

How can ISO 9000:2000 help companies achieve excellence?

What the companies think

Louise Boulter and Tony Bendell

Louise Boulter is a Lecturer/Research Fellow in the Centre of Quality Excellence at the University of Leicester, UK, where she is a lecturer on the MSc in the Management of Quality Excellence. Louise conducts research on a number of topics including: benchmarking, ISO 9000, organisational excellence in the context of academic/industry technology transfer, intellectual property rights in global academic to industry technology transfer. She is author of the Financial Times book on Benchmarking for Competitive Advantage which has been translated into several languages.

Tony Bendell is Professor of Quality and Reliability at the University of Leicester, UK, where he is also the Director of the Centre of Quality Excellence. His chair is funded by Rolls-Royce plc. Tony is also a Director of Services Ltd one of the largest British Quality Foundation licensed Training and Consultancy Organisations for the EFQM Excellence.

Abstract *The ISO 9000 standard has been revised as of December 2000. It has been thought that the implications of addressing the changes may be particularly acute for small businesses, for which the impact of requirements and relative commercial costs of compliance can be greatest. In view of this, the Quality Research Group at the University of Leicester in collaboration with the Centre for Enterprise has conducted a research project with representatives from major internationally accredited UKAS certification bodies to explore the implications that the revision to ISO 9000 is likely to have on the small business community. This current paper reports on the study undertaken by the University of Leicester team with financial and collaborative support from Lloyds Register Quality Assurance and SGS Yarsley, two of the largest international ISO 9000 certification bodies. A detailed survey involving more than 1,000 respondents from UK-based SMEs has provided a detailed empirical profile of the company's own views of the value of ISO 9000:2000 on the path to excellence and what they will need to do to make it work. Face-to-face interviews were also used to provide verification and views from non-certified companies. The results of the study are very positive and indicate a changing view and use of a standard that used to be seen as bureaucratic, officious and complacent.*

Keywords *ISO 9000, Small- to medium-sized enterprises, Surveys*

Introduction

The debate on the value, or otherwise, of ISO 9000 in improving product, service and organisational quality has a long history. The recent changes to the international standard have introduced many positive features that fit with the concept of excellence. One key is the new holistic measurement-based quality system management model.

The new version of ISO 9001 places emphasis on process management and resource management and has commonality of architecture with ISO 9004, so that quality assurance requirements and quality management aspirations can be aligned holistically. The standard is reduced from a 20 clause standard and has more in common with other quality and excellence models. It is a good development, it will mean changes and the sooner organisations start to understand the new requirements, the



The current issue and full text archive of this journal is available at <http://www.emeraldinsight.com/1368-3047.htm>

more prepared they will be for avoiding the pitfalls! What though are the implications for organisational excellence? This paper discusses how the changes may assist the development of an holistic approach to excellence but also the remaining areas of difficulty.

While the development is in the long term a good one, it will have short-term implications for all organisations currently certified to the standard, as well as those which may subsequently apply. This includes the need to review, restructure and extend existing quality system documentation – including the *Quality Manual*, procedures and work instructions – but also the need for a considerably higher level of senior management awareness and active participation in the quality system.

Earlier papers have described the ISO 9000 debate for SMEs, the benefits of the revised ISO 9000:2000 standard and the link to excellence, and the preliminary results of a postal survey funded by Lloyds Register Quality Assurance and SGS Yarsley (Bendell, 2000; Bendell *et al.*, 2000a, b; Boulter *et al.*, 2001). The current paper reports on the study undertaken by the University of Leicester team with financial and collaborative support from Lloyds Register Quality Assurance and SGS Yarsley, two of the largest international ISO 9000 certification bodies. A detailed survey involving more than 1,000 respondents from UK-based SMEs has provided a detailed empirical profile of company views of the value of ISO 9000:2000 on the path to excellence and what they will need to do to make it work. Face-to-face interviews were also used to provide verification and views from non-certified companies.

The results of the study are very positive and indicate a changing view and use of a standard that used to be seen as bureaucratic, officious and complacent.

ISO 9000

Historical origins

The ISO 9000 series of standards has its origins in military procurement standards around the Second World War. This ultimately led to the publication of the first commercial quality management standard BS 5750 by the British Standards Institute in 1979. In 1987, the British Standard BS 5750 was adopted with a few changes as the international standard ISO 9000. The international standard was updated again in 1994 but this was a minor update with the major changes being postponed until 2000. ISO 9000:2000 was due to be published in December 2000. It was a complete rewrite.

The 1994 standard series included three auditable certification standards and created ISO 9001, ISO 9002 and ISO 9003. These corresponded to companies which design their own products and services, to companies which do everything except design, and to companies where products or services can be verified only by inspection and test. ISO 9003 has, in fact, largely fallen into disuse. ISO 9004 is for guidance only.

The small firm

The impact of the international quality management system standard ISO 9000 on small companies is problematical. While there is a plethora of literature pertaining to quality in the large firm context, conversely there is limited literature pertaining to quality in the small firm context. Furthermore, while there have been many debates during the period when ISO 9000 was being revised concerning the value, relevance and implementation of the new standard (see in particular; Andell, 1999; Grant, 1999; Glass, 1999; Hutchins, 1999; West *et al.*, 1999), there have been few papers and articles concerning quality standards generally in the context of SMEs and specifically with regard to the revision.

At the same time, the need to obtain certification has become more common as larger companies and public sector organisations have themselves obtained certification to ISO 9000. There has been an attempt to “push” ISO 9000 down the supply chain by these organisations onto their own suppliers. The impact of local authority procurement, in particular, on small companies has been major. This has resulted in a number of criticisms, generally centred on the belief that rather than ensuring quality to the customer, ISO 9000 adds bureaucracy and cost to small businesses. There is also evidence to suggest that small firms believe that quality standards are part of a rite to trade in certain sectors and that they can even act as a “tariff” to international trading (Murphy, 1999; Anderson *et al.*, 1999). This may well have facilitated the implementation of ISO 9000 within small firms for the wrong reasons. Additionally, according to Fearn (1999) there are many small firms that do not take up ISO 9000. This can perhaps be linked to the fact that many small firms are resource constrained in as much as they may not have sufficient personnel to implement and subsequently monitor quality standards.

Nonetheless, many of those involved in business support and development have been aware of the positive side of the application of ISO 9000 to SMEs. As small firms grow the systemisation of basic organisational processes may enhance their capacity for growth. Where implemented well, ISO 9001, or ISO 9002 has typically added to structure, discipline, control and traceability. This more structured, organised framework may be a necessary element to facilitate an SME's potential for further growth and the pursuit of excellence.

The University of Leicester research project

Against this background, the quality group at the University of Leicester in collaboration with Paul Hannon of the Centre for Enterprise has conducted a research project involving representatives from two major internationally accredited (UKAS) certification bodies, Lloyds Register Quality Assurance, and SGS Yarsley, together with representatives from the business support community. An underlying objective for the project was to explore the implications that

the recent revisions to ISO 9000 are likely to have on small businesses. Issues explored by the research project include: assessing the appropriateness of the revised standard to SMEs, the likelihood of continued or new registration, difficulties that SMEs are likely to experience with the changes, type of support they will need and the identification of support packages that will be most appropriate and effective. Since there is little published research that assesses the nature of the implications for SMEs in the context of the recent changes to ISO 9000, an empirical study was conducted to address these issues.

Subsequent sections of the paper describe the survey and put forward some outline findings from the study.

The survey

The empirical study was centred on a large-scale postal survey supplemented by a small number of face-to-face interviews. The purpose of these interviews was to obtain more detailed information, clarify ambiguities, validate the postal survey results, ascertain awareness and identify possible business opportunities for intermediaries and certification bodies.

The postal questionnaire was centred on six sections containing 40 main questions, many of which were broken down into further sub-questions. These sections relate to:

- company information;
- respondents' current quality system including the period of time over which registered, objectives and reasons for registering to ISO 9000 and whether the company uses any quality systems and management models other than ISO 9000;
- the extent to which respondents are aware of the changes to ISO 9000;
- the extent to which companies are aware of the specific changes to clauses of the standard;
- attitudes to the changes;
- the nature of help that will be required by companies to help them through the transition period and how they perceive the changes to the standard.

To increase the likelihood of respondents being able to provide relevant data in respect of the postal questionnaire, the survey was stratified. The certification bodies provided appropriate NACE industrial sector codes to select appropriate respondents. Since the research project concerns confidential information from competing certification bodies' client bases, the questionnaire was carefully designed and processes put in place at the University of Leicester and Centre for Enterprise to ensure commercial confidentiality.

During September and October 2000, 1,066 certificated organisations responded to the postal questionnaire. Following an analysis of the results, a series of face-to-face interviews took place with a different group of SMEs, including some that were not certificated. An objective of this

exercise was to calibrate findings of the postal questionnaire and also to obtain evidence as to the attitudes of uncertificated businesses to ISO 9000.

Company views on ISO 9000:1994

With regard to respondents' current quality systems and reasons for implementing ISO 9001/2, significantly and in opposition to some of the views put forward in the published literature, 72 per cent stated that improvement of product quality was a key factor in motivating them to go for certification and that marketing was a secondary issue. Furthermore, over 60 per cent of postal questionnaire respondents giving a reply stated that implementing ISO 9001/2 had successfully or very successfully met their original reasons for going for certification in the first place. Conversely, a small number, 9 per cent stated that implementing ISO 9001/2 had not met their original objectives for going for certification. Importantly, most were not being forced by a customer or customers to maintain ISO 9000 certification.

Another interesting finding from the survey is that ISO 9000 is the most important initiative for the SMEs responding. Less than 15 per cent of respondents to the postal questionnaire were introducing other business improvement initiatives than ISO 9000. Where other initiatives were introduced, Investors in People was the most popular.

These findings from the postal questionnaire are backed up by comments made by interviewees from the face-to-face interviews. Comments such as; "Certification has been very worthwhile", "ISO certificated suppliers are good" and "ISO 9000 is not as bureaucratic as we thought" endorse ISO 9000.

Company reaction to proposed changes and ISO 9000:2000

A section of the questionnaire and a question that was put to interviewees from the face-to-face interviews concerned awareness of the changes to ISO 9000. It is evident from the analysis of the postal survey that respondents' awareness of the changes can be categorised under two headings; general awareness and detailed awareness. These are described below:

- *General awareness.* Nearly all respondents to the postal questionnaire, 98 per cent and 84 per cent of interviewees from the face-to-face interviews, knew that ISO 9000 was being updated. Further, 45 per cent of the postal questionnaire respondents had known that ISO 9001 was being updated for over 12 months. Over three-quarters of the respondents to the postal questionnaire stated that they had been told of the update by their certification body (see Table I).

This general awareness of the changes to ISO 9000 can be linked to attendance at awareness seminars or by unsolicited mailouts from their certification bodies. Over half of the respondents to the postal survey stated

Table 1 — Where you learned about the changes

	Per cent
Certification body	77.4
Consultant	13.2
TEC/business link	0.3
Internet	0.4
Colleague/employee	2.4
Other	0.3
Don't know	1.1
Course/conference or audit	0.8
Publications	1.2
Person told me/customer	0.6
Trade association	2.3

that they had received briefing material on ISO 9001:2000 with most of the literature being provided by their certification body.

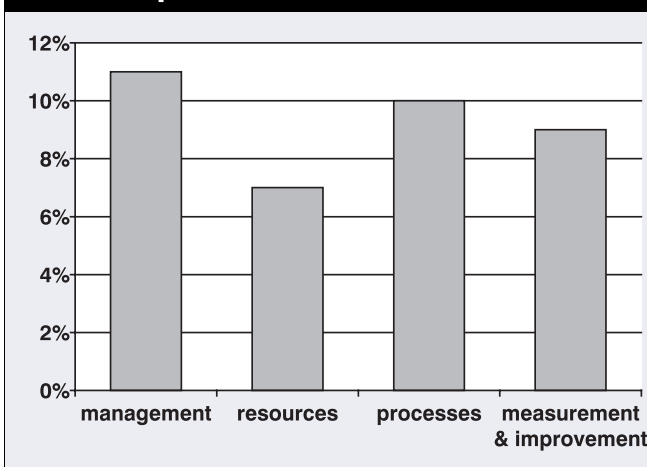
- *Detailed awareness.* Compared to the large number of respondents who were generally aware of the changes, only 41 per cent claimed that someone in their organisation had a good detailed knowledge of the changes to ISO 9001:2000.

The questionnaire's more detailed requests for people to explain their understanding of the detail of the changes suggested that very few organisations (less than 10 per cent) really did understand what they had to do to address ISO 9001:2000. Further, two-thirds of respondents failed to answer this part of the questionnaire dealing with companies' detailed understanding of changes in the standard (see Figure 1).

On average, just fewer than 400 respondents answered the part of the questionnaire dealing with attitude towards ISO 9001:2000, the number varying for each question.

Regarding general attitudes to the ISO 9000 changes, 45 per cent were positive or highly positive, 37 per cent

Figure 1 — Percentage of respondents with a detailed knowledge of the ISO 9001:2000 clause requirements



were neutral and only 18 per cent were negative. Since a very small number of the companies surveyed were truly aware of the detailed changes in ISO 9001:2000, it is highly probable that this negativity might be attributed to fear of the unknown.

Of those responding in this area, 25 to 30 per cent considered that measurement and improvement would be a difficult issue for them to contend with in implementing the ISO 9001:2000 changes.

It is evident from the survey analysis, in particular the postal survey, that SMEs require appropriate support to upgrade to ISO 9001:2000. This is underlined by the fact that a significantly large number of respondents to the postal questionnaire, 90 per cent, stated that they would require some form of support to upgrade to ISO 9001:2000. Importantly, three-quarters of respondents expect support to come from their certification body, and many also expected support from other sources (such as TECs).

Most respondents were aware that there was no immediate demand to adopt the new standard; 58 per cent had apparently decided on their timetable for the changes. Of the respondents, 51 per cent wanted to implement changes inside 12 months and a further 45 per cent within 24 months.

It is crucial therefore that not only are SMEs given appropriate support to upgrade to ISO 9001:2000 but that they also have access to appropriate support within these timescales (see Figure 2).

Some of the support areas in which there are gaps have been identified as follows:

- *Literature.* Overall, 60 per cent of respondents stated that they still needed further briefing material to help them understand and implement the changes to their quality systems. This can possibly be linked to respondents' lack of detailed knowledge of the changes. With regard to literature, the larger the SME, the more they felt that they needed literature (see Figure 3).

Figure 2 — Timescales for implementation of ISO 9000:2000

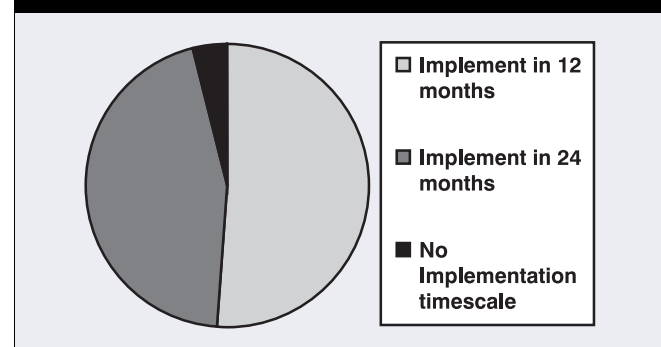
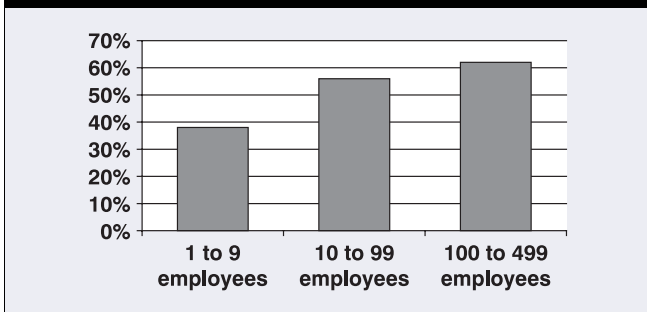


Figure 3 — Percentage of respondents wanting more literature on the changes to ISO 9001

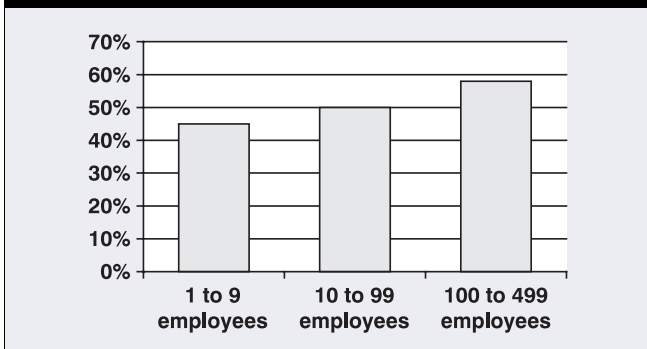


- **Training.** There also appears to be considerable scope for help in training in ISO 9001:2000 (see Figure 4).
- **Management commitment.** Almost regardless of industry sector, around 20 per cent of companies stated that management commitment would be an issue for them in implementing the changes required in respect of management responsibility. An almost identical response was received concerning management commitment in the context of implementing changes in the area of measurement and improvement.

Conclusions

There has been much debate on whether ISO 9000 helps or hinders the pursuit of excellence. The results of the Leicester study offer positive support for the view that ISO 9000 can help the pursuit of excellence and indicate a changing view of the standard. There is a link to continuous improvement, more involvement of top management (leadership) and higher priority on resource considerations with the new standard and this should lead more towards excellence. The best judges may, however, be the companies which use and understand the standard. From their own perspective, ISO 9000 certification is a successful exercise for a large majority of SMEs. Less than 9 per cent stated that implementing ISO 9001/2 had not met their original objectives in going for certification.

Figure 4 — Percentage of respondents looking for training help with ISO 9001:2000 changes



Of postal questionnaire respondents, 60 per cent considered that product/service output from their businesses had improved as a result of introducing ISO 9000 (60 per cent of businesses had their objective met for introducing ISO 9000).

In terms of the recent improvements to ISO 9000, certification bodies have been the overwhelming source of information and advice for SMEs on ISO 9001:2000 and the changes they need to make. Approximately 75 per cent of SMEs expect support from their certification body to implement ISO 9001:2000. Over half of SMEs surveyed are looking for help with training in respect of ISO 9001:2000. In practice, true, detailed knowledge of ISO 9001:2000 was very poor.

ISO 9000 was by far the most important business initiative for the SMEs surveyed. Less than 5 per cent of respondents were introducing other business improvement initiatives than ISO 9000.

The survey has also revealed or reinforced major issues to be addressed both by individual companies and by the business and quality communities as a whole in coping with the changes to ISO 9000. Clearly, SMEs are not prepared for the implications of ISO9001:2000 and will need help if ISO 9000 is to support not hinder excellence. ■

References

Andell, J.L. (1999), "ISO 9000 debate", *Quality Progress*, Vol. 32 No. 10, pp. 8-10.

Anderson, S.W., Daly, J.L. and Johnson, M.F. (1999), "Why firms seek ISO 9000 certification: regulatory compliance or competitive advantage?", *Production and Operations Management*, Vol. 8 No. 1, pp. 28-43.

Bendell, A. (2000), "The implications of the changes to ISO 9000 for organisational excellence", *Proceedings of the First International Research Conference on Organisational Excellence in the Third Millennium*, Estes Park, 6-9 August.

Bendell, A., Boulter, L. and Hannon, P. (2000a), "Quality certification of SMEs", paper delivered at the Small Business and Enterprise Development Conference, University of Manchester, Manchester.

Bendell, A., Boulter, L. and Hannon, P. (2000b), "ISO 9001:2000 heading for impact with SMEs", *Quality World*, Vol. 26 No. 4, pp. 12-16.

Boulter, L., Bendell, A. and Stone, M. (2001), "SMEs surveyed", *Quality World*, Vol. 27 No. 6, pp. 32-4.

Fearn, G.M. (1999), "The relationship between growth and quality management in SMEs", *Proceedings of the 22nd ISBA Conference*, Leeds.

Glass, R. (1999), "ISO 9000 is more than just paperwork", *Quality Progress*, Vol. 32 No. 9, pp. 8-10.

Grant, B.R. (1999), "ISO 9000 standard – what it really is?", *Quality Progress*, Vol. 32 No. 9, p. 10.

Hutchins, D. (1999), "New changes to ISO 9000 will have a large impact", *Quality Progress*, Vol. 32 No. 11, pp. 8-10.

Murphy, R. (1999), "Client-perceived value in ISO 9000 consultancy projects", *Journal of Small Business and Enterprise Development*, Vol. 6 No. 1.

West, J., Cianfrani, C.A. and Tsiakals, J.J. (1999), *ISO 9000:2000: A Shift in Focus – Changes in Requirements*, Vol. 32 No. 11, pp. 100-1.