

# **ISO9000 and Small Business Quality Management: Empirical Evidence from the UK**

## **Dr Francis Chittenden**

Business Development Centre

Manchester Business School

Booth Street West

Manchester, M15 6PB, UK

Phone: (0)161-275-6537 Fax : (0)161-275-7143 e-mail: F.Chittenden@fs2.mbs.ac.uk

## **Dr Panikkos Poutziouris**

Business Development Centre, Manchester Business School

## **Ms Syeda-Masooda Muhktar,**

Business Development Centre, Manchester Business School

## **Abstract**

This paper draws upon a major survey of quality practices adopted by SMEs carried out on behalf of the Small Business Research Trust. It provides insights into SMEs' attitudes and experience of ISO9000 and seeks to identify the generic types of small firms for which a formal quality system is appropriate. For those businesses constrained from introducing a formal quality system, as a result of their size, management structure or financial and human resource base, recommendations will be made for policy initiatives which will enable such organizations to embark upon alternative approaches to quality management.

## **Acknowledgments**

This research is sponsored by the Small Business Research Trust (UK), with support of the British Standards Institute, the Department of Trade and Industry, and NatWest Bank. The views expressed are not necessarily those of the sponsoring organizations. The SBRT and the authors wish to thank the Forum of Private Business, the Federation of Small Businesses and the Rural Development Commission for providing access to their members and for distributing the questionnaires.

## **Introduction**

"Quality does not have to be defined. You understand it without definition.  
Quality is the direct experience independent of and prior to intellectual attractions"  
Robert Pirsing in Tom Peters, "Liberation Management", 1992.

Quality, simply defined by Juran and Gryna (1993) as "internal and external customer satisfaction", constitutes an important vehicle in the development of competitive advantage in the era of "New Competition" (Best, 1990). Consequently, there has been a growth of interest on behalf of governments and commercial forums in upgrading the quality of products and

services in order to further international competitiveness. This interest is manifest in the UK through promotion of the ISO9000 Quality Standard with the aim of developing a Quality Culture across all sections of the business community, including large and small enterprises. Kaksever (1996) in an analytical discussion about total quality management in the small business environment recently concluded that quality is no longer a competitive weapon but a prerequisite for survival in the new competitive order.

This paper begins with a review of the literature relating to quality management and ISO9000 and the experience of small businesses with ISO9000. This review is followed by an outline of the research objectives and methodology of the SBRT study. Next an analytical discussion of the findings of this empirical investigation concludes with a set of policy recommendations that aim to bridge the gap between the ISO9000 “systems” philosophy and the less formal quality management practices that are successfully operated by most small firms.

## What Is The Iso9000 “System” ?

ISO9000 is not a quality standard per se, but is a management control procedure which involves businesses in documenting the processes of design, production and distribution to ensure that the quality of products and services consistently meets the intended purpose and ultimately the needs of customers. In other words its goal is to ensure conformity to predetermined standards.

Buttle (1994) defines ISO9000 as a series of quality assurance standards which set out requirements and recommendations for the design, and assessment of management systems as follows:

**Table 1: ISO9000 and Quality Assurance Standards**

Document	Content
ISO9001	standard for quality assurance in design development, production, installation and servicing
ISO9002	standard for quality assurance in production, and installation
ISO9003	standard for quality assurance in final inspection and test of product/ service

It is acknowledged that ISO9000 is largely based on the British Standard BS5750, which was relaunched in 1987 following the adoption of the International Standard ISO9000 (known as EN29000 in the European Community). Since the publication of BS5750 by the British Standards Institute (BSI) in 1979, the standard has been applied to firms of all sizes and from all business activities. ISO9000 has been applauded by some business commentators, but also widely criticized especially by the small business community (Sepsu, 1994; Gourlay, 1994a; 1994b).

In the words of the BSI chairman at the launch of a new service to 'demystify' ISO9000 for small business: "ISO9000 is an undoubted UK success story. Over 28,000

organizations have been registered to the standard in the UK alone and a further 17,000 worldwide. With this comprehensive package we aim to make the benefits of ISO9000 accessible to all companies no matter what the size, without in any way devaluing the standard or providing a second rate alternative. This service is the result of listening, learning and acting on the needs of smaller businesses".

The announcement of BSI's recognition that small firms face difficulties in registering for ISO9000 may be regarded as a positive development. Unfortunately, introducing cost reductions for businesses where initial assessment can be undertaken in one day (typically small businesses employing less than ten employees) does not fully address the problems surrounding the application of ISO9000 to small businesses.

The criticism directed to ISO9000 for failing to meet the needs of smaller firms (SBRT, 1992; SEPSU 1994) is reflected in a number of statements including: "There are many enterprises going bust where the last flag as they go under is their (quality) certificate" - Jacques MacMillan of the European Commission, quoted in "Seeking Credibility for Quality Standards" (Financial Times, 1994). According to Gourlay (1995) small businesses have found ISO9000 to be "too expensive, too time consuming, irrelevant and overly bureaucratic".

## **Iso9000 & Quality Management In Small Firms: Other Studies**

Since the introduction of ISO9000 there has been increasing interest in the relationship of small firms with the fast-growing "quality industry". The early discussion of ISO9000 and small firms was conducted through the media and the management consultancy literature which served to generate some definitions of the concepts and issues involved in quality management. (Woodcock, 1992; 1994; Rock, 1992; Halliday, 1993).

For example, Bannock (1991) concluded that there was "no rush for small firms to register" with ISO9000 since early criticism of the standard drew attention to the complex quality management procedures which were thought to be inappropriate to the needs of small-scale operations. The formality of the requisite procedures resulted in high financial and time costs associated with developing and operating the ISO9000 quality management system. The problems relating to ISO9000 and small firms have been confirmed by other preliminary investigations such as the SBRT Quarterly Survey (1992) and the recognition by the BSI that only a very small proportion of firms registering for ISO9000 were indeed small.

More recently academic research has begun to focus on the underlying problems associated with ISO9000 in the context of the small business sector. North et al (1993) and Curran et al (1993a) cite evidence of the factors that contribute to the unpopularity of the standard in the small business community. These studies were based upon a sample of one hundred and fifty firms of which just 3.4% opted for registration under ISO9000. One hundred and twenty service firms and thirty manufacturing firms were contacted by telephone.

The following issues in the relationship of ISO9000 and small firms were identified: (i) two thirds of respondents were unaware of or did not intend to register with the standard; (ii) of those almost a third considered the standard irrelevant because of the size of their

business<sup>1</sup>; (iii) one third of small business owners not pursuing ISO9000 said it was too costly; (iv) a fifth describe it as over-bureaucratic and incompatible with their informal management style. Those businesses that were considering or already implementing ISO9000 reported the following motives for pursuing this route (in descending order of importance): (i) as a reaction to external market conditions-such as pressure from larger customers; (ii) in order to obtain procedural benefits relating to their internal systems (e.g. to improve staff training); and (iii) the desire for an improved market image.

Based upon these preliminary studies and other anecdotal evidence cited by business commentators (Gourlay, 1994; 1995; 1996) it may be hypothesized that the majority of small firms operate informal quality management procedures which are tailored to their small-scale business operations and are not externally controlled by market agents or customers.

As a result of the skepticism of the benefits of ISO9000 expressed by small firms a large scale investigation into the attitudes and experience of small businesses relating to ISO9000 was commissioned in 1994. The aim was to investigate the differences, if any, between the characteristics of registered and un-registered firms, the motivations for and against registration and the experiences of the costs, benefits and value added of the ISO9000 standard.

## Research Methodology

Data collection was conducted by a large scale postal survey. Thirty thousand questionnaires were sent to randomly selected members of the Forum of Private Business (FPB), Federation of Small Businesses (FSB) and the Rural Development Commission (RDC). In addition 1,000 questionnaires were posted to a list of ISO9000 registered businesses supplied by the Department of Trade and Industry.

The questionnaire was broken into four separate sections, encouraging participants to exit when appropriate. The four sections comprise the profile of the small business; the investigation of ISO9000 that business-owners need to undertake before proceeding; the implementation process; and the arrangements for the registration and assessment of businesses. Four thousand and ninety-one completed questionnaires were received. The average number of responses in each section is as follows:

Section 1: Business Information Stage	3,517
Section 2: Think through Stage	2,517
Section 3 Implementation Stage	537
Section 4: Registration Stage	191

The sample used in this research is considered to be broadly representative of the small business sector, except that manufacturing firms and firms registered for ISO9000 are over-represented whilst very young firms are under-represented. An analysis of the profile of respondents from clients of the RDC compared with those of the members of FPB and FSB,

---

<sup>1</sup> only 2.2% of micro firms (those with less than five employees) are implementing or registered for ISO9000 and, for example, in the garage sector only 5.9 % of businesses are implementing or registered for ISO9000

and responses of DTI ISO9000 registered firms compared with the registered firms from the random sample, showed a high degree of uniformity in the results and there was no statistical evidence of bias in the sample data.

In addition a telephone survey of non-respondents was carried out by selecting (at random) members from each organization participating. Six questions were selected from the questionnaire and the owners of the small businesses who had received but not completed the survey were asked to respond to the questions. Two hundred and thirty-seven telephone questionnaires were completed in order to compare the results of the respondents to that of the surveyed non-respondents. There was no evidence of statistically significant differences between the completed postal questionnaire and non-respondents' data.

## **Statistical Analysis & Empirical Results**

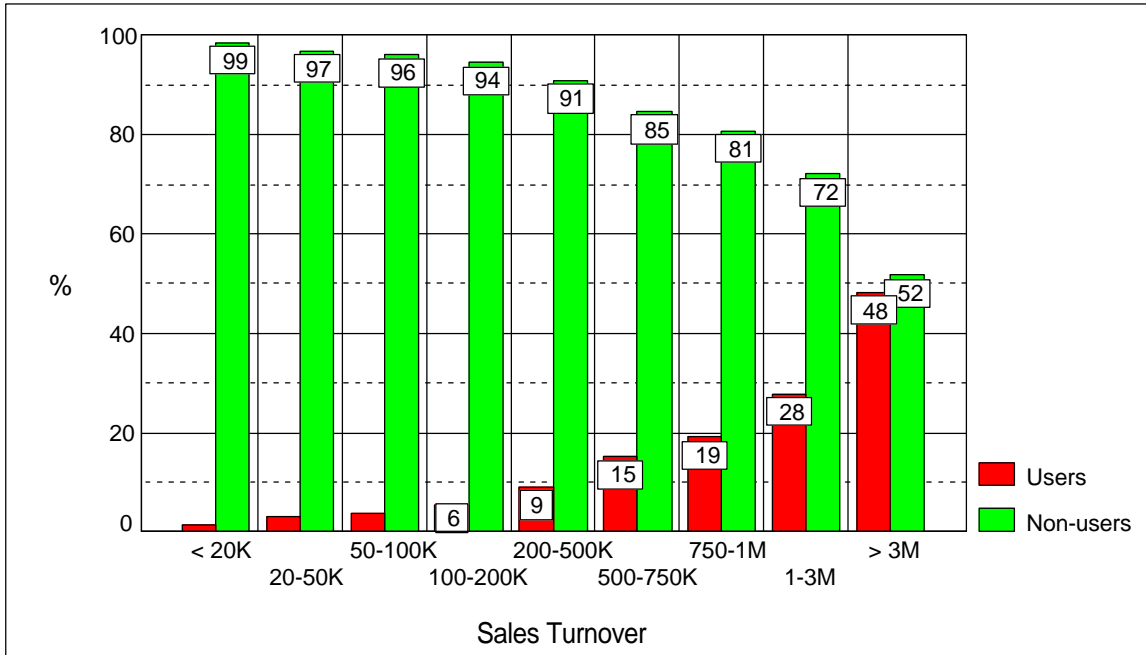
In order to gain an insight into the detailed operations of the businesses and the impact of ISO9000, the following analysis compared the business characteristics of ISO9000 users and non-users, the differences (if any) in their motives for implementing the standard and the barriers to the use of ISO9000 that were reported.

### **Business Characteristics**

The size distribution of sample firms (Figure 1) shows that 'ISO9000 users' tend to be larger than those businesses that do not register ( $p= 0.00$ ); with the median number of employees being 21 (full-time) for the former compared with only 6 employees for unregistered firms.

This scale difference is manifested in a number of other ways. For example 80% of "ISO9000 Users" are incorporated compared with 46% of non registered businesses. The median age of registered firms (17 years) is 33% higher than for the unregistered respondents.

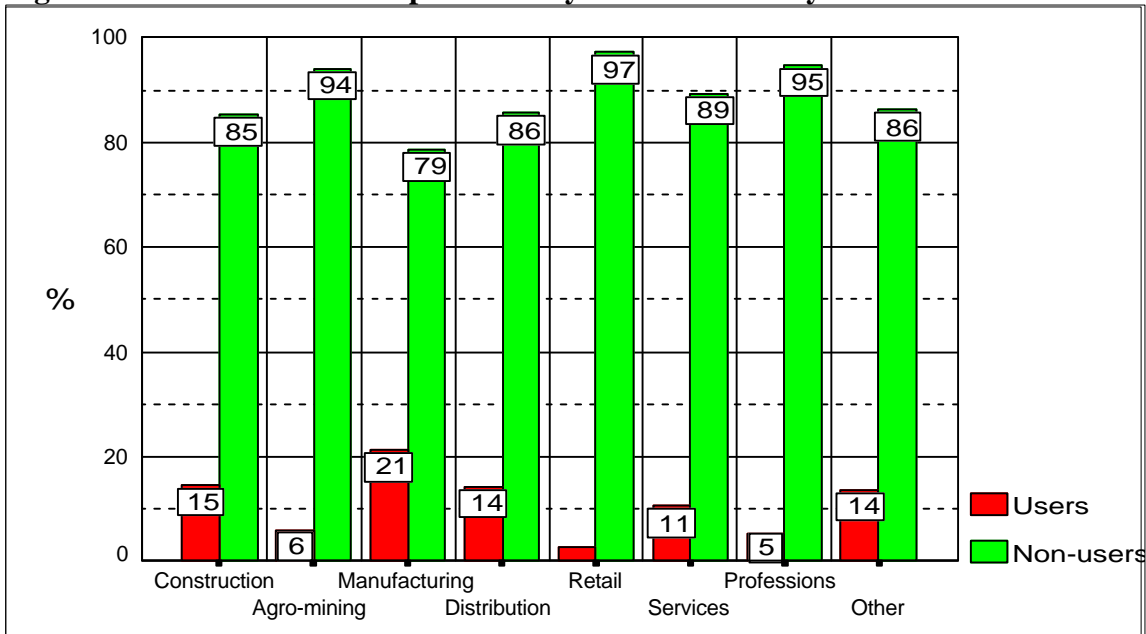
**Figure 1: Sample Firms by Business Size**



(p= 0.00)

As shown in Figure 2, there were also substantial differences (p= 0.00) in the industry sectors represented by each set of respondents.

**Figure 2: Distribution of Sample Firms by Business Activity**



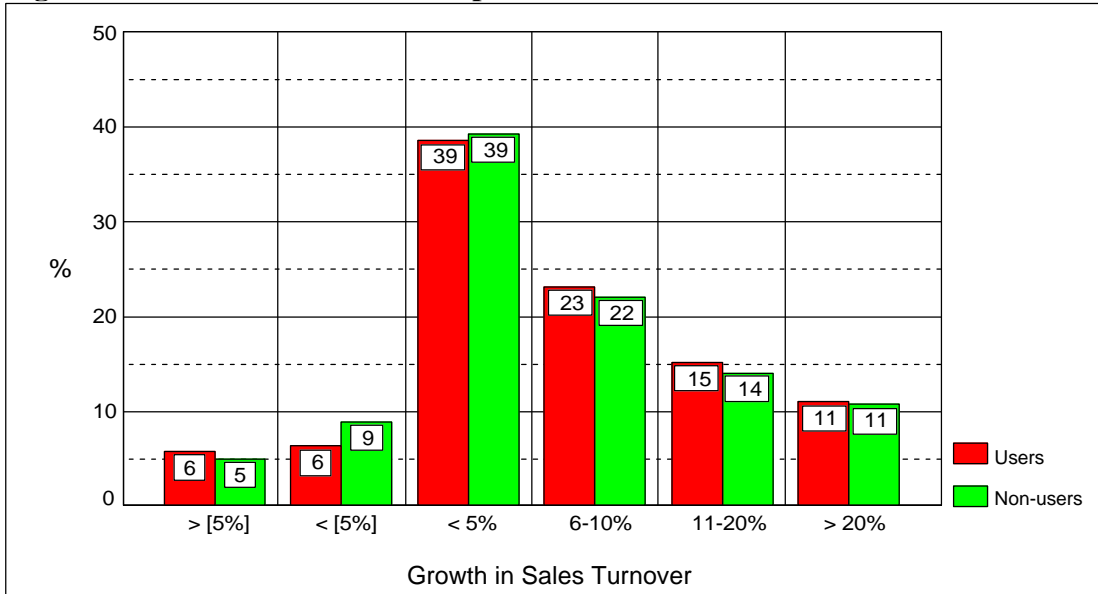
(p= 0.00)

Analysis by industry sector shows that ISO9000 particularly appeals to manufacturing firms and is less attractive to businesses operating in retail, agro-mining and the professions.

# Market Dynamics

However, there appear to be few differences in the recent sales growth rates experienced by "ISO9000 users" versus "unregistered" firms.

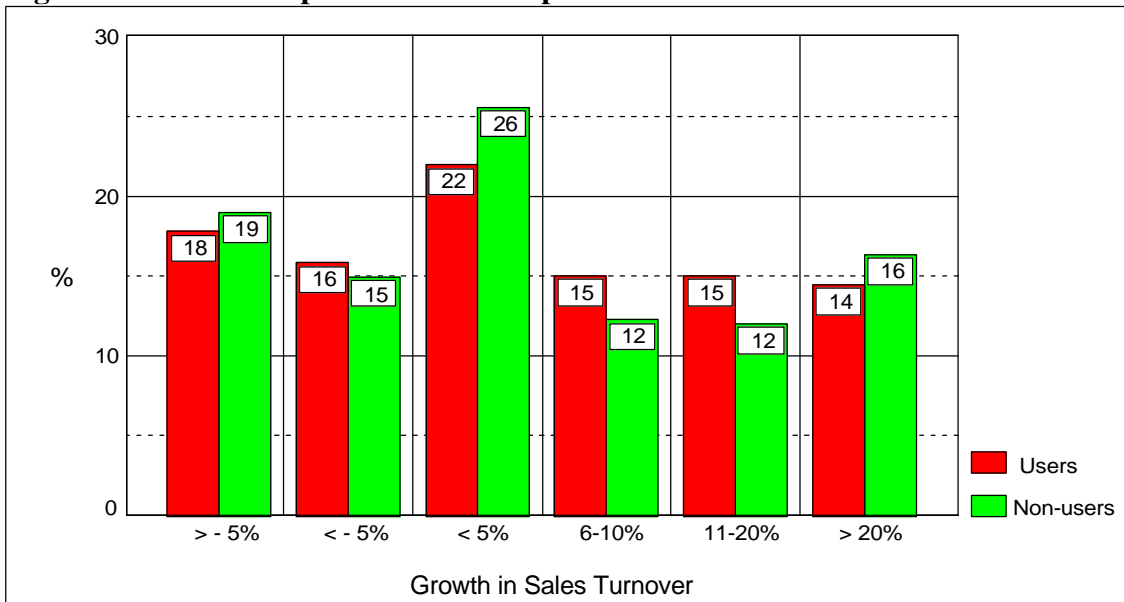
**Figure 3: Business Growth of Sample Firms**



(p= 0.26)

Both historic business growth (Figure 3) and projected sales growth (Figure 4) as reported by users and non-users of ISO9000 tend to suggest that there is no association between adoption of ISO9000 and sales performance.

**Figure 4: Business Expectations of Sample Firms**



(p= 0.26)

The similarity in sales growth rates is also reflected in the degree of concentration of the customers of registered and unregistered firms. In both cases the median number of customers

accounting for 80% of the sales of respondent firms was around twenty and the median number of active customers on a weekly, monthly or annual basis were also similar. However, the customer types, sales methods and geographic location of customers were significantly different (Table 2). In addition only one in five of the "ISO9000 users" described themselves as being a single product business, compared with almost 30% of unregistered respondents.

**Table 2: Customer Base and Marketing Channels**

		Users	Non-users
Q18: How would you best describe the majority of your customers ?	Domestic	6.1%	26.2%
	Smaller than you	11.9%	10.2%
	Your size	10.1%	11.8%
	Bigger businesses	59.7%	42.1%
	Government	6.4%	2.5%
	Other	5.8%	7.1%
Q19: How do you sell to your customers?	Shop Counter	6.4%	19.2%
	Direct mail	6.5%	15.3%
	Sales staff	49.0%	32.8%
	Sales Agents	11.0%	10.8%
	Other	27.0%	39.9%
Q20. Where are the majority of your customers?	Local	30.7%	55.2%
	UK/National	65.3%	41.9%
	Export	4.0%	2.9%

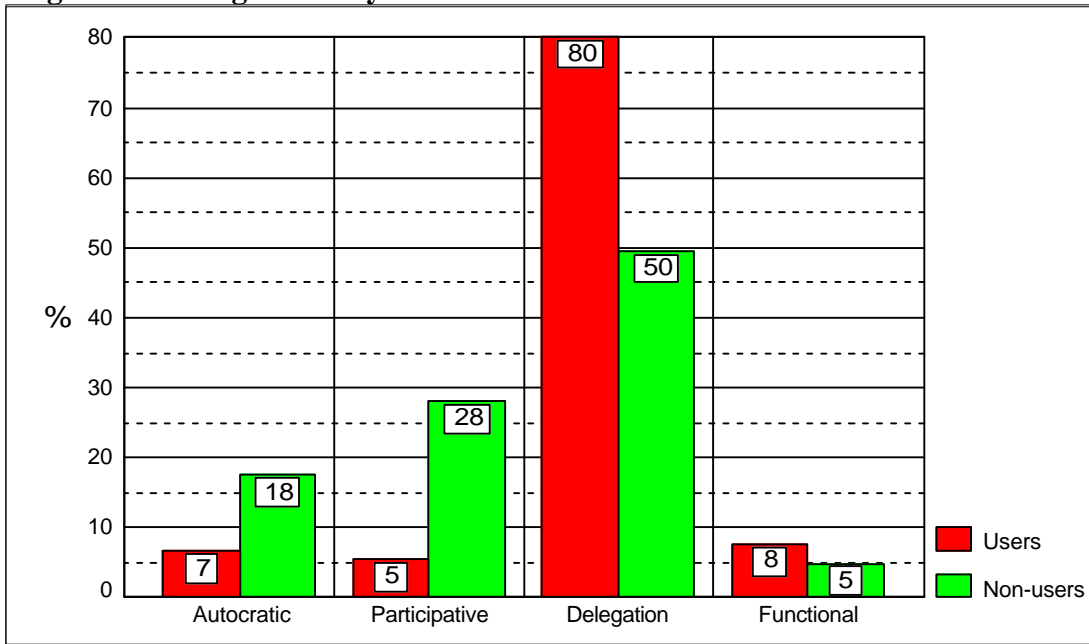
(p= 0.00)

## Management Style

There were statistically significant differences (p= 0.00) in the management styles adopted by the relatively smaller unregistered firms compared with the relatively larger firms in the "ISO9000 users" sample (Figure 5). Almost 45% of the owners of unregistered firms stated that their management style involved no delegation of authority, compared with one in eight of the "ISO9000 users".

Almost 90% of "ISO9000 users" operated with a formal management structure although less than one in ten of these used performance targets for all levels of management. Even so the apparently more hierarchical "ISO9000 users" operated with relatively flat structures with 90% stating that there were three or fewer levels of authority (90% of unregistered firms had two or fewer levels of authority).

**Figure 5: Management Style of Firms**



(p= 0.00)

Financial planning and management accounting information were widely used throughout the sample. However, stock control and computer systems were less common in unregistered businesses. The unregistered firms were also less likely to use other formal management techniques such as production control, sales forecasting and formalized company objectives.

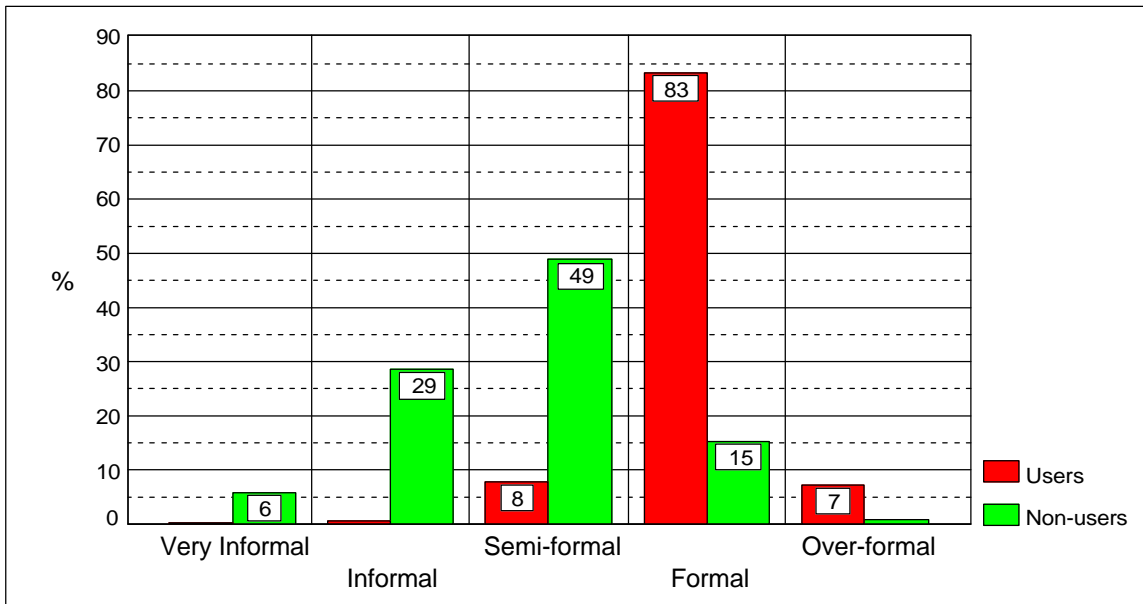
## Quality Management Practices

Inevitably every business is concerned about the quality of its products and services. Customers, especially those dealing with smaller firms in highly competitive markets, are able to express dis-satisfaction by selecting alternative suppliers. As a result over 80% of all sample firms utilized some form of specified quality standard and in one case in five quality assurance was the direct responsibility of business owners. However the way in which quality was managed in the sample differed between the "ISO9000 users" and "unregistered firms", as shown in Table 3 and Figure 6.

**Table 3 : Nature of Quality Standards Employed**

Quality standards used for major products/services	Non-users	Users
Unwritten	18.8%	2.4%
Internally-Specified	19.5%	19.7%
Customer -specified	24.3%	23.9%
Trade standard	18.4%	9.7%
British Standard	10.0%	28.1%
International/EEC	5.3%	11.6%
Other	3.7%	2.6%

**Figure 6: Quality management practices**



(p= 0.00)

Interestingly, the extent of formality of the quality management system did not appear to determine the effectiveness with which these systems operated. For example at least 85% of all respondents were satisfied with their present quality procedures. There was evidence of a statistically significant association between the level of formalization of quality systems and satisfaction with the quality system in operation. Firms with informal quality systems were more likely to express satisfaction with their present quality (p= 0.00). As a result it is not surprising that so few small firms do, in fact, register for ISO9000.

## The Motivation For & Consequences Of Using ISO9000

This section concentrates on the benefits that business owners expected to result from registration and highlights some of the results for small businesses. In addition businesses' assessment of the impact of ISO9000 are explored.

Respondents were invited to identify, on a scale of 1 to 5, the extent to which they agreed or disagreed with a series of possible reasons for which firms might or might not wish to register for ISO9000. An equal number of reasons in favour and against registration were offered to respondents, and these were intermingled to avoid reinforcing either positive or negative perceptions. Respondents were also asked to assess the resultant impact of registration in terms of the benefits and disadvantages experienced. The following analysis therefore presents data on the reasons for which firms decided to register and their assessment of the subsequent impact of that decision.

### Profile of ISO 9000 Users

It has already been identified that larger firms and those in the manufacturing sector are more likely to use ISO9000. Cross tabulations were utilized to test whether the motivations for adopting this quality assurance standard differed by size of firm or the industry sector of operations. No statistically significant differences could be identified by size as

measured by turnover. However, manufacturing firms were significantly ( $p = 0.02$ ) more likely to agree or strongly agree with the objective "to improve the quality procedures in my business" than firms in other sectors.

## ISO9000 and Market Dynamics

Roughly the same number of respondents identified motivations for registration relating to efficiency and profitability and marketing and competitive advantage. Thus it appears that these are the prime reasons for adopting ISO9000. Over four out of five of all ISO9000 users identified "winning new customers or markets" as an important objective. Over 60% chose the more defensive goal of "holding on to existing customers", whilst 39% were concerned with the needs of "one major customer" (Figure 7).

**Figure 7 : Motives for ISO9000 registration**

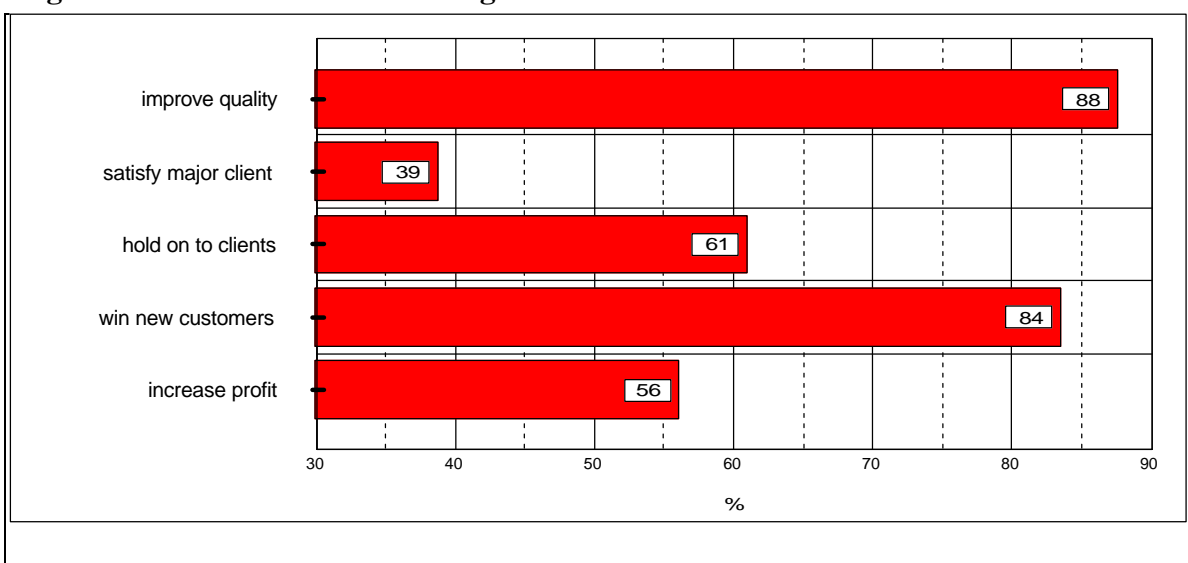
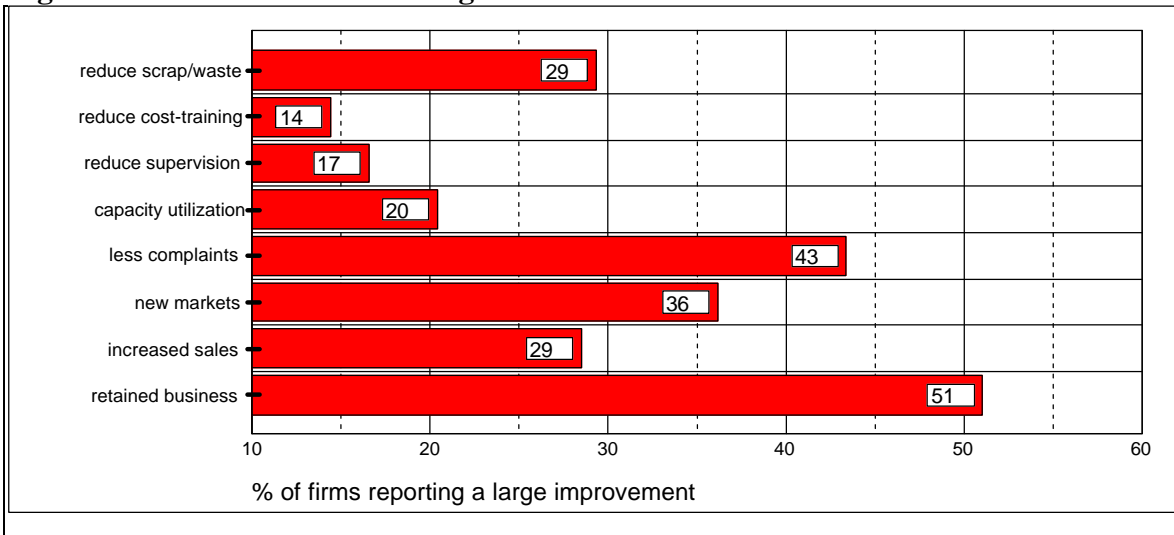


Figure 8 shows that the largest benefits actually obtained (ranked as 1 or 2, on a scale of 1 to 5), related to marketing and competitive advantage; for example "retaining business which would otherwise have been lost" (52%), "less customer complaints" (44%) and "you broke into new markets" (38%). In addition almost 30% scored "increased sales turnover" highly.

**Figure 8 : Benefits of ISO9000 registration**



These issues relating to the external position and perception of the business represent a mixture of positive elements (e.g. entering new markets) and defensive tactics (retaining customers that would otherwise be lost). It appears that the defensive issues were realized in practice more often than the creative issues. This may be a result of the depressed market conditions in which most firms were operating at the time of survey.

Almost 88% of ISO9000 users were operating with a more formal management structure which included delegation of authority. Those ISO9000 users that were less inclined to use formal management techniques were found to be significantly more likely to face increased costs in terms of labour, overheads and higher levels of inspection/supervision as a result of implementing ISO9000. For example, those firms that did not utilize planning and budgetary control techniques were more likely to report rises in overhead costs and increased levels of inspection/supervision ( $p < 0.05$ ).

## Quality Management

It has been previously identified that over 85% of all respondents expressed satisfaction with their existing quality systems, but that non-registered firms were managing quality in a more informal manner. This informality did not, however, appear to have any adverse impact on the market acceptance of their products/services.

However, ISO9000 users with more formal quality management systems report that as a consequence of registration they are likely to have "less customer complaints" ( $p = 0.00$ ) and to "retain business which otherwise would have been lost" ( $p = 0.02$ ). In addition, there is a tendency for the smaller ISO9000 users to face an increased need for inspection and supervision of their products/services ( $p = 0.09$ ).

These two interesting consequences of registration are probably indicative of the balance which firms must achieve in deciding the appropriate level of formality to adopt. Whilst increased formality improves the "defensive" marketing tactics, for the smaller firms in the sample this will probably only be achieved at the expense of a higher cost burden.

# Measuring Performance

The most important internal reasons why businesses register are shown in Table 4. "ISO9000 users" expressed the highest level of agreement to the desire to "improve the quality procedures in my business". Of the other two "internal factors" just over half the sample (55%) chose "to increase profit or efficiency" whilst 42% expressed agreement or strong agreement to "reduce scrap and/or waste".

**Table 4: Reasons why businesses register**

To improve the quality procedures	86.0%
To increase profit and/or efficiency	55.5%
To reduce scrap and/or waste	42.0%

Firms which were ISO9000 users were asked if they had measured the resulting effect of implementing the standard and if is so in what areas they had identified advantages or disadvantages (Table 5).

**Table 5: Impact of ISO9000 registration**

Q59: Did you measure the effects of introducing ISO9000 ?	Yes	55.4%
	No	44.6%
Q60: If "Yes" and the effects were positive, do you mind telling us how?	Reduced scrap	33.3%
	Increased/wider sales	30.0%
	Other	23.3%
	Increased profit	15.0%

N=240

Just over half the respondents (55%) stated that they had measured the effects. The two areas of benefit identified most frequently were "reduced scrap and downtime" (33%) and "increased and wider sales" (30%). In addition almost one quarter (24%) identified "other" benefits; whilst just 15% reported "increased profits".

A smaller number of respondents recorded negative effects from introducing ISO9000 (n=110 compared with n=240 for question 60) (Table 6). Adverse "administrative" effects accounted for over half (53%) of the negative consequences with very much smaller numbers of disadvantages in the areas of productivity (13%), profitability (12%), and "other" (12%). Negative effects in the areas of production (8%) and sales (5%) were also identified.

**Table 6 : Negative Effects of ISO9000**

If "Yes" and the effects were negative would you mind telling us what aspects were affected most ?	Administration	52.7%
	Productivity	12.7%
	Profit	11.8%
	Other	10.0%
	Production	8.2%
	Sales	4.5%

N=110

It is evident that main reason why small businesses do not use ISO9000 is because they perceive that it would increase their costs in time and expenditure without providing adequate financial reward. For ISO9000 to become a practical tool for small businesses the administrative burden must be reduced.

## **Conclusions & Policy Recommendations**

"ISO9000 was designed by big business for big business and it has been a victim of its own success". This quote from BSI is confirmed by the research reported here which shows that the firms which adopt ISO9000 tend to be larger, multi-product firms in the manufacturing sector dealing with customers that are larger than themselves or are government departments. Businesses employing their own sales force and those adopting a formal management structure are more likely to use the ISO9000 quality assurance system.

In comparison firms which do not adopt ISO9000 tend to be smaller businesses, those dealing with domestic customers and serving local markets, selling over the counter or by mail order. Firms without a formal management structure, utilizing little (or no) delegation of authority and operating informal quality systems or utilizing a recognized trade standard are also less likely to adopt ISO9000.

Only a small minority of firms have registered for ISO9000. However, the great majority of large ISO9000 users felt the advantages of using ISO9000 outweighed the disadvantages. Based upon the preceding analysis it may be concluded that ISO9000 provides a *formal* solution to the problems of quality management and ISO9000 also provides a *badge of quality* for purchasers who are either unable or unwilling to judge for themselves the quality consistency of their suppliers.

Small businesses, however, by their very nature tend to be owned and managed by individuals who have close personal involvement in every aspect of their business, including the process of manufacture and supply of their products/services. They, therefore, have a "hands-on" approach to management. There is no evidence to suggest that informal quality management based upon the personal involvement of business owners and employees with detailed knowledge of customer requirements are in any way inferior to more formal systems.

Contrary to the informal behaviour of most small businesses, ISO9000 approaches quality assurance through the installation of a rule based management system. The additional costs of operating such a system are modest for larger firms but represent a significant additional burden for small businesses. In addition to this cost burden, the formality of the

ISO9000 systems approach to quality clashes with the nature of the informally and personally managed small firm.

These conclusions are broadly consistent across all sizes of firm and most industry sectors. However, manufacturing firms (who are most likely to register) are more concerned about improving their internal quality procedures than firms in other sectors. Furthermore, the 10% of small firm respondents who are ISO9000 users derived significant benefits from adopting the standard. Interestingly, based upon this sample, the most highly scored benefits relate to marketing and competitive issues rather than internal operational efficiency. At the time of the survey the defensive reasons relating to the protection of the existing customer base were more highly ranked than pro-active business development advantages. This may change as the UK economy continues to recover.

Thus, it appears that for the minority of small firms who do register or use ISO9000 (4.5% of the population of small firms) the standard plays an important role in signaling information about a firm to the market place. This highlights a potentially important economic role for the quality standard. A role which may be of particular relevance in the small firms sector. ISO9000 can therefore contribute to the performance of businesses by improving operational efficiency and providing marketing and competitive advantages. It is, therefore, essential that the barriers to registration are minimized for all businesses providing goods and services to an adequate standard and consistency of quality.

Failure to adapt the standard to the needs and characteristics of such businesses may lead to market distortion in the short-term (as some purchasers are erroneously persuaded that the ISO9000 badge is the only reliable guide to quality) and eventually to the entire system falling into disrepute as businesses learn that the information conveyed is not necessarily accurate. High quality goods, products and services may be obtained from unregistered firms.

However, a large proportion of the small business sector comprises retailers and firms dealing in local markets. At present ISO9000 does not appeal to these important elements of the UK economy. This is reflected in the relatively low adoption rate of the standard by small firms during the 1994-95 period. A follow-up telephone survey conducted by our research team in 1995 (a sample of 700 SMEs from the database) found that the great majority of small business (79%) remain firmly un-impressed with the benefits of ISO9000 and the proportion of firms registering for ISO9000 remains below 5%.

## **Policy Recommendations**

This empirical study has identified that for the majority of small businesses ISO9000 is too “bureaucratic” and policy-makers should consider the following concluding remarks and recommendations:

1. Businesses that are already achieving a high standard of quality through informal methods should not have to apply formal systems where these are not needed.
2. External evidence, from customers (for example) should be acceptable as part of the ISO9000 assessment and registration process.

3. The time and costs of operating ISO9000 should be reduced.
4. It must be recognized that ISO9000 is, at present, primarily seen as a marketing tool by many small businesses.
5. Adherence to other quality standards (such as trade standards and Government regulations) should be recognized as part of the ISO9000 assessment and registration process.
6. No small supplier should be required to register for ISO9000 if they are able to provide alternative evidence of the consistent quality of their products, goods or services.
7. ISO9000 registration does not guarantee the provision of high quality good and services, and it should be the vehicle for the development of small company tailored total quality management (TQM).

## References

- Bannock, G. (1991), Opinion - BS5750: No rush to register, *Small Business Perspectives*, 15-16, Jan-Feb.
- Batchelor, C. (1992), Badge of Quality, Financial Times, 4 September.
- Best, M. (1990) *The New Competition*, Polity, Oxford.
- BSI (1994) New Service to 'Demystify' BS5750/ISO9000 for Small businesses, Press Information Release, April.
- Buttle, F. (1996) Does ISO-9000 work? Manchester Business School, Manchester Federal School of Business Management Working Paper, No 136.
- Haksever C. (1996) Total Quality Management in the Small Business Management Business Horizon, March-April.
- Department of Trade and Industry (1987), BS5750/ISO9000/EN29000, The Enterprise Initiative, DTI.
- Department of Trade and Industry (1996), *Small Firms in Britain*, HMSO Publications
- Gourlay, R. (1994) Seeking Credibility for Quality Standards, Financial Times, 12 April
- Gourlay, R. (1994) Quality under Fire, Financial Times, 21 June.
- Gourlay, R. (1995) BSI begins to listen, Financial Times, 3 October.
- Gourlay, R. (1996) Standard Bearer, Financial Times, 12 March.
- Halliday, S. (1993), Small Firms and BS5750/ISO9000, *Journal of European Business Education*, vol. 2, No 2.
- Holliday, R. (1994), BS5750/ISO9000 and Quality Management in Two Small Companies, Small Business and BS5750 Workshop, Kingston Business School, February 1994.
- Huxtable N. (1995) *Small Business Total Quality*, Chapman & Hall
- Juran J.M. and Gryna F.M. (1993) *Quality Planning and Analysis* 3rd edition, New York: McGraw-Hill.
- Mendham, S. Chittenden, F. and Poutziouris, P.(1994) *Small Businesses and BS5750/ISO9000*, Small Business Research Trust, Milton Keynes.
- North, J. Curran, J. and Blackburn, R. (1993) Small Firms and BS5750 / ISO9000: A Preliminary Investigation, 16th National Small Firms Policy and Research Conference, Nottingham, November.

- North, J. Blackburn, R. and Curran, J. (1994) *Maintaining Quality in Small Firms and the Role of BS5750/ISO9000*, Small Business & ISO9000 Workshop, Kingston University Business School, February.
- Sadgrove, K. (1994) *ISO9000-BS5750: Made Simple*, Kogan Page
- Sarv Singh Soin (1992) *Total Quality Control Essentials*, McGraw Hill.
- SEPSU (1994) *UK Quality Management-Policy Options*, Royal Society/Academy of Engineering, London.
- Small Business Research Trust (1992) *Quality Procedures: BS5750/ISO9000*, *NatWest Quarterly Survey of Small Business*, Vol. 8, No 3, 18-22, August.
- Stanworth, J. and Gray, C. (1991) *Bolton 20 Years On*, Paul Chapman Publishing, London.
- Storey, D. (1994) *Understanding the Small Business Sector*, Routledge, London.
- Watson, M. (1994) *Quality, Small Businesses and BS5750/ISO9000: Cage or Platform*, Small Business and ISO9000 Workshop, Kingston University Business School, February.
- Woodcock, C. (1992) *The Cost of Keeping up the Standard*, *The Guardian*, 31 August.
- Woodcock, C. (1994) *Benefits of Quality Standard Doubted*, *The Guardian*, 28 March.