It's What You Do With It That Counts!
Building a Compliant QMS

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This article is the last in our series of three papers in which we stated that the theoretical work of the first two would be brought together to provide a practical guide to building a compliant Quality Management System.

Introduction

It may be helpful when reading this paper to have close to hand papers one and two of the series ("That's Not Very Big, Is It?" Dudley & Beckford, Vol. 5, 4, 1998 and "Size Isn't Everything' Dudley & Beckford, Vol. 6, 1, 1999). The content of this paper builds further on the argument of paper one that skills and competences are the key to quality in professional service organizations and the consideration in paper two of the revision of the role of senior management in enabling this to be achieved.

In this paper no substantial new theory is presented, rather it presents guidelines to the practical pursuit of the ideas already elaborated. What is new is the introduction of the expectations and requirements of the forthcoming 'ISO9000:2000' standard expected to be introduced late in 1999.

ISO9000:2000 - CAVEAT

Perhaps the most useful starting point for this paper is to outline the quality management system standard to which any organization seeking ISO accreditation in the future will have to adhere.

Readers should note that the information given in this paper is based on the latest available information at the time of writing which is ISO/CD2 9000:2000, ISO/CD2 9001:2000 1999 and ISO/CD2 9004:2000 published in March 1999. The information provided herein represents our interpretation of those committee drafts and must not be regarded as representing the 'official' views of the ISO committee. Equally it must be noted that further revisions of the draft standard are anticipated before it is finalised. These points are made to ensure that readers understand that no liability can attach to the authors of the article or to the editors or publishers of this journal for reliance on its content.

That essential point having been made, the authors continue to engage in dialogue with the British Standards Institution representative on the ISO committee concerning this approach and are actively engaged in discussions with representatives of the BSI concerning the appropriateness of the interpretation presented in this article to the expectations of the standard.

ISO9000:2000 - An Interpretation

The revision to the current ISO9000 family of standards is expected to be officially adopted late in 1999. This will be a much more substantial revision than that in 1994. Overall it is expected that:

The current family of standards will be consolidated into a single standard;

The standard will have a substantially increased customer focus;

The manufacturing bias will be reduced or eliminated;

The scope will be widened to include more management elements.

All of the clauses of the current version of ISO9001 will continue to be present but the new standard will structure these (and other elements) under four headings:

Management Responsibility;

Resource Management;

Process Management;

Measurement and Analyze, Improvement.

The aim of these changes is to encourage organisations to think about their management processes and react to the changing demands placed upon them.

Management responsibility will be extended to include a specific responsibility for ensuring continuous improvement and benchmarking and under management review there will be greater emphasis on customer satisfaction, market and competitor analysis and on the development of improvement opportunities.

Resource management will extend to include human resource management (reflecting much of what was stated in the previous two papers) as well as to issues such as Health & Safety, Environment and Financial Management. Particular issues in this respect will be to consider the means by which the Quality Policy message is conveyed to employees and sub-contractors and to ensure that all employees understand their contribution to quality. The standard will expect the organization to be able to demonstrate that every employee will be provided with the opportunity to realise her or his full potential and contribution to the organization. This perhaps reflects aspects of the IiP expectations and the Business Excellence Model.

Systematic development of the total competence of the organization will become a formal expectation for accreditation.

The shift towards process management reflects the shift in managerial thinking in recent years. Within this area there will be a requirement for appropriate risk analysis, recognition of the interactions between departments and functions (the internal customer chain), capability to respond to changing customer expectations, formal and documented review of capabilities and a focus on the delivery and post delivery activity. It will no longer be adequate for an organization to be able to demonstrate that 'we made it right' - they will also have to be able to demonstrate that it was delivered 'right' and serviced 'right'. Rather than a focus on the physical object of quality the shift will be towards the customers' total experience of dealing with the organization.

Measurement and analysis simply requires that an appropriate performance measurement system is in place which captures the adherence (or otherwise) of the product or service to the standards specified, that provides for audit of product or service delivered and enables monitoring of customer satisfaction, of competitor and market performance and demonstrates continuous improvement.

For accreditation under ISO9000:2000 - It's what you do with it that counts!

Figure 1 shows the current interpretation of this approach in the form of a process model.
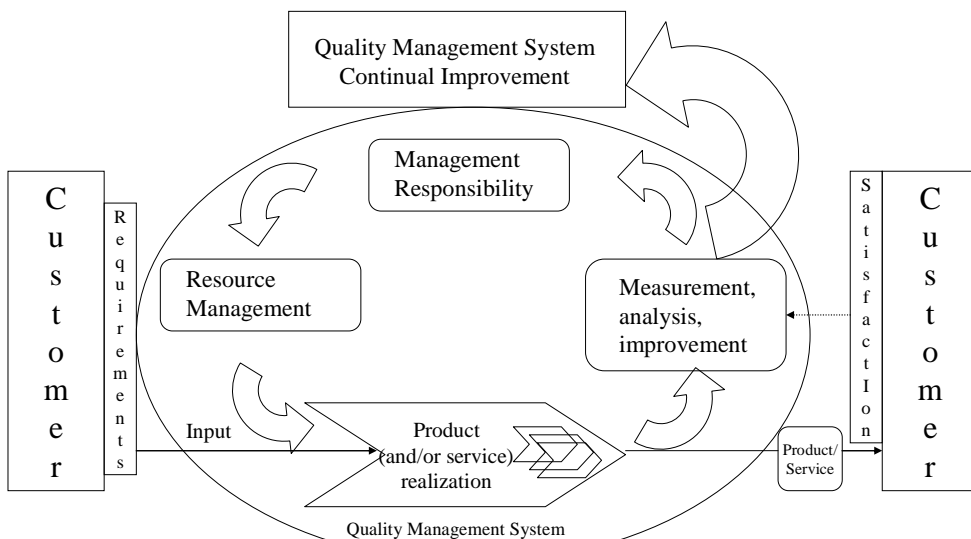
Quality Management Process Model

Figure 1

ISO9000:2000 - The Limitations

It is undeniable that the proposed standard is a major step forward from the 1994 revision. It explicitly recognizes the process oriented nature of many organizations, attempts to address the manufacturing bias and pays particular attention to the 'people' issues within organizations - recognising perhaps that this is an area in which many quality initiatives fail.

There are however a number of limitations:

It continues to reflect a 'static' interpretation of organization. It deals with 'WHAT' not 'HOW';

It does not address the issue of business or organizational benefit;

The process orientation is to be welcomed but it does not explicitly develop the 'special processes', that is the focus on people (especially in the service sector) as the heart of quality is still significantly underplayed.

It retains the potential limitations of bureaucracy, disuse and disrepute associated with the current standard.

The potential advantages offered by the revised standard can potentially be eradicated if the builder of the QMS continues to do so with the same mechanistic and bureaucratic mindset that has so often been employed in the past.

A compliant QMS based on the traditional 'paper record' and 'checklist' approach will clearly, and very rapidly, become a bureaucratic nightmare with ever more people required simply to maintain the system - let alone collate, analyze, interpret and synthesize data in such a way that it can be used as a springboard for performance improvement.

In the service sector in particular the variability in requirements of individual customers would be impossible to properly track. This seems to leave two options available.

The first is to assume homogeneity of customer requirements and service events. In other words treat everybody, and every service event, as being the same, refuse to provide service to anybody falling outside the narrowly defined range of normal customers and accept that a proportion of the customers will walk away. That is - to provide undifferentiated service to an assumed mass market. This route leads to disuetude for the quality management system, reductions in customer satisfaction, decline in market share, competitive failure, decline in reputation or what could become justifiable accusations of monopolistic indifference for service providers in the public sector.

The second option is to accept first of all that every customer and every service event has the potential to be different. That fact having been accepted, it becomes necessary to build the organization, and its quality management system in such a way that it can most adequately cope with all of the potential variety generated by the customers - with minimum bureaucracy and maximum contribution to organizational effectiveness. It is this option which we will now seek to address.

QMS 2000+

There appear to us to be two essential elements to this part of the paper, the framework for the QMS itself and the methodology for building it. We shall deal first with the QMS framework.

QMS 2000+ - A Framework for Success

To reiterate, ISO9000:2000 reflects a process based, integrated view of the organization making specific requirements for accreditation purposes of four key elements of the organization - management responsibility, customer focus, process management and organizational improvement.

What is not specified within that accreditation requirement - although we would argue that it should be - is that the QMS itself must have the lightest possible negative impact on the organization. That is, for us, it should not be cumbersome, bureaucratic and it must generate more organizational benefit than it does cost. In particular it must directly act to enhance rather than inhibit the performance of the organization in every respect. In our experience most fail to achieve this.

Figure 2 provides an outline view of the total operation of a QMS which we consider to meet the requirements of ISO & the BSI - but which also meets our requirement.

Achieving the Promise:
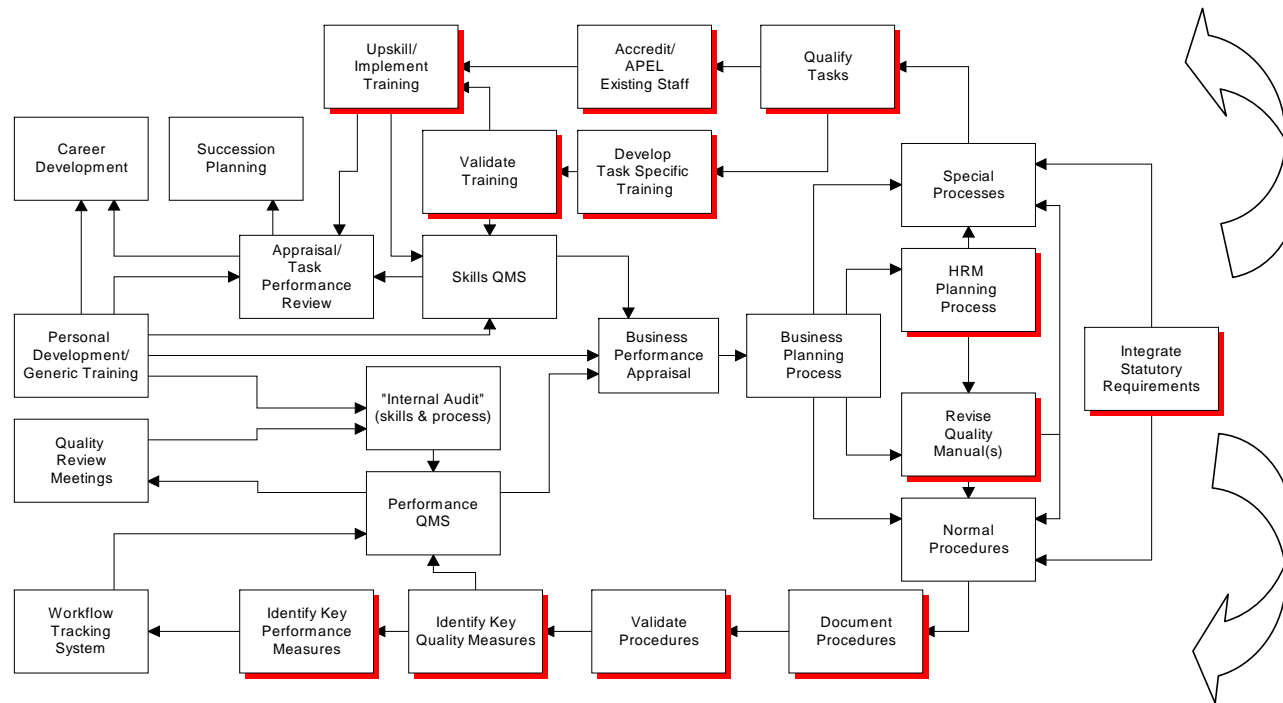
Assurance AND Control

Figure 2

The starting point for the framework is Business Performance Appraisal, a key part of this rests in recognizing and recording, at least in outline, the key processes and apparent, current objectives of the organization. It is essential to know 'where we are' and 'what we do'. This knowledge provides a platform for the second element, the Business Planning Process - 'where we want to go'.

The gap between the self-knowledge provided by the appraisal process and the objectives defined in the business planning process provides the first crucial measurement for the organization - the size of the internal problem to be addressed! Equally, the Business Planning Process cannot properly be carried out without adequate exploration of the requirements and expectations of customers. This provides the second and third crucial measurements - the gaps between 'what we do' and 'what the customers want or expect us to do', and 'where we are' and 'where we need to be' expressed in terms of the market (customers) - the size of the external problem. Remember, where we want to be may be irrelevant if when we get there the customers are somewhere else!

Arising from these two initial steps we can define four elements:

> The platform for the HR planning process;

> The Quality Policy (which can be documented);

> The 'normal' processes (those which are procedure based);

> The 'special processes' (those whose success relies on the skills and competences of the staff);

It is appropriate to integrate at this stage any statutory or other requirements or regulations which impact upon either 'normal' or 'special' processes. Examples might include requirements as routine as a particular age being relevant to a job (for example in organizations where dangerous machinery or hazardous substances are used) to those where membership of a particular professional body is a statutory requirement to be allowed to carry out a task (Doctors, Solicitors, Nurses, Barristers).

In principle, the requirements of any legislation, professional body, standards organization or other body can be incorporated into the system at this stage.

The framework now follows two routes. The 'normal' process route and the 'special' process route.

'Normal' Processes

Following the 'normal' process route initially reflects the current practice for a Quality Management System - identify and record processes and procedures, validate those procedures (is what is recorded what is done, does what is done achieve the stated standard, requirements and objectives). While detailed, procedural level documentation may be required

for work practice or training purposes (especially for the development of new staff), for QMS purposes only higher level documentation is required, that is the work processes can be recorded at the generic rather than the specific level.

From study of these processes, the critical control points (at which measures must be taken to ensure compliance with HACCP, COSHH or other environmental or Health & Safety requirements for example) and the appropriate points at which data for quality and performance (productivity) purposes can be extracted (how many, how often, timeliness, accuracy) can be identified.

This data, captured in the most cost effective manner available to the organization, is then used to drive the reporting system for Quality, Performance (Productivity) and other matters. It will often be the case that the data required for performance management is the same as the data required for quality management - especially as the true measure of performance can only be obtained when error rates (failure to achieve quality) are reflected in the performance measurement (production of a good or service which does not meet requirements cannot count as useful output!).

The reported outputs from these recordings of various aspects of performance provide the data for Quality Review meetings (at which reflection on past performance is used as the platform for improvement. The outputs of these meetings 'feedback' into the continuous process of business performance appraisal (and so on iteratively through the cycle).

Event driven measurement of the process performance coupled to improvement activity undertaken by the people has, through the process outlined, become the key internal modifier of future performance. This means that the Quality Management System has shifted from being a passive recording mechanism to being an active management tool. Organizational performance is now 'quality controlled'.

'Special' Processes

The 'special' process route is a substantial divergence from traditional practice. This route is the mechanism by which the organization is enabled to manage the depth and breadth of variety generated by the customers.

For each process being undertaken by the organization a range of skills and competences are identified as necessary for the completion of the task to the appropriate standard. These may range (depending upon the level and complexity of the task) from common skills such as the ability to use a keyboard, copier or telephone to higher order requirements such as diagnostic or interpretative skills (exercising professional judgement).

These 'special' processes are validated as with the normal processes, that is the skills required are recorded and documented. Action is then taken to confirm that they are what is required (rather than on the basis of tradition or historical requirement) and form the basis of the skills-based element of the Quality Management System. Once the tasks have been qualified in this way the framework again follows two routes. Through one loop task a specific training

programme is developed or adopted to ensure that all current and future staff employed to complete a process are provided with the requisite skill set (this may mean any of a number of possible training and development routes ranging from internal training courses on particular topics through professional training programmes, for example a Solicitors period of 'articles', to high level management education, study for an MBA, or advanced research training, pursuit of a PhD study). The training is again validated against the tasks and the results fed out in two directions. The first feeds in to the Skills-based Quality Management System, the other to the immediate training requirements of the organization.

The other loop involves the accreditation of those staff already carrying out the tasks through a formalisation of their experience (i.e. the APEL process). At this stage the ability, experience and knowledge of the existing staff is recorded and compared against the requirements identified. Where gaps are identified this forms the basis of an immediate training programme to upskill those who are deficient in some way. The output of this element is fed to the skills based quality management system (which must be kept updated) and to the process of performance appraisal and task performance review.

Through the appraisal process, the 'special' process loop feeds into the formal development of the training plan for the organization and into career development and succession planing activity, which is in turn linked to personal development and generic training activity. Again, the results or outputs of this process link back into the skills based quality management system to modify the records and expectations.

The outputs of the skills based quality management system are in turn looped back into the Business Performance appraisal and Business Planning processes.

A second dynamic loop has now been added to the overall system. It is now known what skills with which level of expertise are being applied to delivering the product or service to the customer. This knowledge is continually modified by the undertaking of a variety of training, development and validation activities. Quality is now assured through the application of skills and competences.

The system has then become dynamic in a second dimension with each dimension reinforcing the other, and each modifying the other by the operation of the system. That is, the normal capability of a process, is reviewed in the light of its own output with the review leading to modification of the process to improve that capability. The special capability of a process (the skills and competences brought to act upon it) is known, recorded and validated. Any improvement in that special capability (through training, development, recruitment) acts to enhance the normal capability, any change in the normal capability acts to modify the skills required, these aspects being linked through the business appraisal process.

Improvement in performance has thus been dynamically built in to the operation of the organization. Quality is both assured and controlled - with the minimum necessary documentation and the maximum reliance on the skills, knowledge and professionalism of the people.

The framework essentially consists of a series of three databases (skills & competences, processes, issues) dynamically linked to an event driven process understanding of the organization all being used to feed the business performance appraisal and planning processes and being in turn modified by changes in business expectations. The changes in business expectations are in turn dynamically linked to the market place of the organization. Figure three shows these interactions.
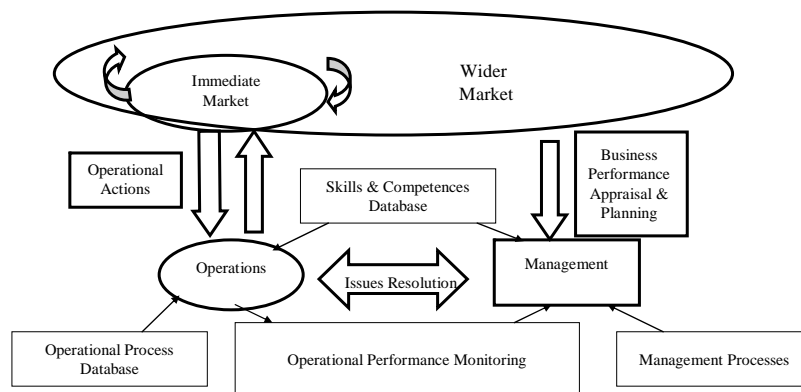
The Active Quality Management System

Figure 3

The issues database is used to record process or skill issues arising from the operation of the organization, to generate reports and requests for action and to track the improvement action in response to those issues.

The framework is now complete.

QMS 2000+ - A Methodology

The methodology for building this system falls essentially into two parts - a feasibility study and implementation. The nature of the approach is such that active participation by all of the staff of the organization in the building of the system is crucial. Simply, it cannot be done without their active engagement and support. While there is inevitably a 'launch' date when the system is sufficiently developed to start capturing data and generating action focused reports, getting to that launch date requires substantial interaction between the system designers and the staff and in this way the move towards active quality commences immediately post-feasibility. The feasibility study assumes that building a system of this type is possible for any organization. The underpinning theories (Ashby's Ultrastable Homeostat, Design for a Brain) and Stafford

Beer's Viable System Model (Beer 1979,1981, 1985) have been tested and applied in a wide variety of organizations from one-person enterprises to the entire industrial economy of a state. The feasibility study is really concerned with the ability of the subject organization to build, maintain and benefit from the system and establishing the cost of creating it.

The study considers three primary elements, the state of any existing Quality system, the state of the Human Resource management system, the state of any other management systems, for example Health & Safety, Environmental management, Lexcel, management and executive information systems.

The study of these provides a measure of the relative maturity and competence of the organization and, essentially, the weaker the existing systems, the greater the demands on the project.

A feasibility report is created at the completion of this stage outlining the work to be done, the timescale and cost - and any wider implications for the organization. Examples here might include issues of culture, management or operational staff behaviour and attitudes, the financial state of the business, the understanding of the market (or lack of it) and the orientation of the business.

For instance, it was found in one study that the mindset was production oriented - the major concern of all employees was with output 'at all costs'. It was recognized during the feasibility study that the nature of the particular business, and the nature of its market did not reflect this mindset but required an understanding based on retailing rather than production skills. Progress towards an effective management system also demanded that the organization reorient its thinking around the retailing skill-set. The situation had arisen through a series of appointments over a long period of time where production staff had been promoted into roles requiring different skills - but the different skills had not been recognized and the opportunities for training and development had not been provided. A broad estimate showed that a reduction in fixed costs of approximately 30% was possible through a re-orientation of the business to directly face its marketplace.

The critical output from the feasibility stage of the work is the genuine commitment of the management of the organization to achieving the possible benefits - and to addressing the issues within the organization which obstruct success. Given that the system relies on interaction with the managerial and business planning processes if such commitment is not obtained then there is no point in proceeding - the project is guaranteed to fail.

Implementation starts with the creation of the Quality Management System itself. This draws on the full recording of the normal processes of the organization and the development of a complete skills and competences framework to generate two of the care databases. The logic and structure of the 'issues tracking' database is also developed at this stage - with particular attention being paid to understanding and incorporating in the system the levels of authority for action on reports. Doing this ensures that when reports are generated they are directed immediately to the member(s) of staff with authority to deal with the problems arising - that is they are not passed through every level in any hierarchy but go direct to the relevant decision maker.

The processes having been recorded (both normal and special) it is usually appropriate to critically review them to ensure that they are oriented to the needs of the organization, as effective as is possible within the current limits of technology available to the organization and achieving, at minimum necessary cost, the objectives for which they are intended. Substantial performance gains can often be achieved at this point in the process. Such gains tend to act to reinforce the commitment of management and staff to the process and its outcome.

The processes having been recorded and measurements put in place the first draft reports can be generated. Given the nature of the data capture and the approach to data storage a wide variety of possible reports can be produced at this point - which enables a significant degree of 'tailoring' to be employed - that is the capability to generate reports to meet the specific requirements of different people within the business from the same core data. This may mean using different languages (i.e. productivity measures can be re-expressed in financial terms for the accountant), different forms of interpretation for different purposes and different levels of aggregation for shifting across responsibility levels.

The next stage is to begin training the staff on using the system (bearing in mind that they are already engaged in designing it). The focus here, for all levels is on how to maximise the benefit to be derived from the output. The danger at this stage is that the information can be used to generate a 'blame culture' within the organization. This arises when the outputs of the monitoring system are used in order to determine 'who got it wrong' rather than as a platform for improvement. Hence the agenda for quality review meetings also need to be carefully designed to focus attention on getting it right the next time, that is the questions for the meeting focus on 'how do we do this better?'. This training must be applied to everyone in the organization, to Directors, Managers and Operational staff.

The Quality Management System must be documented, as must the Quality Policy, work procedures and other requirements of the ISO standard. This documentation should largely be produced as a by-product of the process of developing the system and therefore the work occurs in parallel with the overall development process. It is important to think about how such documentation is to be stored and especially, bearing in mind the requirements of the forthcoming revised standard, how the information is to be disseminated. Where appropriate (and this is particularly so in service organizations with a high reliance on IT systems) the information can be stored and disseminated electronically - in effect putting an original, document-controlled and up to date copy of the quality policy manual, quality management system and work procedures on the desk of every member of staff.

The final stage is the accreditation of the system by the external accreditation body. It is useful, during the development phase to have engaged in discussions concerning the design and content of the system with this body to ensure that on completion there are no surprises or failures. Remember, getting it right first time involves understanding the expectations of the customer and that implies dialogue. The first customer of the Quality Management System after the organization itself is the body who will accredit it. Dialogue during development will ensure that their expectations are met! Accreditation represents the end point of the implementation of the system - which should by this stage have been active for some time. However, the system is useless on its own! It requires the positive action and engagement of the staff to become valuable to the organization - It's what you do with it that counts!

Why QMS 2000+

For the theoretical explanation and support for the system readers should refer to the two prior papers in this series. This paper is concerned with the practical justification.

This system differs from traditional systems in a number of ways. First it is a dynamic, active, learning model of the organization, driven by events within the process and linking directly to business planning, staff performance and staff development processes. It is a learning model at two levels, first it stimulates learning by individuals - the improvement in skills and competences, second it stimulates learning at the organizational level, adapting itself on the basis of recorded experience and enabling informed, structured adaptation of the organization.

The second key difference is that the approach directly supports the business or organizational needs - it is driven by the business performance appraisal and planning process and feeds its outputs directly back into them.

A third difference is that the system will support accreditation to multiple standards through its integration of these into the normal and special processes. This acts to reduce paperwork and eradicate duplication of core data.

The system is theoretically rigorous, proven in practice and most important of all:

It Works!

An International series of seminars on the development and implementation of Skills based Quality Management systems is being presented by John and Peter during the summer of 1999. Dates in the UK are in June/July readers wishing to obtain further details should contact Sarah Beadell on 01329 517860 or John Beckford on 01635 868286.

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