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**THE IMPLEMENTATION OF TOTAL QUALITY MANAGEMENT
WITHIN SMALL BUSINESSES**

by

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Στούς γονείς μου

Μαίρη και Νίκο

To my parents
Mary and Nikos

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DECLARATION

No portion of the work referred to in the dissertation has been submitted in support of an application for another degree or qualification of this or any other university of other institution of learning.

ABSTRACT

Quality management plays a very important role in today's competitive environment. Quality is becoming increasingly recognised as the prime consideration in many purchasing decisions and in order to survive the competition, companies focus on the manufacturing of quality products. Since the majority of companies are small companies, the implementation of Total Quality Management (TQM) in small companies and the advantages that TQM offers in their development has become a very interesting field for research.

This dissertation describes the results of an investigation into the implementation of TQM in small businesses. The objectives of the dissertation are to evaluate the beliefs of small business management about TQM and the level of adoption of TQM in small businesses. A mail questionnaire survey was carried out, for this purpose, among small companies located in Trafford Park, Manchester, with the cooperation of Trafford Park Development Corporation. The survey refers both to companies which are not implementing TQM at the present time as well as those that are currently implementing TQM.

In small companies the beliefs of top management play a very important role in the attitude of the company towards TQM. It is useful to know what managers believe that TQM is, what are the expectations that they have from TQM, and how they proceed in TQM when they decide to implement it in their companies. In particular, this will be useful for Trafford Park Development Corporation to know what help small businesses need when they decide to implement TQM, so that appropriate resources can be provided. The results are also a useful contribution to the body of knowledge on both TQM and small businesses.

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CHAPTER 1: INTRODUCTION

1.1. THE IMPORTANCE OF QUALITY

The emergence of consumerism as a social and commercial force, the environmental movement, and the emergence of Japan and other Far Eastern countries as industrial competitors equal in terms with Western countries, helped changes to occur in management thinking (Dale&Plunkett,1990). These changes led companies to realise that their future depends on managers developing a new style of management, based on effective leadership and cost-effective quality management (Dale&Plunkett,1990). Nowadays, competition in world markets, which are dynamic environments, has never been fiercer, the only way that companies can increase their market share is by offering best value for money; and competitive value for money comes from competitive quality at a competitive price (Dale&Lascelles, 1990). According to Deming, "competitiveness depends upon customer satisfaction, and if customer satisfaction is maintained, competitors are irrelevant" (Drummond, 1992)

Nowadays, the company-supplier relationship is changing, and a tendency for long-term business partnerships, based on a common interest of continuous product improvement, is emerging. The same thing can be said about the trend in purchasing organisations which are awarding more and more long-term contracts. Today, effective competition is based on a combination of competition in the traditional product versus product form, and competition involving companies' skill in managing quality (Dale&Lascelles, 1990).

In this dissertation a word that is going to be mentioned frequently is the word "quality"! Therefore, a definition of quality must be given. There are so many definitions that the author is going to mention some of them, in order to present the general idea of quality (Dale&Cooper,1992).

- Uniformity of the product characteristics or delivery of a service around a nominal or target value.

- Conformance to agreed and fully understood requirements.
- Fitness for purpose or use.
- A quality product is one satisfying customers expectations and understanding their needs and future requirements.
- Quality is the situation where one never has to say sorry to a customer.

In most of the above definitions customer satisfaction is one of the things that counts most. But the question is, why is quality so important?. Most producers, customers and consumers consider quality today, as more important than ever in their manufacturing, service and purchasing strategies. Customers are willing to pay more if the product that they purchase is of a better quality (Dale&Cooper,1992). More managers recognise every day, how critical quality performance is for their organisations, and the change that has occurred towards quality since the 1970's. Since the customers regard quality as a condition in order to buy or not to buy, quality becomes even more important. The reduction in costs -since rejects, re-work, warranty replacements, time spent in checking and correcting errors are minimized-, in throughput time and the increase in flexibility and responsiveness that quality causes is another thing that makes quality a first priority. Other advantages like the increase in sales, profitability and market share make more and more managers to consider quality as a strategy for their company, a reactive one if not a proactive (Dale&Lascelles, 1990), and as a weapon to become or remain competitive.

Lessons have been learned from companies that have lost customers due to non-conforming products. These customers are much harder, if not impossible, to regain than the ones lost on price or even delivery grounds (Dale&Cooper,1992). And even if price is negotiable, product and service quality is not negotiable (Dale&Lascelles, 1990) and customers that are not satisfied are not going to wait until something changes. Today's business environment is highly competitive and companies close every day or lose significant share of their market because of mistakes made in terms of quality.

1.2. TQM AND THE ROLE OF THE CHIEF EXECUTIVE

Companies recognising the importance of quality, have started moving towards Total Quality Management (TQM). But what is TQM? "TQM is a culture which involves everyone in an organisation and associated business processes cooperating to furnish products and services that meet their customers needs and expectations" (Dale&Cooper,1992). TQM is a strategic business issue which concerns customer satisfaction, market share and corporate profitability. TQM is about ensuring that the company does the right thing right first time and every time. An increasing number of CEOs believe that if quality is right everything else will follow, and TQM is the only means by which they can achieve this.

Quality improvement is a form of organisational change. Organisational changes are never spontaneous, and therefore strong forces or agents are needed to precipitate the process of change (Dale&Lascelles, 1990). The Chief Executive Officer is a very important person in a company. His views influence the way the company proceeds and since this will also happen in the case of implementing TQM, he is considered to be the most important change agent. The view of international famous quality management authors such as Crosby, Deming, Feigenbaum, Ishikawa, and Juran, is that unless the Chief Executive takes the lead to improve the quality performance of the organisation the quality effort will fail (Dale&Lascelles, 1990). As a consequence the leadership and commitment of the senior management team is in the same manner important for change to emerge. Their role involves two key tasks: shaping organisational values and establishing a managerial infrastructure in order to bring about change (Dale&Lascelles, 1990). The shaping of positive organisational values to create an environment conducive to lasting change and never-ending improvement depends on the nature of leadership within the organisation. The senior management team shapes the cultural environment of the organisation either by its personal actions or by neglect. The establishment of managerial infrastructure to facilitate the change, has to be company-wide in focus and concentrate on developing multi-disciplinary improvement skills and an effective information system. Fear of change, lack of necessary skills to facilitate improvement and lack of information to support the improvement process, will contribute to resistance to change within the organisation.

It is quite evident from the above that the senior management's role in the TQM implementation process is crucial. The way management reacts towards a new concept or idea, influences in a great degree the company's route, the employees' attitude, and the resistance that they might show in the implementation of anything new. Particularly, in a small company, this is more apparent; the company strategy reflects the management's ideas and beliefs. If the manager believes in TQM he will proceed and implement it. Since the small companies sector is becoming more and more important in today's economy, as will be presented in the chapter that will follow, and because of all the above, the author was persuaded that the investigation of the beliefs of the small companies sector managers about what Total Quality Management is, would be quite interesting and valuable. This dissertation, therefore, will investigate the interest that small companies managers show in TQM and the level of implementation of TQM in small companies.

In the chapters that will follow, the literature review will be presented in chapter 2, chapter 3 will deal with the research methodology issues and the survey questionnaire, chapter 4 will present the survey results, and the discussion of the results will follow in chapter 5. Finally the conclusions drawn will be presented in chapter 6 together with some recommendations made by the author.

CHAPTER 2: LITERATURE REVIEW

2.1. INTRODUCTION

In the following chapter the literature on Total Quality Management and the Small Companies sector is going to be investigated. In the first section, 2.1, the author is going to investigate the bibliography relevant to TQM on matters that concern the general principles of TQM, and the ways that TQM can be approached and implemented. Afterwards a discussion will follow on the things that can go wrong during the implementation of a TQM programme and on the Quality awards known today and their impact in the spreading of the TQM philosophy, with a special reference to the Malcolm Baldrige Award and the European Quality Award.

The second section of this chapter, 2.2, will deal with the small companies section literature. At the beginning the definitions given of a small company during the past few years are going to be presented. Then, the importance of the small companies sector in today's economy and its contributions will be discussed. A section with figures on the small companies growth are going to be presented next. Finally, the problems of the small companies sector are going to be investigated.

The third and final section of the literature chapter is going to present the literature's views on whether TQM can be implemented in a small company. Examples of companies with a positive experience of TQM will be presented. The problems and the gains will be discussed as well as the advantages and disadvantages that a small company has against a larger one, in implementing TQM. The things that are important and should be given special attention are going to be mentioned with reference to the chapter discussing TQM in general. The chapter will close with a discussion on the kinds of help that a small company needs if and when it decides to follow the TQM philosophy.

2.2. TOTAL QUALITY MANAGEMENT

2.2.1. Principles of TQM

Total Quality Management (TQM) has been chosen by many companies as a strategic

weapon, in their battle to stay competitive in their field. A lot of them have improved their performance through the application of quality principles. Although there is no one way to implement TQM, there are some general principles common to all manifestations of TQM.

Top management commitment is one of the principles that is recognised as one of the most important in the implementation of TQM in a company. Nothing can be achieved if the managers of the company are not leading the quality effort and if they are not committed to quality. If TQM is just another trend in the company which is going to fade away after the first excitement is gone, then the company has no chance of succeeding. TQM requires the Chief Executive's personal attention and leadership, it is an issue too important to be left to anybody else. His role will be to ensure that each person is committed to continuous quality improvement, and since he is one of the most important change agents, his commitment to quality is crucial (Dale&Lascelles, 1990).

Managers are now beginning to accept that quality starts at the top. This change in attitude took a lot of time to occur. Quality is now considered by more top managers as a significant business strategy; TQM must be part of the company's overall strategy to succeed (Burr, 1993).

Total involvement is necessary for success (Burr, 1993). Quality is everybody's job; everybody in the company has to be a part of the quality effort. The efforts of all the people in an organization should be directed at a common objective, goal, or vision, and that is why planning is necessary (Burr, 1993). But it is necessary that each individual knows what is expected of him, receives feedback about his performance, and is able to make changes in his work if he thinks they are needed (Burr, 1993). His efforts should be directed to specific actions, that will together accomplish the company's overall objective. It is also necessary that everybody in the company knows where the company is going and why the changes that TQM necessitates are happening. The more people understand the company, the greater the role they can play in the quality improvement process (Dale&Cooper, 1992).

Communicating the TQM principles among employees is another key to success.

Companies need imagination, ideas, input, commitment, and energy from everyone to reach for the world class quality, that will make their company competitive in today's market (Burr, 1993). TQM strives to create an environment in which everyone in the company can flourish and use the full range of their abilities (Hillman 1993). People must understand that TQM is one of the company's long-term goals, that there are no quick and easy solutions (Dale&Cooper,1992), or else disappointment will follow when results do not start to show up immediately.

TQM focuses on the customer, and this principle is becoming more and more evident (Burr, 1993). According to R.L.Lesher the president of the U.S. Chamber of Commerce, "the essence of TQM is that you should be customer-driven" (Barrier, 1992). Satisfying customer needs and requirements is becoming more and more important in successful company operation. There are a lot of companies that start implementing TQM, or apply for BS 5750/ISO 9000 accreditation because their customers ask for it. The importance of customer's satisfaction is also evident in the Malcolm Baldrige National Quality Award criteria which allocate 30% of their points to customer satisfaction (Burr, 1993), and the European Award criteria which allocate 20% (Anon., 1992b) of their points. It is worth mentioning that TQM's definition of customer embraces internal as well as external customers (Barrier, 1992); each part of the organisation has customers, and the need to identify what the customers requirements are and then set about meeting them, forms the core of a total quality approach (Oakland, 1993). There is also the opinion that instead of focusing entirely on customer satisfaction, an effort should be made for balanced satisfaction among customers, employees, and shareholders (Port et al, 1992).

Teamworking is one of the newer principles. New work relationships are based on trust and teamwork, (Barrier, 1992) and teamwork is practised in a number of forms (Dale&Cooper, 1992). Employees have to participate in vertical, horizontal, and cross-functional teams to be most effective. It is claimed that Statistical Process Control (SPC) cannot be effective if it is not supported by a team (Burr, 1993).

Education and training is a requirement in implementing a TQM programme. TQM often brings a big change to the company, and some of the resistance to TQM is typical resistance

to any change. The solution to overcome the resistance is education and training. People are less likely to resist something that they know and understand. Training should also start at the top. Top managers should be the ones educated first, in TQM and its principles, in the need for quality improvement, and in the quality tools (Burr, 1993). Middle management is the key management level that must be educated, as they are the ones that mostly resist the change, because they believe that it puts more pressure in their work than anybody else's. Top managers must lead and train the middle managers and make them understand the need for change. From there, the training and education should spread down throughout the whole organization (Burr, 1993). The employees must receive training in TQM principles, team building, process improvement, problem solving and quality tools especially the ones that are going to use the quality tools and techniques (Burr, 1993).

Measurement, of the progress of the TQM programme against a series of key results indicators, internal and external, is necessary (Dale&Cooper, 1992). The accurate measurement of the critical variables in a business operation, leads to tracing the problems of the operation to their roots and eliminating their causes (Barrier, 1992). Measurements can sometimes reveal things that no one would have suspected if the measurements had not been made. The process must be constantly reviewed for improvement. It is encouraging to know how much has been saved by a TQM programme, but deciding what to measure and how to measure it is quite difficult (Barrier, 1992). A team would decide upon what could or should be measured and how it could be done (Burr, 1993). After measurement action plans must be developed to meet the objectives (Dale&Cooper, 1992).

It is essential to **reward and celebrate** success. But the reward or celebration has to be proportionate with the success achieved (Burr, 1993). Reinforcing the behaviours that you want people to perform, rather than punish the ones that you do not want, has better results, because people react more positively. The company needs a reward or appraisal system. The reward system should concentrate on individual performance rather than group or team performance (Burr, 1993), which might inhibit team contribution or even cause competition among team

members, but differences in percentages of rewards of individual contributions and team ones, will solve the problem. It is necessary that people feel that the reward system is fair, that they are rewarded for high performance. The performance appraisal system should provide regular and specific information about where they stand and how they can improve.

Empowerment, -giving people the authority and autonomy to do their jobs- is considered to be a very powerful and important principle in TQM. People must be encouraged to manage and improve the process within their sphere of responsibility (Dale&Cooper, 1992). If you empower people they will take pride in their work, feel respected and truly become part of the team. You have to show them that management cares and listens to what they have to say about how they can improve their performance, or production. The employees must have the authority and the backing from management to do something about things if they see that they can be improved. According to Mr Hurdle (Anon.,1993b), the personnel manager at BOC

Special Gases:

"Empowerment encourages employees to use their abilities, even their innate abilities, to the best effect - maximizing their own job satisfaction and benefiting the whole organisation. It allows people to expand their horizons by achieving different tasks and arrange of aspirations which they might normally feel constraint to discuss or even to try. Continuous improvement requires clear leadership and the courage to empower employees to make decisions at all organisational levels. It is the 'people' factor which will make or break any TQM initiative".

Above all, mentioned before, the process of **continuous review** is essential to total quality success. Effective measurement is crucial to every aspect of a successful total quality process: establishing the current level of performance and highlighting priorities for improvement, monitoring progress and achievement and providing a focus for future development and planning (Davies, 1993). It is useful to confirm that progress is being maintained, to recognise and maintain the benefits achieved (Davies, 1993). According to J.S.Oakland the concept of continuous improvement requires a systematic approach that has the following components; *Planning* the processes and their inputs, *providing* the inputs, *operating* the processes, *evaluating* the outputs, *examining* the performance of the processes, *modifying* the

processes and their inputs. Companies through the never ending improvement cycle learn from results, standardize what they do well in a documented quality management system, and improve operations and outputs from what they learn. But the emphasis is that this is done in a planned, systematic and conscientious way to create a climate, a way of life, that permeates the whole organisation (Oakland, 1993).

2.2.2. Approaches to TQM

TQM can be approached in many ways. Currently organizations use two major approaches to produce TQM models: the technical approach and the management oriented approach (Johnson, 1993). The way a company is approaching TQM has to do with the background that the people who support the programme have. Each approach has its merits.

The **technical approach** focuses on engineering and manufacturing. The technical aspects of quality are covered. A great part of the training has to do with production processes. Analysing techniques and SPC are some of the topics that employees are required to learn. The drawback of the technical approach is that the immediate need and understanding of the concepts, does not include many of the management and non-technical personnel. Therefore they can not understand and commit to the needs of the TQM programme (Johnson, 1993).

The **management-oriented approach** focuses on leadership, team-building, and human relations skills that managers need more, when they try to implement TQM. The drawback of the management-oriented approach is that attention is not payed at the technical aspects of the quality process, and this might result into problems in the actual on-the-job-process improvements.

There are other ways to approach TQM. The **implementation viewpoint** argues that employees need both technical and managerial training to maintain a successful programme. In this approach training is prioritized by the needs of specific groups and is held in order of greatest need (Johnson, 1993).

2.2.3. TQM implementation

According to Oakland (1993) there are two approaches to TQM implementation and the approach that the company will adopt will play an important role in the resistance that TQM will face inside the company. The two approaches that Oakland mentions are the 'blitz' approach and the slow, planned purposeful approach.

In the first one, the organisation is rapidly exposed to a TQM programme, and suddenly changes from the 'business as usual' state to a TQM situation. This approach might lead to a lot of problems since the company has not been prepared for the change occurring and might not know what to do next.

In the second approach the company experiences a gradual change, so that 'business as usual' will become total quality management. This approach anticipates that top management has been convinced and converted, so that it will support the implementation of the TQM programme (Oakland, 1993).

Oakland proposes a seven step approach in order to integrate TQM into the strategy of the business. The steps of this approach are:

Step 1: First one must gain the top management's commitment which is necessary to recognise which are the changes required, which are the company's problems, and then proceed in implementing the changes required. It is important in this step to get the top management to work as a team.

Step 2: Once the top team is committed to the analysis of the changes needed, it can develop a mission statement that will help to define the new process alignment, roles and responsibilities. The mission statement gives a purpose to the organisation. It helps in defining the things that distinguish the organisation and guides it towards the direction of what has to be done. The mission statement has to be short, understandable, communicable, believable and usable.

Step 3: The mission provides a guide for what needs to be done, but it must be supported by measurable objectives that are connected to it. This step helps to translate the mission which sometimes is 'loose' into clear targets. These measurable objectives can also be used later as success measures.

Step 4: The development of the mission is not enough to ensure its implementation. Many companies do not have the skills needed to translate the mission through its Critical Success Factors into the critical processes. Hence they have 'goals' without methods and TQM is not integrated properly into the business. So the Critical Success Factors have to be defined; define the goals that the business must accomplish to achieve the mission, by examination and categorization of the impacts. The Critical Success Factors must be the subgoals which all together will achieve the mission.

Step 5: In this step the critical success factors have to be broken down into the key or critical processes; the processes which describe what actually needs to be done. In order for the change to become entrenched, the critical processes must be identified and the right people must be in place to take responsibility for them, this will be the start of getting the process team organisation up and running.

Step 6: The next step is the breaking down of the critical processes into sub-processes, then into activities and then into tasks and form improvement teams around these. The tasks are performed by individuals, the individual has to understand the task and its position in the hierarchy of the processes. The teams will be concerned with the activities. Once the processes have been analyzed in this way, it should be possible to develop metrics for measuring the performance of the processes, sub-processes, activities and tasks.

Step 7: Change must create a new organisation capable of adapting to a changing environment. In this changing environment one has to learn how to monitor and modify the new behaviour to maintain the change-sensitive environment. There might be some people that will not be able to cope with the new environment even after being given several opportunities. These people, eventually, must be replaced, however difficult this might be. When people will begin to

understand the needs of the new organisation, they will accept the need to replace or move people to other parts of the organisation.

When a company will decide to implement TQM it will find that there are as many TQM models, as there are consultants ready to form a TQM model specific for them. It is known that, there is no one way for Total Quality, that there is no universal model that will work for all companies. As mentioned above the change and the process that must be followed should be gradual. The literature believes that some additional and necessary help to the steps proposed above by Oakland, is:

Create a Steering Committee that will help to implement and oversee the TQM plan; The function of the Committee will be to monitor the progress of the implementation programme, to give support and remove roadblocks as they appear. The Steering Committee should include the top manager -so that it will have direct access to the resources and information from the decision maker (Burr, 1993)-, and have as its members managers, directly responsible for the process being addressed (Wernick, 1992). To be effective the Steering Committee needs to be active and plan well ahead (Dale&Plunkett, 1990).

Provide support to the teams; Team facilitators are important for the team to be effective and therefore a team member have to be trained to fulfil the role. Top management has also to follow the progress of the teams -the nurturing of the team-, support and help them whenever this is possible.

2.2.4. What can go wrong?

Many Total Quality initiatives are coming under criticism for their failure to improve customer satisfaction and business results (Anon.,1992a). A large number of companies fail to achieve significant benefit from their TQM processes. They state that they become too introverted, letting TQM become an end in its own right, and forget to keep a focus on delivering customer satisfaction (Davies, 1993).

Other companies are able to sustain their TQM process, for a short period of time (one or

two years), but then either reach a certain level, or decide to do something else (Hillman 1993). The time taken to reach this level differs from company to company, but usually is the time needed for the easy problems to be solved (Hillman 1993). After this employees are getting tired and discouraged mostly because they can not understand that TQM is a long-term goal and not a quick-fix.

The major problems, in making a successful change, include (Hillman 1993):

- Underestimating the degree of effort and determination required. Sometimes TQM is considered to be something that is done in addition to the normal job. TQM is not a collection of improvement projects, but a wider process of change, and a great effort is needed for this change to occur.
- Failing to recognise the need for consistent leadership. Lack of management commitment is one of the greatest problems faced in a TQM programme. Not only top management should be committed and leading TQM, but everyone in the company has to see this. One has to deal with resistance to change and cynicism, that often exists at the top management level.
- Insufficient communication of why change is necessary, and how it will be achieved. Everyone in the company has to understand the need for change and this can be achieved with efficient communication, and training and education schemes.
- Programmes imposed from the top are "doomed" to fail. Even if top management is convinced of the value of TQM, it has to make TQM real, throughout the company. Roles and responsibilities have to be defined for people at each level (Anon.,1992a).
- Focus on the activities and not the achievements gained. This often happens in the enthusiasm to demonstrate the companies commitment to TQM. Emphasis is put on the activities level (e.g. training, teamworking, implementing quality tools), at the expense of achieving real and measurable improvements. For example, companies measure how many people are been trained and not what difference training makes in performance (Port et al, 1992). Care must be taken that the activities, or the tools used, will not become an end in themselves. Quality efforts have to be linked to the bottom line, but simply implementing quality techniques will not produce benefit

(Port et al, 1992).

- Quality should not be considered as a separate activity, that the quality department has to deal with. The quality department staff are there to offer expertise and information to other employees to solve tangible problems (Anon.,1992a).
- Change of attitude towards TQM when things are getting difficult (Niven, 1993). It is "nice" to pay attention to quality when everything in the company is going well. When business pressures increase, or there are problems in the market, then there is a tendency to go back to the way things used to be done before, which is known (proven) and secure (Hillman 1993).

These problems may stem from (Hillman 1993):

- Not having deep enough thought, about the reasons for implementing TQM.
- Managers have not fully understood the TQM principles, or they are not committed to implementing quality (Anon.,1992a).
- Even if they are committed, they do not know how to start the necessary process for change (Anon.,1992a).
- Not having clearly articulated the vision or mission of the company. Without a shared understanding of company vision or mission and strategy, as its foundation, TQM will be undertaken, without real change taking place (Anon.,1992a).
- Not having measured the start point, so the outcomming changes can not be measured. Measurement of performance factors, help to drive the success of the company. Attention must be paid in the measurement of the right performance indicators; whether they will be indicators of internal operations, or operations that have to do with the company's output (defect rates, delivery times, etc).

In the wrong climate TQM can become an end in itself, rather than a means to an end, and will always be something additional, rather than the way to do what needs to be done.

2.2.5. Quality Awards and BS 5750/ISO 9000 Quality System Series registration

The extend to which quality improvement standards can help organisations, has been

discussed a lot. Companies need to measure their performance against competitors, and against the position where they would like to be. The Malcolm Baldrige Award, the European Quality Award, and the other awards, have each established criteria which can be used to assess progress and tangible results from their quality progress (Davies, 1993). They provide a framework, against which progress and achievement can be mapped. There is no single recipe, for a successful TQM process, but there are some common elements against which progress can be measured, and that is where the self-assessment models of the awards can help.

The **Malcolm Baldrige National Quality Award** was launched on August 20, 1987 (Garvin 1991). Since then, it has received significant press coverage, most of it supporting it (Knotts et al, 1991). It consists of, seven categories -leadership, information and analysis, strategic quality planning, human resource utilization, quality assurance of products and services, quality results, and customer satisfaction-, 1000 points scoring system and a three level judging process (Garvin, 1991). A maximum of two awards may be given annually in each of the three categories: large manufacturers, large service companies and small businesses. The 1991 winners of the Award are proof that a company does not have to be large to be a leader in quality (Kendrick, 1992); none of the winners can be considered a giant and especially Marlow industries of Dallas, which is an electronics company of only 160 employees (see 2.3.1). Two more small companies won in 1992, Granite Rock Co. and Ritz-Carlton Hotel Co (Port et al, 1992).

According to David Garvin, a quality expert, "the Baldrige Award is positioned exactly where it should be - as an agent transforming the U.S.business" (Garvin, 1991). The award is recognised as a way to alter the nation's conscience regarding the benefits and processes necessary to achieve quality (Knotts et al, 1991). There are also critics (Burrows, 1992) that complain, that the award costs too much to apply for, that it can be bought by using high-priced consultants, and that it favours large companies. They also argue that it does not measure actual financial performance. These criticisms contain some truth, but there are examples of companies, who won the award without the help of high-priced consultants, and without being large. The

number of small companies applications is increasing year by year, from 12 in 1988 to 44 in 1992. In total, from 1988 until 1992, small companies applicants were more than the large service ones (148 compared to 69), while they were less, but not with a big difference, than the manufacturing companies applicants, which were 182 (see table 2.1.1). This can be justified by the large number of small companies in the U.S. (Knotts et al, 1991).

Table 2.1. Baldrige Award Applications

Applicants	1988	1989	1990	1991	1992	Total
Manufacturing com.	45	23	45	38	31	182
Service companies	9	6	18	21	15	69
Small companies	12	11	34	47	44	148
Total	66	40	97	106	90	399

Source: S. Knotts et al, "What does the US Business Community Really Think About the Baldrige Award?", Quality Progress, May 1993, pp 49-53.

According to a survey developed to determine what the U.S. business community really thinks about the Baldrige Award, the service and industrial firms, large and small, agree that the Baldrige Award provides the best framework for a Total Quality Management system. They believe that the Award fosters quality awareness, promotes the understanding of the requirements for quality excellence, promotes sharing of information on successful quality strategies, and recognizes U.S. companies which excel in quality achievement and quality management (Knotts et al, 1991). They also believe that, the benefits gained, from using the award criteria for internal assessment, and from participating in the award process, were well worth the resources invested (Knotts et al, 1991).

Oakland (1993), also believes that the Baldrige Award is an excellent framework, which is one of the closest things that exist to an international standard for TQM. According to Oakland, it offers the opportunity to companies to assess themselves, if not to enter for the Baldrige Award, then to self-audit and review, to highlight areas for priority attention, and provides internal and external benchmarking.

In 1992 the **European Foundation for Quality Management** presented its first quality

award. It consists of nine criteria -leadership, people management, policy strategy, resources, processes, people satisfaction, customer satisfaction, impact on society, business results (Anon.,1992c)- which will be used to assess the company's progress towards excellence. The criteria of the model provide a framework for self-appraisal, that is applicable to virtually every business organisation (Anon.,1993a). The EC award assessment model recognizes that *processes* are the means by which a company or organisation harnesses and releases the talents of its *people* to produce *results* (Oakland, 1993). The processes and the people are the enablers which produce results. The criteria are divided in two categories; those that are concerned with what the company has achieved and is achieving are the *Results criteria*, and those that are concerned with how results are being achieved are the *Enablers criteria*.

According to Dr M. Gallagher (Anon.,1993a), EFQM's programme manager for the Quality European Award,
"The European TQM model offers a generic approach to the important factors a company needs to look at, in running a successful business. It is a basis from which an organisation can undertake a critical self-appraisal, and thus, assess its strengths and areas of improvement for each of the key aspects".

The two awards mentioned above have a lot in common. The EC Awards criteria are similar to those of the Baldrige Award, except that the European Award stresses business results, and there is an extra category called "Impact On The Community" (Anon.,1992b). Both awards require internal or self-assessments, which provide an organisation with vital information, in monitoring its progress towards its goals and total quality. The external assessments which will be used in the process of making awards will be based on the self-assessments that are performed as prerequisites for improvement (Oakland, 1993).

Despite the advantages, there are risks associated with the award models (Davies, 1993). There is a real risk, that the model might be treated as an implementation plan, and become a substitute for thought, initiative, and common sense. Over the last few years it has been realised, that standardised packages are not the most successful. The needs of each organisation differ, and this must always be taken into account. The needs of the company and its customers, should be

the ones first considered, and these should be mapped onto the assessment model, in the appropriate areas. Another risk is to pursue the award, because others ask for it, or just for the recognition. The benefits gained in this case will be minimal and will not last long. Another problem arises, because a lot of companies mistake the model for a standard. TQM is not a standard, that if achieved, then the company can sit back and rest. TQM is a process of continuous improvement, and the award models are trying to emphasize that fact (Davies, 1993). If the awards and the standards like BS 5750/ISO 9000 are viewed as "guidance on the scope and scale of an effective total quality process, outlining which fundamental concepts should be considered when applying the TQM principles", then real benefits can come from their well managed applications (Davies, 1993).

With so many standards and awards around -BS 5750, ISO 9000, EN29000, Baldrige, Deming, EFQM, BQA, MCI, IIP- companies do not know which road to follow towards Total Quality (Ashton, 1993). BS 5750, ISO 9000 and all the other procedures will never guarantee product quality; many managers argue (Ashton, 1993) that increasingly, the standards/awards are bureaucratic and too systems-based instead of results-based. It is true that if managers do not manage and management systems do not work, standards, however well researched or thought out, and however much academics go on about them, will always be defective. According to Leighfield (Ashton, 1993), success is down to three words: management, quality, and people and not process, standard and procedures;
"Business growth and quality, results from good management and investing in human resources, training and people. Without those and a visible boss driving the company, you won't get anywhere" (Ashton, 1993).

It has to be remembered that the standards/awards mentioned above are not an either or situation. Recent data suggests that companies are flocking to ISO 9000 and not to the Baldrige Award. The numbers of Baldrige applicants in the USA is declining and those applying for ISO 9000 is increasing: the percentage of companies that applied for ISO 9000 certification rose from 9.2% in 1991 to 23% in 1992, while the number that applied for the Baldrige fell from 5% to 2%

(Burrows, 1992). Equivalent figures for the UK situation were not available. It is worth mentioning that most of the literature articles in the subject are American and the figures given are based on American data. According to C.Reinmann The Baldrige programme director, ISO 9000 is a less demanding quality improvement tool than the Baldrige, and the unification of the European Common Market was an extra reason for the "temporary obsession" with ISO 9000 (Burrows, 1992).

Eventually, each company based on in its own needs and goals, decides on the route that it is going to follow.

2.3. SMALL COMPANIES

2.3.1. Definition of a small company

There are many different definitions of what constitutes a small company. The small companies sector is very heterogenous; there is a great variation in small companies regarding their efficiency, the nature of market, the size of the resources employed, the methods of operation. The definitions used are based sometimes on the physical size of the company, expressed in terms of the number of employees, sales volume, total assets or amount of income, size of premises, size of exports or profits. The definitions based on measures of size expressed in financial terms suffer from disadvantages in times of inflation. Other definitions are based on the legal status, but these definitions suffer from the overlap that occurs with much larger companies in some of the small companies categories.

The different organisations which have tried to define the small business ended up with various definitions.

The Committee of Inquiry on Small Firms (the Bolton Committee) (Bolton, 1971) used eight definitions for the various industry groups, since they recognised that a single definition was not going to be satisfactory to cover industries that were as divergent as manufacturing and services. The conceptual definition given by the committee was: a company legally independent, with a small market share, and owned and managed by the same individual or group of individuals. The last of these characteristics is now open to challenge, both as to generality and relevance (Stanworth & Gray, 1991). While the smallest companies combine ownership and management within the same person, the companies that have grown beyond a very small scale do not fit in that category.

The Committee for Economic Development in the United States used qualitative characteristics to define what a small company is. It has stated that a company has to satisfy at least two of the following four criteria (Megginson et al, 1991):

- "1. Management is independent, since the manager usually owns the firm.
2. Capital is supplied and ownership is held by an individual or a few individuals.

3. The area of operation is primarily local, although the market is not necessarily local.
4. The firm is small in comparison to the largest competitors in its industry."

Another definition used in the U.S.A (Megginson et al, 1991) is the one used by the Small Business Act of 1953, which states that a small business is one that is independently owned and operated, and its not dominated in its own field of operation.

The European Community recognises the fact that the concept of a small company varies from country to country, and from sector to sector. However in terms of the Community's structural funds and lending instruments, a SME (Small and Medium Enterprise) should not have more than 500 employees, net fixed assets not more than 75 mECU, or not more than a third of its capital held by a larger firm (Anon.,1988).

According to the OECD a small firm is defined as one with less than 20 employees and a medium- sized firm as one with between 20 and 99 employees. These definitions are most appropriate to the larger economies and the manufacturing sector, for the services sector a lower cut-off might be necessary (Storey&Johnson, 1991).

For the purposes of this dissertation the writer wishes to define the small company as one with 15-250 employees. Because of the topic researched, a basic formal structure in the company's management is needed and a minimum of 15 employees was considered to be suitable. Companies above 250 employees, on the other hand, might be considered officially small companies, but they are structured very similar to much larger companies.

2.3.2. The importance of small companies in the economy

The Bolton report (Bolton, 1971) which was published in November 1971, by The Committee of Inquiry on Small Firms (the Bolton Committee), was the first attempt of British literature to analyze the small firm sector. Previous to that the small firms literature originated mostly from America. The Bolton report was the beginning of a research revival in the area of small firms (Kati, 1991).

After the Bolton Committee Report interest in the small companies sector started to increase. This change in attitude shows that the small companies sector has been recognised as a key sector in the British Economy. According to recent research on small firms in Britain (Anon.,1990a) "It is no exaggeration to say that the overall health of the economy depends to a large extent on the health of the small firms sector".

This interest is also clear in the change of attitude that colleges and universities have towards small companies (Megginson et al, 1991). Small business management is becoming accepted as an academic discipline. Courses are offered in colleges and universities for small business owners and managers. Students' interest is also increasing (Megginson et al, 1991).

According to the American small business literature (Megginson et al,1991 and Steinhoff&Burgess,1989), small companies are considered to be the heart of the market economy in the U.S.A. Owning and operating a small company is seen as the answer to the "American dream". People take risks, put in the time and effort, and if they succeed, the risks pay off and the rewards can be very satisfying.

U.S. competitiveness depends on small companies. Small and medium companies account for half the total value added by U.S. manufacturing, according to the National Coalition for Advanced Manufacturing. They also produce nearly half of all U.S. exports and employ more than half of all factory workers. Moreover, large manufacturers often rely on smaller suppliers for 50% or more of the value of finished products, from computers to industrial machinery (Port et al, 1992).

2.3.3. The significance of small companies to the economy

The importance of the small companies sector can be also seen through their various contributions in the economy. These contributions are:

Small companies contribute greatly to **employment**, creating new jobs (Megginson et al, 1991), either from their expansion or through the start up of new companies (Steinhoff&Burgess, 1989). According to a survey conducted by the US Small Business Administration, companies

with less than 100 employees generate more than 60% of the total number of new jobs (Megginson et al, 1991). According to research in Massachusetts Institute of Technology, contacted by David Birch (Megginson et al, 1991), while the Fortune 500 companies "eliminated 3.5 million jobs" from 1980 to 1989, a net total of 17.5 million were added to the economy. About two thirds of those new jobs have come from small businesses.

Similar evidence in the UK shows that companies with less than 500 employees increased their share in employment from 57% to 71% over the period 1979-1986 (Bannock, 1990). Similarly, companies employing fewer than 20 people accounted for 36% of employment in 1986, compared with 27% in 1979 (Bannock, 1990 and Anon.,1990a). Something worth mentioning is that the majority of job creation is in the smallest firms, considerably outweighing the contribution of larger firms, despite their much greater share of total employment (Anon.,1991) (see table 2.1).

Table 2.1.: Job generation by company size

	Net job generation (thousand)	As percentage of 1987 employment in size band
1-4	357	29.4
5-9	166	10.7
10-19	92	4.7
20-49	76	5.8
50-99	85	7.4
100-499	123	6.2
500-999	55	9.8
1000-4999	36	3.4
5000-9999	14	2.8
10000+	125	3.7
Total	1.127	7.7

Source: Job generation by size of firm, Robson, Gallagher and Daly, Employment Gazette.

Small companies encourage **innovation and flexibility**. They are often the sources of new ideas, materials processes and services. Large companies are not as flexible as small ones can be. They are usually committed, because of their investments in tools, inventory and personnel, to produce the same product in large quantities over long periods of time in order to benefit from economies of scale. Small companies on the other hand can be flexible and succeed by developing and marketing innovative products and services. They are able to switch their production according to changes in market conditions or according to changes in demand.

Another contribution of small companies, is that they **keep large firms competitive**. They improve the competitive edge of the economy, by maximizing the range of choices available through market provision. They encourage competition, if not in price, then in services, design and quality products, and they prevent the monopolistic control of any industries.

Small companies provide their employees with a greater variety of **learning experiences** in work activities. Workers in a small company have to be able to handle different activities simultaneously, because of the shortage of resources, in contrast to a large company where workers hold more specialized jobs. Also in small companies people are more free to take part in decision making. So small companies train employees to become more efficient, offer them opportunities to develop their skills and talents, and sometimes to develop their leadership potentials. Small companies are used as the training field for employees to become experienced before transferring to larger companies.

Small companies due to their size, are closer to their **customers, suppliers and the community**. They have a more intimate knowledge of their customers' and community's needs and have better relationships with their suppliers. The low prices, which result from mass production and mass marketing, may be attractive, but differences in speciality products, quality, personal service, and an atmosphere of friendliness are in favour of the small companies.

2.3.4. The growth of small companies

The small companies sector experienced a remarkable growth during the 1980's, after a

continuous decline from the mid 1920's until about the late 1960's, which was followed by a slow growth in the 1970's. According to a report for The Small Firms in Britain in the 1990s conducted for the Employment Department (Anon., 1990a), in the decade from the end of 1979 to the end of 1989, the number of companies registered for VAT in the UK rose by 373,000, around 29%. This number is the net increase figure; the new registrations 1,920,000 minus the deregistrations 1,547,000 (see table 2.2).

Table 2.2.: Business Registrations, deregistrations and stocks in the UK:1980-89 (in thousands)

	Stock at start of year	Registrations	Derigestrations	Net change	Per cent of change	Stock at end of year
1980	1289	158	142	16	1.2	1305
1981	1350	152	120	32	2.5	1337
1982	1337	166	145	21	1.6	1357
1983	1357	180	145	35	2.6	1392
1984	1392	182	152	30	2.2	1422
1985	1422	182	163	19	1.3	1441
1986	1441	191	164	27	1.9	1468
1987	1468	209	167	42	2.9	1510
1988	1510	235	170	65	4.3	1575
1989	1575	265	178	87	5.5	1662
1980- 89	1289	1920	1547	373		1662

Source: The 1980s-a decade of growth in enterprise: data from VAT registrations, deregistrations, Michael Daly, Employment Gazette, Nov '90.

The small companies sector in the UK is relatively small compared with those of many other countries. During the 1970s and 1980s, the increase in the number of SMEs and their share in employment seems to have been fairly general among the advanced countries (Stanworth & Gray, 1991). Although international comparisons of statistics on small firms are difficult, according to EC data (Anon., 1990b), there was a net growth in the number of business enterprises in at least six member states between 1983 and 1986, varying from 14.6% in the UK to around 6-7% in Germany, France and Netherlands, and 3% in Italy. The increase in the UK share has been very much greater than elsewhere. After the UK sector's growth during the 1980's

the gap is smaller than it used to be.

The contribution of small companies to economic activity, also varies between countries and remains significantly lower in the UK than elsewhere. In table 2.3. estimates of the contribution of SMEs to GDP are presented (Stanworth & Gray,1991). It can be seen that the small companies share in the UK is half the one in Japan, and around two-thirds of the one in Germany.

Table 2.3.: Share of SMEs in non-primary private sector, selected countries, mid-80s

Countries	Year	Contribution to the GDP
Japan	1982	60
US	1982	50
FRG	1986	46
UK	1986	32

Note: Japan:under 300 employees in manufacturing, under 200 in wholesale distribution, under 50 in retail distribution; US under 500 employees; FRG and UK. turnover less than £30 million, which would correspond to an employment threshold of well under 100 employees.

For these and other reasons these estimates are not closely comparable. On a comparable basis, the US figure would probably be well below FRG, though higher than the UK.

Source: Stanworth and Gray (1991),"Bolton 20 Years On:The Small Firm in the 1990s", P.Chapman Publications Ltd.

2.3.5. The problems of small companies

There are some special problems which affect the performance of small companies, more than the larger ones, and result in limited profitability and growth, or financial failure. Failure rates are more than ten times as high for new small firms as for large well established firms (Storey et al, 1987). They are particularly vulnerable in their early years; many small firms exist only for a very short period. Therefore their first objective must be survival. After that, consolidation is the next crucial step. Hopefully, after that follows development and expansion (Chisnall, 1987). Despite all the problems small companies do survive. According to Bruce Phillips, chief economist for the U.S. Small Business Administration, four out of ten new businesses survive at least the first six years (Megginson et al, 1991). Some reasons for which small business fail are:

- **Lack of capital;** the shortage of capital (under-capitalization) is one of the most serious problems that small business owners face. Without adequate funds the company's manager cannot acquire and maintain facilities, hire and reward capable employees, produce and market a product, in order to run the business successfully (Megginson et al, 1991).

The financial problems of small companies occur at two stages: at the point where the company has to raise the funds to start up, and at the point where growth in sales starts. Many small companies are unaware of the methods used to raise capital, or to present a financial case to potential investors and lenders. They lack the financial advice and information and they are treated with bias from the financial system, especially if they are relatively new or high risk ventures. L.Jacobsen (1986) in an article, notes that John Samuels propounds the idea that the financial system in Britain has been less responsive to the needs of small firms than systems in other European countries (Kati, 1991).

Also, small firms suffer more from lack of long-term finance. They are more dependent on banks for finance than large firms, particularly in the manufacturing industry (Kati, 1991).

-**Poor management;** in small companies the manager finds himself tied up with so many daily problems that he has no time for longer term planning. Unlike the chief executive in a large firm, who can afford to use the services of highly qualified professionals in the various functions of his businesses, the small firm's manager cannot afford to pay for managerial assistance. He has to manage everything, and therefore he needs a wide range of skills; he must be a generalist rather than a specialist (Megginson et al, 1991).

A lot of small firms are managed by their owners. The majority of the owner-managers have either no professional or other formal qualifications, or they are experts with many years of technological expertise behind them, but with no management knowledge (Chisnall, 1987). Only a minority has specific qualifications in management. Most of them run their businesses based on common sense and their experience, and many times these are not enough.

Small businesses are often the continuance of a successful one-man business. In this case small businesses continue to carry the one-man business behaviour. Owner-managers adopt the

one-person management trend and tend to guard their position very jealously. They are not willing to delegate responsibility and authority to their employees. They tend to forget that businesses that are managed by one man are dependent on the skills and experiences of an individual, who after all is only human, and may not be able to bear the increasingly heavy burden that accompanies dynamic growth. Another problem is that many times members of the owner's family that are not capable hold positions of authority.

-Inadequate planning; To successfully manage a small company one needs to have good organization, which comes from good planning, and good planning needs a good sense of vision and business purpose. It is crucial to know where the company wants to go and how to get there, to be able to imagine what the company will look like, after operating for a period of time, to understand the business and its customers need (Steinhoff&Burgess, 1989). In a small company the manager has the advantage of having an intimate knowledge of its customers, and therefore he can react quickly to their demands. Specialization of product/service design and quality in product performance, delivery, and after-sales services is more likely to lead to success, since the small company does not supply mass markets. A carefully planned strategy, emphasising the advantages of the small firm will contribute to a profitable business (Chisnall, 1987).

-The legal status, government regulations, paperwork; small business managers find it difficult to comply with government regulations and the paperwork required. The time, effort, and cost involved in obeying the law, which in many cases is complex and contradictory, adds another burden to small companies problems (Megginson et al, 1991).

-Technological change; small firms were considered to be privileged entities thanks to their inherent flexibility, and their ability to adapt rapidly to the socio-economic conditions of the moment (Kati, 1991). Now they also have to adapt successfully to the technological and industrial changes. But, because of their limited financial and managerial resources, as well as the cost of technological change they find it difficult to keep abreast of technological change. Technological obsolescence, also, poses a great problem for the small firm, which cannot afford

the cost. It is good being among the first using new equipment, but waiting may give an advantage by learning from the mistakes of others, or by the later and better developments.

-Organisational objectives; another problem that small companies face is the clear identification and expression of both broad organisational objectives and the motives behind any change. It is difficult to distinguish the chief executive's personal objectives from the organisational objectives. The communication of the motives underlying the change to the staff and workforce is very important. Small firms have an advantage there, because of the closeness of senior management to the workforce, the absence of extended managerial hierarchies and the greater degree of informality.

- Other problems that small firms face are problems at start-up, in finding premises, during expansion, or when they want to become involved in exports (Kati, 1991).

2.4. TQM IN SMALL COMPANIES

2.4.1. Introduction

TQM programmes have spread during the past years in large manufacturing and services companies. Increasingly the small businesses that supply those big companies have felt the impact of the quality programmes (Barrier, 1992a). Big companies insist that their small suppliers adopt quality programs of their own (Port et al, 1992). The spread of TQM among large companies does not just change how the big companies do business. It changes how everybody who deals with them does business. For small companies TQM is not only a way to improve the quality of its products and services, it may very well be the key for survival (Barrier, 1992a).

In small firms with only a couple of dozen employees, teamwork, empowerment and the other hallmarks of total quality come naturally. They practise TQM in its "native state" (Port et al, 1992). When growth comes, the commitment to quality weakens, internal convenience and efficiency are more important than customer satisfaction, and internal communication breaks down with the increase in the number of employees (Barrier, 1992b). What before came naturally, now has to move towards a formal form of TQM. If the company does not realise that early enough, the growth might continue for some time, but eventually sales will lag, and customer complaints will rise. The company will then be forced to implement a formal TQM programme, if it wants to survive. But now, it will be more painful for the company to recapture the skills that made it big in the first place. It would be much better if it had grown large practising the same kind of TQM principles that it did when it was small (Barrier, 1992b).

2.4.2. Is it working? Examples of companies that have succeeded

TQM in small companies is a necessity today, and there are small companies that have proved that TQM ideas can work just as well for the small as for the large companies. It may work even better (Barrier, 1992a), in the small ones. The thing is that small companies, with

fewer resources and different organisational structures, have to do it differently (Henricks, 1992).

The first small company to win a Baldrige Award, in 1988, was Globe Metallurgical Inc.; a company which produces ferroalloys in Beverly, OH. Globe has a quality improvement process to be emulated, but it took hard times, long hours, and unusual circumstances to put Globe where it is today. The labour problems and a leveraged buy-out that the company experienced were faced by consistent management. During those times employees and managers worked hard together even on the shop floor. Now the 140-employee company runs successfully, implementing a quality programme that focuses on the process, reduces the variation around the process, understands the customer's needs and what is required to meet those needs. It's chief executive, A.C.Sims states that the kinds of saving from quality are unbelievable (Port, et al, 1992).

Still, as TQM cynics will observe, collecting a Baldrige Award is no guarantee of success. Wallace Co. Inc. a Houston based industrial distribution company, after winning the 1990 Baldrige Award, experienced financial problems. The Wallace Co. started its quality effort in 1985, it avoided short-term solutions and opted for a long-term improvement strategy because it believed that companies not involved in the quality movement were not going to last, but things did not go the way they wanted them to go and financial problems arose. To some this failure damaged the image of the Baldrige Award. To others it was a clear message that TQM is not a cure-all for financial difficulties and it can not survive without sound management decisions. Wallace Co. is the living example that the quality movement does not ensure that a company is going to be successful, that there can be external factors that can cause hardship. But according to J.W.Wallace, the former chief executive, there are no regrets concerning their quality crusade; "It's the only reason we are still here" he says (Port et al, 1992).

Marlow Industries, a 160-employee Dallas company, founded in 1973, won the 1991 Baldrige Award. A company, producing thermoelectric coolers, set out to improve a manufacturing and service operation that did not seem to need fixing. It is one of the few companies that joined the quality movement even though it was experiencing a healthy growth,

good market share and good sales. It initiated a structured, yet evolving system of continuous improvement through total quality management, setting ever higher performance standards and challenging itself to exceed ever more demanding customer requirements. Since 1987, when they started their improvement efforts, employee productivity has increased at an average annual rate of 10 percent, the time between new product design and manufactured product has been trimmed, and the cost of scrap rework, and other nonconformance errors has been cut nearly in half. For their customers, these and other gains have translated into products that exceed performance specifications by wider margins, on-time deliveries, extended warranties, and prices that have remained stable or decreased.

Marotta Scientific Controls Inc., a company in Montville NJ, which designs, develops, and manufactures aerospace liquid and gas control systems and components, was the first small company to win the George M.Low Trophy: NASA's Quality and Excellence Award. Its CEO believes that implementing quality is easier in a smaller company because everything is on a smaller scale. According to the National Institute of Standards and Technology, quality programmes seem to take an extra year to implement for each additional layer of management (Port et al, 1992). Therefore small companies can make impressive gains in a short time.

Other examples of small companies that are implementing quality programmes with success are the examples of Den-Con Tool Company Inc., and Steven's Point Brewery Inc. Den-Con is a company in Oklahoma City with 13 employees, which manufactures oil-drilling equipment. It started its quality programme with a strong bias in favour of prevention, trying to build a reputation for high quality products, avoiding to embrace all TQM practices due to the small employee number in the company. Steven's Point Brewery Inc, is an over a century old brewery which has implemented a quality programme in order to face its various problems, focusing first on cross-training employees to reduce the company's workforce and lower its costs, without sacrificing quality or capacity. Both companies are designated as 1992 Blue chip enterprises (Barrier, 1992a).

For all those companies mentioned above TQM and continuous improvement are not

programmes - they are a way of doing business. The goals of these companies were not the awards and recognition, they were long-term plans for process improvement and customer satisfaction (Axland, 1992). They are proof that a company does not have to be large to succeed in TQM and they are not the only ones. A lesson that can be learned from the examples of the above companies is that quality improvement can be an excellent management strategy for every business but it is not a panacea or a guarantee to 100% market share (Axland, 1992).

The interest of small companies in TQM is constantly increasing. Small companies are getting more and more involved in the quality movement. As mentioned in paragraph 2.1.5. the number of small companies in the USA that applied for the Baldrige Award increased from 18.2% of entries in 1988 to 48.9% of entries in 1992 (Knotts et al, 1993), (Port et al, 1992). Evidence for UK companies are not available.

2.4.3. What are the problems? What are the benefits?

There are a lot of problems that influence the small companies more than the large ones in trying to implement a TQM programme:

Small companies get more easily discouraged when they don't see an immediate return on their investment. The time, energy and funds invested in a TQM programme are quite significant for a small company (Axland, 1992). Globe Metallurgical Inc., the 1988 winner of Baldrige Award, disagree, they have experienced an immediate financial return. The improvements that they have focused on - which were in their process, raw materials and gathering customer requirements - resulted in increased revenues, greater market share and cost reductions (Axland, 1992). In general small companies can not afford massive investments, for example in educational TQM understanding (Henricks, 1992). A large company can wait for a year or two in the educational mode without having any tangible results, but a small company has to invest its resources in areas that not only show the most need for improvement, but also promise to give the quickest payoffs (Henricks, 1992), because small companies have to face the cash flow problems that small companies often experience.

According to a TQM principle the company does not lay off people when their jobs become superfluous; they are simply retrained and work is found for them somewhere else in the company (Henricks, 1992). This may be easy and work in a big company but not in a small one. The small company has to interpret this part of TQM flexibly. It might have to lay off some employees, but this doesn't have to be a negative experience; notifying employees in advance that reductions are necessary and giving them enough time to find other jobs may make the problems a lot easier (Henricks, 1992). The question is whether lay-offs are still contrary to TQM principles. The literature is not clear on this point; and lay-offs are a problem that often companies can not avoid.

Another problem mentioned in the bibliography -although it is not very clear if it is a problem or not- is that, implementing TQM successfully, attracts public attention and creates the obligation to the winners to share their knowledge through speeches, plant tours, or even seminars. Top managers from big companies may be able to afford time to travel away from their companies, but a small firm manager can not afford to spend much time away from the job "spreading the gospel" (Henricks, 1992), because a lot of jobs may depend on him in the company. If the CEO and top management do not spend enough time running the company, the small company might face serious problems (the example of Wallace Co; it granted so many of the subsequent flood of requests for help that its own business suffered) (Port et al, 1992). According to Raymond Marlow, the CEO of Marlow Co., the way to prune down the number of talks you are asked to do, is to charge for them. It is very difficult though to turn down local small companies that request information (Henricks, 1992).

Gains for small companies, in addition to the ones that every company captures when implementing TQM, are the following:

With quality improvement small companies experience one particular advancement: the elimination of fear (Axland, 1992). In general fear of change is more evident in a small company. People are worried about speaking up in meetings for fear that they might get scolded for disagreeing or because they do not have the confidence to do it. Small companies resist change

more, because of the uncertainty that the change brings. A successful TQM programme reduces the fear of change, expressing opinions, taking initiatives and making decisions and encourages employee interest and participation.

2.4.4. The differences in implementing TQM in small and large companies

Small companies have advantages over large companies when implementing quality initiatives (Axland, 1992 and Port et al, 1992).

In small companies workers tend to wear several hats (Axland, 1992); there are not many resources, so "companies have to do more with less". Therefore in small companies cross-functional training is a natural tendency, since there are also fewer layers of management and staff (Axland, 1992). There is another advantage; with fewer people to mobilize and fewer staff to train, change can come about more quickly, because it is easier to get all the groups together to initiate the change (Axland, 1992). In addition small companies can make decisions quickly because there are fewer layers of management and there is not any bureaucracy.

It is easier for a small company to implement the quality principles because the CEO can be visible to the employees daily and can emphasize the importance of the quality system. In a large company that might not be possible.

It is easier to implement TQM in a small company because everything is on a smaller scale and communication is easier. A lot of classical TQM is orientated towards breaking down the hierarchies and divisional barriers to communication, problems that are less likely to exist in a small company. An effort does not have to be made to communicate, because everyone is in contact with each other, everybody can be gathered in a room at the same time to discuss TQM progress and initiatives. There is no need for communication campaigns or quality newsletters, which are necessary in larger companies.

Small companies have an advantage in achieving customer satisfaction, because it is easier for a small company to know its customers. Small companies (up to 20 employees) are in constant contact with their customers and with one another and so they practice of TQM without

realizing it. When the company starts to grow that contact withers, and companies must adopt TQM formally to learn how to do again what it used to do naturally (Barrier, 1992a) (see also 2.4.1.).

The sole disadvantage mentioned was financial constraints, and the lack of time and resources. But this disadvantage is not enough to keep any company from successfully implementing quality (Axland, 1992). Help from larger customers or suppliers can be very useful in overcoming the financial problems (financial constraints for training programmes, for starting up, etc (Henricks, 1992). Another thing that can be done is to tailor the programme to the company's special needs, based on what it can afford. In addition one has to consider that in the long term TQM saves money; according to an estimate, four dollars are saved for every one dollar invested (Anon., 1993c).

2.4.5. The help needed by small companies

The kinds of help that small companies need is one of the topics that are investigated in the survey. The kinds of help that the literature proposes are:

Large companies, that have a TQM programme, are often willing to help smaller companies with literature, books or whatever a small company needs to get started. The reason is that the small companies are the suppliers of the large companies, and it is in the large company's best interest to help their suppliers improve their products (Axland, 1992). Big business allies, help small companies with their quality efforts, by giving them access to their in-house resources (Axland, 1992). In training, for example large companies allies can help, with free training courses, seminars and books, videos, even offering consultancy.

Benchmarking -copying the so-called best practices of companies that excel at a given business process or function- might be useful for small companies that do not have the resources or time to develop a lot of initiatives (Axland, 1992). Benchmarking can help small companies copy big companies practices, but it will not improve performance unless a company already has a comprehensive quality system. If a company does not have a quality oriented infrastructure in

place and has not trained its employees in quality principles, trying to copy the best of the best will just disrupt the operations (Port et al, 1992). The caution for small companies is not to go too far too fast; according to the American Quality Foundation, while benchmarking produces big paybacks for the companies at a high level of quality, it can hurt companies new to TQM (Port et al, 1992).

There are several cases (Axland, 1992) where a group of small companies gather together to study quality. This was the way that Marlow Industries approached TQM (Axland, 1992), with the help of Texas Quality Consortium.

The Awards can be a great help. Many companies (Axland, 1992), stated that the awards criteria can become a corporate management guide (see also 2.2.5).

Consulting firms that specialise in TQM are able to assist with training and on-the-job support of the TQM implementation process (Wernick, 1991). But consultants might be a significant expense for a small company.

To reduce the costs of the consulting companies, small companies can turn to universities and colleges. University extension programmes are a good idea for small companies. It is the cheapest way to face training programmes costs. For a low price many universities design programmes specifically for a company or the employees of the company can take part in the programmes that the universities already offer (Petrini, 1991).

Small companies can pursue training through government programmes. There are programmes which receive government funding; the company pays a percentage of the cost and the government pays the rest (for example the Halton Board of Education's WET, Ontario Ministry of Education) (Petrini, 1991).

2.4.6. The critical factors in implementing TQM in a small company

There are three things that are the most important for a company to achieve quality improvements: persistence, patience, and reward. Since implementing quality is a long-term process, any company needs the persistence to stick with it and lead the way. For the same reason

patience is critical. TQM is a cultural change and it takes time to do it. While the transition is taking place, and it might take a couple of years, top management must display "consistency of purpose", things must keep on moving (Barrier, 1992a). A reward system for the employees is also critical. All the above are important to all companies but even more important for a small one, since due to the nature of small companies, persistence and patience on a TQM programme is harder to be achieved; limited resources and the experience of financial, cash flow and daily problems are more likely to appear in smaller companies and diverse their attention.

In more detail the things that need special attention when implementing a TQM programme in a small company are:

Top management commitment.. An unreserved committed and visible leader is critical to a successful quality improvement in a small company. Because of the company's size, the management's beliefs are easy to see. There is no bureaucracy in place. It is easier for the CEO to lead the TQM effort and influence the employees attitude, because he is closer to them; he can go around and transfer his enthusiasm to everybody (Barrier, 1992a).

The principles of total involvement and effective communication channels between employees and management are very important to all companies, small and large, but, as mentioned above in 2.3.3., they are easier to implement in a small company. It is of tremendous importance to keep everyone involved in the quality effort and also keep them aware of what the company is doing, its objectives and its progress (Axland, 1992).

The customer-orientation of the company is very important for a small company too. As mentioned above in 2.3.3. this is also easier for a small company that has better knowledge of its customers.

Every employee must receive basic training in TQM principles, team building, process improvement, problem solving and quality tools, and the employees that are going to produce or use charts and analysis tools should receive in-depth training (Axland, 1992). Also it is important for employees to learn about the customers and their needs (Axland, 1992). One way to achieve this is to bring in contact the employees with the customers (Axland, 1992). In a small company,

everyone can be used for training; at every level everyone trains someone else (Petrini, 1991). Senior management should be formally trained and should be involved in every day training, when this is possible (Petrini, 1991). In this way they make clear that they are committed to TQM, and the company can economise in consultant expenses. In a small company training is very important because people are important; developing and giving employees opportunities is a key to success (Petrini, 1991).

The importance of setting up quality measures and measurement is also significant in a small company. Attention should be paid to avoid great measurement of irrelevant things. Many times the approximate measurements of exactly the right things is better (Barrier, 1992a), and in a small company where the resources are limited even more important. According to N.Jenning, the quality director of Globe Metallurgical Inc., "Quality measures do not have to be elaborate measures. But focus on the meat of the improvement, not the number. If you do that then the number will improve" (Axland, 1992). Others say that things that can't be measured, can't be managed (Axland, 1992) or that measurement helps something improve (Barrier, 1992a).

According to Globe Metallurgical Inc. managers what gets rewarded gets done, and profit sharing is the single most important reward (Axland, 1992). Sharing with the employees, a percentage of the profits, makes them feel partners (Petrini, 1991). This is even easier to achieve in a small company where the environment is friendlier and everybody know's each other. Other advantages of profit sharing are the elimination of absenteeism, the improvement of employees skills and level of participation (Petrini, 1991).

As mentioned before, small company should tailor a programme to its own special needs, based on what it can afford. Each company must create its own way and work at a pace it can afford (Axland, 1992). Although the majority of quality consultants say that TQM must be implemented all at once throughout every department in the entire company, small companies must be careful not to over-commit in the early face of enthusiasm (Henricks, 1992). The philosophical change must be total but the transition to a quality system can come in stages. The process is the same but the rate at which you put it into force is greatly affected by the resources.

The best way for a small company to implement TQM is to take it one step at a time (Henricks, 1992). They should conserve their resources and pick to implement TQM in one or a few areas where they think it would be inexpensive and cost-effective (Henricks, 1992). Some companies are too small for implementing things like teamwork, or employee empowerment, the numbers just do not allow them to. If this is the case then they should not. The small firm that is making a successful transition to conscious TQM must focus on the right details at the right time (Barrier, 1992b).

CHAPTER 3: RESEARCH METHODOLOGY

3.1. INTRODUCTION

In Chapter 3 the literature findings on the sample surveys and the mailed questionnaires will be presented. The reason for the preference of a mailed questionnaire in the current survey will be self - evident from the mailed questionnaire advantages that will be presented below.

3.2. RESEARCH METHODOLOGY: GENERAL

3.2.1. Sample Surveys

Sample surveys are nowadays widely accepted as a means of providing statistical data on an extensive range of subjects (Kalton, 1983). Numerous surveys have been conducted to develop test and refine research hypotheses in such disciplines as sociology, social psychology, demography, political science, economics, education, and public health (Kalton, 1983).

The design of a survey involves many interrelated decisions on such factors as the mode of data collection (whether by face to face interview, telephone interview, or self completion form), the framing of the questions to be asked, and the method of processing data, as well as the sample design (Kalton, 1983). One of the first steps is to define the population to be studied. The term population is used in the technical sense of the totality of the elements under study, where the elements are the units of analysis. In this case the elements are the small companies. The population definition needs to be precisely and carefully specified according to the survey objectives, because the results will depend on the definition adopted (Kalton, 1983). Once the population has been defined, the question of taking a sample from it can be addressed. To collect data from only a part of the population, and not a complete enumeration of all its elements, is clearly less costly and providing the estimates are sufficiently precise, sampling is thus more economic (Kalton, 1983). A sample inquiry can also be conducted and processed more speedily, leading to more timely reporting (Kalton, 1983). Furthermore, by concentrating resources on only one part of the population, the quality of the data collection may be superior to that of a complete enumeration (Kalton, 1983). As a result a sample survey may in fact produce more accurate results (Kalton, 1983).

3.2.2. Sample Selection

This part of sample design is concerned with how to select the part of the population to be included in the survey. A basic distinction to be made is whether the sample is selected by a probability mechanism or not. With a probability sample, each element has a known, non-zero chance of being included in the sample. Consequently selection biases are avoided, and statistical theory can be used to derive properties of the survey estimators. Non-probability sampling covers a variety of procedures, including the use of volunteers and the purposive choice of elements for the sample, on the grounds that they are representative of the population. The weakness of all non-probability sampling is its subjectivity. A sample of volunteers or a representative sample chosen by an expert can be assessed only by subjective evaluation, not by assumption-free statistical methods (Kalton, 1983).

The selection of the companies used as a sample, in this questionnaire survey, was by a non-probability sampling. It was agreed that the survey would take place in Trafford Park, because it was easy to get access to the companies there. Trafford Park has been a major business location for almost a hundred years. Now it is starting to gain a new lease of life thanks to major investment by Trafford Park Development Corporation, which was established in February 1987 to secure the physical and economic regeneration of the Trafford Park Urban Development area.

The companies were all selected from the "Trafford Park & Salford Quays Business Directory". The first section of the Directory had the companies listed in alphabetical order. Additional information in the Directory included full postal address, telephone number, fax number, telex number, description of product or service, enquiry contact and size of company - S: for companies with less than 50 employees, M: for companies with 50 to 150 employees, and L: for companies with over 150 employees. The second section in the Directory classified the companies according to the Standard Industrial Classification, and had the same additional information. The companies' industrial classification did not play an important role in the current survey; companies from all the industrial sectors were suitable, therefore the first section of the Directory was chosen for the companies' selection. The questionnaire was mailed to all

companies with code M, which referred to companies with 50 to 150 employees. To increase the number of the sample, a random selection of companies with code S, which referred to companies with less than 50 employees, was added. Trafford Park has approximately 1300 companies, therefore it was agreed that a sample greater than 10% of the population should be satisfactory. The questionnaire (see Appendix A) eventually was mailed to 168 companies. Eight of them were returned because the companies had "gone away", so the final sample consisted of **160** companies.

3.2.3. Questionnaire Design

Most social surveys use a questionnaire of some kind (Moser & Kalton, 1985). The framing and arrangement of the questions is one of the key planning tasks. Researchers depend on experience, common sense and certain general principles to aid them, since there is no theoretical guidance in the same sense as in sampling decisions. In a questionnaire, decisions should be taken, despite the non-theoretical basis, on the scope of it, its layout and printing, the definitions and instructions to go with it, the wording and order of the questions (Moser & Kalton, 1985). The surveys that are conducted by a mail questionnaire have several problems. The major difficulty is securing an adequate response. Mail questionnaires are cheaper to send out than interviewers, but the saving in the cost coefficient has to be great enough to justify the acceptance of a lower response rate. In the case of this dissertation's survey, it was justified, because the available funds and time were limited. A big sample was necessary in order to draw conclusions about the beliefs of management, and interviews, due to financial and especially time constraints, was not an appropriate method; interviews cost more and are more time consuming.

The advantages and limitations of mail questionnaires reinforced the decision to use a mail questionnaire in the current survey. As mentioned above one of the advantages is their low cost compared to the cost of the other methods. Others are (Moser & Kalton, 1985):

1. A mail questionnaire can be applied in a widely spread sample, of a population.

2. At first sight it can be considered a particularly quick method. It certainly takes little time to send out the questionnaires and the bulk of the returns will probably be received within two weeks, but time must be allowed for late returns and responses to follow-up attempts. Usually a period of one month or more is needed before beginning of the final analysis.
3. Mail questionnaires avoid many interviewers' errors and may result in more accurate information, since the respondent has more time to give an answer.
4. Respondents may answer more willingly and accurately a questionnaire question when they don't have to be face to face with the interviewer.

Apart from the main problem of a non-response, which may cause a serious bias, there are also some other limitations for mail questionnaires (Moser & Kalton, 1985):

1. The method can be considered only when the questions are straightforward and sufficiently simple.
2. The answers have to be accepted as final, especially when the survey is anonymous.
3. They are not appropriate where the answers have to be spontaneous, when the respondent should not be influenced by others when answering, or when the objective is to test someone's knowledge.
4. The fact that the respondent can read all the questions before answering them, can result in them not treating the questions independently.
5. The researcher can never be sure that the person who completes the questionnaire is the right person, even when it is stated who has to be the one who responds.
6. It is not possible to supplement the respondent's answers with observational data.
7. The questions are more likely to be misunderstood.

The main objective of this questionnaire was to investigate the beliefs of management about TQM. A mailed questionnaire was used to collect the data relevant to the subject of study, because it was considered the best way to gather quickly and cheaply a great deal of information. The disadvantages mentioned above were considered not very important for the purpose of this

dissertation. An effort was also made to avoid or limit them wherever that was possible.

The questionnaire was addressed to both companies that are implementing TQM at the present time and those who are not implementing TQM. That was made specific because the beliefs that managers who are not implementing TQM in their companies would be very useful, especially if conclusions could be drawn from their answers about their reasons for not implementing TQM.

The questionnaire format was a fixed one. Fixed questionnaires have greater response rates; it is easier and quicker to process, classify and quantify the results, and they are less prone to researchers embellishment (Moser & Kalton, 1985). Despite these advantages a lot of critics have said that it is a negative practice to suggest answers to the respondents (Converse & Presser, 1986). This way all respondents have a standard frame to refer to, they are forced into categories that may not fit their experience, and the same response by different people may not mean the same thing. But according to Moser and Kalton (1985), in Likert scaling the respondent is not asked to decide just whether he agrees or disagrees with an item, but rather to choose between several response categories, usually five, indicating various strengths of agreement and disagreement. The categories are assigned scores and the respondent's attitude is measured by his total score, which is the sum of the scores of the categories he has endorsed for each of the items.

In this questionnaire a question is posed and then several options which answer the question are given. The respondents are asked to rate the options in a scale from one to six (the scale was made from 1 to six to avoid a middle score) according to the importance that the specific option has (Likert scales). Although suggestion takes place, the questions allow the respondent to decide on the extent to which an issue occurs or is important. The reason for adopting this specific format was that it would be easier, quicker and more convenient for the respondents to have to tick their answers instead of having to answer in free context. It would also be easier for the researcher to process the data.

It is important to recognize that, if a questionnaire requires more than a few words of writing, it probably cannot be conducted by mail. Some kinds of open-ended questions can be

asked by mail, for example questions that need a short answer (e.x. questions 11, 13, 14, 15). Questions that require a substantial amount of writing to answer are likely to appear difficult, time-consuming, and potentially embarrassing (Lockhart, 1984). Many respondents will be concerned about making spelling and grammatical errors as well as about their ability to express themselves. The easiest way to avoid such difficulties is not to answer the questionnaire. It is also more difficult to develop generalisations about responses that are all worded differently.

Managers cannot afford to lose time, especially small companies' managers, so the questionnaire had to be one that could be completed in as less time as possible. An effort was made to keep the document as short as possible, as it is known that the length of it influences the response rate (Moser & Kalton, 1985), "there must be a limit to the length of the questionnaire, if a satisfactory response rate is to be achieved". Despite the effort, the questionnaire finally produced was a 5-page double-sided questionnaire. It was decided that it was important to include in the questionnaire all the questions to which we needed answers. The completion time, which was kept to a minimum, (10-15 minutes) using the format mentioned above, helped a great deal to overcome the problems that a lengthy questionnaire might cause.

It is known that misunderstandings of messages and of survey questions is likely to occur and does occur (Belson, 1981). In a mailed questionnaire survey, where the researcher is not present to clarify his questions by giving explanations or examples, it is particularly important to pay attention in the questions design. Overall attention should be paid to detail. There are some general guidelines: According to Cantril and Fried (1944) quoted by Belson (1981), questions that are vague to permit precise answers, or are obscure in meaning, or involve technical or unfamiliar words are more likely to be misunderstood. According to Belson (1981), instances of two questions presented as one, questions in which the alternatives overlap, questions that are too long, questions which contain a lot of meaningful words in a short space, questions which contain multiple ideas or subjects, questions which contain difficult or unfamiliar words, and questions which include one or more instructions to the respondent, are likely to cause problems in understanding and answering them. All the above were kept in mind when designing the

questions of the current survey's questionnaire. The questions were as clear and brief as possible, and TQM terms that might confuse or be unfamiliar to the respondents were avoided. Where there was a doubt that a question was posing more than one points, the question was separated into different questions (for example questions 8 and 9). An effort was also made to avoid questions that might be considered confidential or questions that the respondents would be reluctant to talk honestly and fully about (Bradburn & Sudman, 1981).

The timing of the survey was not very favourable, because of increased personnel absences during the summer. But since this survey would form the basis of an MSc dissertation, there was no flexibility in its timing. However, an effort was made to send out the questionnaires as early as possible (before July-August), and more time was left for the respondents to answer back (three weeks instead of two weeks which is the normal practice).

According to Moser and Kalton (1985), a covering letter needs to be sent out with the questionnaire to take the place of the interview opening, and try to overcome any prejudice the respondent may have against surveys. In the current survey the covering letter (see Appendix A) was sent together with the questionnaire explaining why and by whom the survey was being undertaken, the objectives of the work to be done with the data gathered, the area of interest (small companies sector), how the addressee came to be selected, and that the survey was carried out with the cooperation of the Trafford Park Development Corporation. Because it was difficult to address personally every covering letter, the letters used the impersonal approach "Dear Sir/Madam" but the envelopes were addressed to the contact person given in the company's address or to the company's general manager. Research on the method of salutation suggests that it does not matter whether the letter begins with a personal greeting or an impersonal one (Moser & Kalton, 1985).

The general manager/contact person of the company was asked to complete the questionnaire or have the person with the broadest responsibility for quality to do so. There is evidence that if the respondents have knowledge of the issue, the response rate is higher (Forsgren, 1989). It has also been found that the less educated, those in lower occupational

categories and those uninterested in the subject of the survey have higher than average rates of non-response (Moser & Kalton, 1985).

The respondents were asked to return the questionnaire in the addressed envelope provided by a certain date. In this way we wanted to make sure that if the response rate was not satisfactory, there would be enough time for follow up actions. A telephone contact or a short reminder letter and an additional questionnaire were considered as possible follow up actions. Eventually, none of the above actions were needed, since the response rate was satisfactory.

As an incentive for the respondents, a report with the results of the survey conducted was offered to the companies that wanted one. It was obvious that the incentive offered was an elementary one. This was another reason for not expecting a high response rate. It was hoped that the increasing interest in the area of TQM, especially in the small companies sector, would help to overcome this problem.

It was promised that the responses would be kept anonymous and confidential, the name of the company was not important, although it was known that this would cause problems with the possible need for follow-up actions (not even a serial number was used for the identification of the questionnaires). Questions referring to the economic sector in which the companies mainly operated, the number of their employees, the years established on their current site and the respondents job title were considered to be important and were asked in order to classify the companies in categories.

3.2.4. Structure of the questionnaire

The questionnaire consisted of 16 questions. The first four referred to information about the company, and the final one was relevant to the feedback that the companies were offered. There were questions investigating their beliefs about TQM and had to do with:

- a) the definition of what they believe TQM is,
- b) the activities involved in a TQM programme,
- c) the benefits expected from TQM,

- d)the kind of help that small companies need in implementing TQM
- e)the TQM programme that they had, if they had one
- f)the company commitment to TQM, and
- g)BS 5750/ISO 9000 accreditation.

There were also some questions that had to do with the performance of the small companies, and were referring to:

- a)the indicators of performance used in the company,
- b)how easily measured were the given list of indicators of performance,
- c)the factors influencing the performance of small companies

There was also one question on whether the companies had heard about the Trafford Park Quality and Performance Forum.

Consultation with others on the content and structure of the questionnaire before using it, is considered to be very important (Converse & Presser, 1986). So when the questionnaire was completed, the opinion of academics and colleagues was asked so that corrections could be made in the content and structure of the questionnaire. Most of the comments were about the length of the questionnaire and about its format. They said that the questionnaire was very long and that the specific format, that was giving the respondents ready choices, might result in them answering the questions without understanding their meaning. The comments were taken into consideration, but for the reasons mentioned above and the positive previous experience with questionnaires of similar format and length, it was decided that no significant changes would be made, although some wording was altered for clarification.

From the 160 companies who received the questionnaire, 59 replied, and 53 of these responses were considered to be usable. Therefore the survey's overall rate of response was 33.12% (53/160), and it is considered to be a very satisfactory one. The response rate expected was 20-25% (Hodgkinson, 1990). It might seem to be a low figure, but it should be noted that the incentives offered were elementary and that no other actions had taken place in order to increase the response rate. The high response rate can be considered as an indication of the continuously

increasing interest that managers show in TQM, especially in small companies. According to Moser and Kalton (1985), the response rate is correlated with/ the interest in the subject of the survey. Filling in a questionnaire takes time and trouble and it is more likely for someone to give both if he is interested in the content of the questionnaire.

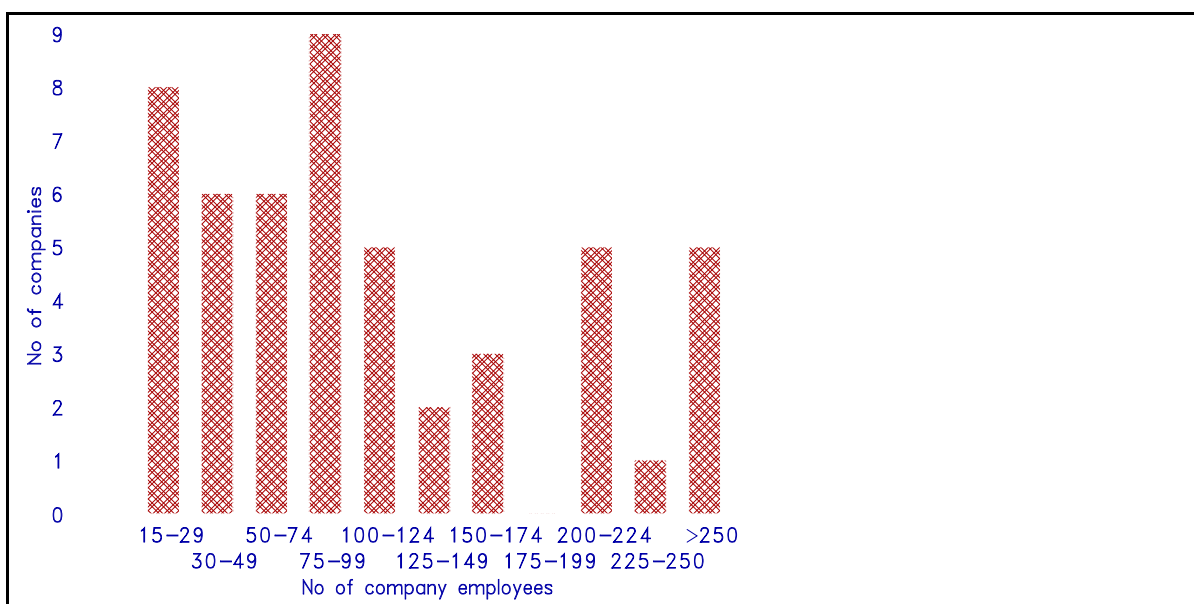
CHAPTER 4: RESULTS

4.1. RESPONSE RATES AND DISTRIBUTION OF THE SURVEY SAMPLE

In Chapter 4 the results of the questionnaire survey will be presented. 59 companies responded to the survey. One of them can not be used because the number of employees in the company is not clearly stated, the rest (58) were completed according to the guidance given, and were considered to be usable. The responses received were from companies with 15 to 1000 employees. This happened because the selection of the companies were made through a catalogue, and probably there were some inaccuracies in the catalogue.

So, out of the 58 usable replies, 45 replies (77.58%) were from companies with 15-250 employees, 5 companies (8.62%) were classified as large companies because they had from 250 to 1000 employees, and 8 companies (13.79%) formed a special category (referred to as SCC in the reporting of the results). Although they had the right number of employees, they could not be considered as small independent companies, because they were local divisions of large companies. It is worth mentioning that there might be more companies from the small companies category that belong in the special category. The questionnaire did not have a question concerning the ownership status of the companies, and the companies which stated that they were a part of a larger organisation, national or international, did so of their own will. It was decided that the "large" companies were not going to be used in the data analysis process.

In the graph below, the distribution of the small companies (SC) together with the "large" companies is presented, according to the number of company employees.



Graph 4.1: Number of companies in each size classification

As can be seen in the graph above there are not any companies in the sample with 175-199 employees. Also the number of companies with 125-149 and 225-250 employees is relatively small. Looking at the distribution of the companies according to economic sector and size (see table 4.1), it could be said that the survey sample is well distributed.

Table 4.1: Small companies' distribution according to economic sector and size

Size	Manuf. Comp.	Retail Comp.	Constr. Comp.	Engin. Comp.	Transp. Comp.	Comp. Comp.	Chem. Comp	Hotels Cater.
15-29	3	-	3	1	-	1	-	-
30-49	1	2	-	1	1	1	-	-
50-74	1	1	-	1	1	-	2	-
75-99	3	4	-	1	1	-	-	-
100-124	2	2	-	-	-	-	-	1
125-149	-	1	-	1	-	-	-	-
150-174	1	-	1	-	1	-	-	-
175-199	-	-	-	-	-	-	-	-
200-224	-	1	2	-	-	1	-	1
225-249	1	-	-	-	-	-	-	-

The remainder of the chapter reports the results of the survey under a series of headings summarising the main themes investigated. In all tables the results are presented in ranked order for the SC, because they were the largest group and the SCC for comparison.

4.2. RESPONDENTS JOB TITLES

The respondents job titles varied from Managing Director to Company Secretary. The majority of the respondents were Quality Managers (34.1%), some were the Managing Directors (22.8%), or Operations Managers (9.1%) (for greater detail see Appendix II).

4.3 ECONOMIC SECTOR

Most of the companies that replied belong to the Retail and Distribution sector (25%) or the Manufacturing sector (25%). Others were Construction companies (13.6%), Engineering companies (11.4%), Transport and Communication companies (9.1%).

4.4. NUMBER OF YEARS ESTABLISHED IN CURRENT SITE

31.1% of the companies in the sample had been established on their current site for 5 or less years. 22.2% of the companies had been established for 6-9 years. Another 11.1% had been on their current site for 10 to 19 years, 17.8% had 20 to 49 years on the same site, and 11.3% had been on their site for 50 to 99 years. There were also 6.8% of companies that had been on their current site for more than 100 years.

4.5. DEFINITION OF TQM

In this question the managers were asked to indicate the importance of a list of factors in describing what TQM is. The results are given in the table below in ranked order:

Table 4.2.: Factors describing what Total Quality Management is

Factors describing what TQM is.	Mean Score on 1-6 Scale where 1=Not Important
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(in ranked order for small companies)	6=Very Important	
	SC	SCC
1st. Management Commitment/leadership	5.91	5.71-3rd
2nd. External Customer Satisfaction	5.80	6.00-1st
3rd. Commitment to continuous improvement	5.69	5.71-3rd
4th. "Do it right the first time"	5.69	5.71-3rd
5th. Quality is everybody's job	5.64	5.86-2nd
6th. Employee involvement/commitment	5.58	5.71-3rd
Quality of product/service	5.58	5.43-4th
7th. Quality of delivery	5.49	5.43-4th
8th. Quality of administration	5.23	5.29-5th
9th. Partnership between customers-company	5.16	5.43-4th
Partnership between company-suppliers	5.16	5.14-6th
Internal customer satisfaction	5.16	5.43-4th
10th. "Zero defects"	5.12	5.14-6th
11th. Team Activities	4.80	5.29-5th
12th. Quality of working environment	4.71	4.86-7th

As can be seen in the table above the SC managers considered as the most important factor in describing what TQM is, the management's commitment and leadership. They also considered very important the external customer's satisfaction factor, and rated it higher than the factor indicating the internal customer's satisfaction (2nd vs 9th).

The SCC considered as the most important factor in describing TQM the satisfaction of the external customer. The SCC also considered significantly less important the internal customer's satisfaction (1st vs 4th) but the difference in importance was not as big in the SC category.

The factors presenting the importance of the partnership between the company and its suppliers in TQM, and the importance of the partnership between the company and its customers, were not considered very important. The customers-company partnership is considered to be more important than the supplier-company partnership both in the SC and the SCC by a small difference. Companies consider more important the relationships with fklfhg

their customers. The same conclusion can be drawn in question 12 of the questionnaire, where the companies are asked to grade the importance of the help that suppliers or customers can offer. Once more, the customers help is considered to be more important (see Question 12, page 9) than the suppliers help in the implementation of TQM.

As the least important factor, by both categories, is concerned the quality of the working environment. The "team activities" factor was also considered as one of the least important by the SC, although the SCC placed it 5th in the order of importance.

4.6. TQM ACTIVITIES

In this question managers were asked about the importance of the activities included in a TQM programme. The results of their answers are presented in the table below in ranked order:

Table 4.3.: Activities included in a TQM programme

Activities included in a TQM programme. (in ranked order for small companies)	Mean Score on 1-6 Scale where 1=Not Important 6=Very Important	
	SC	SCC
1st. Ensuring top management commitment	5.80	5.86-1st
2nd. Establishing effective communication channels	5.40	5.57-3rd
3rd. Integrating TQM within the business strategy	5.38	5.71-2nd
4th. Starting a training/education programme	5.27	5.71-2nd
5th. Establishing teamwork	5.24	5.43-4th
6th. Developing relationships with customers	5.16	5.57-3rd
7th. Developing a vision and mission statement	5.09	5.29-5th
8th. Developing relationships with suppliers	5.04	5.00-6th
9th. Using quality management tools and techniques	4.71	4.71-8th
10th. Establishing a TQM Steering Committee	4.69	5.00-6th
Obtaining BS 5750/ISO 9000 accreditation	4.69	4.29-9th
11th. Establishing a reward mechanism for empl.	4.36	4.86-7th
12th. Seeking external help (consultancy)	3.82	3.57-10th
13th. Benchmarking perfor. against other companies	3.80	4.86-7th
14th. Implementing a particular quality philosophy (i.e. Crosby, Deming, Juran, etc)	3.45	4.29-9th

As can be seen in table 4.3. the SC managers considered as the prime, most important, activity, the effort needed to ensure top management's commitment and leadership. Considered,

quite important were also the establishment of effective communication channels between employees and management and the integration of the strategy for quality improvement with the company's business strategy. The same activities were considered as the most important from the SCC, too. The development of the relationship between the company and its customers was considered to be important and again more important than the development of the relationship with the suppliers, by both categories. The least important activity for the SC was the implementation of a particular quality philosophy, for example one of the philosophies proposed by the quality gurus (Crosby, Deming, Juran, etc.). More important than that, but also not very important were considered the benchmarking performance against other organisations and the effort to find external help offered by consultancy firms, this was considered as the least important from the SCC. The SCC considered the benchmarking activity more important than the SC; they placed it 7th in the order of importance.

4.7. TQM BENEFITS

In this question the degree of benefit expected from TQM by the companies was investigated. It was emphasized that the benefits wanted were not the ones that the companies implementing a TQM programme had achieved, but the ones that all companies, implementing or not a TQM programme, were expecting TQM to give them. The results are given in table 4.4. in ranked order:

Table 4.4.: Benefits expected from a TQM programme

Benefits <u>expected</u> from a TQM programme. (in ranked order for small companies)	Mean Score on 1-6 Scale where 1=Not Important 6=Very Important	
	SC	SCC
1st. Greater external customer satisfaction	5.35	5.25-5th
2nd. Improved customer service	5.33	5.75-1st

3rd. Improved understanding of quality	5.21	4.63-8th
4th. Reduced customer complaints	5.19	5.63-2nd
5th. Greater internal customer satisfaction	5.07	5.13-6th
Improved efficiency	5.07	5.63-2nd
6th. Reduced waste rework	5.05	5.25-5th
7th. Improved understanding of customer requirem.	4.95	5.50-3rd
8th. Improved productivity	4.91	5.13-6th
9th. Improved delivery performance	4.88	5.38-4th
10th. Improved competitive position	4.79	5.25-5th
Improved employee morale/attitude	4.79	4.75-7th
11th. Improved productivity	4.77	5.63-2nd
12th. Improved understanding of processes	4.60	4.75-7th
13th. Reduced costs	4.56	5.25-5th
14th. Increased market share	4.42	4.38-10th
15th Improved product design	4.11	4.00-11th
16th. Improved working conditions	4.05	4.50-9th
17th. Reduction in employee absenteeism	3.51	3.88-12th

The most important benefit expected by the SC was greater external customer satisfaction, with improved customer service and reduced customer complaints following. It is worth noticing that all three benefits have to do with customers. The same thing could be said for the SCC; the most important benefits were improved customer service, reduced customer complaints, and improved customer requirements. It is worth mentioning that for all the benefits evaluated, the grades given by the SCC were higher.

SCC expected a quite major benefit from improved efficiency, while SC placed this benefit 5th in their list of preference. Although TQM considers both internal and external customers important it is evident from both categories, that the companies do not treat them the same. External customers and their satisfaction are always considered to be more important than the internal customers. The two categories have many differences in the order of importance that they give to the benefits. The benefit of improved competitive position which was not in the top of the SC preferences (10th), was considered by the SCC to be much more important (2nd). The same with improved productivity, SCC considered it very important (2nd) and the SC placed it 11th in the order of importance. The same with the benefit of improved understanding of processes (SC:7th vs SCC:12th) and the benefit of reduced costs (SC:13th vs SCC:5th). The least

important benefit of all, in both categories was the reduction in employee absenteeism.

4.8. PERFORMANCE INDICATORS

In question 8 the managers were asked about the indicators of performance that they used in their companies. In question 9 they had to rate a list of performance indicators according to how easily they were measured. It is worth mentioning that in these two questions, there were a few respondents that did not answer correctly. They either did not answer question 8 and 9 at all, or they answered question 9 according to the indicators that they were measuring in their company. However, there were only 4 respondents that did not answer correctly, and so the author considered that the results would not be influenced significantly.

The results of questions 8 and 9 are presented in tables 4.4 and 4.5 respectively, in ranked order:

Table 4.5.: Performance indicators that are actually measured by the companies

Performance indicators measured. (% of companies using the perform.indicator) (in ranked order for small companies)	Mean Score on 1-6 Scale where 1=Not Important 6=Very Important	
	SC	SCC
1st. Productivity	100%	63% -4th
2nd. Profitability	98%	100% -1st
3rd. Customer complaints	82%	75% -3rd
4th. Absenteeism	73%	63% -4th
5th. Product/service quality	56%	63% 4th
6th. Efficiency	53%	50% -5th
7th. Waste/rework	51%	50% -5th
8th. Market share	47%	75% -3rd
Delivery performance	47%	88% -2nd
9th. Customer satisfaction	44%	75% -3rd
10th. Cost of quality	42%	50% -5th
11th. Employee satisfaction	20%	25% -6th
12th. Employee participation		

	13%	13% -7th
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Table 4.6.: Ease of measurement of the performance indicators (measured or not by the company).

Ease of measurement of the performance indicators given. (in ranked order for small companies)	Mean Score on 1-6 Scale where 1=Not Important 6=Very Important	
	SC	SCC
1st. Profitability	5.57	5.13-2nd
2nd. Absenteeism	5.50	4.75-5th
3rd. Customer complaints	5.20	5.63-1st
4th. Productivity	5.05	4.13-9th
5th. Delivery performance	4.62	5.00-3rd
6th. Product service quality	4.43	4.88-4th
7th. Efficiency	4.32	4.38-7th
8th. Waste/rework	4.19	4.13-9th
9th. Customer satisfaction	3.91	5.13-2nd
10th. Market share	3.79	4.63-6th
11th. Employee participation	3.66	4.38-7th
12th. Cost of quality	3.60	4.38-7th
13th. Employee satisfaction	3.42	4.25-8th

As can be seen in tables 4.5. and 4.6., the small companies stated that the indicator of performance that was most commonly used was productivity. All the SC that answered the questionnaire were measuring productivity, but they did not consider it as one of the most easily measured. Almost all of the companies were measuring profitability, and they considered it as the most easily measured indicator. A lot of them were measuring customer complaints, considering it quite easy to measure. The cost of quality and the employee satisfaction were considered to be the most difficult indicators to measure and they were also among the ones that were not measured by most of the companies.

The percentages of the SCC measuring certain performance indicators are different from the ones of the SC. According to the SCC, the most commonly measured indicator of

performance is profitability, with the measurement of delivery performance and customer complaints following in importance.

4.9. FACTORS INFLUENCING SMALL COMPANIES PERFORMANCE

In this question, the opinion of the managers on how important a list of factors were in influencing the performance of a small company was requested. The results are presented in table 4.7. in ranked order:

Table 4.7.: Factors influencing small companies' performance

Factors influencing the performance of small companies. (in ranked order for small companies)	Mean Score on 1-6 Scale where 1=Not Important 6=Very Important	
	SC	SCC
1st. Availability of management time	5.20	5.25-2nd
2nd. Communication between empl.-manag.	5.13	5.50-1st
3rd. Long-term goals	5.07	4.38-5th
4th. Short-term goals	5.00	5.00-4th
5th. Vulnerability to changes in market condit.	4.87	5.13-5th
6th. Ability to obtain long-term finance	4.67	5.00-4th
7th. Availability of non-financial resources	4.64	5.13-3rd
8th. Vulnerability to technological changes	4.39	4.13-7th
9th. Depend. on ordering polic. of large comp.	4.25	4.38-5th
10th. Level of formal organisational status	4.16	3.75-8th
11th. Ownership status	4.11	4.25-6th
12th. Relationships with trade unions	2.64	4.25-6th

The most important factor mentioned by the SC was the availability of management time. This factor was considered very important by the companies of the special category too. Quite important also for the SC was considered the communication between employees and managers. The SCC considered it as the most important one. Other important factors for small companies performance were the long term and the short term goals of the company, as well as the vulnerability that small companies have to changes in market conditions. SC considered that the least important of the factors, mentioned in the questionnaire, was the relationship with the trade unions. It was graded quite low, which showed that it was not only the least important factor relevant to the others but that it was also by itself considered not very important. The SCC companies considered this factor more important than the vulnerability of the small companies against the technological changes, and the level of organisational structure, which they considered as the least important of all.

The questions that followed (except question 12) combine the question format used up to now, with free text answers. It is worth mentioning that the response rate in the questions that had to be answered in free text, even if they were questions demanding short answers, was lower than the response rate of the questions where the respondents had to tick a box for an answer. In question 11 the percentage of non respondents was 11.8%, in question 13 23.1%, in question 14 33.3% and in question 15a 4.8% (the above percentages are out of the percentage of the companies that answered YES in the first question and did not answer the question which needed a text answer).

4.10. TRAFFORD PARK QUALITY AND PERFORMANCE FORUM

In this question the managers of the company were asked whether they had heard about the Trafford Park Quality and Performance Forum. This question was included at the request of the Trafford Park Development Corporation which was interested in finding out how many of the survey companies knew about the Forum. The results showed that the companies that have not heard about the Trafford Park Quality and Performance Forum were a significant percentage. 62.22% of the total sample companies, which were, as mentioned before, all located in Trafford Park, did not know about the existence of the Forum.

The companies that have heard about the Forum (37.78% of the total sample) were asked to state what they believed the purpose of the Forum is. 29.4% of them (i.e. 11.1% of the total sample) stated that the Forum's purpose is "to develop the corporate performance of Trafford Park companies, their employees and potential employees towards the pursuit of excellence in all forms", which agreed with the Forum's mission statement. Another group of companies (17.6%) (i.e. 6.65% of the total sample) said that the Forum was aiming to help the companies to get together, in order to promote trading, or exchange information and ideas. Another 35.3% (i.e. 13.3% of the total sample) said that quality improvement was the goal of the Forum. There was also a group of 5.9% (i.e. 2.2% of the total sample) that said that the purpose of the Forum was to increase the local business profile nationally and internationally. All the above answers more or

less cover the Forum's real purpose. As mentioned above there was a 11.8% (i.e. 4.6% of the total sample) that said that they have heard about the Forum but they did not answer the question relevant to the purpose of the Forum.

4.11. HELP IN IMPLEMENTING TQM

In this question the kinds of help that a company could use in implementing a TQM programme were presented and the managers were asked to grade them according to how important they considered them to be. The results are presented in table 4.8., in ranked order:

Table 4.8.: Help in the implementation of TQM in a small company

Kinds of help in implementing TQM. (in ranked order for small companies)	Mean Score on 1-6 Scale where 1=Not Important 6=Very Important	
	SC	SCC
1st. Help from manag.- empl.with TQM knowledge	4.78	5.25-1st
2nd. Help from customers	4.42	4.38-3rd
3rd. Help from other compan. experienced in TQM	4.29	4.50-2nd
Help from independent quality organisations	4.29	3.50-6th
4th. Help from suppliers	4.27	3.88-4th
5th. Government help (eg DTI)	4.18	2.75-8th
6th. Help from a consultancy firm	4.00	2.75-8th
7th. Help from written material	3.44	3.63-5th
Help from educational institutions	3.44	3.29-7th

As can be seen in the table the help that the companies, both SC and SCC, considered to be the most significant, is the help given from the managers and employees inside the company who have knowledge of TQM. The help given from customers is also considered important, together with the help from other companies experienced in TQM and the help from suppliers. It is worth mentioning that help from customers is considered to be more important than the help from suppliers, the SCC rated the supplier's help even lower. It is known that customers can impose their requests more easily, and in what concerns quality are also more willing to offer help in order to get what they want. The help offered by independent organisations like the

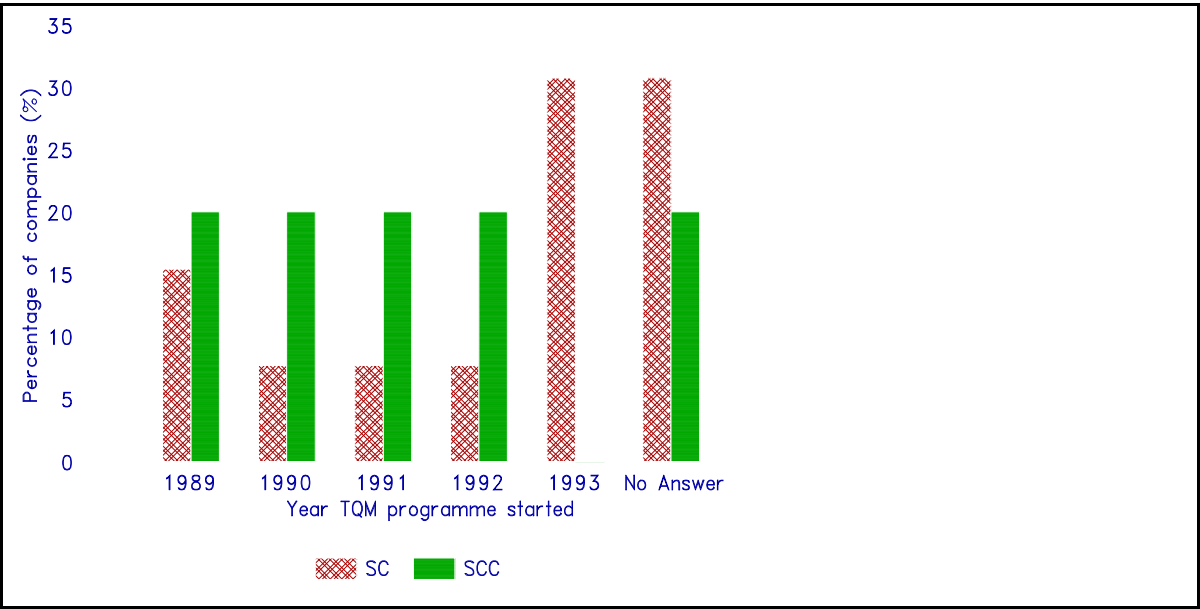
European Foundation for Quality Management, or the Trafford Park Quality and Performance Forum, and by the government, are considered important by the SC but not as important as the ones mentioned above; the SCC rated them even lower. Consultancy firms followed in the scale of importance; small companies do not give consultancy help much credit. The help that was considered less important of all was the one offered from the educational institutions and from written material. Both SC and SCC agreed that the help that the academic institutions offer is not very important. It seems that small companies do not appreciate the help that academics can offer, or they have bad experience with any attempts made in getting help from them. There is always the possibility that small companies are not aware of the help offered by universities and colleges.

4.12. EXISTENCE OF A TQM PROGRAMME IN THE COMPANY

The results show that only 29.55% of the total sample companies have a formal TQM programme. From that 29.55% who said YES, a percentage of 23.1% (i.e. 6.8% of the total sample) confused the question and answered that they had BS 5750 accreditation and stated the year achieved. It is worth mentioning that a following question was asking exactly that; if they had achieved BS 5750/ISO 9000 accreditation and which year it was achieved. 30.7% (i.e. 9.1% of the total sample) of those who had a TQM programme answered the question correctly, mentioning quality improvement processes, such as quality costing projects, training projects, review projects, etc. A group of 7.7% (i.e. 2.3% of the total sample) mentioned quality assurance, in their answer, and another one of 15.4% (i.e. 4.6% of the total sample) gave a general answer.

All of the companies began their quality effort recently (after 1989). The distribution of the companies according to the year that their TQM programme started, is being presented in the graph below.

In this question, the percentage of the companies that answered YES (said that they had a TQM programme) and did not answer the question referring to which were the main activities of their TQM programme was 23.1% (i.e. 6.8% of the total sample). The percentage of those who had a TQM programme and did not state when it started was 30.7% (i.e. 9.1% of the total sample).

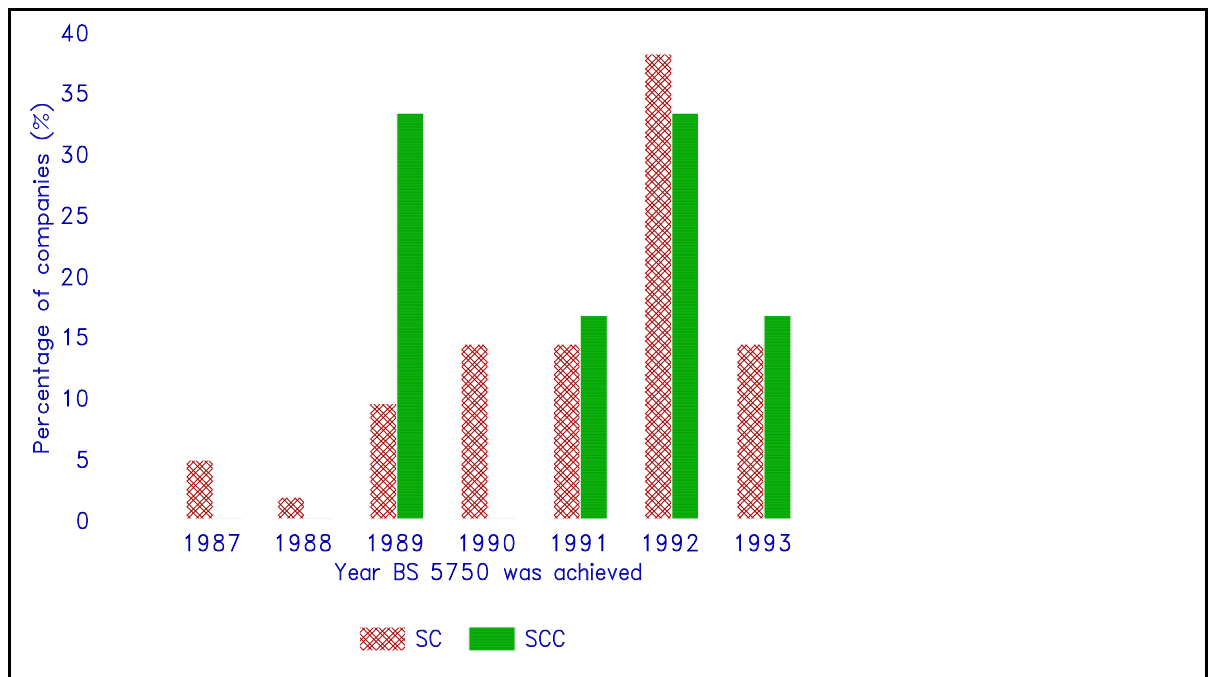


Graph 4.2: Percentage of companies according to the year their TQM programme started

4.13. BS 5750/ISO 9000 ACCREDITATION

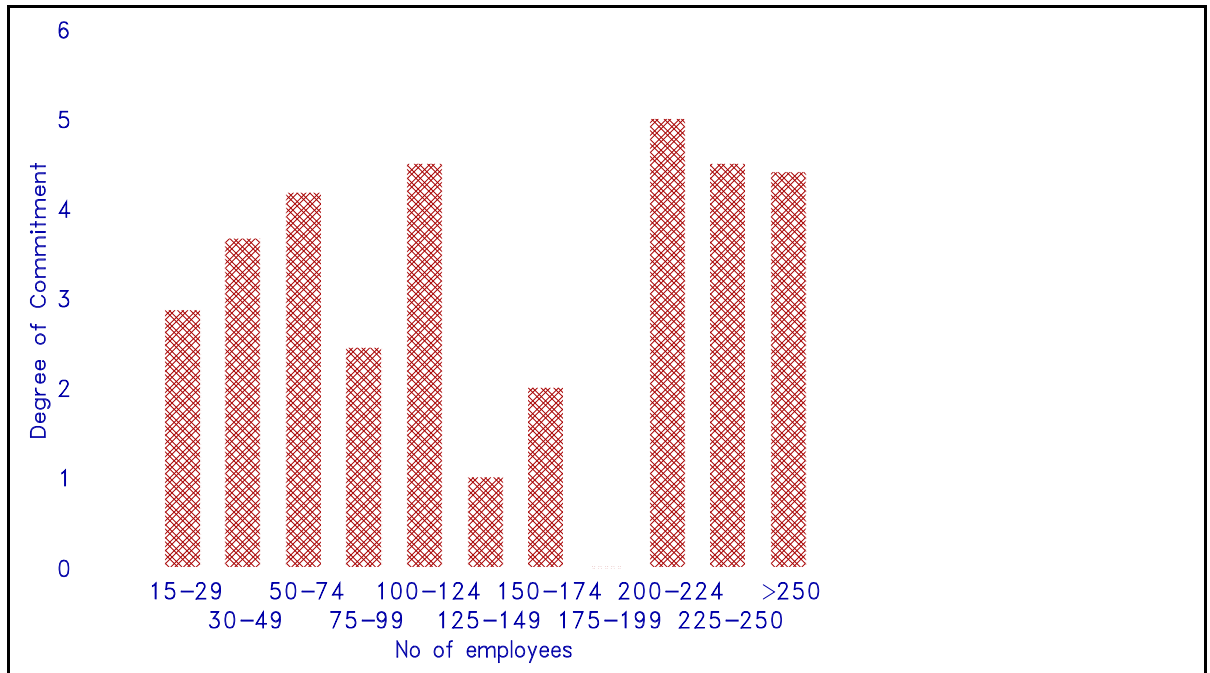
In the question of whether the company has achieved BS 5750/ISO 9000 accreditation, 47.73% of the total sample companies answered YES. The majority of the companies have achieved BS 5750 Part II (80.9%) (i.e. 38.6% of the total sample). 14.3% (i.e. 6.8% of the total sample) of the companies have Part I and 4.8% (i.e. 2.3% of the total sample) of them did not state which part they have achieved. In what concerns the year that the accreditation was achieved the range of years is greater than the one in question 13. The results are presented in the graph below.

4.14. DEGREE OF COMPANY COMMITMENT TO TQM



Graph 4.3: Percentages of companies according to the year BS 5750 accreditation was achieved

In the question where the companies were asked how committed to TQM they consider themselves to be, the mean score given was 3.57 out of 6. The degree of commitment of the SC according to their size is presented in graph 4.4.



Graph 4.4: Degree of commitment to TQM according to company size

The 8 companies of the special category gave a mean score of commitment of 4.40, quite high compared to the SC average of 3.57, and the mean score that the 5 larger companies that answered the questionnaire gave was 4.50. Conclusions can not be drawn from the figures mentioned above because the last two samples were not big enough, but the increase in the mean score given seems interesting.

When the companies were asked to give a reason for their commitment, 33.3% of the total sample companies did not answer the question. The answers given were divided in eight groups. The majority of the companies gave economic constraints or resources constraints as reasons for not being committed to TQM (16.7% of the total sample). Two other groups of 9.5% of the total sample each, said that lack of management commitment held the company from TQM, or that TQM was viewed as a long term aim. It was evident from the answers of 9.5% of companies of the total sample that they were confusing TQM with BS 5750. There was also two groups of companies (7.2%, of the total sample each) which stated either that they strongly believe in TQM and are fully committed, or that they did not see TQM as a high priority at the

moment. Others stated as reasons for not being fully committed to TQM, the lack of information (4.7% of the total sample), and the increased paperwork (2.3% of the total sample).

4.15. FEEDBACK

61.4% of the total sample companies are interested in the feedback report offered. A restriction for the companies which wanted the brief report was the thing that they had to give their names and addresses in order to get it. So the companies that wanted for any reason to keep their anonymity could not ask for the report. The interest that the companies showed in the feedback offered shows their need to benchmark their responses with the responses of the other companies; they know what their beliefs are about TQM and they are interested in learning where the other companies stand.

CHAPTER 5

5. DISCUSSION AND APPRAISAL OF RESULTS

5.1. INTRODUCTION

In this chapter the survey results will be evaluated and comparisons will be made between the answers that the respondents gave in different questions, in order to draw conclusions. The results will be analyzed according to the company size, according to the respondents job in the company, the economic sector that the company is in, the special categories that the companies form, e.g. companies with a TQM programme, companies with BS 5750 accreditation, etc. All the graphs referring to the comparisons that will be made are presented in Appendix C.

5.2. COMPANY SIZE

An attempt was made to examine the data relating to the size of the small companies. No trends were indicated in the management beliefs, between the smaller groups that were formed for that purpose.

5.3. QUALITY MANAGERS VIEW

The responses that the Quality Managers gave were treated as a separate group and were compared with the responses that the rest of the respondents gave. It is interesting to note that in the question relating to the benefits expected from TQM, the quality managers in general expect less degree of benefit from TQM, than the other respondents (see graph 5.1). There were some exceptions; they graded higher than the others the benefit about the reduction in costs, and the improved understanding of quality. They also appreciated more, with a considerable difference, the improvement in the product design that most of the respondents thought not significant. It is worth mentioning that the quality managers did not grade the benefit of the external (7.7) and internal customers satisfaction (7.8) differently (see graph 5.1); they consider them of the same

importance, although they considered the external customers satisfaction a more important factor in describing what TQM is (see graph 5.2, 5.3 vs 5.2). According to the literature TQM places emphasis on both customers, internal and external. As can be seen in chapter 4, with the overall results of the survey, all small companies categories pay more attention to external customer satisfaction.

In the question relating to the activities of a TQM programme, quality managers considered remarkably more important BS 5750 accreditation (6.2) than the other respondents (see graph 5.3). They considered less important than other respondents, the implementation of a particular quality philosophy (6.1), and the establishment of a TQM Steering Committee(6.4), issues on which the literature places great emphasis.

5.4. ECONOMIC SECTORS

Concerning the factors describing what TQM is, the activities included in a TQM programme, the benefits expected from TQM, the importance of different kinds of help in implementing TQM, and the importance of the factors influencing the performance of small companies, the views of the two main economic sectors -service and manufacturing companies- are presented in the graphs 5.4, 5.5, 5.6, 5.7, and 5.8, respectively. The "service companies" sector was formed by grouping together the Retail and Distribution companies, the Computer Service companies, the Hotel and Catering companies, and the Transport and Communication companies. The "manufacturing companies" sector was formed by grouping together the Manufacturing companies, the Engineering companies, and the Chemical companies.

Differences occur in the grades given by the two economic sectors. For example, the significance that they give to "team activities" is different. Service companies consider them more important than the manufacturing companies, in both questions, relating to TQM definitions and TQM activities (see graphs 5.4 and 5.5, 5.9 and 6.7 respectively). This can be explained because for the service companies the human factor is very important, while in manufacturing companies a lot of things depend on machines. According to the literature small

companies might find a problem in implementing team activities, because of their limited number of employees. As can be seen from the survey's overall results, small companies do not rate team activities as high as other activities (they have them fifth in the order of importance of the activities of TQM, see table 4.2), although they place them very low (11th) in the order of importance of the factors describing TQM (see table 4.1)

It is very interesting to note that service companies expect higher degree of benefit from TQM, than manufacturing companies, and the differences in the grades given are quite important (see graph 5.6). Looking at the degree of commitment of the two sectors (see table 5.1), service companies are more committed to TQM than manufacturing companies (3.55 vs 2.95). Also 40% of the service companies in the survey (44.4% of the sample) have a TQM programme, while only 16% of the manufacturing companies (42.2% of the sample) have one. On what concerns the BS 5750 accreditation, 40% of the service companies and 63% of the manufacturing companies are certified. These figures supports the opinion that it is more difficult for the service companies to achieve BS 5750. The difference in commitment between the two categories, and the difference in the benefits expected, have to be evaluated in the light of the fact that the service companies, as could be seen from the survey data, have started implementing TQM quite recently (1992-1993), while the manufacturing companies started implementing TQM a few years earlier (1989-1993). The years during which the companies achieved BS 5750 were also more recent for the service companies (1989-1991), than for the manufacturing companies (1987-1993). Considering the above figures, it could be said that the "enthusiasm" that service companies show towards TQM is because they have not practised it for as many years as manufacturing companies have.

Table 5.1 : Economic sector - Commitment-TQM programme-BS 5750 accreditation

	Degree of Commitment	Companies with a TQM programme	Companies with BS5750 accreditat.
Service Companies	3.55	40%	40%
Manufacturing Co	2.95	16%	63%

Service companies consider less important than the manufacturing companies almost all the kinds of help in implementing TQM, with the exception of the help from educational institutes (12.4) and the help from suppliers (12.9) (see graph 5.7).

The way that service and manufacturing companies see the importance of the factors influencing small companies performance is presented in graph 5.8. In general there are not any important differences in the way the two sectors view the factors. There are a few exceptions. Service companies consider even more important than manufacturing companies, the availability of management time (10.1). They also consider much more important than the manufacturing companies the vulnerability of small companies to changes in market conditions (10.8). A significant difference in opinion also exists about the importance of the relationship with the trade unions (10.12); service companies consider them even less important.

5.5. PERFORMANCE INDICATORS MEASURED AND ECONOMIC SECTORS

Concerning the performance indicators measured by the two main economic sectors, both sectors agree that the most commonly measured indicator is profitability. Almost all manufacturing companies also measure their productivity, while only half the service companies do so. As can be seen in graph 5.9 the percentages of the service companies that measure performance indicators are in general lower than those of the manufacturing companies. This can be explained by the nature of the two businesses. Quite interesting is the fact that more manufacturing companies than service companies measure customer complaints (8.6), but less manufacturing companies measure customer satisfaction (8.7). It is also interesting that considerable difference exists between the two sectors, in the measurement of the cost of quality (8.12) and the waste/rework (8.13). Only a small percentage of service companies measure the above performance indicators, while more than half of the manufacturing companies do so. Again the nature of their business influences the performance indicators measured.

Although a lower percentage of the service companies measure performance indicators, in general service companies find it easier than the manufacturing companies, to measure them. The only exceptions are the indicators of productivity (9.2) and waste/rework (9.13); it is much easier for the manufacturing companies to measure them. Both sectors find quite difficult to measure the cost of quality (9.12) (see graph 5.10).

5.6. COMPANIES WITH LESS THAN 5 YEARS IN THEIR CURRENT SITE

The responses were investigated in relation to the years that the companies have been established on their current site. No general conclusion could be drawn. An interesting thing that was noticed was that of the companies that had been on their current site for less than five years, the smaller companies were not committed to TQM (mean score of commitment 2.33) while the larger companies were almost fully committed (mean score of commitment 5.17). If the assumption is made, that the larger companies that are new on their current site are existing companies that have moved into a new site, is made, the results presented above reinforce the literature's point that one of the triggers for starting a TQM programme is moving into a new site. Smaller companies that are newly established, are trying to survive and show little interest in new philosophies like TQM. Their degree of commitment is very low, they are almost not committed at all, none of them has a TQM programme, although some of them have achieved BS 5750 accreditation. According to the literature BS 5750 is necessary for small firms that want to stay competitive, and even if these companies are not committed to TQM they might be certified because their customers require it.

Table 5.2: Companies that are new in current site.

Companies with less than 5 years in current site	Degree of commitment	Companies with a TQM programme	Companies with BS5750 accreditation
Overall	3.75	5 comp. out of 13	3 comp.out of 13
15-99 employees	2.33	0 comp. out of 6	2 comp.out of 6
100-250 employees	5.17	5 comp. out of 7	1 comp. out of 7

5.7. COMPANIES WITH TQM AND WITH BS 5750 / SIZE

An attempt was made to see if there was a trend in the small companies sector concerning the existence of a TQM programme, or BS 5750 accreditation.

As can be seen in graph 5.11 there is no trend on what concerns the companies with a TQM programme and their size. It is worth mentioning that the very small companies (less than 30 employees) of the sample do not have at all a TQM programme and only a very small percentage of them has achieved BS 5750 accreditation. This was expected because according to the literature very small companies face special problems in their attempt to implement TQM and therefore they do not show much interest.

As can be seen in the same graph, the percentage of the companies with BS 5750 accreditation increases with the company size, with an exception for the companies with 100-124, 125-149 and 200-250 employees (the samples in these categories were very small). According to the literature the way that the standards are designed is in favour of larger companies, and the trend mentioned above reinforces that opinion.

5.8. COMPARISON OF COMPANIES WITH AND WITHOUT A TQM

The comparison made, between the answers given by companies with TQM and companies without, result in the following:

TQM companies grade the factors describing TQM with lower scores in general than the companies without TQM, with the exceptions of the "team activities" factor and the "customers-company partnership" factor; they consider these factors much more important than the other companies (see graph 5.12). It is worth mentioning that the companies without TQM place more importance on the partnership between the company and its suppliers (5.11) than between the company and its customers (5.10). For the companies with TQM it is the other way round. The overall results of the survey showed that in general companies agreed with the fact that the company's relationship with its customers was more important than the one with its suppliers.

Concerning the help expected, companies with a TQM programme considered customer's help also more important than supplier's help, while companies without a TQM programme considered both of them of the same importance (see graph 5.13).

Concerning the importance of the TQM activities, as can be seen in graph 5.14, companies with TQM place less importance on the implementation of a particular quality guru's philosophy (6.1), on BS 5750 accreditation (6.2), on top management's commitment (6.3), and much more less importance in the establishment of a TQM Steering Committee (6.4), than the companies without a TQM programme. They place more emphasis on the establishment of teamwork activities (6.7), on the training and education programmes (6.8), and on the development of the relationship with the customers (6.11), while they place less emphasis on the one with the suppliers (6.12). The comment made above, about the company's relationships with customers and suppliers, is also proven in this case.

A very interesting conclusion arises from the question concerning the degree of benefit expected from TQM. As can be seen in graph 5.15 the companies with TQM expect a higher degree of benefit from all the benefits listed, with only one exception; the improvement in the understanding of quality (7.5), where the difference is not considerable. It is quite interesting that the companies that know about TQM and have practised it, are expecting more from it, and are not disappointed.

In the question concerning the help that the companies considered important in implementing TQM, TQM companies grade a lot lower the kinds of help listed, with the exception, mentioned above, of the help from the customers (12.8). The difference of opinion on the government help issue (12.3) was considerable; TQM companies do not consider government help important and gave it the lowest score (see graph 5.13).

5.9. COMPARISON OF COMPANIES WITH AND WITHOUT BS 5750 ACCREDITATION

The same analysis was made for the companies which had achieved BS 5750

accreditation and those which had not. The results are presented below:

Companies which have achieved BS 5750 grade higher in general the factors describing TQM, with the exception of the two factors of the company's relationships with its customers and suppliers (5.10-5.11). The certified companies place more importance, with a considerable difference from the rest, on the factors concerning internal customer satisfaction (5.2), team activities (5.9), the quality of the working environment (5.6) and the "zero defects" definition (5.15). They consider the external customer's satisfaction a more important factor than the internal customer's satisfaction -as all the groups that were analyzed did- but they recognise, more clearly than the rest, that the internal customer's satisfaction is also an important factor in describing what TQM is (see graph 5.16).

In the question concerning TQM activities, the certified companies scored the achievement of BS 5750 accreditation higher than the rest. Generally they considered most of the activities listed more important, although they found the search for external consultants help (6.5) less important. The same attitude was evident against the company's relationships with customers (6.11) and suppliers (6.12) (see graph 5.17).

The companies with BS 5750 accreditation, considered the kinds of help for implementing TQM more important than the companies without BS 5750 accreditation (see graph 5.18). An exception was the help that a consultancy firm could offer (12.1), with a considerable difference in score, and the government help (12.3); they considered them less important. This is quite interesting since it would be expected that certified companies have probably used government and consultancy help to acquire the certification. This could mean that their experience disappointed them. Certified companies appreciate considerably more, than the ones who are not certified, the help that the educational institutes can offer (12.4), (in contrast to the companies with a TQM programme (see graph 5.13)), as well as the help offered from other companies with experience in TQM (12.6), and the help from the managers and employees of the company who have knowledge of TQM (12.7).

With a few exceptions only, the companies with BS 5750 accreditation expect lower

degrees of benefit from TQM, than the companies without accreditation. The exceptions were the benefits of improved competitive position (5.1), reduced costs (5.3), greater internal satisfaction (7.8) and improved working conditions (7.16) (see graph 5.19). Quite considerable were the differences in the improvement in the understanding of processes, or in the improvement in productivity; certified companies expected much more less degree of benefit.

The fact that companies that have achieved BS5750 accreditation expected less degree of benefit from TQM, reinforces the opinion of the literature that the experience of companies with the Standard's paperwork, discourages them from TQM. According to the literature, companies and especially small ones, mention that they are achieving accreditation because it is one of their customers requirements (i.e. Motorola Inc. has given its suppliers until 1994 to apply for the Baldrige Award or being dropped (Port et al, 1992)). In many of the cases the companies do not see this as an opportunity to enter the Total Quality Management movement (this will be proven by the figures presented below, with the numbers of companies with TQM and with BS 5750), therefore the benefits achieved and expected are not maximised.

5.10. COMPARISON OF COMPANIES WITH TQM AND BS 5750 ACCREDITATION

The difference in opinion concerning TQM benefits, that TQM companies and BS 5750 companies showed, led to further investigation of the attitudes of the companies that had a TQM programme, and were certified, that had a TQM programme and were not certified, that did not have a TQM programme and were not certified, and that did not have a TQM programme and were certified.

Table 5.3: Combinations of companies with a TQM programme and BS 5750 accreditation

	Companies with a TQM programme	Companies without a TQM programme
Companies with BS 5750 accreditation	6 companies TQM/BS5750	15 companies no TQM/BS5750
Companies without	7 companies	17 companies

BS 5750 accreditation	TQM/no BS5750	no TQM/no BS5750
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As can be seen from the numbers above having a TQM programme does not imply BS 5750 certification. Half the companies that have a TQM programme are certified and the other half are not. The same with the companies that do not have a TQM programme; almost half of them have achieved accreditation.

It is interesting that out of the 21 companies that have achieved accreditation (21 out of 45, (47%)) the majority (15 companies, 71%) do not have a TQM programme; only six have a TQM programme. Small companies do not believe that a TQM programme is required in order to achieve accreditation.

As mentioned above almost half (47%) of the small companies are certified. In the special companies category (SCC) 6 out of the 7 companies (86%) in that category are certified.

A comparison between the four categories, concerning their expectations from TQM (see graph 5.20) lead as to the following conclusions:

TQM/BS5750 companies expect the highest degree of benefit from TQM.

In contrast, no TQM/BS5750 companies expect the lowest degree of benefit from TQM.

TQM/no BS5750 companies have modest expectations but again higher in general than the expectations of no TQM/no BS5750 companies.

A closer comparison between each one of the four categories and the companies with TQM and with BS 5750 is presented in graphs 5.21, 5.22, 5.23, 5.24.

As can be seen in graph 5.21, the degree of benefit expected from the companies with a TQM programme is in all cases greater than the degree expected from the companies with BS 5750 accreditation. The TQM/BS5750 companies in general expect greater degree of benefit from TQM, than TQM companies. There are some exceptions where the difference in the scores given from the TQM companies, are considerable. These are the benefits of improved competitive position (7.1), improved understanding of processes (7.6), reduction in employee

absenteeism (7.18), and improved product design (7.19); in these cases the TQM/BS5750 companies expect lower degree of benefit.

TQM/no BS5750 companies expect in general lower degree of benefit than the TQM companies, but in general again higher degree of benefit than the BS 5750 companies (see graph 5.22).

The degree of benefit expected by the no TQM/no BS5750 companies is in all cases lower than the one of the TQM companies expect, and again equal or higher than the degree of benefit expected from the BS 5750 companies (see graph 5.23).

Finally, the degree of benefit expected by the no TQM/BS5750 companies, was in all cases lower than the one expected from the TQM companies, and also in almost all cases lower than the degree of benefit expected from the BS 5750 companies (see graph 5.24).

5.11. COMPANY COMMITMENT TO TQM

An investigation on the degree of commitment to TQM from the companies that had or had not a TQM programme resulted in the following figures:

Table 5.4: Company commitment to TQM and the existence of a TQM programme

	Not committed at all	Moderately committed	Fully committed
Companies with a TQM programme	0	3	10
Companies without a TQM programme	13	11	5

The majority (77%) of the companies that have a TQM programme stated that they are fully committed to TQM. The rest stated that they are moderately committed. The reasons that these companies gave were: lack of management commitment, economic constraints and that TQM is a long term aim. There was not even one company from those who had a TQM programme that stated that it is not committed at all to TQM.

The majority of the companies that do not have a TQM programme stated that they either are not committed at all to TQM (45%) or that they are moderately committed (38%). It is worth mentioning that 3 out of the 5 companies that stated that they are fully committed to TQM and did not have a TQM programme, confuse TQM with BS 5750.

From the above it is clear that commitment to TQM is certainly related to the company's strategy towards TQM.

Table 5.5: BS 5750 companies and their commitment to TQM

	Not committed at all	Moderately committed	Fully committed
Companies with BS5750 accreditat.	9	6	7

As can be seen from the numbers above small companies do not have to be fully committed (32%), or even moderately committed to TQM (27%) to be certified. There is a quite significant percentage of companies (41%) that are not committed at all to TQM and are certified. This reinforces the conclusion drawn above from the companies that were certified and did not have a TQM programme.

In an attempt to see if the stated degree of commitment to TQM, is justified by the reason given, the following table was produced, with the number of companies presented according to the different categories of reasons that the companies gave for their commitment.

Table 5.6: Number of companies in categories of reason given from SC according to the degree of commitment:

Reasons stated	Not committed at all	Moderately committed	Fully committed
1.Economic/resources constraints	3	4	-
2.TQM is a long term aim	-	3	1
3.Confusion with BS 5750	-	-	4
4.Lack of management commitment	3	1	-
5.Companies that strongly believe in TQM	-	-	3

6.TQM is not currently a high priority	2	-	-
7.Not enough information	1	1	-
8.Increased paperwork	-	1	-

As can be seen from the table above, many of the small companies that declare that are fully committed (4 out of 8) have not understood the difference between TQM and BS 5750 and confuse them. The rest of them believe in TQM or see it as a long term aim. The reasons for being moderately committed are mostly economic and resources constraints.

For the special category companies the data were different, most of them (5 out of 7) stated that they are fully committed because they believe in what TQM can offer to them. The other two, were either moderately committed because of lack of management commitment, or not committed at all for the same reason.

It could be said that in general the reasons stated are consequent with the degree of the company's commitment to TQM.

5.12. TRAFFORD PARK QUALITY AND PERFORMANCE FORUM

It has already been mentioned that the majority of the companies (62%) had not heard about the Trafford Park Quality and Performance Forum. An attempt was made to investigate how the companies that knew about the Forum behaved relating to the existence of a TQM programme and the company's commitment to TQM.

Table 5.7: Companies that know about the Forum and have a TQM programme

	Companies that know about the Forum	Companies that do not know about the Forum
Companies with TQM	6	7
Companies without TQM	11	21

The fact that there are a lot of companies that know about the Forum and do not have a

TQM programme shows that having the information about TQM is not enough to decide to implement it, although it is a step towards it. Out of the 17 companies that knew about the existence of the Forum 6 had a TQM programme (35%), and out of 28 companies that did not know about the Forum only 7 had a TQM programme (21%); the percentage of those who have a TQM programme is increased among those who know about the Forum.

Table 5.8: Degree of commitment of the companies that know about the Forum

	Not committed at all	Moderately committed	Fully committed
Companies that know about the Forum	7	8	7

As can be seen in the table above the companies' commitment to TQM is not especially increased among the companies that know about the Forum. Companies might be informed about quality initiatives, like the Trafford Park Quality and Performance Forum, but that is not enough to commit them to TQM.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the survey and the study of the literature in the field of TQM and small businesses, the following conclusions can be drawn:

6.1. LITERATURE

- The literature on small companies is mostly by American authors. With the exception of the books written about the Bolton Committee of Inquiry on Small Firms, the rest of the English literature has not much to offer. It was easier to find figures about the economic growth of the American small firms than for the English ones.
- There were not any books available in the literature concerning small companies and TQM. Therefore chapter 2.4. was based on articles relevant to the subject. Almost all of them were also written by American authors.
- According to the literature survey, small companies are a very important part of the economy. TQM can be implemented by small companies with success. It is of the same importance to them as it is to the large companies. The way of implementation might differ, but the central principles are the same. Awards like the Malcolm Baldrige Quality Award and the European Quality Award can be won by small companies, as a lot of examples prove.

6.2. SMALL COMPANIES AND TQM

- The high response rate of the survey demonstrates the increasing interest that small companies show concerning TQM. Small companies recognise more and more how important TQM can be in their development, and show a true interest in all kinds of information that will help them obtain information about TQM.
- Top management commitment to TQM was considered, by the survey companies, as the most important of the activities and the most important of the factors describing TQM. It is very encouraging to see that small companies have understood how important this issue is. The literature considers it the most important principle of TQM and small companies agree.
- Although the literature suggests that there might be problems in the implementation of team activities in small companies, small companies consider team activities quite an important activity in implementing TQM.
- Most small companies (less than 100 employees) in this study, established for less than 5 years in their site, are not committed at all to TQM, while larger small companies, established for less than 5 years in their site, are almost fully committed. It is most probable that these larger small companies are existing companies which moved to a new site. This supports the literature's assertion that moving to a new site can be considered as one of the triggers for starting a TQM programme.
- The most common measured indicators of performance are productivity and profitability, while the cost of quality is among the ones that are not usually measured, together with employee participation and satisfaction. Customer complaints are also usually measured, although service companies measure them more than manufacturing companies.

- Manufacturing companies measure more performance indicators than service companies do. However, service companies state that they find it easier than the manufacturing companies to measure performance indicators.
- The most important factors influencing the performance of small companies are the availability of management time and the degree of communication between the company's employees and managers.
- Small companies do not appreciate the help that academic institutions can offer for the implementation of TQM. This was quite evident from the survey's results. Small companies did not consider of great importance the help that universities or colleges can offer. According to the references, the small companies, which share their experience of successfully implementing TQM with the press, mention quite frequently the help that they get from academic institutions and the advantage of the low price services that those institutions offer in comparison with the consultancy firms. Probably the Trafford Park companies are not aware of the help that they can get from the universities and it might be a good idea for the people responsible to organise a campaign and inform them about it.
- Small companies do not appreciate also the help that the government offers, or the help offered from consultancy firms. The help that they consider the most important for implementing TQM is the help that they can get from employees and managers in the company with knowledge on the subject.
- Only 30% of the companies had a formal TQM programme, and almost half the companies (48%) had achieved BS5750 accreditation. It is evident from the above that small companies do not consider having a TQM programme as a prerequisite for achieving BS5750. They also do not have to be committed to TQM to be certified.

- Companies with a TQM programme expect a greater degree of benefit from TQM than companies without a TQM programme. It is interesting to see that companies which have practised TQM are expecting more from it and are not disappointed.
- Companies with BS5750 accreditation expect a lesser degree of benefit from TQM, than companies without BS5750 accreditation. Probably the experience with the Standards paperwork discourages companies from TQM.
- Most very small companies (less than 30 employees) have neither a TQM programme nor BS 5750 accreditation.
- Companies with a TQM programme expect a greater degree of benefit from TQM, than the companies with BS 5750. Companies with a TQM programme and BS 5750 accreditation are the group that expects the greatest degree of benefit from TQM, compared with what all the other groups expect. The lowest degree of benefit is expected from the group of companies with BS 5750 and no TQM programme.
- There was an indication of a trend concerning the degree of company commitment to TQM and the company size. An increase in the degree of commitment to TQM occurred as the company's size increased.
- The reasons stated by the companies for not being committed to TQM are (in order of importance): economic/resources constraints, lack of management commitment, TQM is a long term aim, it is not a high priority at the moment, lack of information, increased paperwork.

- Service companies seem to be more committed to TQM than manufacturing companies. The increased commitment that service companies state, must be considered in the light of the fact that service companies got involved with TQM later than the manufacturing companies and therefore, they might be judging it with enthusiasm that may wane later. More service companies than manufacturing ones have TQM programmes, although less have BS 5750 accreditation.
- Most of the survey companies have not heard about the Quality and Performance Forum. This must motivate the leaders of the Forum to promote the idea of the Forum in more companies, so that more companies will be able to be a part of it and take advantage of the help it is offering.
- Companies that are informed about TQM are not necessarily committed to TQM or have a TQM programme. Being informed about something is never enough for being ready to implement it, although it is a step in the right direction.

6.3. RECOMMENDATIONS FOR FURTHER WORK

It would be quite interesting to continue the work relating to the special category companies. The number of the special category companies in this survey was not large, there were only 8 companies, so the data gathered were used only for comparisons with the small companies data. There seems to be an indication that the special category companies behave more like larger companies, even if their size is limited. Further investigation of the field might results in useful conclusions.

Something else that has not been done because of the limited time available, was to follow up the questionnaires with interviews. It would be interesting to visit the companies, and investigate further their beliefs in TQM. Something very interesting to investigate would be the use of TQM in the financial performance of the company.

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APPENDIX A

Cover Letter and Questionnaire

1. COVER LETTER

28th June 1993

Dear Sir/Madam,

I am a postgraduate student at the Manchester School of Management, University of Manchester Institute of Science and Technology (UMIST), on the MSc course in Operations Management. I am currently working on my dissertation on the implementation of Total Quality Management (TQM) in small businesses.

The objectives of the dissertation are to evaluate the beliefs of small business management about TQM and the level of adoption of TQM in small businesses. It would be very helpful for me if you could answer the questionnaire included and return it in the envelope provided, by Wednesday 21st July 1993. This questionnaire survey is being carried out in Trafford Park companies with the cooperation of the Trafford Park Development Corporation. We are interested both in companies which are not implementing TQM at the present time and those that are implementing TQM.

If you have any queries about this work, please contact my supervisor Dr Ruth Boaden at UMIST (061-200 3436).

Thank you very much for your kind attention. I am looking forward to hearing from you in the near future.

Yours sincerely

2. SURVEY'S QUESTIONNAIRE

Most of this questionnaire is about Total Quality Management and can be completed whether your company uses TQM principles or not. It should take approximately 10-15 minutes to complete. All replies will be kept anonymous; the company's name, even if stated, will not be mentioned in any part of the report produced.

1. Please give your job title:

Job Title _____

2. In which economic sector does the company mainly operate?

(please tick the appropriate box)

- ☐ Energy and Water Supply
- ☐ Construction
- ☐ Metal Goods and Engineering
- ☐ Mining and Chemicals
- ☐ Pharmaceuticals
- ☐ Manufacturing (including food, electronic and tobacco)
- ☐ Retail and Distribution
- ☐ Hotels, Catering and Leisure
- ☐ Transport and Communications
- ☐ Financial Services
- ☐ Educational Body
- ☐ Professional and Scientific Consultancy
- ☐ Other _____

3. Please state the number of employees in your company.

4. How long has your company been established on its current site (years)?

5. Please indicate the importance of the following factors in describing what you believe TQM is:

(please tick the appropriate box for each factor)

		<i>Not</i>					
<i>Very</i>		<i>Important</i>					
<i>Important</i>			1	2	3	4	5
6							
-	Quality of products/services	☐	☐	☐	☐	☐	☐
-	Internal customer satisfaction		☐	☐	☐	☐	☐
☐							
-	External customer satisfaction		☐	☐	☐	☐	☐
☐							
-	Quality of delivery		☐	☐	☐	☐	☐
☐							
-	Quality of administration		☐	☐	☐	☐	☐
☐							
-	Quality of the working environment	☐	☐	☐	☐	☐	☐
-	Employee involvement/commitment		☐	☐	☐	☐	☐
☐							
-	Quality is everyone's job		☐	☐	☐	☐	☐
☐							
-	Team activities		☐	☐	☐	☐	☐
☐							
-	Partnership between customers-company	☐	☐	☐	☐	☐	☐
-	Partnership between company-suppliers	☐	☐	☐	☐	☐	☐

	1	2	3	4	5
- Management commitment/leadership	☐	☐	☐	☐	☐
- Commitment to continuous improvement	☐	☐	☐	☐	☐
- "Do it right the first time"	☐	☐	☐	☐	☐
- "Zero defects"	☐	☐	☐	☐	☐
- Others, please specify :					
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐

6. How important do you believe that the following activities are as part of a TQM programme? (please tick the appropriate box for each activity)

Not

Very

Important

Important

1 2 3 4 5

6						
-	Implementing a particular quality philosophy	☐	☐	☐	☐	☐
☐						
	(Crosby, Deming, Juran, etc)					
-	Obtaining BS 5750/ISO 9000 Quality System	☐	☐	☐	☐	☐
☐						
	Series accreditation					
-	Ensuring top management's leadership/commitment	☐	☐	☐	☐	☐

☐						
-	Establishing a TQM Steering Committee	☐	☐	☐	☐	☐
-	Seeking external help (consultancy)	☐	☐	☐	☐	☐
☐						
-	Using quality management tools and techniques	☐	☐	☐	☐	☐
-	Establishing teamwork	☐	☐	☐	☐	☐
☐						
-	Starting a training/education programme	☐	☐	☐	☐	☐
-	Developing a vision and mission statement	☐	☐	☐	☐	☐
☐						
-	which includes TQM Integrating the strategy for quality improvement within the company's business strategy	☐	☐	☐	☐	☐
-	Developing relationships with customers	☐	☐	☐	☐	☐
-	Developing relationships with suppliers	☐	☐	☐	☐	☐
☐						
-	Establishing a reward and recognition mechanism for employees	☐	☐	☐	☐	☐
☐						
-	Establishing effective communication channels	☐	☐	☐	☐	☐
-	Benchmarking performance against other organisations	☐	☐	☐	☐	☐
☐						
-	Others, please specify : _____	☐	☐	☐	☐	☐
☐						

7. What degree of benefit would you expect TQM to give your own company? If your company is already involved in TQM, please answer this question for the benefits expected, rather than the ones actually achieved.
(please tick the appropriate box for each factor)

Benefit	No benefit at all			Major		
	1	2	3	4	5	6
- Improved competitive position ☐	☐	☐	☐	☐	☐	☐
- Increased market share ☐	☐	☐	☐	☐	☐	☐
- Reduced costs ☐	☐	☐	☐	☐	☐	☐
- Improved profitability	☐	☐	☐	☐	☐	☐
- Improved understanding of quality	☐	☐	☐	☐	☐	☐
- Improved understanding of processes ☐	☐	☐	☐	☐	☐	☐
- Greater external customer satisfaction ☐	☐	☐	☐	☐	☐	☐
- Greater internal customer satisfaction ☐	☐	☐	☐	☐	☐	☐
- Improved understanding of customer requirements ☐	☐	☐	☐	☐	☐	☐
- Reduced customer complaints ☐	☐	☐	☐	☐	☐	☐
- Improved customer service	☐	☐	☐	☐	☐	☐
- Improved delivery performance ☐	☐	☐	☐	☐	☐	☐
- Improved productivity ☐	☐	☐	☐	☐	☐	☐
- Improved efficiency	☐	☐	☐	☐	☐	☐
- Reduced waste/rework ☐	☐	☐	☐	☐	☐	☐
- Improved working conditions ☐	☐	☐	☐	☐	☐	☐

- Improved employee morale/attitudes ☐ ☐ ☐ ☐ ☐
- ☐
- Reduction in employee absenteeism ☐ ☐ ☐ ☐ ☐
- ☐
- Improved product design ☐ ☐ ☐ ☐ ☐
- ☐
- Others, please specify : ☐ ☐ ☐ ☐ ☐
- ☐
- ☐
- ☐

8. Please indicate whether your company currently uses the following indicators of performance, and the units of measure employed.

- | | Please tick
if currently
measured | Unit of measure
(eg £, %, etc) |
|---------------------------|---|-----------------------------------|
| - Profitability | ☐ | _____ |
| - Productivity | ☐ | _____ |
| - Efficiency | ☐ | _____ |
| - Product/service quality | ☐ | _____ |
| - Delivery performance | ☐ | _____ |
| - Customer complaints | ☐ | _____ |
| - Customer satisfaction | ☐ | _____ |
| - Market share | ☐ | _____ |
| - Employee satisfaction | ☐ | _____ |
| - Employee participation | ☐ | _____ |
| - Absenteeism | ☐ | _____ |
| - Cost of quality | ☐ | _____ |
| - Waste/rework | ☐ | _____ |

- Others, please specify :

_____	☐	_____
_____	☐	_____
_____	☐	_____

9. Please indicate how easy it is/would be for your company to measure the following indicators of performance (even if they are not currently measured):

(please tick the appropriate box for each indicator)

	<i>Impossible</i>					<i>Very easily</i>	
	<i>to measure</i>					<i>measured</i>	
		1	2	3	4	5	6
- Profitability		☐	☐	☐	☐	☐	☐
- Productivity		☐	☐	☐	☐	☐	☐
- Efficiency		☐	☐	☐	☐	☐	☐
- Product/service quality		☐	☐	☐	☐	☐	☐
- Delivery performance		☐	☐	☐	☐	☐	☐
- Customer complaints		☐	☐	☐	☐	☐	☐
- Customer satisfaction		☐	☐	☐	☐	☐	☐
- Market share		☐	☐	☐	☐	☐	☐
- Employee satisfaction		☐	☐	☐	☐	☐	☐
- Employee participation		☐	☐	☐	☐	☐	☐
- Absenteeism	☐	☐	☐	☐	☐	☐	
- Cost of quality				☐	☐	☐	☐

☐

- Waste/rework ☐ ☐ ☐ ☐ ☐ ☐

- Others, please specify :

_____	☐	☐	☐	☐	☐	☐
_____	☐	☐	☐	☐	☐	☐
_____	☐	☐	☐	☐	☐	☐

10. In your opinion, how important are the following factors in influencing the performance of small companies?

(please tick the appropriate box for each factor)

		<i>Not</i>					
		<i>Important</i>					
			1	2	3	4	5
6							
-	Availability of management time		☐	☐	☐	☐	☐
☐							
-	Availability of non-financial resources		☐	☐	☐	☐	☐
☐							
-	Ability to obtain long-term finance	☐	☐	☐	☐	☐	☐
-	Level of formal organisational structure		☐	☐	☐	☐	☐
☐							
-	Ownership status		☐	☐	☐	☐	☐
☐							
-	Short-term goals		☐	☐	☐	☐	☐
☐							
-	Long term goals		☐	☐	☐	☐	☐

☐					
-	Vulnerability to changes in market conditions	☐	☐	☐	☐
☐					
-	Vulnerability to technological changes	☐	☐	☐	☐
☐					
-	Dependency on the ordering policies of large companies	☐	☐	☐	☐
☐					
-	Communication between employees and managers	☐	☐	☐	☐
☐					
-	Relationships with trade unions	☐	☐	☐	☐
☐					
-	Others, please specify :				
	_____	☐	☐	☐	☐
☐					
	_____	☐	☐	☐	☐
☐					
	_____	☐	☐	☐	☐
☐					

11. Have you heard about the Trafford Park Quality and Performance Forum?

YES ☐

NO ☐

If YES what do you believe the purpose of the forum is?

12. How useful do you believe the following types of help would be for your company in implementing TQM?

(please tick the appropriate box for each type of help)

		<i>Not</i>		<i>Useful</i>				
<i>Very</i>								
		<i>at all</i>						
<i>Useful</i>								
				<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
6								
-	Help from a consultancy firm			☐	☐	☐	☐	☐
☐								
-	Help from independent Quality Organisations			☐	☐	☐	☐	☐
☐								
	(eg E.F.Q.M.*, Trafford Park Quality and Performance Forum, etc)							
-	Government help (eg DTI)	☐		☐	☐	☐	☐	☐
-	Help from educational institutions (eg Universities)			☐	☐	☐	☐	☐
☐								
-	Help from written material (eg magazines)			☐	☐	☐	☐	☐
☐								
-	Help from other companies experienced in TQM	☐		☐	☐	☐	☐	☐
-	Help from managers and employees of the			☐	☐	☐	☐	☐
☐								
	company who have knowledge of TQM							
-	Help from customers			☐	☐	☐	☐	☐
-	Help from suppliers			☐	☐	☐	☐	☐
-	Others, please specify :							
	_____			☐	☐	☐	☐	☐
☐								

* E.F.Q.M.: European Foundation for Quality Management

13. Has your company got a TQM programme?

YES ☐

NO ☐

If YES please indicate the main activities of the TQM programme and the year in which they started:

14. How committed is your company to TQM?

Not committed

Fully

at all

committed

1

2

3

4

5

6

☐

☐

☐

☐

☐

☐

Please give a reason for your answer.

15. Have you achieved BS 5750/ISO 9000 accreditation?

YES ☐

NO ☐

If YES, which parts? _____

When did you achieve the accreditation (year)? _____

- 16. Would you like to be sent a brief report summarising the results of the questionnaire?**

YES ☐

NO ☐

If YES, please give the following information:

Your

name: _____

Job

Title: _____

Company

Name: _____

Address: _____

THANK YOU FOR YOUR CO-OPERATION.

**PLEASE RETURN THIS QUESTIONNAIRE IN THE ENVELOPE PROVIDED BY
WEDNESDAY 21ST JULY 1993.**

APPENDIX B

Data from Questionnaire Analysis

APPENDIX 2: DATA FROM QUESTIONNAIRE ANALYSIS

The percentages given refer to the total sample. Total sample n=53

SC: Small Companies, SCC: Special Companies Category

1. Please give your job title:

	SC 85%	SCC 15%	of the total sample
1: Managing Director	22.2%	0.0%	
2: General Manager	6.7%	12.5%	
3: Quality Manager	33.4%	12.5%	
4: Finance Manager	6.7%	12.5%	
5: Sales Manager	4.4%	25.0%	
6: Technical Manager	4.4%	0.0%	
7: Personnel and Training Manager	4.4%	25.0%	
8: Operations Manager	11.2%	12.5%	
9: Company Secretary	4.4%	0.0%	
10: Others	2.2%	0.0%	

2. In which economic sector does the company mainly operate?

	SC 85%	SCC 15%	of the total sample
2.1: Energy and Water Supply	0.0%	12.5%	
2.2: Construction	13.3%	0.0%	
2.3: Metal Goods and Engineering	11.1%	0.0%	
2.4: Mining and Chemicals	4.4%	0.0%	
2.5: Pharmaceuticals	0.0%	0.0%	
2.6: Manufacturing	26.7%	12.5%	
2.7: Retail and Distribution	24.5%	25.0%	
2.8: Hotels, Catering and Leisure	4.4%	0.0%	
2.9: Transport and Communications	8.9%	25.0%	
2.10: Financial Services	0.0%	12.5%	

2.11: Educational Body	0.0%	12.5%
2.12: Professional and Scientific Consultancy	0.0%	0.0%
2.13: Computer Services	6.7%	0.0%

3. Please state the number of employees in your company.

	SC	SCC	
	85%	15%	<i>of the total sample</i>
15-34	17.8%	12.5%	
35-49	13.3%	50%	
50-74	13.3%	12.5%	
75-99	20.0%	12.5%	
100-124	11.1%	0.0%	
125-149	4.4%	0.0%	
150-174	6.7%	12.5%	
175-199	0.0%	0.0%	
200-224	11.2%	0.0%	
225-249	2.2%	0.0%	
>250	5 companies 8.6% of the replies		

4. How long has your company been established on its current site (years)?

	SC	SCC	
	85%	15%	<i>of the total sample</i>
1 year	4.4%	12.5%	
2 years	8.9%	25.0%	
3 years	2.2%	0.0%	
4 years	8.9%	0.0%	
5 years	6.7%	0.0%	
6-9 years	22.2%	0.0%	

10-19 years	11.1%	37.5%
20-49 years	17.8%	12.5%
50-99 years	11.1%	12.5%
>100 years	6.7%	0.0%

5. Please indicate the importance of the following factors in describing what you believe TQM is:

		<i>Not Important</i>			<i>Very Important</i>		
		1	2	3	4	5	6
		SC			SCC		
		85%			15%		
					<i>of the total sample</i>		
5.1:	Quality of products/services			5.58		5.43	
5.2:	Internal customer satisfaction			5.16		5.43	
5.3:	External customer satisfaction			5.80		6.00	
5.4:	Quality of delivery			5.49		5.43	
5.5:	Quality of administration			5.23		5.29	
5.6:	Quality of the working environment			4.71		4.86	
5.7:	Employee involvement/commitment			5.58		5.71	
5.8:	Quality is everyone's job	5.64		5.86			
5.9:	Team activities			4.80		5.29	
5.10:	Partnership between customers-company	5.16		5.43			
5.11:	Partnership between company-suppliers	5.16		5.14			
5.12:	Management commitment/leadership			5.91		5.71	
5.13:	Commitment to continuous improvement	5.69		5.71			
5.14:	"Do it right the first time"			5.66		5.43	
5.15:	"Zero defects"			5.12		5.14	

6. How important do you believe that the following activities are as part of a TQM programme?

		Not Important			Very Important				
		1	2	3	4 SC	5	6 SCC		
					85%	15%	of the total sample		
6.1:	Implementing a particular quality philosophy				3.45	4.29			
6.2:	(Crosby, Deming, Juran, etc) Obtaining BS 5750/ISO 9000 Quality System				4.69	4.29			
6.3:	Series accreditation Ensuring top management's leadership/ commitment	5.80			5.86				
6.4:	Establishing a TQM Steering Committee	4.69			5.00				
6.5:	Seeking external help (consultancy)				3.82	3.57			
6.6:	Using quality management tools and techniques	4.71			4.71				
6.7:	Establishing teamwork				5.24	5.43			
6.8:	Starting a training/education programme	5.27			5.71				
6.9:	Developing a vision and mission statement which includes TQM				5.09	5.29			
6.10:	Integrating the strategy for quality improvement within the company's business strategy	5.38			5.71				
6.11:	Developing relationships with customers	5.16			5.57				
6.12:	Developing relationships with suppliers	5.04			5.00				
6.13:	Establishing a reward and recognition	4.36			4.86				

mechanism for employees

6.14:	Establishing effective communication channels	5.40	5.57
6.15:	Benchmarking performance against other	3.80	4.86

organisations

7. What degree of benefit would you expect TQM to give your own company?

If your company is already involved in TQM, please answer this question for the benefits expected, rather than the ones actually achieved.

		<i>No benefit</i>			<i>Major</i>		
		<i>at all</i>			<i>Benefit</i>		
		1	2	3	4	5	6
		SC	SCC				
		85%	15%	<i>of the total sample</i>			
7.1:	Improved competitive position	4.79	5.25				
7.2:	Increased market share	4.42	4.38				
7.3:	Reduced costs	4.56	5.25				
7.4:	Improved profitability	4.91	5.13				
7.5:	Improved understanding of quality	5.21	4.63				
7.6:	Improved understanding of processes	4.60	4.75				
7.7:	Greater external customer satisfaction	5.35	5.25				
7.8:	Greater internal customer satisfaction	5.07	5.13				
7.9:	Improved understanding of customer requirements	4.95	5.50				
7.10:	Reduced customer complaints	5.19	5.63				
7.11:	Improved customer service	5.33	5.75				
7.12:	Improved delivery performance	4.88	5.38				
7.13:	Improved productivity	4.77	5.63				
7.14:	Improved efficiency	5.07	5.63				
7.15:	Reduced waste/rework	5.05	5.25				

7.16:	Improved working conditions	4.05	4.50
7.17:	Improved employee morale/attitudes	4.79	4.75
7.18:	Reduction in employee absenteeism	3.51	3.88
7.19:	Improved product design	4.11	4.00

8. Please indicate whether your company currently uses the following indicators of performance, and the units of measure employed.

		Unit of measure (eg £, %, etc)		
		SC	SCC	
		85%	15% of the total	Examples Given
8.1:	Profitability	98%	100%	£
8.2:	Productivity	100%	63%	%
8.3:	Efficiency	53%	50%	%, time
8.4:	Product/service quality	56%	63%	%,Customer Feedback, Returns, Repairs
8.5:	Delivery performance	47%	88%	Days against customer request, % on time
8.6:	Customer complaints	82%	75%	£, Number per month
8.7:	Customer satisfaction	44%	75%	£, Survey,Customer Feedback
8.8:	Market share	47%	75%	% of share
8.9:	Employee satisfaction	20%	25%	Survey
8.10:	Employee participation	13%	13%	%
8.11:	Absenteeism	73%	63%	days, %, £
8.12:	Cost of quality	42%	50%	£
8.13:	Waste/rework	51%	50%	%, £

9. Please indicate how easy it is/would be for your company to measure the following indicators of performance (even if they are not currently measured):

		<i>Impossible to measure</i>			<i>Very easily measured</i>		
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
		<i>SC</i>			<i>SCC</i>		
		<i>85%</i>			<i>15% of the total sample</i>		
9.1:	Profitability	5.57			5.13		
9.2:	Productivity	5.05			4.13		
9.3:	Efficiency	4.32			4.38		
9.4:	Product/service quality	4.43			4.88		
9.5:	Delivery performance	4.62			5.00		
9.6:	Customer complaints	5.20			5.63		
9.7:	Customer satisfaction	3.91			5.13		
9.8:	Market share	3.79			4.63		
9.9:	Employee satisfaction	3.42			4.25		
9.10:	Employee participation	3.66			4.38		
9.11:	Absenteeism	5.50			4.75		
9.12:	Cost of quality	3.60			4.38		
9.13:	Waste/rework	4.19			4.13		

10. In your opinion, how important are the following factors in influencing the performance of small companies?

			<i>Not Important</i>			<i>Very Important</i>		
			<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
			<i>SC</i>		<i>SCC</i>			
			<i>85%</i>		<i>15%</i>	<i>of the total sample</i>		
10.1:	Availability of management time	5.20	5.25					
10.2:	Availability of non-financial resources	4.64	5.13					
10.3:	Ability to obtain long-term finance		4.67		5.00			
10.4:	Level of formal organisational structure	4.16	3.75					
10.5:	Ownership status		4.11		4.25			
10.6:	Short-term goals		5.00		5.00			
10.7:	Long term goals	5.07	4.38					
10.8:	Vulnerability to changes in market condit.		4.87		5.13			
10.9:	Vulnerability to technological changes		4.39		4.13			
10.10:	Dependency on the ordering policies of large companies	4.25	4.38					
10.11:	Communication between employees and managers		5.13		5.50			
10.12:	Relationships with trade unions	2.64	4.25					

11. Have you heard about the Trafford Park Quality and Performance Forum?

	SC	SCC		SC	SCC
YES:	37.78%	37.5%	NO:	62.22%	62.5%
If YES what do you believe the purpose of the forum is?					
				SC	SCC
				85%	15%
					<i>of the total sample</i>
Quality improvement				35.3%	66.6%
Mission Statement				29.4%	0.0%
Get companies together			17.6%	0.0%	<i>percentages of the</i>
Profile Increase			5.9%	33.4%	<i>those who said YES</i>
Consultancy, training and education				0.0%	0.00%
Did not answer			11.8%	0.00%	

12. How useful do you believe the following types of help would be for your company in implementing TQM?

		<i>Not Useful at all</i>				<i>Very Useful</i>	
		1	2	3	4	5	6
		SC		SCC			
				85%	15%	<i>of the total sample</i>	
12.1:	Help from a consultancy firm	4.00		2.75			
12.2:	Help from independent Quality Organisat. (eg E.F.Q.M.*, Trafford Park Quality and Performance Forum, etc)	4.29		3.50			

12.3:	Government help (eg DTI)	4.18	2.75
12.4:	Help from educational institutions	3.44	3.29
12.5:	Help from written material (eg magazines)	3.44	3.63
12.6:	Help from other companies experienced	4.29	4.50
12.7:	Help from managers and employees of the company who have knowledge of TQM	4.78	5.25
12.8:	Help from customers	4.42	4.38
12.9:	Help from suppliers	4.27	3.88

13. Has your company got a TQM programme?

	SC	SCC		SC	SCC
YES:	28.89%	62.5%	NO	71.11%	37.5%

If YES please indicate the main activities of the TQM programme and the year in which they started:

	SC	SCC	
<i>Activities Categories:</i>	85%	15%	<i>of the total sample</i>
Quality Improvement processes	30.7%	40.0%	
BS 5750/ISO 9000	23.1%	20.0%	
General/Other	15.4%	20.0%	<i>percentages out of the</i>
Quality Assurance	7.7%	0.0%	<i>ones who said YES</i>
Consultants/Gurus	0.0%	20.0%	
Did not answer	23.1%	0.0%	

Year started:

1989	15.4%	20.0%	
1990	7.7%	20.0%	
1991	7.7%	20.0%	<i>percentages out of the</i>
1992	7.7%	20.0%	<i>ones who said YES</i>
1993	30.7%	0.0%	

Did not answer	30.7%	20.0%
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14. How committed is your company to TQM?

	Not committed			Fully			Mean Score			
	at all committed			by category						
	1	2	3	4	5	6	SC:	3.57	SCC:	4.50
No of employees:	Mean Score in									
	SC categories:									
15-29	2.86									
30-49	3.67									
50-74	4.17									
75-99	2.45									
100-124	4.50									
125-149	1.00									
150-174	2.00									
175-199	----									
200-224	5.00									
225-250	4.50									
>250	4.40									

Please give-a reason for your answer:	<i>SC</i>		<i>SCC</i>	
	85%		15% of the total sample	
Economic/Resources Constraints	16.7%		0.0%	
TQM is a long term aim	9.5%		0.0%	
Confusion with BS 5750	9.5%		0.0%	
Lack of management commitment	9.5%		25.0%	

Firms that strongly believe in TQM	7.2%	62.5%
Not currently a high priority	7.2%	0.0%
Not enough information	4.7%	0.0%
Increased paperwork	2.4%	0.0%
Did not answer	33.3%	12.5%

15. Have you achieved BS 5750/ISO 9000 accreditation?

	SC	SCC		SC	SCC
YES:	46.67%	75%	NO:	53.33%	25%

If YES, which parts?

	SC	SCC	
	85%	15%	<i>of the total sample</i>
BS 5750 Part I:	14.3%	16.7%	
BS 5750 Part II	80.9%	33.3%	<i>percentages out of the</i>
BS 5750 Part I and II	0.0%	33.3%	<i>ones who said YES</i>
Did not answer	4.8%	16.7%	

When did you achieve the accreditation (year)?

	SC	SCC	
	85%	15%	<i>of the total sample</i>
1987	4.8%	0.0%	
1988	4.8%	0.0%	
1989	9.5%	33.3%	<i>percentages out of the</i>
1990	14.3%	0.0%	<i>ones who said YES</i>
1991	14.3%	16.7%	
1992	38.1%	33.3%	

1993 14.3% 16.7%

16. Would you like to be sent a brief report summarising the results of the questionnaire?

	<i>SC</i>	<i>SCC</i>		<i>SC</i>	<i>SCC</i>
<i>YES:</i>	57.8%	62.5%	<i>NO:</i>	42.2%	37.5%

APPENDIX C

Graphs of Chapter 5

KEYS FOR THE GRAPHS

QUESTION 5: TQM DEFINITION

- 5.1:** Quality of products/services
- 5.2:** Internal customer satisfaction
- 5.3:** External customer satisfaction
- 5.4:** Quality of delivery
- 5.5:** Quality of administration
- 5.6:** Quality of the working environment
- 5.7:** Employee involvement/commitment
- 5.8:** Quality is everyone's job
- 5.9:** Team activities
- 5.10:** Partnership between customers-company
- 5.11:** Partnership between company-suppliers
- 5.12:** Management commitment/leadership
- 5.13:** Commitment to continuous improvement
- 5.14:** "Do it right the first time"
- 5.15:** "Zero defects"

QUESTION 6: TQM ACTIVITIES

- 6.1:** Implementing a particular quality philosophy (Crosby, Deming, Juran, etc)
- 6.2:** Obtaining BS 5750/ISO 9000 Quality System Series accreditation
- 6.3:** Ensuring top management's leadership/commitment
- 6.4:** Establishing a TQM Steering Committee
- 6.5:** Seeking external help (consultancy)
- 6.6:** Using quality management tools and techniques
- 6.7:** Establishing teamwork
- 6.8:** Starting a training/education programme
- 6.9:** Developing a vision and mission statement which includes TQM
- 6.10:** Integrating the strategy for quality improvement in the company's business strategy
- 6.11:** Developing relationships with customers
- 6.12:** Developing relationships with suppliers
- 6.13:** Establishing a reward and recognition mechanism for employees
- 6.14:** Establishing effective communication channels
- 6.15:** Benchmarking performance against other organisations

QUESTION 7: TQM BENEFITS

- 7.1: Improved competitive position
- 7.2: Increased market share
- 7.3: Reduced costs
- 7.4: Improved profitability
- 7.5: Improved understanding of quality
- 7.6: Improved understanding of processes
- 7.7: Greater external customer satisfaction
- 7.8: Greater internal customer satisfaction
- 7.9: Improved understanding of customer requirements
- 7.10: Reduced customer complaints
- 7.11: Improved customer service
- 7.12: Improved delivery performance
- 7.13: Improved productivity
- 7.14: Improved efficiency
- 7.15: Reduced waste/rework
- 7.16: Improved working conditions
- 7.17: Improved employee morale/attitudes
- 7.18: Reduction in employee absenteeism
- 7.19: Improved product design

QUESTION 8: MEASURED PERFORMANCE INDICATORS

- 8.1: Profitability
- 8.2: Productivity
- 8.3: Efficiency
- 8.4: Product/service quality
- 8.5: Delivery performance
- 8.6: Customer complaints
- 8.7: Customer satisfaction
- 8.8: Market share
- 8.9: Employee satisfaction
- 8.10: Employee participation
- 8.11: Absenteeism
- 8.12: Cost of quality
- 8.13: Waste/rework

QUESTION 9: EASE OF MEASUREMENT OF PERFORMANCE INDICATORS

- 9.1: Profitability
- 9.2: Productivity
- 9.3: Efficiency
- 9.4: Product/service quality
- 9.5: Delivery performance
- 9.6: Customer complaints
- 9.7: Customer satisfaction
- 9.8: Market share
- 9.9: Employee satisfaction
- 9.10: Employee participation
- 9.11: Absenteeism
- 9.12: Cost of quality
- 9.13: Waste/rework

QUESTION 10: SMALL COMPANIES PERFORMANCE FACTORS

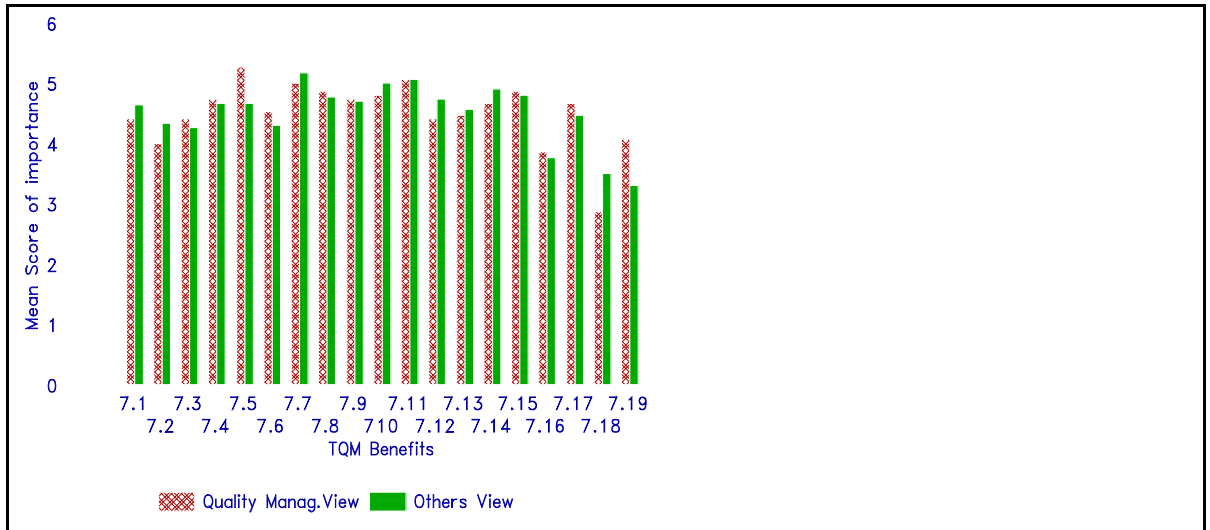
- 10.1: Availability of management time
- 10.2: Availability of non-financial resources
- 10.3: Ability to obtain long-term finance
- 10.4: Level of formal organisational structure
- 10.5: Ownership status
- 10.6: Short-term goals
- 10.7: Long term goals
- 10.8: Vulnerability to changes in market conditions
- 10.9: Vulnerability to technological changes
- 10.10: Dependency on the ordering policies of large companies
- 10.11: Communication between employees and managers
- 10.12: Relationships with trade unions

QUESTION 12: KINDS OF HELP IN IMPLEMENTING TQM

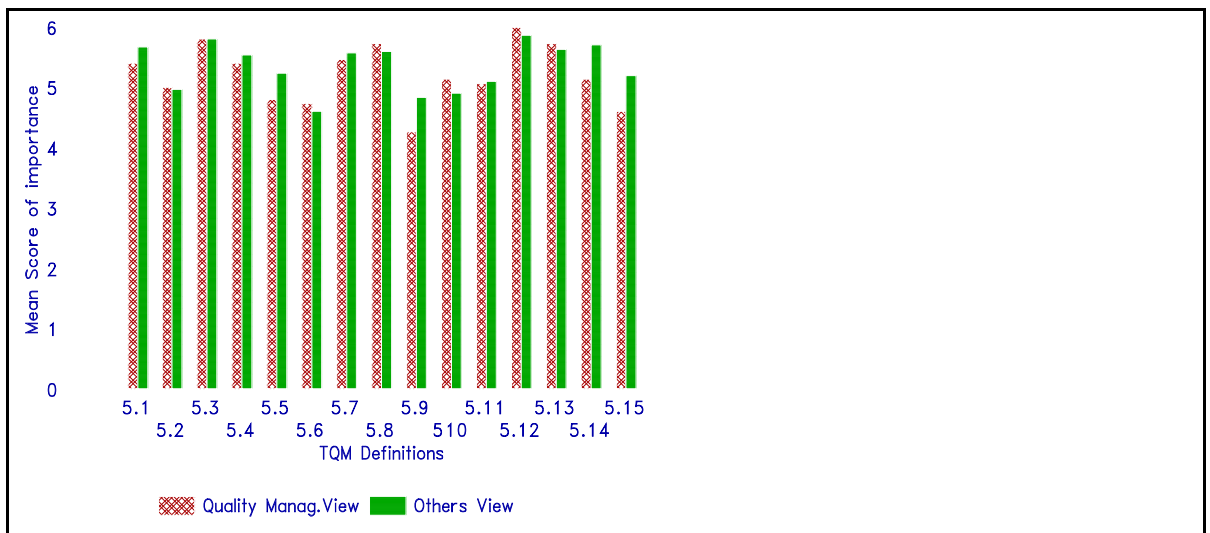
- 12.1: Help from a consultancy firm
- 12.2: Help from independent Quality Organisations (eg E.F.Q.M.*, Trafford Park Quality and Performance Forum, etc)
- 12.3: Government help (eg DTI)

- 12.4:** Help from educational institutions (eg Universities)
- 12.5:** Help from written material (eg magazines)
- 12.6:** Help from other companies experienced in TQM
- 12.7:** Help from managers and employees of the company who have knowledge of TQM
- 12.8:** Help from customers
- 12.9:** Help from suppliers

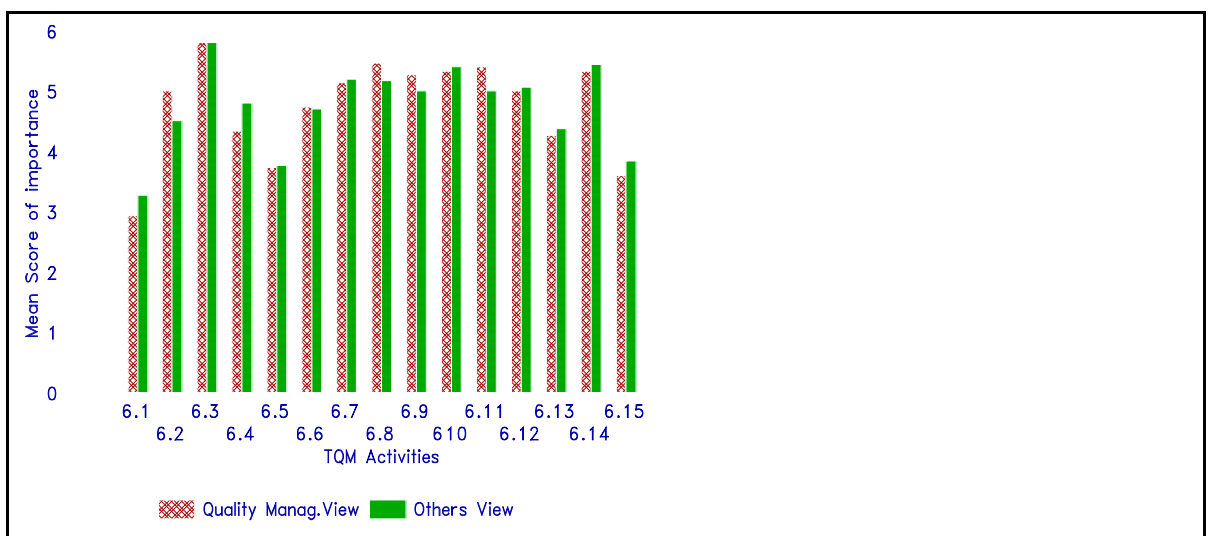
GRAPHS



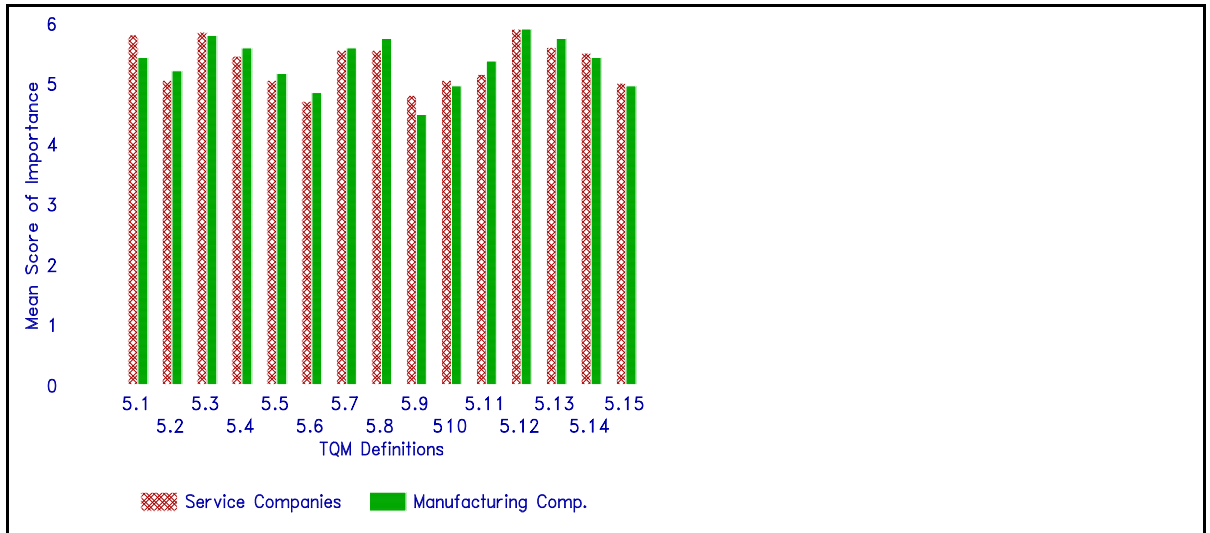
Graph 5.1: Quality Managers Views about the importance of the expected benefits of TQM



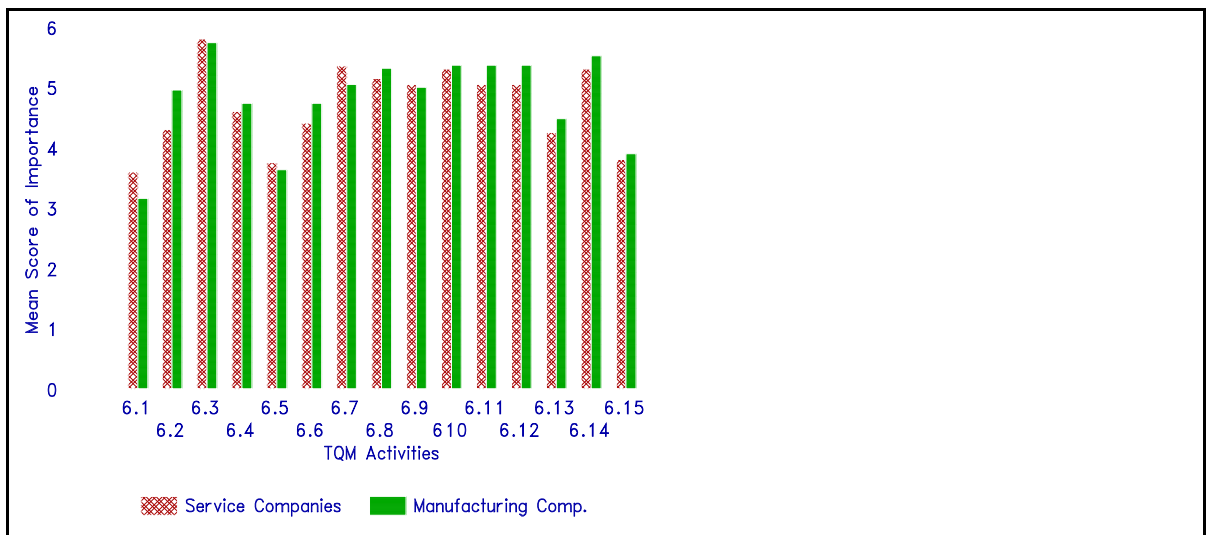
Graph 5.2: Quality Managers Views about the importance of the factors describing TQM



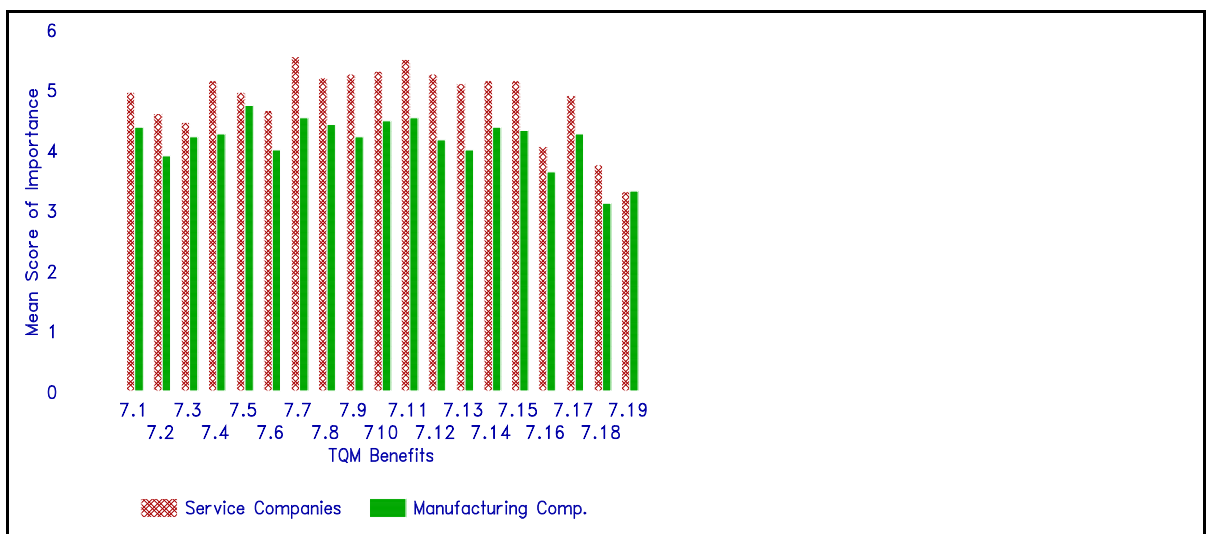
Graph 5.3: Quality Managers views about the importance of the activities of TQM



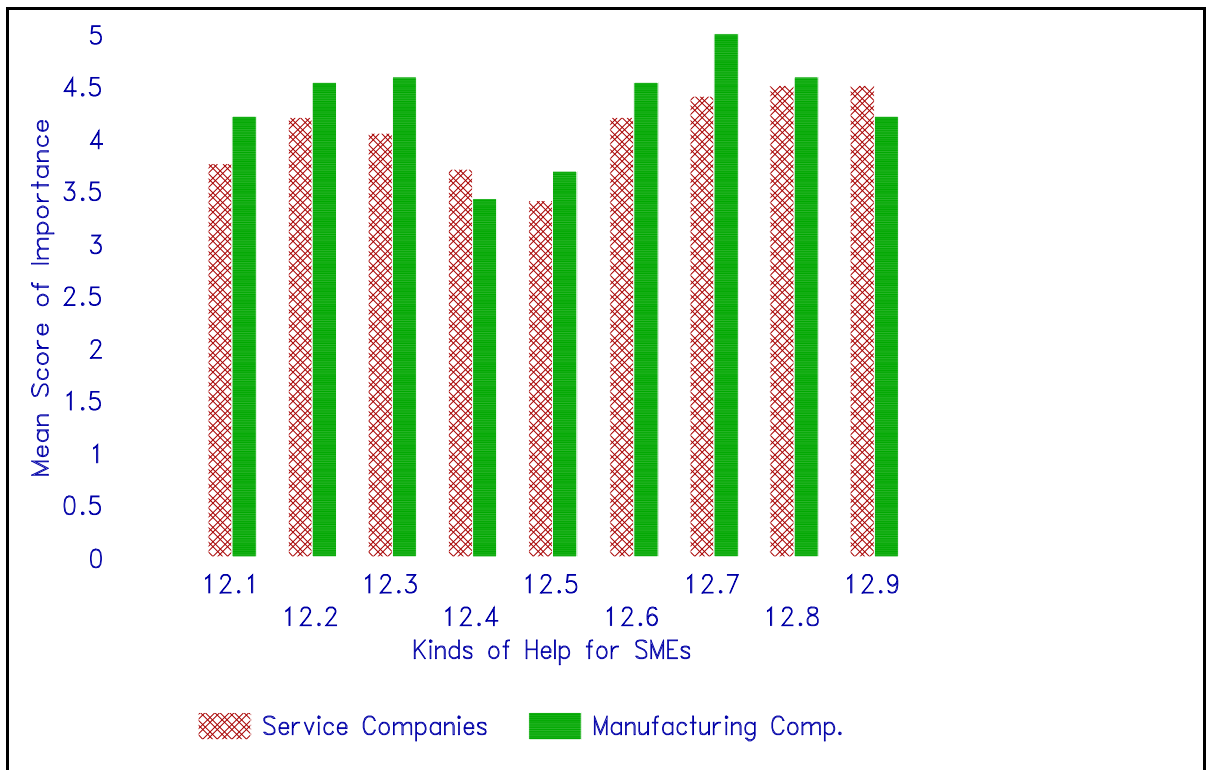
Graph 5.4: The importance of the factors describing TQM according to the economic sectors



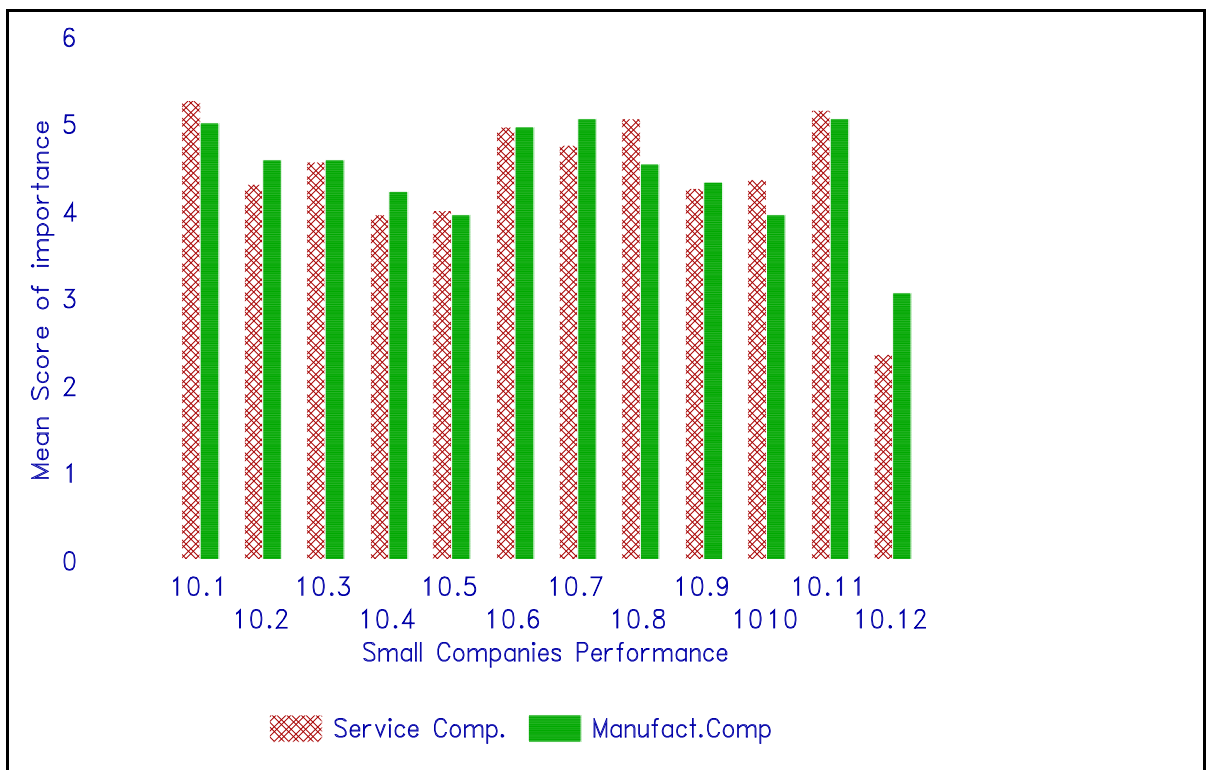
Graph 5.5: The importance of TQM activities according to the economic sectors



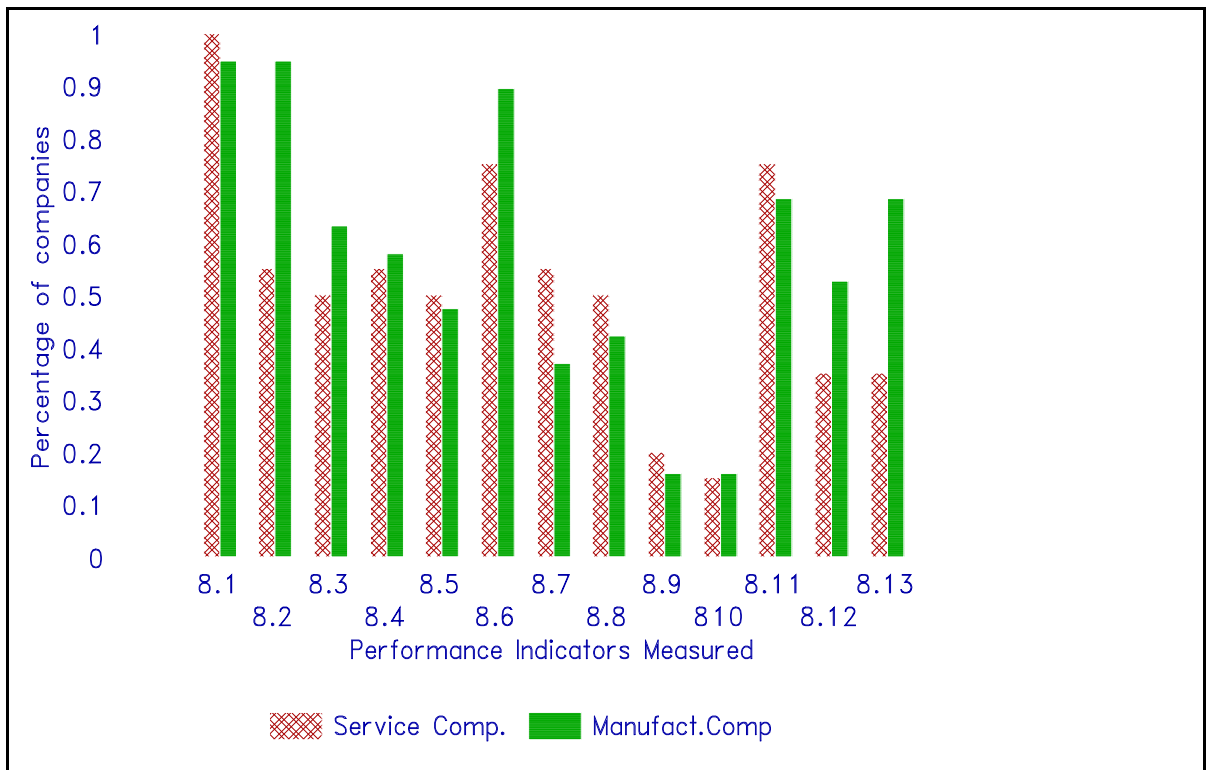
Graph 5.6: The importance of the benefits expected from TQM according to the economic sectors



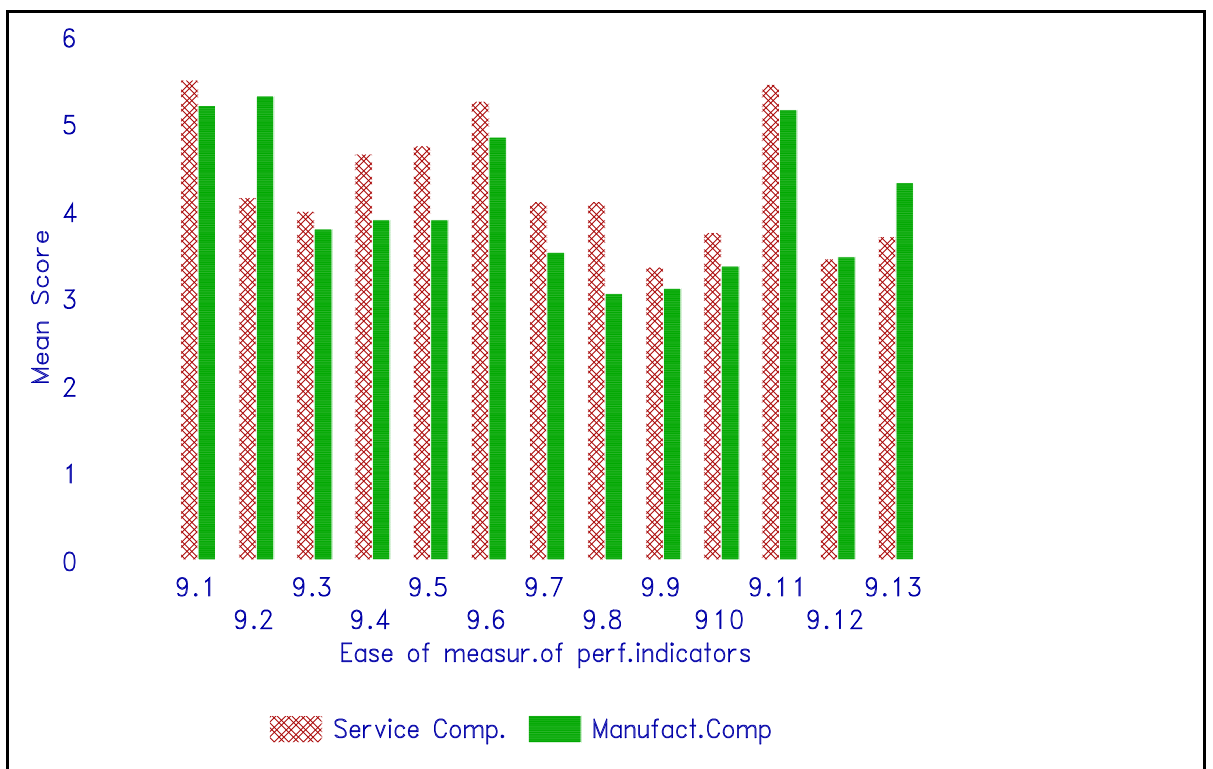
Graph 5.7: The importance of the kinds of help in implementing TQM according to the economic sectors



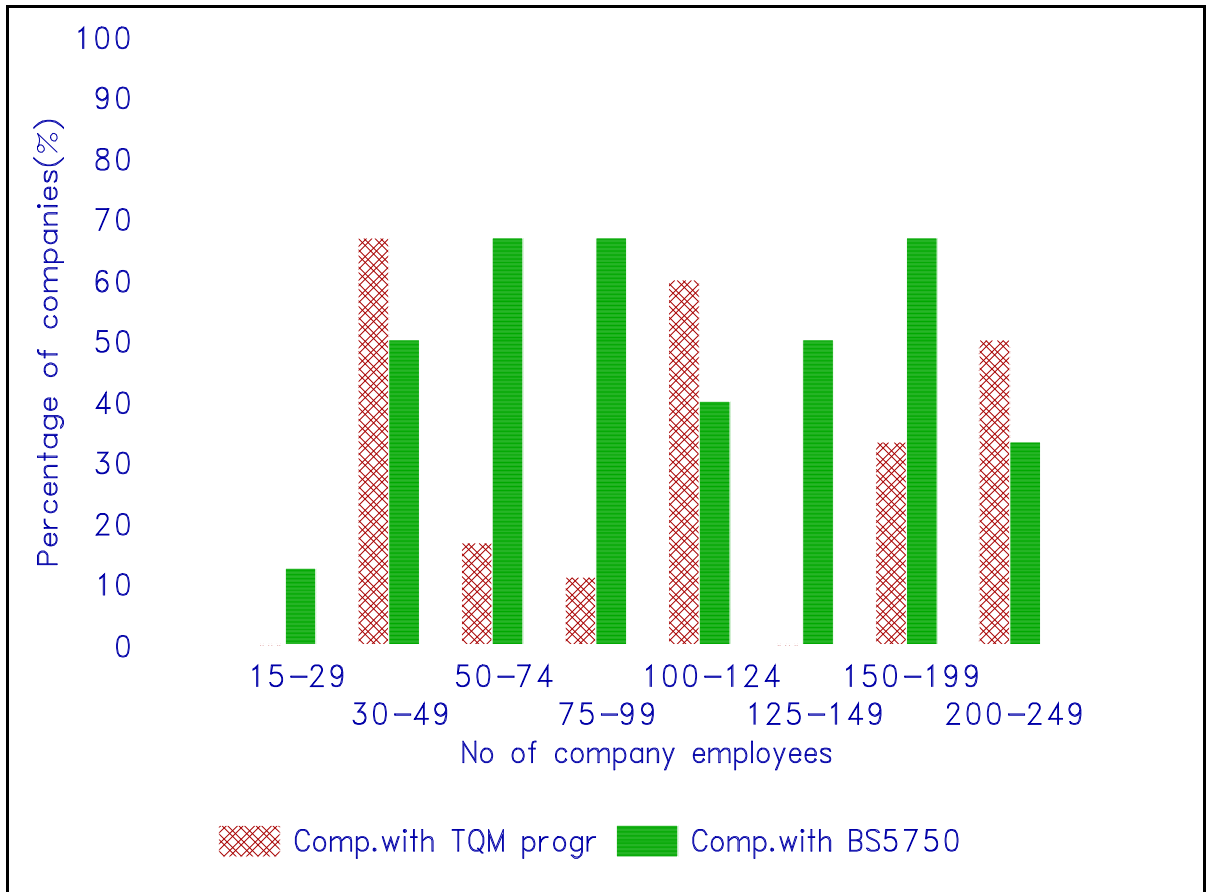
Graph 5.8: The importance of the factors influencing small companies performance according to the economic sectors



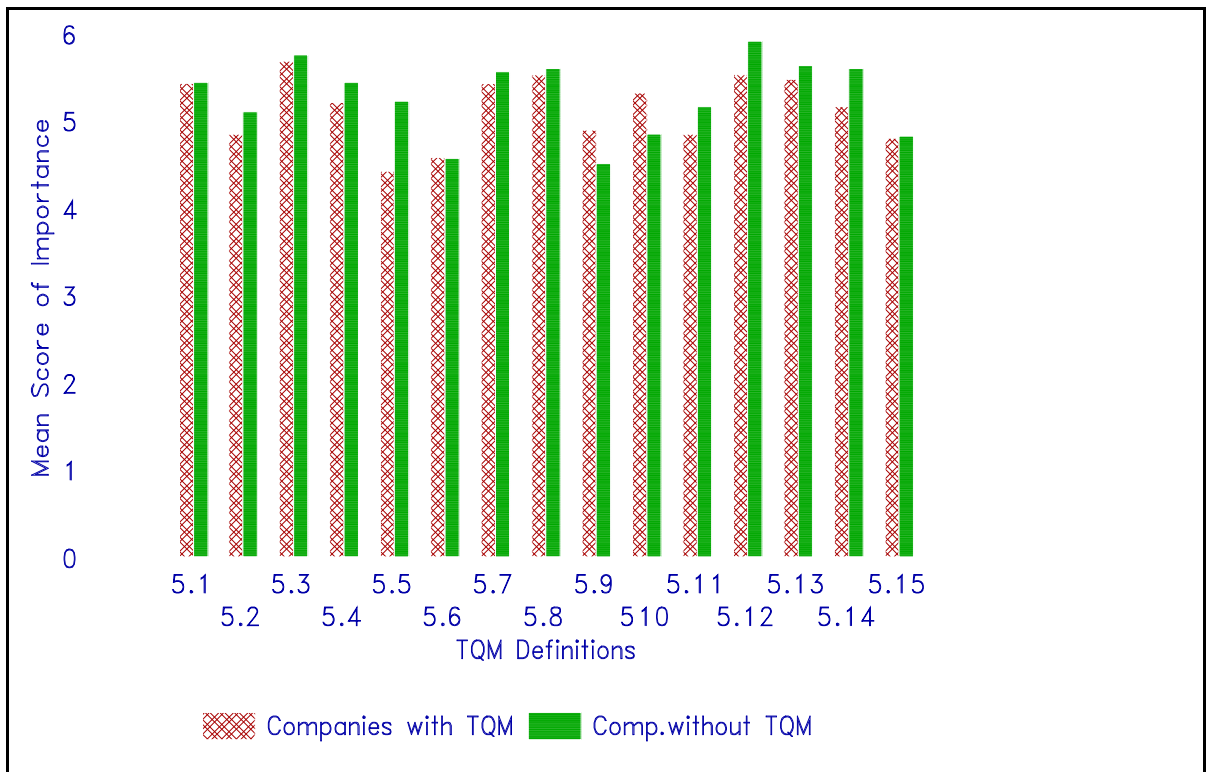
Graph 5.9: Performance indicators measured according to the economic sectors



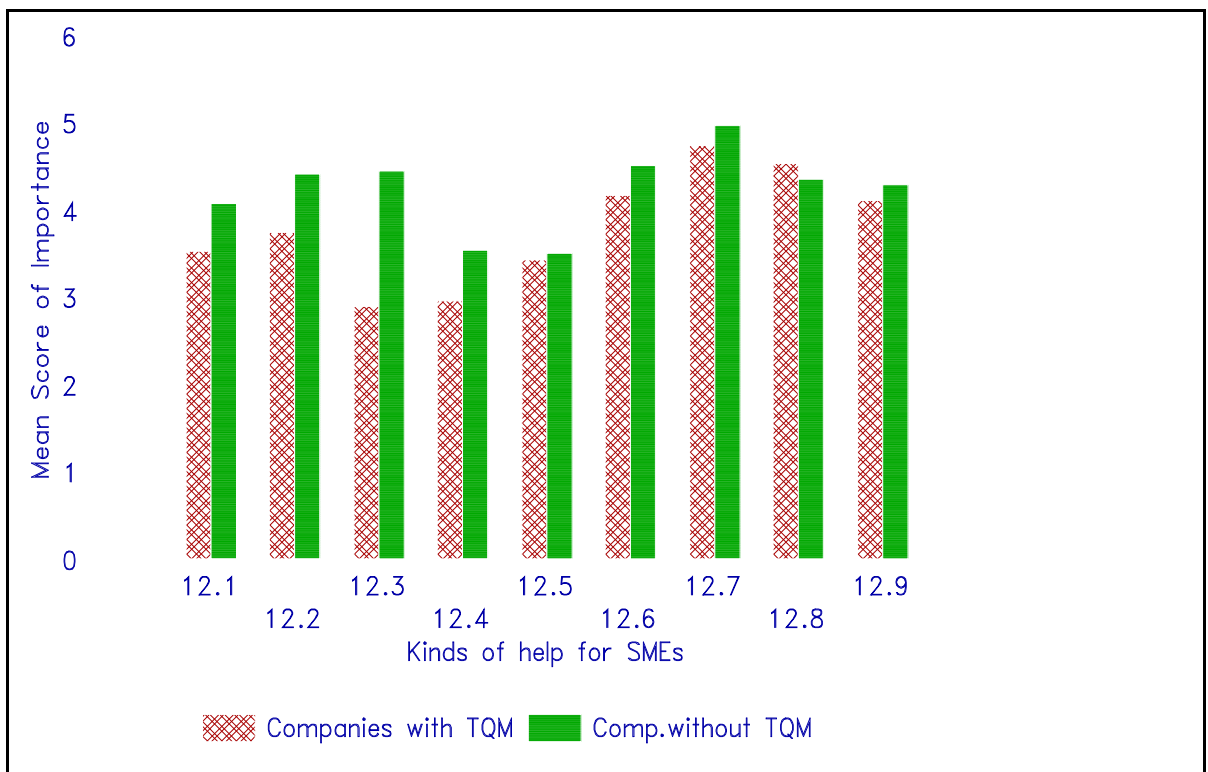
Graph 5.10: Ease of measurement of performance indicators according to the economic sectors



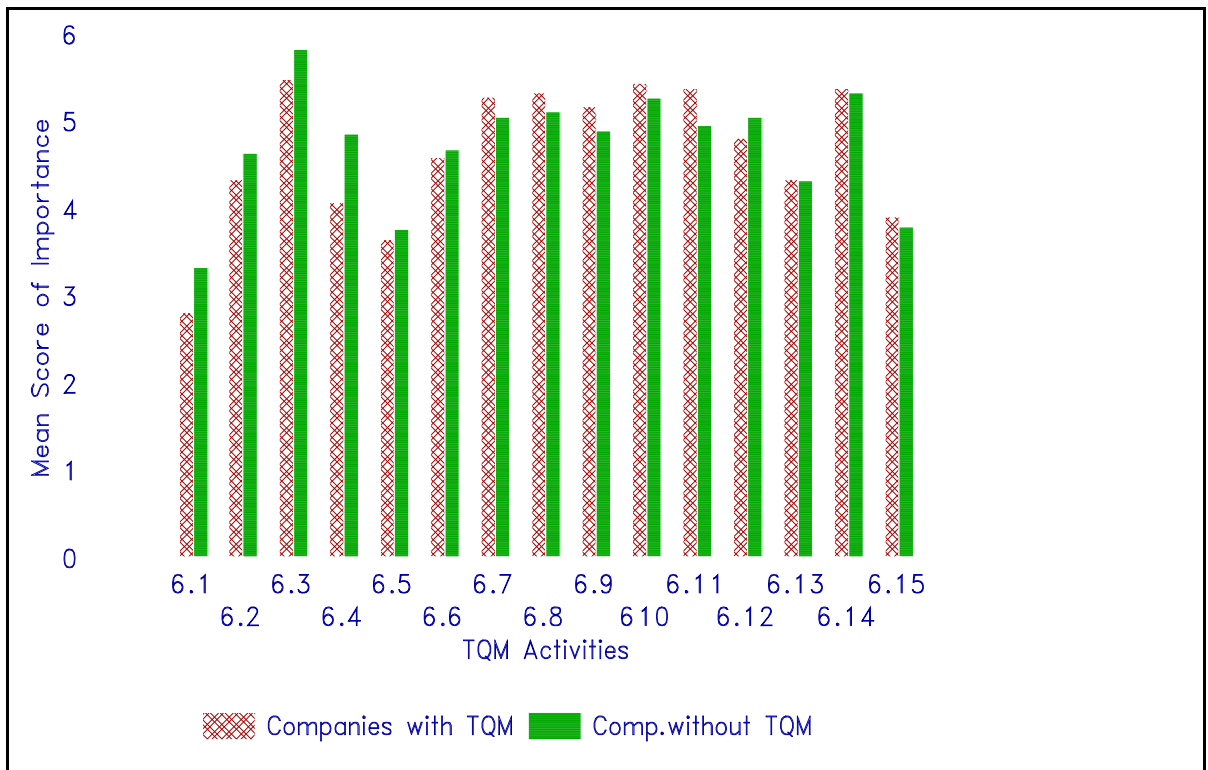
Graph 5.11: Companies with a TQM programme and companies with BS 5750 accreditation according to company size



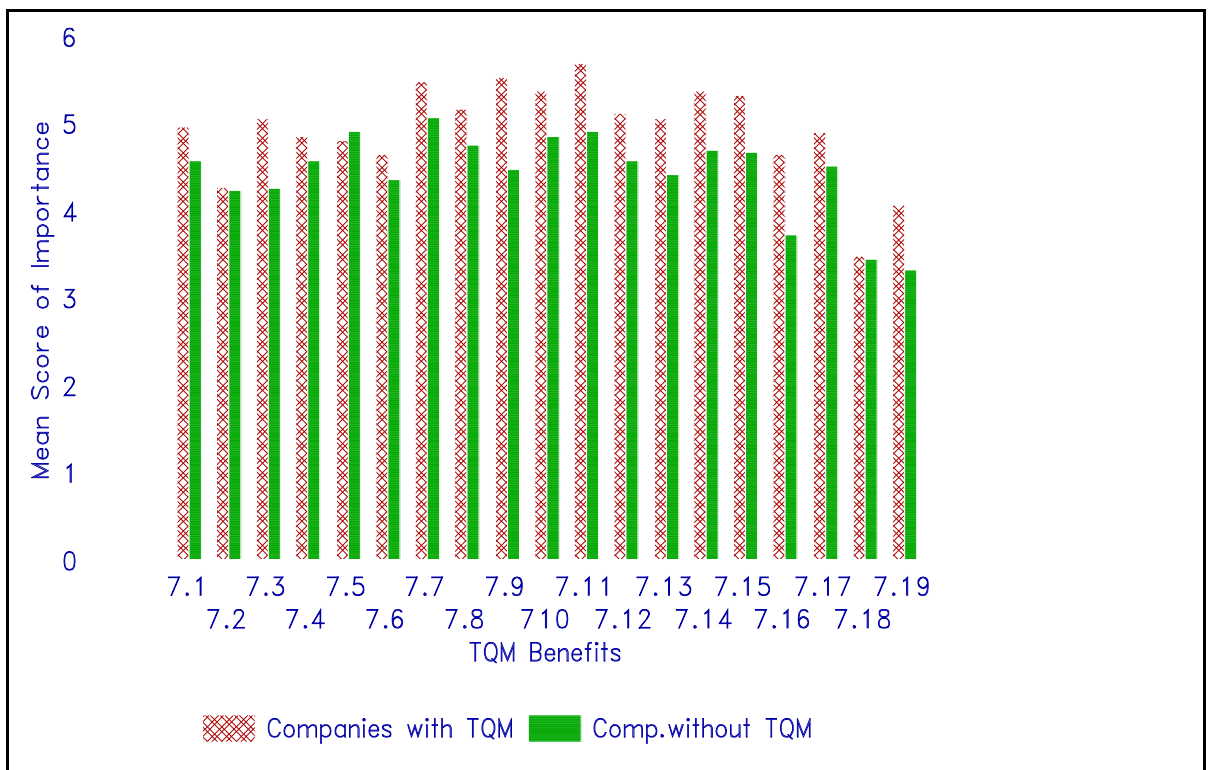
Graph 5.12: Importance of factors describing TQM according to companies with and without a TQM programme



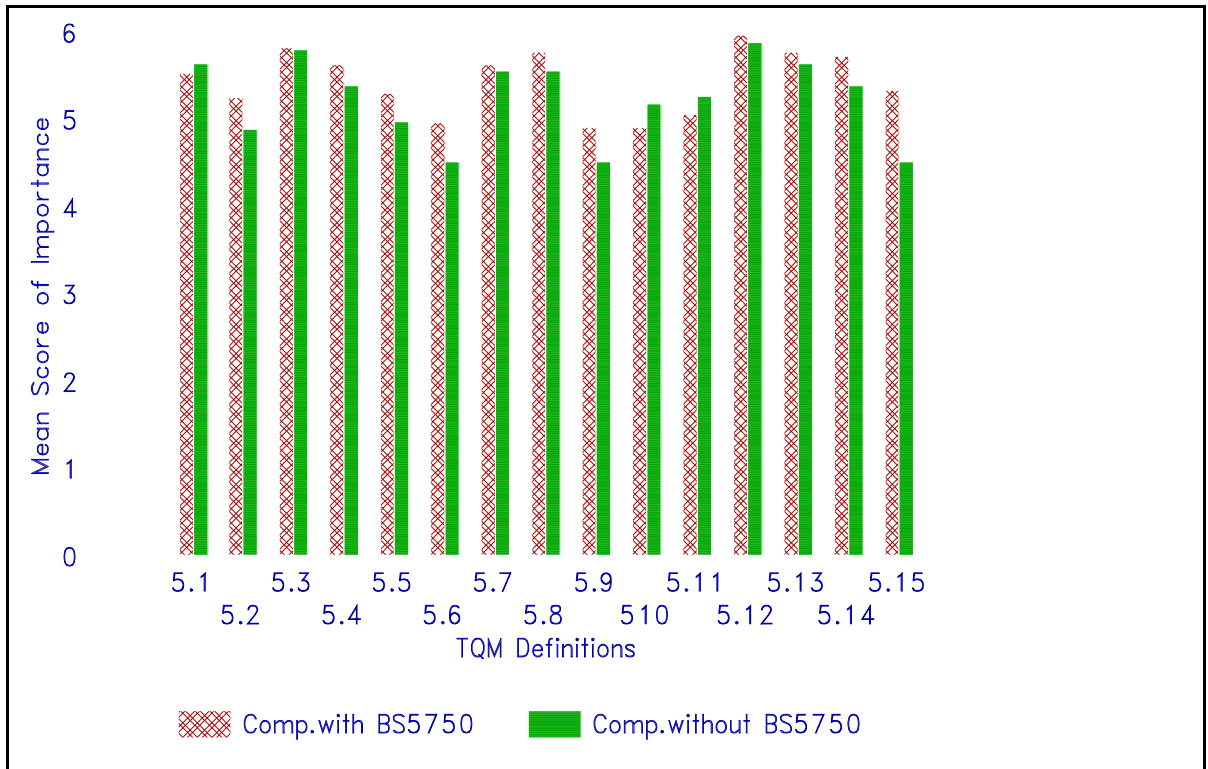
Graph 5.13: Importance of kinds of help in implementing TQM according to companies with and without a TQM programme



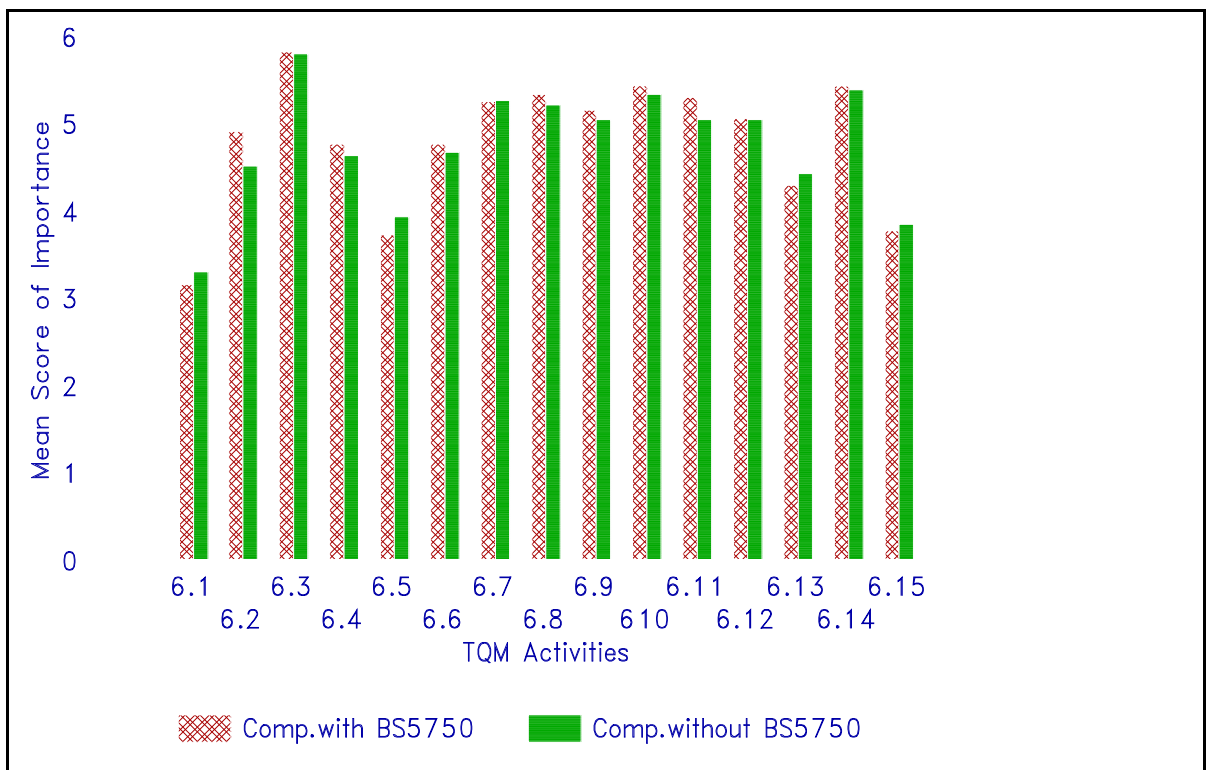
Graph 5.14: Importance of TQM activities according to companies with and without a TQM programme



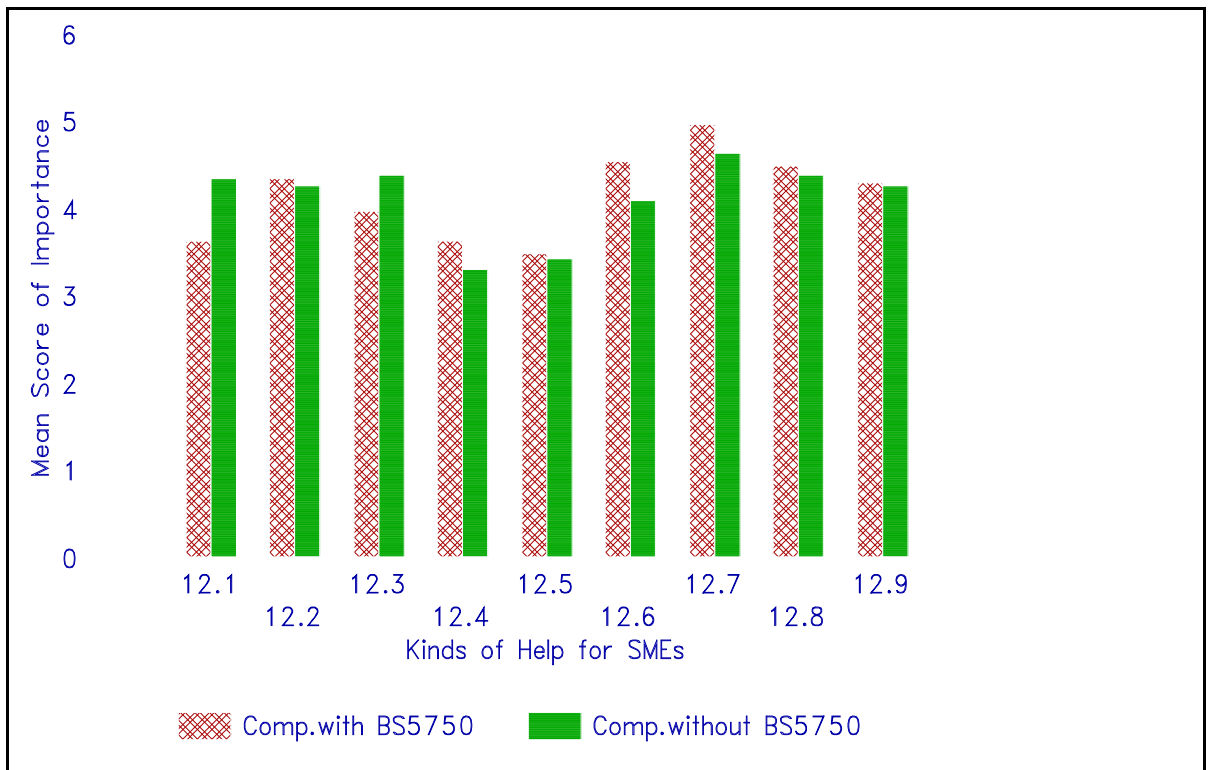
Graph 5.15: Importance of TQM benefits according to companies with and without a TQM programme



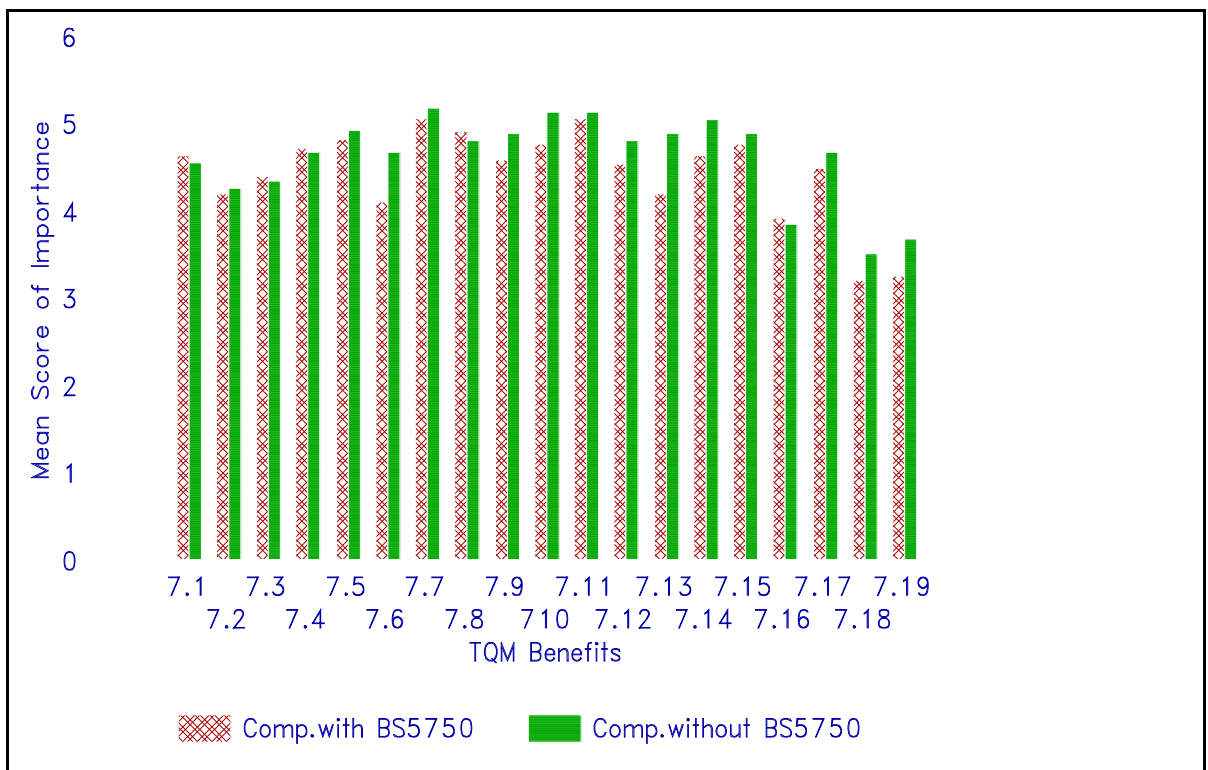
Graph 5.16: Importance of the factors describing TQM according to companies with and without BS 5750 accreditation



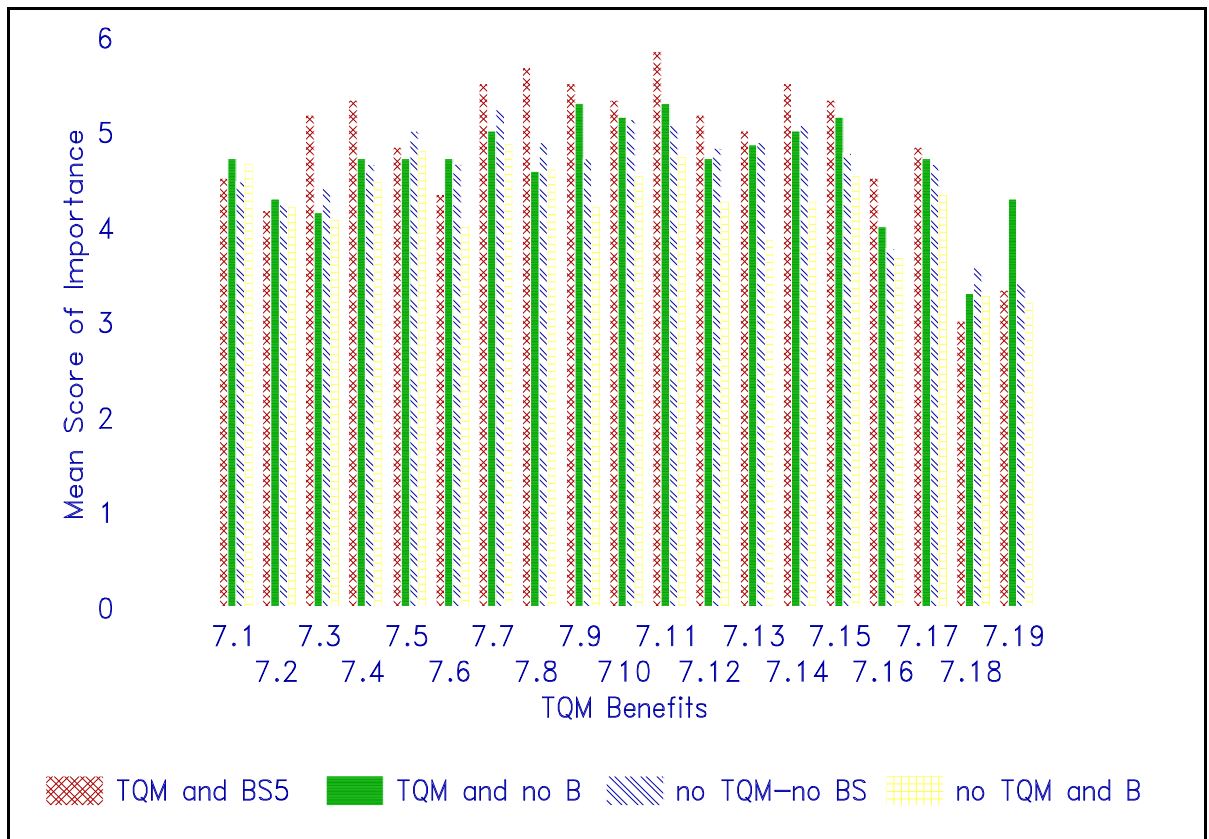
Graph 5.17: Importance of TQM activities according to companies with and without BS 5750 accreditation



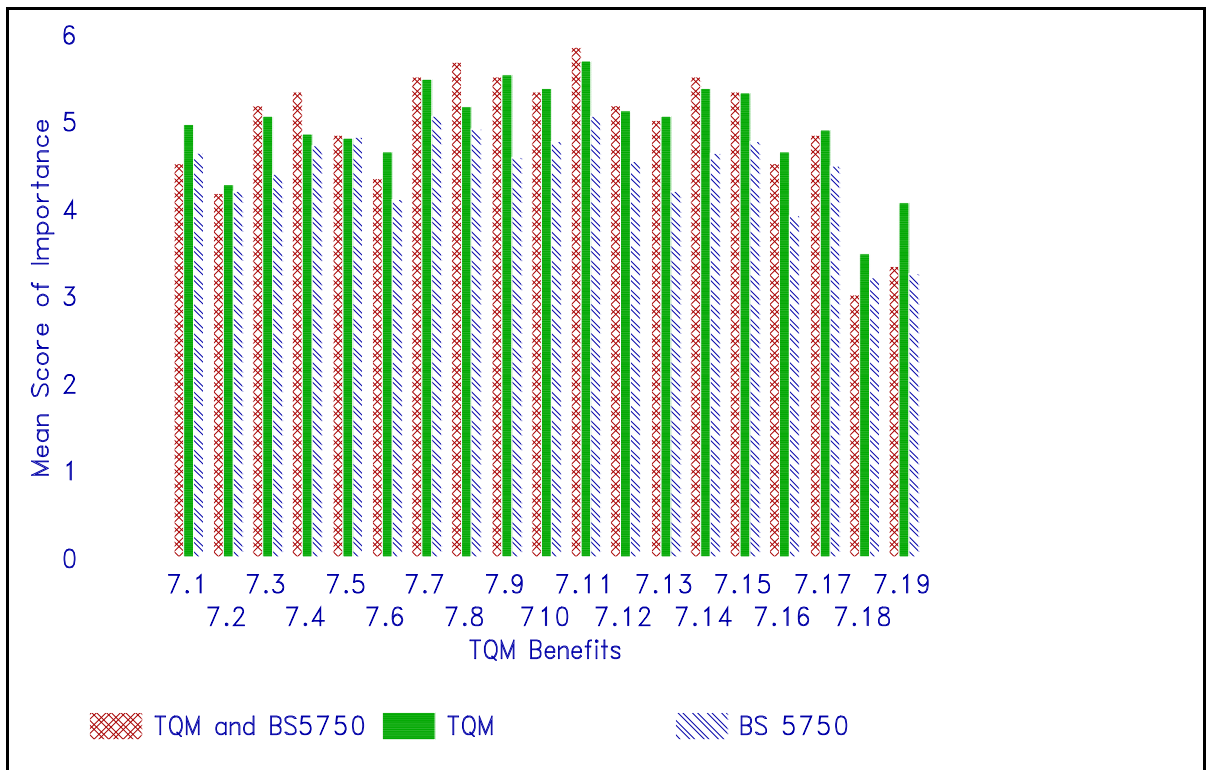
Graph 5.18: Importance of kinds of help in implementing TQM according to companies with and without BS 5750 accreditation



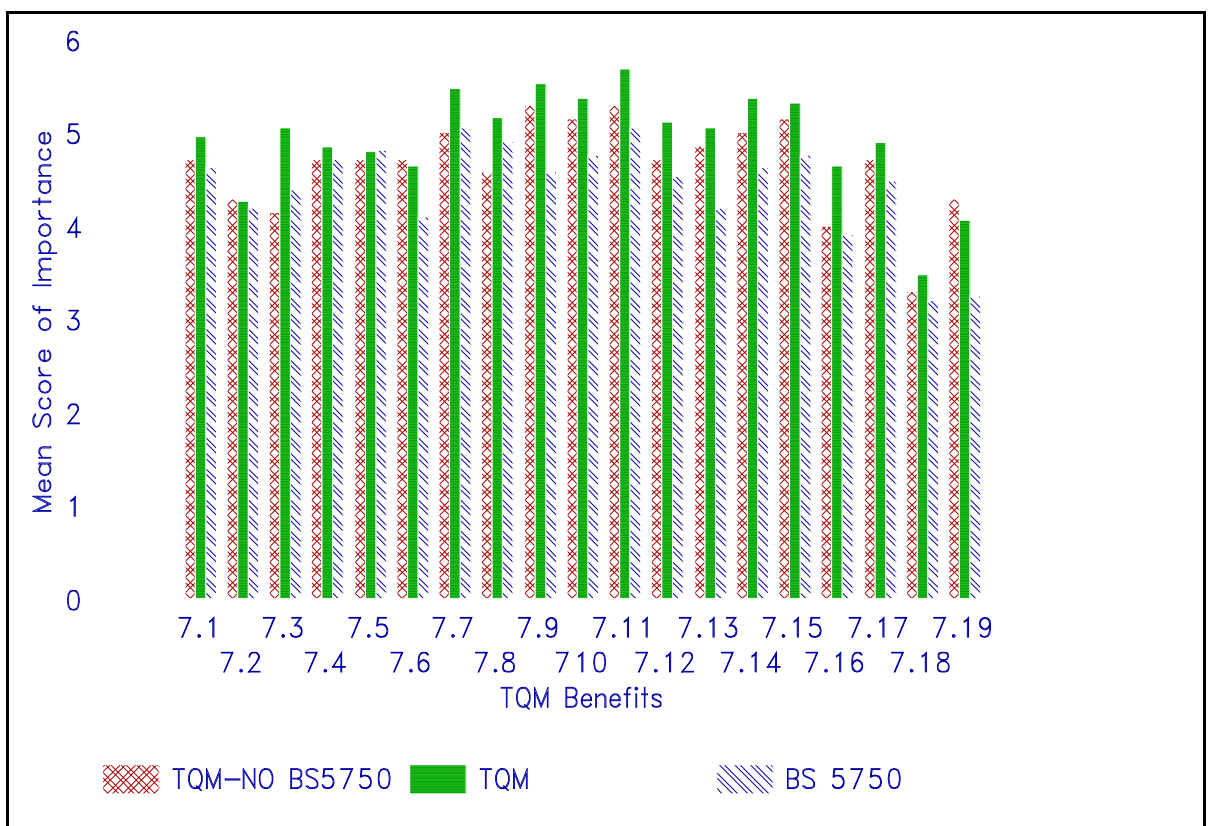
Graph 5.19: Importance of the benefits expected from TQM according to the companies with and without BS 5750 accreditation



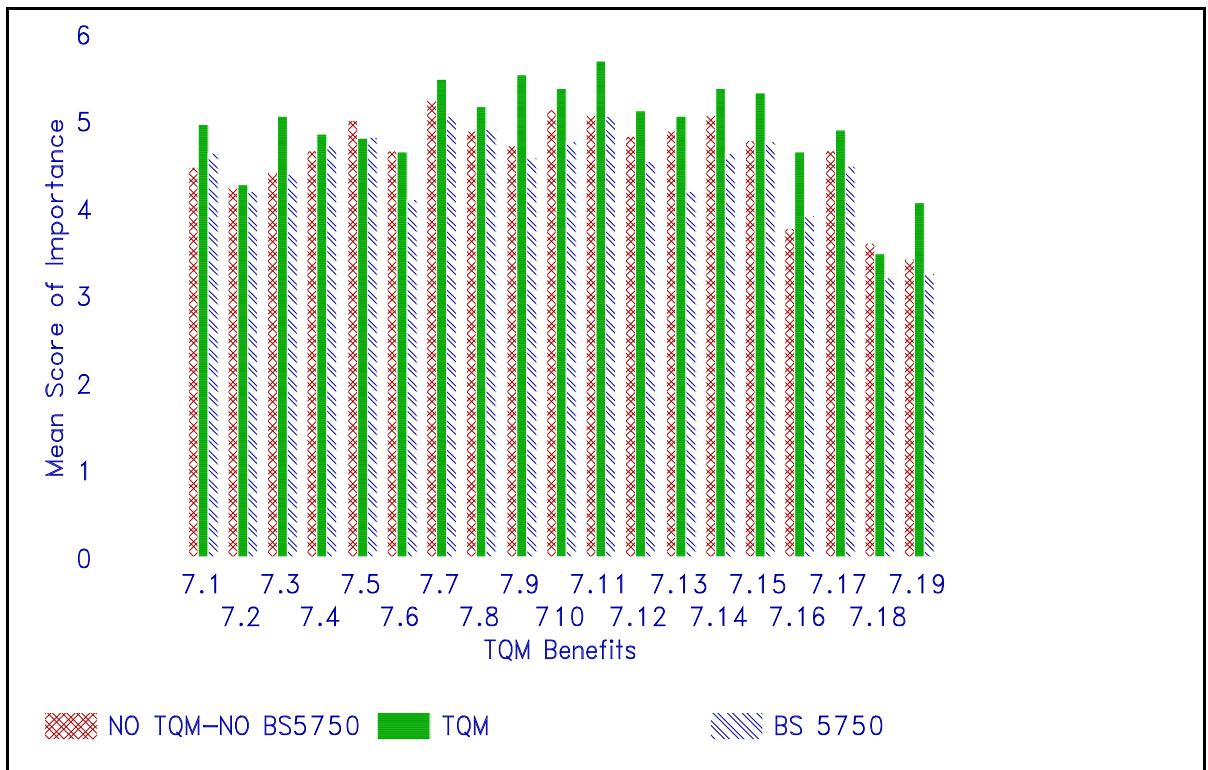
Graph 5.20: Comparison of companies with TQM/BS 5750, with TQM/no BS 5750, with noTQM/no BS 5750, and with no TQM/ BS 5750



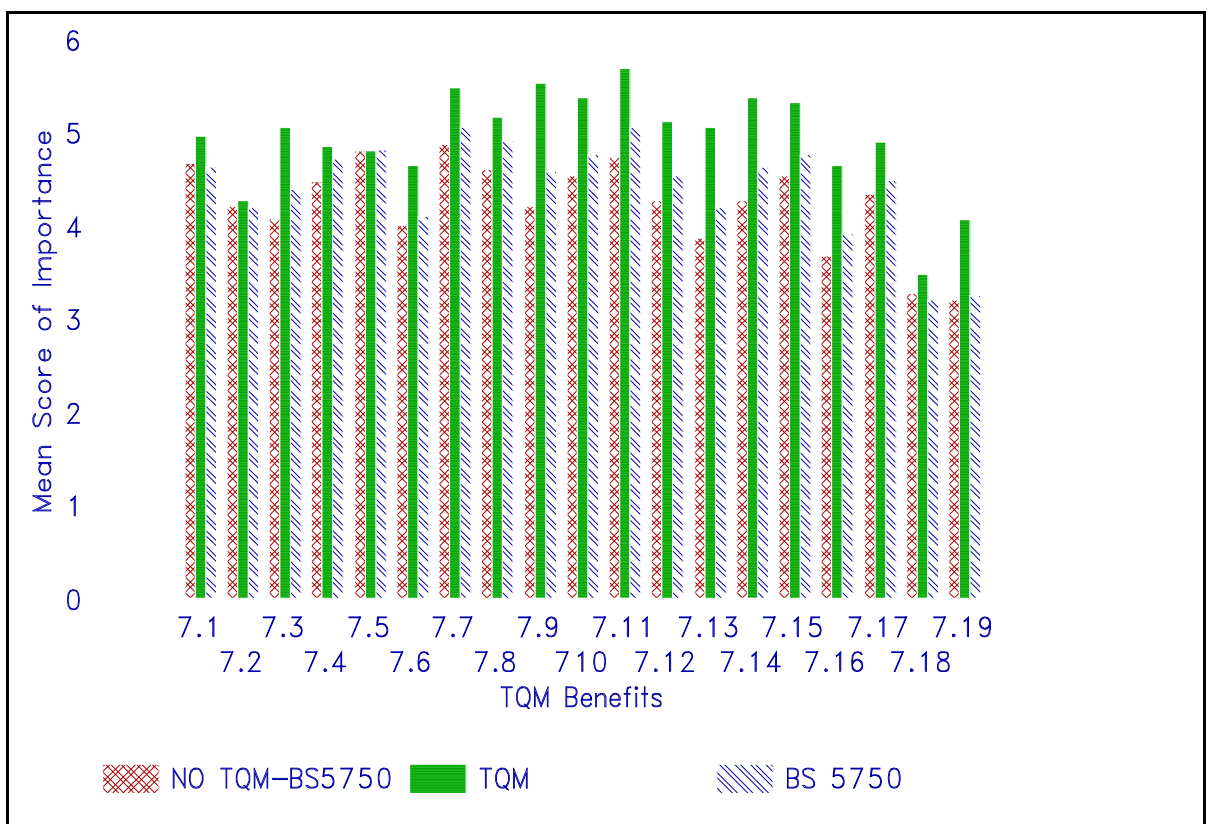
Graph 5.21: Comparison of the views of companies with TQM/ BS 5750, companies with TQM, and companies with BS 5750, on the TQM benefits.



Graph 5.22: Comparison of the views of companies with TQM/no BS 5750, companies with TQM, and companies with BS 5750, on the TQM benefits.



Graph 5.23: Comparison of the views of companies with no TQM/no BS 5750, companies with TQM, and companies with BS 5750, on the TQM benefits



Graph 5.24: Comparisons of the views of companies with no TQM/BS 5750, companies with TQM, and companies with BS 5750, on the TQM benefits

