its objectives, and that will

mean meeting the requirements of the stakeholders of the business. If any system does not contribute to this then it has no place in the business. This overall purpose of a system should always be kept in mind. There is no point in having the newest equipment, the most up-to-date computer system or adopting the latest management gimmick unless they will make the business work better.

Quite apart from the audit results those present at the review meeting will have opinions on the operation of the system – is it helping them to do their jobs better? Is it contributing to better business results? If the system has been truly integrated and embedded into the everyday workings of the business, any shortcomings in its operation will have been evident to the functional heads represented at the meeting quite apart from the audit results. The audit will merely have shown whether the system is being followed, not whether it is doing its prime job in assisting the improvement of the organization.

Would an extension of the integrated system improve performance? If it has been based on an integration of the basic management system standards – quality, environment, health and safety – should the business now be more ambitious in seeking not merely to be good but one of the best by, for example, embracing the EFQM (see page 84) excellence model? This is based primarily on self-assessment against well-established criteria to achieve excellence in all activities, and the mechanism of internal auditing will mean the business is well-placed to carry out such assessment.

Are the risk management procedures working properly? Risk management lies at the heart of modern management practice – at the highest level in the fields of directors' responsibilities, corporate social responsibility, and so on. The process mapping procedure should have covered risk assessment at the operational level, but will almost certainly not have extended to strategic considerations, which clearly need to be covered, either through a separate procedure or by extension of the integrated system. Well-publicized corporate scandals in recent years mean that businesses cannot afford not to have a system for managing their corporate risks any more than they can afford to be without a health and safety system.

Achieving excellence

As the business develops it may wish to move beyond the basic target of meeting the requirements of management system standards and look to achieving still higher levels of performance. The EFQM excellence model

mentioned above or the Baldrige award are two such means in the quality field, but there are an increasing number of systems available for achieving further progress.

For larger businesses, particularly those operating over a number of sites, the CAP (Common Audit Protocol) system offers a comprehensive means of comparing in depth the achievements of different areas of the organization. Whilst this system is geared to quality, environmental and health systems, it is capable of extension into other fields and, as its name implies, allows common criteria and measurement systems to be applied across all sectors.

The public is demanding higher and higher standards in the management of all corporate and public bodies. Well publicized corporate failures through deficiencies in management, the consequences of fraud, environmental disasters and the like have all led to demands for higher standards of behaviour. Practices which were considered quite normal a generation ago are now considered totally unacceptable. In the UK a succession of reports from government or quasi-government committees have introduced new codes of conduct governing the way in which corporations are managed – the appointment and duties of directors etc – as well as new laws about price fixing, insider trading and numerous other practices to be avoided in business life. Whilst these have been aimed primarily at the private sector, the higher standards of behaviour demanded are also expected in public and charitable bodies.

The power of publicity is greater than ever it was. The media thrives on stories of disasters and not infrequently a relatively minor incident can be built up in the mind of the public to represent a major incident. The resultant publicity can force a business into making a decision on irrational terms, constrained by surrounding circumstances. When Shell wanted to sink a redundant oil platform in the North Sea, environmental campaigners forced the company to change its plans and dismantle the platform on shore. It was subsequently agreed by all parties that from an environmental point of view this was a completely wrong decision – it should have been sunk as originally intended, but by then it was too late. In another example, a rail accident resulting from a broken rail led to demands for the rail service to be radically curtailed whilst all suspect rails were replaced. This resulted in a transfer of large amounts of traffic onto the roads where casualties were far greater than they would ever have been on the railway. In each of these cases the management of the business realized that the action they were taking was not in the best interests of the public, let alone the business, but the storm of publicity left them no option; they were driven by public opinion misinformed by both media and politicians.

The importance of risk management

These examples are included to show how important it is for any business to have a system for considering all the risks to which it is exposed and for managing those risks. Risks in general can never be eliminated, although it may be possible to eliminate an individual risk.

The subject of risk management has been mentioned several times in this book, and its importance cannot be exaggerated. It is a wide subject, which forms the subject of a separate book in this series, but some further consideration is appropriate here. For each of the processes within the business the associated risks attached to that process will have been considered, and that is the extent of the risk responsibility of the local management of that process. For the business as a whole there are many more, and probably greater, risks to be taken into account, and the management of these risks is the responsibility of the management committee. In the book *IMS: Risk Management for Good Governance* various categories of risk were considered.

Quality risks should be adequately covered by examination of the risks attached to those processes concerned with the product. These will have covered such topics as failure of supplies, loss of key employees, training requirements and conformity to standards as well as the more obvious concerns of defect rates or specification changes.

In the area of the environment, local management will similarly have considered risks concerning discharges to air or to water, fire or explosion. They may not have considered the risks associated with the concerns of society in general about the business – the processes that it uses or the raw materials, land usage or visual impact. These are all matters which someone in the business should be considering, and it is the responsibility of the management committee to see that all these risks are identified and managed. Failure to do this could spell the end of the organization.

Health and safety risks will almost certainly be managed effectively at the operational level, but what about sales and marketing? Whilst sales management will surely have considered the risks associated with price, service, product quality and competition, will they have considered the risks of cheap imports, of a faded image or of adverse publicity? Somebody has to concern themselves with these matters and in the wider picture it may well be the management committee. Industrial espionage is another danger of increasing importance. Is the information on which the business depends secure? Should the business adopt the standard ISO 17799 and bring this within the integrated system?

Financial risks are another area where the management of risk will almost certainly devolve on the management committee. For the most part these risks will not be revealed in the process maps. The accountants will provide figures and even point out possible problems, but they will not provide answers. Is the cash flow of the business sufficient to allow it to take opportunities for growth as they present themselves? Remember that the risk management system is not concerned only with downside risks – it is also looking for opportunities. Many organizations have identified growth opportunities but have then been unable to exploit them because of shortage of the capital needed to finance the expansion. Of all the risks identified, which could affect the share price and by how much? A significant drop could make it difficult to obtain the funds that the business needs, affect its ability to recruit the senior staff that it needs, and may finally threaten its survival. Share price is not determined by profits alone. Increasingly the large institutional investors, particularly pension funds, are taking an active interest in the way that businesses behave in social and environmental terms and are using their considerable power to demand greater social responsibility from business – not only in environmental terms but also, for example, in employment policies. If a large concern is found to be using suppliers who employ practically slave labour, albeit on the other side of the world, they may soon be forced to change through pressures from their major investors. This is a relatively new phenomenon, that investors take an active interest in the way that a business is run. Calpers, the California pension fund, was probably the first major investor to take this active interest, but the practice has spread and is likely to spread further.

Socially this interest by major investors should be welcomed so long as it is properly informed. There is another influence that is less wholesome at the present time, and that is the investment commentator or analyst who, through press comment on the stocks of a particular business, can almost make or break a company. This has got to the stage where a business may scarcely dare to take a particular course of action – an acquisition, perhaps, or a major expansion – if it fears that there will be an adverse reaction from an influential analyst which would result in a fall in the share price. All that a business can do is to try to ensure that it makes its case clearly for what it proposes to do, and to ensure that the media are well informed about its intentions and reasons. Unfortunately this is in itself no guarantee that public comment will be rational or even sensible. It is the larger business that is at particular risk of ill-informed or irrational comment from financial analysts seeking to make a name for themselves. These are all matters which the management committee should bear in mind when

they are considering whether their risk management arrangements are adequate to safeguard the future of the business.

There are other matters which the committee should regularly consider. Legislation may introduce new causes of action. Whilst employer's liability is a long established principle, the new offence of corporate killing means that an individual officer of the business may be charged with causing death. This is not limited to the private sector; it applies to the public sector, too. Following an outbreak of legionella which killed seven people and affected 170 others, the officer of the borough council responsible for the maintenance of the air-conditioning system propagating the outbreak was charged with 'gross negligence' manslaughter. Whilst a fine in such circumstances would be pointless (except perhaps to show public disapproval) as it would finally have to be paid by the council tax payers of the authority concerned, the threat of prosecution of an individual deemed responsible may bring home to the business the seriousness of the event.

Other new areas in which businesses are expected to comply are those of social accountability and corporate social responsibility. These again reflect the way in which the proper concerns of business are continually seen to be widening. A century ago little attention was expected from a business other than to produce a profit for its owners. There were some altruistic employers who tried to make life better for their workforce, but little attention was paid to their effects on the populace as a whole. Concern for the environment has grown rapidly, although more in some countries than in others – witness those countries which have still not subscribed to the Kyoto agreement. Now comes the requirement that all organizations should show social responsibility in their affairs. This is not yet supported by legislation, but it may follow before too long.

All these examples are quoted here because they are matters which the management committee (by which is meant that body of people who actually control the business, be they a board of directors or governors or partners etc) should take into account when considering whether the management systems that they have in place meet the needs of the business now and in the immediate future. One may be sure that over the years to come additional systems will be called for, but does the system meet all the requirements that can be seen at the present time? One of the big advantages of an integrated management system is that additional systems to meet new requirements can be incorporated as needed. If the different systems that the business needs are not incorporated into an integrated system but are operated independently, then each new requirement entails a complete new structure to handle it, which is much more difficult and expensive than building it into the integrated framework.

The important point is that the management committee should continuously be looking at the systems that they have in place, and particularly the arrangements that they have for risk management, not merely to assess whether they have served the business well over the past months or years, but whether they are thought to be adequate to meet the demands of the following months as far as they can be foreseen. This is something that needs to be done regularly, if only because the risks and opportunities and the world in which the business operates will be changing continuously. There is no way in which the system needs can be assessed once and for all; only if the questions are asked regularly and considered afresh, at least every month or two, can the business be sure that it is as far as is humanly possible equipped to meet the future.

Business continuity

One subject which should be considered regularly by the management committee (although probably not more than twice a year) is the all-important one of business continuity. Throughout the business, risks to all processes will have been considered and steps taken to manage those risks, but an overall view has to be taken by the top level of management of the adequacy of plans for business continuity if disaster should strike. Of all the businesses that suffer a serious fire at their premises, for example, or a flood, an appreciable proportion never start up again. This is largely attributable to their top management never having considered the question in any detail, relying principally on the hope that such an event would never happen.

The objective of business continuity management is defined in BS 7799 as 'To counteract interruptions to business activities and to protect critical business processes from the effects of major failures or disasters'. It may, of course, be decided that the business could not survive a major fire and that the only sensible course would be to close down. This is a perfectly legitimate contingency plan, especially for a small business. Most organizations, however, will not wish to adopt such an attitude and will therefore want to make plans for survival.

Vague plans will not do. It is no good saying, 'We could find some new premises somewhere' or regarding similar expressions of hope or intent as an adequate answer to the problem. Occasionally a business will actually buy 'spare' premises to which it could move if necessary. This was done not infrequently by large organizations, sometimes acting together, to provide for large computer installations, where it was found that finding a building

with the necessary services was much more difficult than replacing the computers. Today perhaps the same might apply to telephone call centres.

Every business should look critically at all identified risks to judge the adequacy of the measures that have been put in place to meet them. A strategic plan needs to be developed, and for each critical process a detailed written plan developed to cover the possible failure of the process. At the operational level these events will have been considered as part of the normal risk management process, but at the strategic level such risks need to be considered by the management committee. Even where the likelihood of failure is judged to be low there should be plans so that everyone knows what to do if it does happen. In the UK it is highly unlikely that you will be struck by lightning, but every year several people are killed from this cause. No matter how unlikely, every risk should be considered to see how the business might survive it.

As far as is practically possible all these plans should be tested regularly. This particularly applies to the simple things that everybody takes for granted. There have been many instances where standby electricity generating plant has been installed but has failed when needed simply because it has not been run and tested regularly. To provide realistic tests may be difficult, expensive and inconvenient, but if disaster should strike you will regret not having taken the trouble.

As with all plans, the business continuity plans should be reviewed regularly to ensure that they are up to date. Some risks will recede, some will increase. Remember, too, that your business is also dependent upon outside organizations – suppliers of materials, suppliers of services, customers, transport, all of which have risks associated with them. If you draw your essential materials from several suppliers in many different places, the risk is much less than if you are dependent upon a single supplier on the other side of the world. How susceptible is your business to the fortunes of a particular customer, and what could be done if they were to fail? Are political risks important? With the end of the cold war many new opportunities arose in eastern Europe but at the same time many concerns faced the loss of markets in both East and West, notably the armaments manufacturers. The fact that the world is now awash with Russian small arms is testament to the ability of the manufacturers to find new markets.

The importance of management review

Management systems should be embodied in the structure and culture of the business if they are to contribute to its success. Too many organizations

regard the management review meeting as something which takes place once a year involving only those people who are directly concerned with the operation of the systems themselves. That way the integrated system will contribute little to the business. Far better that a review of the management system appears as a regular item on every meeting of the management committee, be that monthly or even weekly. Every function should be involved – not merely production and specialists but sales, marketing, personnel, accounts, estates – all those with any significant role in the performance of the business. They should all recognize the integrated management system as a tool that is there to help them contribute to the business more effectively, and all should be encouraged to make suggestions on how it can usefully be extended or otherwise improved.

Continual improvement should also be a permanent item on the agenda, not that the committee will wish to hear about every improvement that has been made or planned – although these may well be the subject of regular reports to the committee – but to make sure that everyone is always mindful of the need for continual improvement and that there is within each function and area an active programme that is achieving it. Then the business will truly thrive.

9. Improving the audit

As with every other activity in the business, the auditing process itself should be subject to continual improvement.

As previously described, management systems can be described as a sequence of Plan–Do–Check–Act, or PDCA for short. The first requirement is to plan what is to be done; then do it; then check that it has been done correctly and that the planned results are being achieved; and act to improve the system, so starting the cycle over again.

This sequence can be applied on any scale, from the total business as a whole right down to an individual process. We can apply it to the auditing process and to the elements of that process.

The audit will take place because the chief executive of the business has decided that it should take place. The chief executive may not have done this specifically. It is more likely that the decision was actually taken in the first place to install a management system, and the need for an audit was a consequence of that decision; but whether specifically or by implication the chief executive decided that there should be an audit. This is part of the 'Plan' stage. The chief executive also has to ensure that adequate resources are, or can be made, available to carry out the audit. These resources will be manpower, time, financial (it will cost money) and material (minor).

Next, the chief executive will appoint a person with the authority and responsibility for planning and managing the audit. This is the 'Do' stage. The protocol for reporting the audit findings should also be specified – to the chief executive, to the management committee, or to whoever else.

In due course the chief executive will chair a meeting of the management committee where the system is reviewed to consider whether it is capable of achieving the required standards of performance of the business. An important element of that will be the report on the audit findings. This may be specifically a 'management review' meeting or, better, as a regular item on the agenda of the management committee, executive committee or whatever it is called, of the business. This is the 'Check' element – checking

that the system is being followed, as shown by the audit reports, and that it appears to be working.

It is highly likely that this review will suggest ways in which the system needs to be extended, simplified, or altered in some other way to meet the needs of the business now or in the future, and the chief executive decides to 'Act' to improve the system. The chief executive also needs to ensure that a record is kept of the agreed changes and objectives and the target implementation.

Audit managers (who in this book we have assumed to be system managers, and have usually described them as such) will have received their brief from the chief executive as described above. They then need to work through their own Plan–Do–Check–Act cycle. They will 'Plan' by reviewing and confirming (or otherwise) the availability of the necessary resources – trained auditors, availability, timescales, etc, and how they are going to make good any shortcomings.

They will then produce an audit schedule and audit procedure, probably submitting these for approval and authority to the chief executive. They will also produce the basic material the auditors will need for their work, probably including audit plans and checklists for each process or groups of processes. They will select and appoint the auditors ensuring that they are trained and competent for the work they are being asked to do. They will advise the auditees of the schedule and audit plan and initiate the audits. That completes the 'Do' stage.

In due course they will 'Check' when they receive reports from the auditors with their agreed remedial actions or improvement initiatives.

The 'Act' stage follows. They will follow up as necessary, monitoring and reporting progress on implementation. When all are completed they will draw up their final report on the audit, make sure records are complete, and compile their report for the management review.

For the individual auditors themselves the PDCA cycle is simpler. When they receive the audit brief from the system manager, they will confirm their ability to execute the audit as specified (or advise if otherwise) and their receipt of all the material that they will need. This is their 'Plan' element.

The auditor will then conduct the audit in accordance with the plan, procedure and schedule that they have received. This is the 'Do' element. They will 'Check' before they end their audit at the closing meeting that all the questions on the checklist have been addressed. Finally, they will submit the report on their findings to the audit manager, and possibly add some suggestions on how they might be enabled to do the audit better in future – the Act element.

The first time that a fully integrated systems audit is carried out it is only to be expected that problems will arise, although it is to be hoped that none will be serious. No matter how good the training, there is no substitute for experience and this cannot be achieved immediately. It has previously been suggested that after the first audit of the first department on the schedule there could usefully be a discussion between the system manager, the auditor and the manager of the department being audited to discuss how the audit had gone and how it might be done better in future. Any obvious points can then be applied to subsequent audits in other departments and with other auditors. Such discussions can, as time permits, be held with each auditor and each department as the audit is completed. This is not to discuss the actual findings of the audit so much as to consider in general how the auditing process has gone and what might be done to improve it.

This improvement should be looked at from three different points of view.

First, the manager of the department being audited may have suggestions on how it could be improved in the selection of staff members to be interviewed, in being less disruptive to the work of the department, and so on.

Second, the auditor may suggest perhaps that records could be made more easily available, that staff were better prepared in knowing what to expect of the audit, or that more time was needed.

Third, the system manager may be able to learn from these comments how the auditing programme can be made more efficient, easier, more acceptable, completed more rapidly (or alternatively that the timetable is too ambitious) – all things which will enable subsequent audits to be improved.

A certification body will keep detailed records on all the auditors that it employs – their training records, qualifications, experience, competence, special expertise, continual professional development, and so on. These are normally requirements of the accreditation body (UKAS in the UK) and are in any case good practice. A business does not have to go to these lengths with its own internal auditors, but nevertheless the system manager should keep some records on these lines for all the staff members who have been or will be used on audit work. Clearly it is necessary to keep records of initial training, and over a period of time it will be useful to have a record of the audits actually carried out and any points arising from those audits in terms of the performance of the auditor.

These considerations are all quite different from the actual results of the audit in terms of whether the system is being followed consistently or not.

It is quite possible that the system is found to be implemented and working well but the audit itself has involved all sorts of problems. Conversely it may be that the audit has gone well but that many deficiencies have been identified in the operation of the management system. It is important that the two subjects do not get confused in the discussions or in the minds of those taking part.

In the same way, when the audit has been completed the system manager will compile a report to the management committee on the working of the integrated system for the management review, and should also submit notes on how the audit went from a management point of view and how the actual auditing process could be improved for the future.

10. Meeting specific standards

In auditing the integrated system it is important not to lose sight of the particular requirements of those management standards which the business has adopted. These will, or should have been, noted on each of the process maps that the business has produced, and the necessary records, procedures etc, specified, but it is as well to check as a separate exercise that these have in fact been covered by the audit. This is not in any way to suggest that a separate audit is required – to do that would be to negate the point of an integrated system. But if the business is certified to, say, ISO 9001:2000, the auditor from the certification body will be looking to ensure that the requirements of that standard are being fully met and will not be concerned with the other standards that are incorporated in the integrated system. Even if you have a certification body which will carry out an integrated audit for all your system standards (which should be the aim of the business), the requirements of each standard will be examined in detail.

In each such case it is important that reference is made to the standard itself to ensure that its requirements are being met. Do not rely on summaries or on other people's interpretation of what is required. The auditor will be working from the standard and so should you.

ISO 9001:2000

The phraseology of the IMS framework closely follows that of ISO 9001: 2000, and there are consequently few additional points to be watched, but there are some.

In the statement of policy it may be necessary to include issues specific to the product of the business, for example the European Medical Devices Directive. There may be other statutory or regulatory requirements or

codes of practice relating to your specific industry or business. It is possible that you also need to include specifications for tests, or other conditions of contract, depending on the business that you are in.

In the area of planning, refer to section 5.4 of ISO 9001:2000, especially as it refers to the establishment of quality objectives for product requirements.

If design and development form part of the activities of the business the provisions of section 7.3 of ISO 9001:2000 need to be incorporated not only in respect of the planning process but throughout the implementation processes.

In the areas of implementation and operation there are a number of specific requirements which need to be watched. Reference should be made to the following sections of ISO 9001:2000:

- section 5.5 concerning responsibility and authority, especially about the appointment of management representatives and their responsibilities, and internal communication;
- section 6.2 about people, especially competence and records, and 6.4 about work environment;
- section 7.2 concerning customer-related processes;
- section 7.3 about design and development, as mentioned above;
- section 7.4 about purchasing;
- section 7.5 concerning production and service provision;
- section 7.6 control of monitoring and measuring devices;
- section 8.2 monitoring and measurement.

In the area of performance assessment, reference should be made to:

- section 8.3 control of nonconforming product. Note that this is one of the areas where a documented procedure is still required.

On the subject of improvement, note particularly:

- section 8.5.3 about preventive action, and again the call for a documented procedure.

Finally, under the heading of management review, reference should be made to:

- section 5.6 where it is required that inputs should include information on process performance and product conformity.

It is likely that all these topics will be found to have been covered in the course of the audit of the integrated system, but it is worthwhile making sure before any visit from an auditor from the certification body.

Note that although the year 2000 edition of ISO 9001 places the emphasis on processes rather than on procedures, there are still some areas where documented procedures are specifically called for (but documentation does not necessarily mean written on paper). The standard says procedures can be 'in any form or type of medium'; that is to say they can be held on a computer system so long as they are available at any time or in any situation where they are required). The requirement implies that the procedure is 'established, documented, implemented and maintained' (section 4.2.1, Note 1 of ISO 9001:2000). Such procedures are given in the following sections of ISO 9001:2000:

- section 4.2.3 Document control;
- section 4.2.4 Record control;
- section 8.2.2 Internal audits;
- section 8.3 Control of nonconforming product;
- section 8.5.2 Corrective action;
- section 8.5.3 Preventive action.

These are, of course, in addition to the numerous records required by the standard, but these will almost certainly have been covered by the integrated system.

ISO 14001:1996

In terms of the planning process (see section 4.3 of ISO 14001) note that significant environmental aspects should consider not only normal operating conditions but also those applying in shutdown and start-up conditions, as well as those associated with all reasonably foreseeable or emergency conditions (see Annex A). Past activities and future plans should also be taken into consideration, the former particularly in relation to a new system being implemented.

In terms of implementation and operation, refer to section 4.4 of ISO 14001 especially in relation to competency requirements, operational control and emergency preparedness.

In the area of performance assessment, note the need for procedures, including those for the periodic evaluation of legal compliance.

OHSAS 18001:1999

Note that in this standard, as in all matters of occupational health and safety, the aim is to avoid ill health and accidents. The risks considered are therefore the downside risks and the aspects are described as hazards, whereas in other fields both positive and negative risks are taken into account. The advice contained in OHSAS 18002:2000 may be found to be helpful, but this will probably have been taken into account in the original compilation of the integrated system.

In the area of planning, note the requirements of section 4.3 of OHSAS 18001:1999, including the need to cover both routine and non-routine activities and the need for procedures and documented information.

In implementation and operation refer to section 4.4 of OHSAS 18001: 1999, noting particularly the requirements for operational control (see 4.4.6 of OHSAS 18001:1999) and emergency preparedness and response (see 4.4.7 of OHSAS 18001:1999).

Note the requirements of section 4.5 of OHSAS 18001:1999 on performance assessment, especially in the area of accident investigation and the requirement to carry out risk assessments on all proposed corrective and preventive actions before they are implemented. (see 4.5.2 of OHSAS 18001:1999)

As with the other standards considered above it is highly likely that all these points will be found to have been covered in the integrated system, but a check against the standard itself is well worthwhile prior to any certification audit visit.

Other requirements

The three standards described above are those most commonly adopted by businesses and most frequently incorporated into an integrated management system. There are, however, many more systems in use in any business which may or may not be covered by a formal written procedure or even recognized as a system. There will be at least one system for the accounting function, and quite possibly more (covering costing, for example, and budgeting as well as the financial accounts); there will be a system for paying wages and salaries, several for personnel (covering recruitment, disputes, possibly Investors in People, specific training, and so on). Sales and marketing will have numerous systems in operation, as will production planning, purchasing, despatch and delivery, information systems, and so on. Every person who works in the business will be working to at least

one, and possibly several, systems, although these may not be formalized in the way that quality, for example, has been. The operation of process mapping, if carried out comprehensively throughout the business, will have identified these systems, possibly for the first time. In most long established businesses informal systems have grown up which may serve their purpose perfectly well but which are not recorded in any way and have not been subject to any kind of scrutiny to see how they might be improved, whether they duplicate similar activities elsewhere in the business, or even conflict with them. One of the greatest dangers of such informal systems is that they depend for their successful operation on the knowledge possessed by one or two members of staff, and if those people are no longer available for any reason the whole activity is put at risk. For this reason, if for no other, the comprehensive identification and mapping of every process in the business is a most valuable exercise.

The great advantage of the IMS framework is that it can incorporate any management system on any subject. A business will achieve the full benefit of an IMS when all its systems, whether they relate to a management system standard or not, have been brought within the system. That is a process that takes some time – usually years – to complete in its entirety, and few businesses have reached that stage yet, but it should remain the target.

Apart from management system standards there are other formal systems which the business may use and which can be brought within the integrated system. One such is Investors in People, frequently adopted to make sure that every employee is used to his/her fullest potential both for their sakes and for the sake of the business. Whilst usually operated as a stand-alone system within the business, it becomes even more useful and manageable when it is incorporated into an integrated system adopting its proper place in the heart of the business rather than as a fringe activity which it can too easily become. In the same way, customer satisfaction is a subject which should be at the centre of every business and should be the concern of just about every employee whether they are directly involved with customers or not. Here, too, if it is part of an integrated system all members of staff will be more consciously aware of the importance of the subject, rather than just the sales, service or complaints department. There is a British Standard dealing with complaints management, BS 8600:1999, which can profitably be adopted and incorporated into the IMS. If these and other systems have been incorporated, periodic checks should be made to ensure that they are fully covered in the integrated system and that the audit process has shown them to be satisfactorily operational.

Information security is a subject which is of increasing concern to all kinds of businesses. As mentioned above, few businesses are conscious of

their dependence upon information and the need to keep it secure until they are prompted to examine the question, preferably before disaster strikes. Here the British Standard BS 7799-2:1999 (BS ISO 17799) can be a useful starting point, and again the system is one ideally suited to incorporation into the integrated system and covered by the unified audit system.

As previously mentioned, if the business is in any way involved in food production or processing, the system requirements become more stringent. The safety of the product becomes the paramount concern and the quality system of ISO 9001 needs to be supplemented by (Hazard Analysis and Critical Control Point) HACCP controls. It has been common practice in the food industry to regard product safety and product quality as two separate systems, but lately it has come to be realized that they are better regarded as a single system, with food safety as one aspect of food quality. ISO 15161:2001 offers guidelines for the food industry on the application of ISO 9001 whereby the two systems could be operated as a single system. ISO 22000 (not yet published at the time of writing) takes this further and defines a combined system. The subject is a large one and further discussion is outside the scope of this book. There is a separate volume in this series *IMS: Managing Food Safety* which demonstrates how the subject is best handled as part of an integrated management system.

Similar considerations apply to such products as pharmaceuticals and medical devices where again the basic quality requirements of ISO 9001 need to be amplified – for example by the European Medical Devices Directive. In these cases the product quality and safety are likely to be audited by government authorities and special regulations apply. The particular requirements are again outside the scope of the present discussion.

As systems become more embedded in the operation and culture of the business, the management may decide that the time has come to extend the concept of quality beyond considerations of product quality (with which ISO 9001 is primarily concerned) and apply the same principles to every activity of the organization. The term 'total quality management' or TQM was originally used to express the concept that the principles of quality management should be applied to every activity throughout a business, but it tended to fall into disrepute through being applied much too freely. Businesses claimed to have total quality management when in reality they had little more than a quality system based on ISO 9001 or its predecessors (BS 5750, etc). If a business seriously wishes to be the best at everything they do, and to retain that position through continual improvement, a more successful approach is to apply the criteria of one of the 'excellence' systems. Of these the two most frequently adopted are the Baldrige award in the USA and, in Europe, the EFQM excellence model. The European Foundation for Quality Management was set up in 1988 by 14 of the

leading quality organizations in western Europe. This body, supported by the European Organisation for Quality and the European Commission, sponsors the European Quality Award, which is based on what has come to be known as the Excellence Model. In the UK the model is promoted and administered by the British Quality Foundation. The principle is to apply quality management principles to every activity within the business through assessment and continual improvement. The subject is wider than can be dealt with here, but is covered in a separate book in this series, *IMS: The Excellence Model* which illustrates how the excellence model can be encompassed within the IMS framework.

Appendix 1 IMS framework

Section	*Elements*
0 Management system	0 The organization should establish, document, implement and maintain a management system and seek to continually improve its effectiveness. The organization should: a) identify the processes needed for the management system and their application throughout the organization; b) determine the sequence and interaction of these processes; c) determine criteria and methods needed to ensure that both the operation and control of these processes are effective; d) ensure the availability of resources and information necessary to support the operation and monitoring of these processes; e) monitor, measure and analyse these processes; and f) implement actions necessary to achieve planned results and continual improvement of these processes.

Appendix 1 IMS framework

Section	*Elements*
1 Policy	
1 Policy and principles	1 Top management should ensure that the stated policy: a) is appropriate to the organization; b) includes a commitment to comply with all relevant requirements and continually to improve the effectiveness of the management system; c) provides a framework for establishing and reviewing objectives; d) is communicated, where appropriate, and is understood within the organization; and e) is reviewed for continuing suitability.

Section	*Elements*
2 Planning	
2.1 Identification of aspects and risks	2.1 The organization should establish a process for identifying those aspects of its operation which need to be controlled and/or improved in order to satisfy the relevant interested party(ies). This includes research and design. Where appropriate, legal requirements should be identified.
2.2 Selection of significant aspects to be addressed	2.2 The organization should establish a process for prioritizing its aspects, so that those that would have a significant impact are readily identified for control measures where this is appropriate.
2.3 Objectives and targets	2.3 Top management should ensure that the objectives, including those needed to meet requirements for product and/or service, are established at relevant functions and levels within the organization. The objectives should be measurable and consistent with the policy.
2.4 Identification of resources	2.4 The organization should ensure the availability of adequate human, infrastructure and financial resources. It should determine and provide the resources needed: a) to implement and maintain the management system and continually improve its effectiveness; and b) to enhance satisfaction by meeting requirements.
2.5 Identification of organizational structures, roles, responsibilities and authorities	2.5 The organization should identify the roles, responsibilities, authorities and their interrelationships within the organization as far as needed to ensure effective and efficient operation. Top management should ensure the responsibilities and accountabilities are defined and communicated within the organization.
2.6 Planning of operational control	2.6 The organization should identify those operations and activities that are associated with the identified significant aspects in line with its policy, objectives and targets. The organization should plan and develop the process necessary for effective implementation of the operational control measures.
2.7 Contingency preparedness for foreseeable events	2.7 The organization should establish and maintain a process for identifying and responding to any potential emergency situation. The process should seek to prevent and mitigate the consequences of any such occurrence.

Appendix 1 IMS framework

Section	*Elements*
3 Implementation and operation	
3.1 Operational control	3.1 The organization should ensure arrangements are in place at the operational level that ensure that: a) the objectives and requirements for the product/services are being met; b) the necessary processes, documents, and resources specific to the product/service are provided; c) the necessary verification, validation, monitoring, inspection and test activities specific to the product/service are instigated; d) the records needed to provide evidence of the realization processes meeting requirements are produced.
3.2 Management of human resources	3.2 The organization should ensure that the personnel carrying out activities on its behalf should be competent on the basis of appropriate education, training, skills and experience to enable them to undertake all their duties. The organization should: a) evaluate the effectiveness of the actions taken; b) ensure that its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the objectives.
3.3 Management of other resources	3.3 The organization should determine, provide and maintain the infrastructure needed to achieve its objectives. Infrastructure includes, as applicable: a) buildings, workspace and associated utilities; b) process equipment (both hardware and software); and c) supporting services (such as transport or communication).
3.4 Documentation and its control	3.4.1 Documentation requirements The management system documentation should include: a) documented statements of the policies and objectives; b) a manual describing the working of the management system (see 3.4.2); c) documented procedures that are required by specific standards; d) documents needed by the organization to ensure the effective planning, operation and control of its processes; and e) records required by any specific standard. Note 1 Where the term 'documented procedure' appears, this means that the procedure is established, documented, implemented, controlled and maintained. Note 2 The extent of the management system documentation can differ from one organization to another due to: a) the size of organization and type of activities; b) the complexity of processes and their interactions; and c) the competence of personnel. Note 3 The documentation can be in any form or type of medium.

	3.4.2 Integrated management system manual The organization should establish and maintain a manual that includes: a) the scope of the management system, including details of and justification for any exclusions; b) the documented procedures established for the management system, or reference to them; and c) a description of the interaction between the processes of the management system. 3.4.3 Control of documents Documents required by the management system should be controlled. Records are a special type of document and should be controlled according to the requirements of those specific standards covered by the IMS. A documented procedure should be established to define the controls needed: a) to approve documents for adequacy prior to issue; b) to review and update as necessary and re-approve documents; c) to ensure that changes and current revision status of documents are identified; d) to ensure that relevant versions of applicable documents are available at points of use; e) to ensure that documents remain legible and readily identifiable; f) to ensure that documents of external origin are identified and their distribution controlled; and g) to prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose. 3.4.4 Control of records Records should be established and maintained to provide evidence of conformity to requirements and of the effective operation of the management system. Records should remain legible, readily identifiable and retrievable. A documented procedure should be established to define the controls needed for the identification, storage, protection, retrieval, retention and disposal of records.
3.5 Communication	3.5 The organization should determine and implement effective arrangements for communication: a) between the various levels of the organization as appropriate to their needs; b) for receiving, documenting and responding to relevant communication from external interested parties.
3.6 Relationship with suppliers and contractors	3.6 The organization should formalize its arrangements for those who supply and contract their services, both internal and external, which have an impact on the organization's performance.

Appendix 1 IMS framework

Section	*Elements*
4 Performance assessment	
4 General	4 The organization should establish and measure the characteristics of the product and/or services, to verify that requirements have been met. This should be carried out at appropriate stages of the process in accordance with the planned arrangements.
4.1 Monitoring and measurement	4.1 The organization should establish and maintain arrangements to monitor and measure, on a regular basis, the key characteristics of its operations and activities that can have a significant impact. This should include the recording of information to track performance, relevant operational controls and conformance with the organization's objectives and targets. The organization should establish and maintain a process for periodically evaluating the performance against the requirements of relevant interested parties.
4.2 Analysing and handling nonconformities	4.2 The methods used for analysing performance should demonstrate the ability of the processes to achieve planned results. When planned results are not achieved, corrective action should be taken. Evidence of conformity with the acceptance criteria should be maintained and recorded.
4.3 Management system audit	4.3 The organization should establish and maintain an audit programme for periodic management system audits to be carried out in order to determine whether or not the management system: a) conforms to planned arrangements for the management system; b) has been properly implemented and maintained, and is being adhered to. The audit programme, including any schedule, should be based on the results of risk assessment of the organization's activities, and the results of previous audits. The audit arrangements should cover the scope, frequency, methodologies and competencies, as well as the responsibilities and requirements for conducting audits and reporting results. Wherever possible, audits should be conducted by personnel independent of those having direct responsibility for the activity being examined.

Section	*Elements*
5 Improvement	
5.1 Corrective action	5.1 The organization should establish a process for defining responsibility and authority for implementing action to eliminate the cause of nonconformities in order to prevent recurrence. Corrective actions should be appropriate to the effect of the nonconformities encountered. A process should be established to define requirements for: a) reviewing nonconformities (including stakeholder comments); b) determining the causes of nonconformities; c) evaluating the need for action to ensure that nonconformities do not recur; d) determining and implementing the action needed; e) recording the results of action taken; and f) reviewing corrective action taken.
5.2 Preventive action	5.2 The organization should establish a process for defining responsibility and authority for implementing action appropriate to the risk.
5.3 Continual improvement	5.3 The organization should continually improve the effectiveness of the management system through the use of the policy, objectives, audit results, analysis of data from monitoring and measurement, corrective and preventive actions and management.

Appendix 1 IMS framework

Section	*Elements*
6 Management review	
6.1 General	6.1 Top management should review the organization's management system at planned intervals to ensure its continuing suitability, adequacy and effectiveness. This review should include assessing opportunities for improvement and the need for changes to the management system, including policy and objectives.
6.2 Review input	6.2 Records from management reviews should be maintained. The input to management review should include information on: a) results of audits; b) stakeholder feedback; c) status of preventive and corrective actions; d) follow-up actions from previous management reviews; e) changes that could affect the management system; and f) recommendations for improvement.
6.3 Review output	6.3 The output from the management review should include any decisions and actions related to: a) improvement of the effectiveness of the management system and its processes; b) improvement related to stakeholder requirements; and c) resource needs.

Appendix 2 Process mapping

Most modern management systems are now constructed around processes rather than procedures.

A *process* is often defined as the mechanism whereby an input is converted into an output. More specifically, the objective is to add value to its inputs to meet the needs of its customers, and a process is any activity that forms part of that sequence of adding value. A *procedure* on the other hand describes how an activity is to be carried out; it is concerned with means and methods rather than inputs and outputs. Procedures or operating instructions may still be needed to describe how a process is carried out, but they do not define the process.

There are various ways in which processes can be identified and recorded, but process mapping is the most frequently used, employing activity sequence flow charts. A simple example – of making a cup of tea – was included in an earlier book in this series, and is reproduced below.

Whilst this may be regarded as a trivial example, it serves to illustrate some important points. Process maps should be kept as simple as possible. Normally only three or four different symbols will be needed to show the activities and their relationship. The symbols commonly used are shown in Figure A.2.2.

The example also serves to demonstrate the difference between a flow chart and a critical path diagram. Clearly if you were going to make a cup of tea you would put the kettle on to boil before you put the tea bag in the cup. However, if critical path diagrams are in existence they can be helpful in creating the process map – as indeed can procedures and work instructions as long as the distinctions between them are kept clearly in mind.

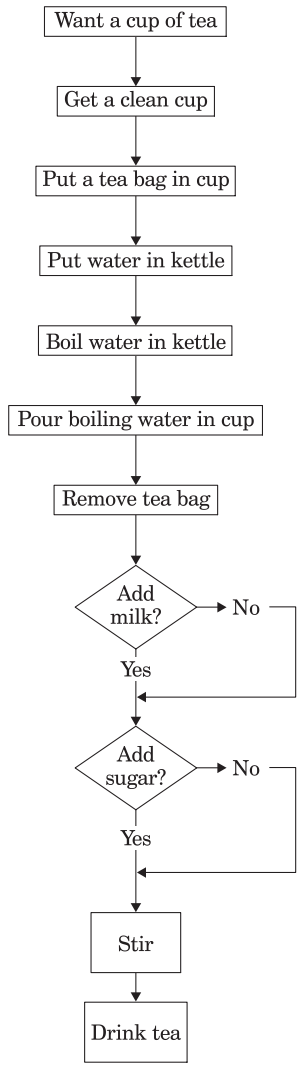
In this example the process is complete in itself. In a business organization there will be few stand-alone processes – most will receive output from a previous process and after the process has been carried out pass the output on to another. There will need to be link symbols to show where one process

connects with another until, at least conceptually, the whole organization will have been mapped.

For businesses where the number of processes is not great (and this depends on the complexity of the business, not its size) a simple manual system of process mapping may be sufficient. If this proves difficult, a computer-based system may be needed – there are a number of packages available. It is important, however, that the processes should be identified and mapped by the people actually carrying them out. Not only do they know what really happens, but they will appreciate how their work contributes to the total activities of the business, and this encourages the development of a team attitude. The staff concerned will need some training in how to identify and map processes, but this is not usually a source of difficulty. It will take longer if computer systems are used.

The identification of processes is a requirement of ISO 9001 and is helpful in almost any situation. Process mapping is not obligatory, but offers many advantages over purely written process descriptions. It shows the interrelationship of processes, which in turn enables consequences of changes to be identified, and helps to spotlight unnecessary processes. It also provides a useful framework not only for identifying the resources necessary for each process but also for identifying the risks associated with each and the consequences of those risks on subsequent processes in the sequence.

The Process Map



Resources needed

Equipment:
- cup
- electric kettle
- spoon

Materials:
- water
- tea bag
- (milk)
- (sugar)

Services:
- electricity

Personnel:
- someone to make the tea

Figure A.2.1 A simple example – making a cup of tea

In constructing process maps the following symbols will be sufficient for most purposes:

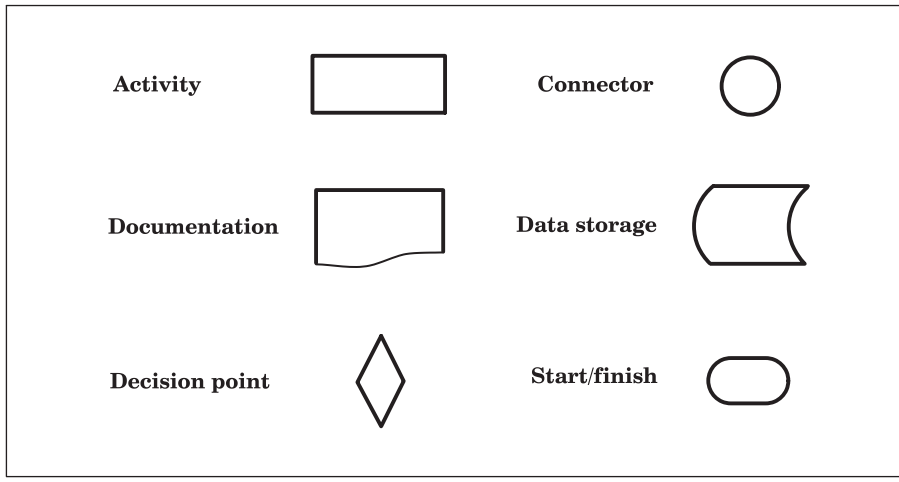


Figure A.2.2 Symbols used in process mapping

References

1. BSI Integrated Management Systems Series

Smith, D (2003) *IMS: Creating a Manual*, London: BSI
Nowacki, G (2003) *IMS: Customer Satisfaction*, London: BSI
Hinch, H (2003), *IMS: Managing Food Safety*, London: BSI
Kelly, JM (2004) *IMS: The Excellence Model*, London, BSI
IMS Risk Solutions (2003) *IMS: Risk Management for Good Governance*, London: BSI

2. Standards publications

BS 7799 *Information security management. Code of practice for information security management*
BS 7799-2:1999 (BS ISO 17799) *Information security management. Specification with guidance for use*
BS 8600:1999 *Complaints management systems. Guide to design and implementation*
BS EN ISO 19011:2002 *Guidelines for quality and/or environmental management systems auditing*
ISO 9001:2000 *Quality management systems – Requirements*
ISO 9004 *Quality management systems – Guidelines for performance improvements*
ISO 14001:1996 *Environmental management systems – Specification with guidance for use*
ISO 15161:2001 *Guidelines on the application of ISO 9001:2000 for the food and drink industry*

References

ISO 17799 *Information technology – Code of practice for information security management*
ISO 19011:2002 *Guidelines for quality and/or environmental managing systems auditing*
ISO 22000 (not yet published)
OHSAS 18001:1999 *Occupational health and safety management systems. Specification*
OHSAS 18002:2000 *Occupational health and safety management systems. Guidelines for the implementation of OHSAS 18001*

3. European Directive

European Medical Devices Directive