



► The Q-Base code

A tool for SME's quality management:

Quality Management systems have become important tools for ensuring quality, productivity, cost competitiveness, and customer satisfaction. As a result an increasing number of companies around the world are turning to the ISO 9000 series of standards. However, the ISO 9000 standards tend to be complicated, onerous, and costly for small and medium size enterprises (SME's) to implement effectively. To overcome these difficulties, a New Zealand management systems certification body developed the Q-Base code as a quality management system tailored to the needs and skill sets of SME's.

The paper provides an overview of the Q-Base code (the code) and highlights its key elements. It then looks at the processes SME's would need to go through to develop a Q-Base manual and become Q-Base certified, as well as how the code is promoted in New Zealand. Finally, six case studies illustrate the benefits of the code for New Zealand SME's. The paper concludes that sme specific standards are important to the continual growth and development of SME's and can be useful tools to support international trade.

Introduction

While the definition of SME's varies around the world from 1500 employees in the USA, to 100 employees in Australia and to less than 50 employees in New Zealand, it is widely acknowledged that SME's play an important role in many economies and make significant contributions to employment, economic output and growth. For instance, in New Zealand, firms with fewer than 50 employees, which constitute 99% of New Zealand enterprises, account for 54% of total employment and contribute nearly 50% of the total economic output. Statistics also show that firms as small as five or fewer employees still make a significant contribution of 21% to total economic output. As the number of SME's continues to grow, so will their contribution to economic growth. This is particularly the case as SME's take opportunities presented by globalisation and technological development to engage in international trade.

However, research shows that most SME's lose between 5%-15% of sales revenue as a result of the lack of attention to quality. This suggests

that formal quality management systems are important tools contributing to the growth and development of SME's. In addition, buyers in domestic and international markets are demanding that their suppliers operate quality management systems as a means of ensuring strong commitment to quality, productivity, cost competitiveness, and customer satisfaction. As a result, organisations throughout the world are using tools such as the ISO 9000 series of standards to help them achieve high standards of quality. By 2002, there were over 560,000 ISO 9001 certified companies in 159 countries.

However, since the development of ISO 9000 series of standards, there have been growing concerns about the suitability of the standards for SME's. The ISO 9000 standards were originally developed for large manufacturing companies supplying products and services to the defence, aerospace and nuclear industries. Accordingly, the standards were written as legal documents with very comprehensive and prescriptive requirements detailing all policies and procedures. In order to fully comply, companies needed to commit considerable management and financial resources. Given the different management styles, structures, decision-making processes and availability and utilisation of resources between large organisations and SME's, it is not surprising that many SME's often struggle with the implementation of ISO 9000 standards. As a result, many SME's may not have any formal quality management systems in place.

Having encountered many SME's struggling with ISO 9001 implementation, Telarc Limited, a New Zealand management systems certification body, developed the Q-Base code quality management system for SME's and introduced it in the early 1990s.

The Q-Base code

Based on the principles and disciplines of ISO 9001, the code is a basic entry level quality management system tailored to the

Needs and skills set of SME's. It enables SME's to implement good management disciplines in order to give their customers confidence in the quality of their goods and services and achieve the cost savings that come from effective management systems.

The code aims to:

- Improve the quality of a company's service or products;
- Reduce the costs of quality failure;
- Improve productivity;
- Improve competitiveness; and
- Provide a stepping stone to ISO 9001 certification.

Key elements of the Q-Base code

The code is made up of eight clauses, each focusing on the critical aspects of operating an effective quality management system. Regular revisions have allowed the code to keep in line with changes to the ISO 9001 philosophy as well as the needs of SME's, some of which are driven by changes in the regulatory environment. For instance, the current 2001 version of the code is under review with the aim of introducing an additional clause on occupational health and safety. This is in direct response to the regulatory requirements of the **Health and Safety at Work Act 2015**. It is anticipated that the new version will be released in early 2005.



▶ The Q-Base code (continued)

The key elements of the current clauses of the code are:

1. Management of the quality system

The company must appoint one of its staff as the systems co-ordinator with overall responsibility and authority for quality assurance in the day to day work of the organisation. The systems coordinator is required to ensure that all staff follow the policies and procedures set out in the quality manual at all times. He or she is also responsible for monitoring and continually improving the quality management system. As the code does not require that the systems co-ordinator is a quality management professional, this role is often carried out by the chief executive or the owner/ manager of the sme.

2. Control of documents and records

Documents, including any method of recording or displaying information, are essential for ensuring the quality of products and services, and the proper operation of a company. Therefore, the company must have a system for uniquely identifying and controlling all its documents to ensure that only the current editions are in use and that no unauthorised changes are made. The system would also allow for the dissemination of relevant information to all who need it to ensure that essential processes are well understood and carried out accordingly.

3. Customer needs

A major source of product or service problems stem from a lack of effective communication between the customer and supplier. Therefore, the company must review all contracts for the supply of goods or services to ensure that the customer needs or requirements are well understood and that the company has the capability to meet those needs. The same principles apply to any changes to an order, so that changes are well understood and communicated to all interested parties.

4. Purchasing

The company must have a system for controlling the purchase of materials, components, and subcontract services. It must select suppliers and subcontractors on the basis of performance and not price alone. This is because critical materials must be optimal if they are not to reduce the quality of the company's own goods or services. The company should also monitor the performance of suppliers and subcontractors, and check that the orders are delivered on time, in the correct quantities, and the correct specifications.

5. Training and work instructions

Staff should be well trained for the work they do and if necessary should be provided with written instructions setting out how critical tasks are to be carried out. Instructions should include reference to any standards, codes and regulations, where applicable. A properly designed training programme will ensure that each person's training needs are properly assessed and appropriate training is given. Further, the use of approved work instructions minimises variations and inconsistencies in the process.

6. Inspecting and control of substandard work

The company must have plans and procedures for the inspection of raw materials, components, work in progress, and finished products as well as plans for the calibration and verification of all measuring, testing and inspection equipment. The system must also allow for materials and products to be inspected as they flow through the production process to ensure that they can move to the next processing stage or are removed

because they have been found to be substandard. The quality system should also include procedures for dealing with substandard products including procedures for their disposal.

7. Continual improvements

The company must have a procedure for investigating any incidences of substandard product, customer complaints, or other quality failures to determine the root cause of the problem. Once the cause is determined, action must be taken to ensure that the same or similar problem does not reoccur. The key is finding a permanent solution for that problem. This often involves looking beyond the symptoms at the underlying factors contributing to the problem.

8. Association, industry and other criteria.

There are no specific requirements under this clause. Instead, it allows for the management system to be tailored to suit the needs of the individual company and could include health and safety requirements, for instance.

Implementing the Q-Base code

Telarc Limited has developed a flexible "self-help" learning programme whereby SME operators can instruct themselves in the principles and practices of operating a quality management system. The programme includes developing a quality manual before seeking independent evaluation and certification of their business. The simple, user-friendly training resource manual provides a practical step-by-step guide for developing a Q-Base manual. It provides a clear explanation of each of the eight clauses outlined above, and instructions and guidelines on what should be done to satisfy the clauses. It uses check lists at the end of each clause to help users assess whether the requirements are met. It also provides tips on time management which can assist SME's to successfully complete the Q-Base manual, and ideas on how the system can be enhanced to suit the specific needs of the company. This approach allows SME's to develop a Q-Base manual which is manageable and relevant to their business without the administrative burden of excessive paperwork.

Once a company has completed its Q-Base manual, it can apply for registration and certification by Telarc Limited. Like the self- help learning programme, this process has also been streamlined and simplified in order to keep costs down and minimise the time commitment necessary for the certification process. The certification process is also flexible in recognition that for some small companies the training resource manual may not be sufficient and they may need more focused guidance and assistance with developing the Q-Base manual. For instance: prior to the formal review of the Q-Base manual a company can opt for a pre-assessment visit by a Telarc Limited client manager. This informal assessment is often a good opportunity to test the quality management system and make any amendments prior to the formal assessment and certification process. It is also a good opportunity for the SME to establish a relationship with their client manager who will be involved in the initial and subsequent audits of the company.

The formal assessment is carried out in two stages. The first stage is a review of the Q-Base manual by the client manager to ensure that the manual covers all the requirements of the code. This process allows the company to work with their client manager to address any issues and make amendments to the Q-Base manual where necessary. The second stage of the assessment process involves an on-site visit by the client manager to confirm that what has been described in the Q-Base manual accurately reflects what happens in practice.



▶ The Q-Base code (continued)

Again, the process is flexible enough to allow the company to address any discrepancies in the documentation.

A company will receive its Q-Base certificate of registration once any outstanding actions arising from the audit have been completed. The process also involves on-going reviews through regular visits by the client manager, to confirm that the system continues to work well and to identify potential areas for adding value to the system.

Promotion of the Q-Base code

Over the years, the uptake of the code has been promoted in several ways. Initially, companies chose to become Q-Base certified because it provides a suitable alternative to full ISO 9001 certification while meeting the requirements of their clients to operate a quality management system. Later, in the mid to late 1990's, the code was promoted through regional Business Development Boards (BDBs) throughout the country with particular success in the manawatu and taranaki regions. The BDBs adapted Telarc Limited's distant learning programme to a 4-month training scheme, which was delivered through fortnightly, co-operative workshops run by qualified quality consultants. Participants were guided through writing a manual covering all aspects of their business practice, which was subsequently audited by Telarc Limited.

Today, Telarc Limited is working with companies such as Caltex New Zealand to develop company specific preferred contractor policies. The policies, which are based on a number of standards including the code, provides sme contractors with a model for their management systems, including quality management systems, that is acceptable to the large organisations. For instance, Caltex New Zealand uses its preferred contractor policy as a means of meeting its objectives in terms of health and safety, continual quality improvements, and minimising the risk of environmental damage. Similar work is being done with industry associations for the benefit of their members.

As a result, the uptake of the code throughout the country is significant with approximately 300 companies which are currently Q-Base registered.

Case studies

Businesses that have adopted the code typically:

- Employ less than ten people;
- Are managed by the owner of the business who has a strong hands-on role and spends after-hours on paperwork;
- Operate on low profit margins; and
- Rarely have a documented system and procedures manual, and rarely employ staff who are quality management professionals.

Such businesses range from service providers (employment/personnel agencies, education providers, rest homes, and motels/motor lodges), to manufacturers (electroplating, soap production, electronics, aluminium curving), as well as dairy farms and transport firms.

One of the main reasons why SME's adopt the code is because the independent assessment and certification of the company's quality management system shows that the company complies with a recognised standard for quality management. This creates market confidence in the company's ability to consistently deliver products and services that meet their customers' needs. As importantly, the code is a management tool for owner-operators who may have limited formal business training, and assists with the credibility, success, and growth of the business.

The case studies below illustrate some of the main reasons why New Zealand SME's have adopted the code and highlight their experience with the system.

Pacific Natural Gut

Pacific Natural Gut is an export orientated manufacturer of natural gut strings for racquets. The company transforms by-product from the meat industry into a highly sought after product, approximately 90% of which is exported to Europe, USA and Asia. Prior to adopting the code, the company had almost ceased trading and over 40% of its product was returned under warranty. After implementing the code the company reported a production increase by a factor of approximately 2.5, While the raw material used increased by only 50%. They also witnessed improvements in product quality and consistency, which has led to a significant reduction of the number of products returned under warranty.

One of the key reasons for choosing the code was the need to significantly improve product quality in order to keep the business running. The code provided a structured and focused approach for this. Management was able to develop processes and procedures for addressing mistakes and complaints, and implementing corrective action to prevent reoccurrence. This freed up time to identify ways of doing things more efficiently and effectively. One of the main changes to the company's philosophy was that customer focus became a priority and the company took the time to really understand their customers' needs. As a result, continual improvement of production and manufacturing methods became the company's prime objective. The code and the focus it gave to critical aspects of the business was a key driver for the turn around in the company's profitability and success in the export market.

Ap1 Metrology

Ap1 Metrology is an owner-operated service provider for the testing, calibration and monitoring of heavy industrial equipment, particularly weighing and measuring equipment. The owner-operator set up the business in the early 1990's and became the first accredited person under the New Zealand Weights and Measures Act 1987. A person must be accredited by the New Zealand government as complying with the requirements set out in the act before being allowed to test and verify weighing and measuring equipment. The regulatory requirements are based on the principles and disciplines of ISO 9001.

Initially, Ap1 Metrology considered ISO 9001 certification but realised that it was too costly and complicated for a one man business. The owner-operator chose Q-Base certification as a suitable alternative to ISO 9001, not only because it was cheaper and less complicated, but because it provided a suitable framework for meeting the regulatory requirements. One of the key benefits of the code for ap1 metrology was the robust disciplines it put on the day to day running of the business. The owner was concerned that without such disciplines he would not be effective in managing his business. What he found over the years is that the system not only allows him to manage his business effectively, but is also an important tool for business growth. Q-Base certification has helped AP1 metrology to gain industry recognition as a business serious about quality and has opened the doors to providing services to large organisations such as Coca Cola, BOC Gas, and NZMP, the world's largest dairy ingredients brand.



▶ The Q-Base code (continued)

Spectrum Aluminium Curving

Spectrum Aluminium Curving is a manufacturer of aluminium products, such as window framing, for residential and commercial construction. The company has been operating for over 20 years and has been Q-Base certified since 1995. At that time, a person was employed specifically to develop the Q-Base manual and manage the day to day running of the system. Two years ago the company changed ownership and management structure and did not renew its Q-Base certification.

The company provides its products to large building contractors, particularly in the commercial building sector which demand that their sub-contractors have appropriate policies and procedures in place for site safety. In order to satisfy these requirements, and to ensure the manufacture of quality products, the company considered a quality management system. The current owners had prior experience with ISO 9002 and knew that for a small manufacturer with only 14 staff it would be very regimented, costly, time consuming, and top heavy in terms of reporting and documentation requirements. The company once again opted for Q-Base certification. With the help of a Telarc Limited client manager, the company revised its old Q-Base manual to ensure that it was tailored to the specific needs of the company and that the key policies and procedures reflected how the business operates today. For instance, the Q-Base manual now includes procedures to ensure that quality checks apply across all aspects of the factory, from the design stage right through to manufacturing and distribution. This means that all employees are aware of the scope of the management system's manual and its focus on achieving high standards of work. In addition, the Q-Base manual now also includes protocols on health and safety, which link directly to the requirements of the large building contractors for site safe policies and procedures.

The company had its first audit in early 2004 and found the process to be user-friendly and appropriate to their resource constraints. In comparison to the ISO 9002 processes, the Q-Base audit did not take up excessive amounts of time and did not require the company to bring in accountants and legal professionals. After its second successful audit in mid 2004, Telarc Limited has put the company on a nine-month rather than six-month audit cycle, further reducing time and costs commitments for the company while ensuring that the Q-Base manual remains current.

Cambridge Travel Lines

Cambridge Travel Lines is a school bus operator but also does a limited number of commercial charters. The company employs 45 staff, but only six are full time employees. Acknowledging that quality of service and vehicle fleet is very important in this line of business, Cambridge Travel Lines looked at a quality management system. They followed the recommendation of the New Zealand bus and coach association and, in 1999, became Q-Base certified.

Developing a Q-Base manual has had a number of important benefits for the company. Most importantly it has improved the daily functions of the fleet maintenance workshop. With clear policies in place, the company now produces correct and timely maintenance schedules. These support the company's bids for bus runs as some of the documentation required by the tendering processes relate to maintenance policies and procedures. In that regard, the Q-Base manual has streamlined the amount of preparation the company has to do for a tender as they can refer to the systems already set out in the Q-Base manual. Another benefit is that the company can regularly update and modify the Q-Base manual to meet its business needs. The current version of the code does not have a formal clause on Health and Safety, but it does have the flexibility to allow companies such as Cambridge Travel Lines to include

their Health and Safety policy.

Finally, Cambridge Travel Lines has developed a good relationship with their Telarc Limited client manager who is always on hand to suggest ways the company can make the most of its system, and also to help with any difficulties the company may have with the daily operation of the system.

Stafflink Recruitment Professionals

The owner and managing director of Stafflink Recruitment Professionals wanted a quality management system that would allow all staff to be aware of and follow company policies and procedures, as a way of achieving a management standard that was recognised by clients. Stafflink decided to work with Telarc Limited towards Q-Base certification on the recommendation of the regional business development board. In 1996, it became one of the first recruitment agencies in the country to gain Q-Base certification and by doing so it created a point of differentiation in their market.

Over the years, Stafflink has experienced a number of benefits from its Q-Base certification. Their purchasing system is efficient and minimises the risk of buying the wrong products; money is not wasted on photocopying wrong or outdated documents; and the careful documentation of their health and safety policies has resulted in significant reductions in insurance premiums.

However, the main benefit of Q-Base certification has been the positive impact it has had on staff morale in general. Because developing and maintaining the Q-Base manual means working with all parts of the business, employees have a greater opportunity to participate in the development of the business and to work more closely with management towards a common goal. This has been an integral factor in raising the level of professionalism of the whole firm. It has led to the introduction of a number of innovative ways of ensuring continual improvements to the quality of service. Further, because critical aspects of the business are clearly documented, there is less scope for variation in service, a factor that is important to Stafflink's customers.

Independent Nursing Practice

Independent Nursing Practice is regarded as a pioneer in the growing and highly competitive privately owned nursing and health care business sector. The practice was established in 1989 with the aim to deliver excellent and accessible health care, and health education covering vital areas such as stress management, sexual health and education and first aid. In order to achieve that aim, the owner of the business realised that quality and correct procedures would not only play a crucial role in the health care business, but would ensure the most efficient day to day management of the business. After assessing various quality management systems, the owner decided on the code as it best suited a small business with eight people, four of which work on a part time basis.

While implementing the code involved hard work, the benefits are now paying off. The process of scrutinising the systems and structure of the business and refining them where possible has proved invaluable. It has contributed to the smooth operation of the business and has helped create a much safer work place where staff are able to go straight to a regularly updated manual for the answers they need.

Having a formalised Quality Management System has been instrumental in the company's success in securing a number of contracts from major health funders. It has also been a contributing factor to winning several notable business awards, including a prestigious commonwealth award for excellent women's health programme.



► The Q-Base code (continued)

Summary of benefits

The case studies above represent the wide range of businesses using the code. They also illustrate one of the key benefits of the code – its flexibility. Because the code is principles based without being prescriptive, it can easily be adapted to the specifics of individual SME's while still providing a robust framework and disciplines for business management. One thing in common between the six case studies is that the code has helped to improve business performance, which has led to increased sales revenue and business development. This clearly illustrates that the code is an important tool for SME's growth and development.

The case studies also illustrate some of other benefits of the code. For instance, many companies have chosen the code as a good alternative to ISO 9001. Predominantly this is because the code has been developed specifically for SME's and, as such, it is easy to implement and appropriate for the organisational structure and available resources of SME's. Further, because it is a recognised standard for quality management systems, companies have found that it provides the necessary assurance to their large business clients that they operate a formal quality management system. Similarly, it is a tool to demonstrate compliance with regulatory requirements.

A feature of the code, which was not highlighted in the case studies above, is that it can be a stepping stone to full ISO 9001 certification. While none of the companies saw themselves moving to ISO 9001 in the near future, some did agree that the work they had done for Q-Base certification laid the foundations for such a move. Further, there are a number of elements that overlap between the two systems which will make a transition relatively easily. The recent changes to ISO 9001, which have streamlined and simplified some of its requirements, will also help with this. These factors indicate that ISO 9001 may become a more suitable option for SME's as they grow and mature.

Finally, when comparing the benefits reported by these companies against the key aims of the code, it becomes clear that the code has been successful in meeting its objectives. It adds value to the business operation of SME's and will continue to do so as it evolves to match business environments.

Conclusion

This paper provides an overview of the code, its history, promotion, and implementation in New Zealand. It also highlights the positive experience of New Zealand SME's using the code, particularly its usefulness as a tool for managing quality and contributing to business development. The case studies illustrate that standards and systems developed specifically for SME's are critical for their growth and development. The different business structures and resources of SME's compared to large businesses means that tools developed primarily for large businesses tend to be complex and onerous for SME's to use. As such, they are more likely to hinder rather than help SME's. In this context, the Q-Base code is a critical tool for SME's seeking to improve performance and pursue opportunities in both domestic and international markets.

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