CHAPTER 2: LITERATURE REVIEW

2.1 Introduction to ISO 9000
2.2 Motivations affecting adoption of quality management systems
2.3 Adoption of ISO 9000 and its impact
2.4 Problems faced in implementation
2.5 Indian scenario
2.6 Research gaps
CHAPTER 2: LITERATURE REVIEW

This chapter talks about literature survey. The chapter deals with the Status of ISO 9000 implementation in the world industry. The chapter also highlights the results of studies carried out on the objectives, motivations, problems and impacts of implementing ISO 9000 in the manufacturing and service industries.

2.1 INTRODUCTION TO ISO 9000

ISO 9000 has been one of the most popular quality management standards, accepted by the organisations all over the world. Although it has been frequently used as a marketing tool by the organisations, its impact on organizational performance has always been a matter of debate. Numerous studies have been carried out to study the impacts of implementing ISO 9000 and the problems associated with it. Most of the studies indicate that the implementation of quality management systems has a positive impact on the performance of organisations, although the implementation is not free from obstacles. The present study is an attempt to investigate the impact of implementing ISO 9000 in the Indian garment industry along with identifying various issues and problems.

The International Standardization Organization (ISO), at first only interested in the regulation of measurement activities in the different industrial sectors, took its cue from these standards, and in 1987 published the first edition of ISO 9000 series. This was fated to become in a few years the leading reference for Quality System Organization all over the world.

The expectation was to facilitate the international commerce and improve the competitiveness of European and North-American companies in an ever more selective market, characterized by a strong penetration of far-eastern products, by harmonizing terms, systems and methodologies. This could only be done by
acquiring competitive advantage in terms of customer satisfaction and product reliability (Withers & Ebrahimpour, 2000).

ISO 9000 family standards specify organization requirements for giving a “formal evidence” of the capability to organize resources and processes with respect to regulation, prescriptions and customer requirements. The aim is to ensure stakeholders’ satisfaction (Franceschini, 2002). ISO 9000 standards represent a benchmark for company management in its whole. They are not focused on the intrinsic product/service quality, but on the related processes, enlarging their action to the entire network of interactions in which the factory is acting. The extension of the application field originates from the awareness that quality is a strategic variable to be planned and managed through the whole network of the value-chain (Romano & Vinelli, 2001).

Since 1984, when British Standards Institution (BSI) drafted its revision to BS 5750 (1979), there have been a number of studies into company expectations and experiences of the costs and benefits, and value added of the standard (AW Business Services Ltd, 1994; BSI Policy Committee for Small Businesses, 1994; Chittenden, Mukhtar & Potziouris, 1994; The CMC Partnership, 1993; Freeman-Bell & Grover, 1993; Institute of Quality Assurance, 1991; London Chamber of Commerce and Industry, 1994; Lowe-Bell Consultants, 1994; Mendham, Chittenden & Potziouris, 1994; Mobil Oil, 1994; PERA International and Salford University Business Services Ltd, 1991; SEPSU, 1994; SGS Yarsley, 1992; SBRT, 1994). Some of these reports are specific to certain sectors like local authorities, software companies, manufacturers, suppliers to the water utilities, and small businesses. Few are general in scope.

According to Giguere & Smith (1999), an improved image clubbed with enhanced marketing and strategic risk management are the significant benefits of ISO 9000 for service companies. Calisir et.al. (2005), in a survey of 43 ISO-certified Turkish textile companies, reported that most benefits of certification were actually associated with increased product quality, reduced error/defect rate in production, and increased overseas market share. Atwater & Discenza (1993) reported that their respondents from a sample of 29 firms listed the ISO 9000 registration benefits as follows: improved plant operating efficiency, greater customer satisfaction, and
A study by Beattie and Sohal (1999) found that improved market share was the number one benefit in the list of strategic business benefits, supported by customer service, which in turn was the second most important operational benefit. Rayner & Porter (1991) emphasized the fact that certification tends to result in improved marketing. Ragothaman & Korte (1999) noted that managers of smaller firms held a stronger belief that ISO 9000 registration results in cost reduction and export potential increase than did managers of large firms.

A study conducted by the Australian Manufacturing Council (1994) found that managers of certified companies, particularly those working in the export market, voiced similar views that customer perception of product quality increases following certification. Furthermore, this perception could often be vital in winning new customers, retaining customer confidence, and penetrating international markets. The AMC study concluded that certification is expected to lead to both actual and perceived quality improvements, as well as to overall improvements in organizational performance. The results of an extensive study by Terziovski et.al. (1996) of 1,341 manufacturing sites were contradictory. They concluded that the presence or absence of ISO 9000 certification is a poor indicator of organizational performance and quality as measured with respect to defect rates, warranty costs, and other key measures such as full on-time delivery.

Batchelor (1992) supports this view by providing empirical evidence showing that only 15 percent of the 647 certified manufacturing and service organizations had derived business value on nine dimensions of organizational performance. These dimensions were market share, new customers, customer satisfaction, procedural efficiency, staff motivation, staff attitudes, error rates, wastage, and costs. Another extensive study by Samson and Terziovski (1999) indicated that behavioral factors such as executive commitment, employee empowerment, and an open culture are capable of producing competitive advantages more strongly than TQM tools and techniques such as process improvement, benchmarking, and information and analysis. According to Binney (1992), companies should start their journey in "Quality" by understanding the principles and concepts of both ISO 9000 certification and TQM. Thus, companies need to consider the role of quality in their organizational philosophy and business strategy before embarking on certification,
TQM, or both. Similarly, Beattie & Sohal (1999) state that certified quality management systems per se do not achieve major benefits, but when they are combined with quality-improvement initiatives, substantial improvements can be expected. Prajogo (2005) found no significant difference in the level of most of the TQM practices and quality performance between manufacturing and service firms. Also, Brown and Van Der Wiele (1995) found that many organizations, acknowledging the wider notion of quality management as being important, are considering ISO 9000 as a good basis to start the process of quality improvement from.

ISO 9000 emphasise that the standard is a vital component in achieving business excellence by both large and small companies, equally within the manufacturing and service sectors (e.g. Brumm, 1995; Jackson & Ashton, 1995; McLachlan, 1996; Peach, 1995; Subba et al., 1997)

2.2 MOTIVATIONS (FACTORS) AFFECTING ADOPTION OF QUALITY MANAGEMENT SYSTEM

Idris et al. (1996) stated that Mendham’s survey of 4091 small businesses reported that their principal motivations for seeking certification, other than to improve quality, were to win new customers, as part of TQM, customers demanded it, accepted as good practice in the industry and competitors had it. Another survey conducted by Collyer (1996) found that the primary reason for seeking certification was pressure from existing customers. According to Devos et al. (1996), the suppliers are increasingly adopting ISO 9000 for three reasons.

a) Sooner or later, many buyers will start requiring these standards from each supplier that wants to conduct business with them.

b) Companies that have tried and failed to implement TQM and/or Materials resource planning (MRP) properly can find in ISO 9000 a way to solve their problems.

c) Since ISO 9000 standards deal with processes, they apply to any company.
Key reasons for seeking registration across different sectors, according to Withers & Ebrahimpour (1996), are improve quality, achieve world-class operations, customers require it, increase market share, reduce costs, streamline operations, meet corporation objectives and improve efficiencies. Other researchers like Lipovatz et al. (1999) viewed that reasons for certification are usually classified into two main groups: market-related reasons and reasons related to the improvement of internal procedures like customer demands and expectations, competitive pressures, regulatory environment and internal forces. This worldwide push has probably impacted more on smaller organizations than larger ones. Many smaller enterprises face strong pressure to gain certificate due to either customer requirements or to maintain their competitive position in the industry when other companies are also moving in this direction. Customers are increasingly demanding that their suppliers be certified. In fact, many large organizations have required their suppliers to have ISO 9000 service certification for a number of years.

Erel & Ghosh (1997) and Raynor & Porter (1991) reported that customer pressure (or marketing factors) is the major driving force behind ISO 9000 series certification. Some firms found that internal benefits such as better internal control (based on improved transparency of processes and waste avoidance resulting from certification). The other motivating factors in seeking ISO 9000 certification as stated by the companies are: an opportunity to implement a quality system, a step towards TQM, improved quality of production, enhanced customer satisfaction, a means of getting the quality system certified, increased exports, a competitive necessity, increased market share, and demands by customers. According to Lee (1996), establishment of internal quality assurance systems, quality improvement/productivity increase, customer demand, strengthening of external image (publicity) and competition consideration were the motives for pursuing ISO 9000.

Haversjo (2000) states that increased profitability seems to be a primary motive for managers going for ISO 9000 registration, more stable production, lower total costs of production and image improvements are among the other reasons to go for ISO 9000.

Tang and Kam (1999) identified motivation for seeking ISO 9001 certification as to improve the firm’s quality image in the construction industry, to improve the firm’s
efficiency and management, to improve the internal and external communication, to resolve the quality problem arising from poor design work, to reduce liability risks and insurance cost, to meet the internal policy requirement from the parent company, the mandate from the Government, the demands from the private developers and as a start for total quality management (TQM).

Carlsson et.al. (1996) stated reasons for certification are: a step towards total quality, international market/customer demands, competition, create better internal routines and procedures, product quality, domestic market/customer demand, development tool for the operation, profitability, group/management directive, reducing quality deficiency costs, increased rapidity, organizational reasons and legal requirement. Lee (1998) stated he reasons for ISO 9000 certification as: the customer demanded the firm to become certified o ISO 9000, the firm considered that it had to be ISO 9000 certified in order to stay in business the firm wanted to use ISO 9000 to improve the management system.

Devos et.al. (1996) stated that Surrey University (UK) found that better profit, return on investment, sales per employee, and assets turnover are the benefits, which companies have perceived.

ISO 9000 certification does not necessarily guarantee a quality product, but merely a consistent level of output, ISO cuts out the “blaming mentality” and allows employees to focus on problem solving, not only customers product returns and complaints have both declined but the response time for such complaints was shortened significantly, problem solving was simplified as ISO 9000 standards are designed to create a self-operating system and to explain how to determine whether a problem exists in the first place, ISO 9000 standards are also serving as a baseline process through which companies respond to customers and document internal quality programs.

According to Lipovatz et.al. (1999) and Pfeifer (1993), the benefits of globally accepted uniform standards are experienced by manufacturer include increase productivity, quality improvement, efficiency, customer satisfaction and eventually the competitive edge that can lead to greater market share. However, this internal effect can be achieved only if ISO 9000 standards are translated into a company and
work organization, which promotes and demands the fulfillment of the quality assurance as a task for all employees.

The main benefits that emerge from the implementation of the quality assurance system are either of technical character or they concern the human resources. Many companies considered improvement of the products’ quality as one of the two main technical benefits.

In the manufacturing companies, important benefits perceived are the improvement of the production process, as well as to the increased trust of new customers in the company’s products. The main benefit concerning human resources is the improvement of the communication between the various departments of the enterprise. He further stated that in the multinational companies, the improvement of the personal training level is considered to be the most important benefit.

Regardless of the approach taken, however, it is clear from the available studies that at least some benefits of ISO 9000 implementation and registration are obtained, even though many companies may have been actually “pushed” by their customers into compliance. For example, Buttle (1997), Gustafsson et.al. (2001), Gunnlaugsdottir (2002), and Terziovski et.al. (2003) all quote customer demand as the main motive for ISO 9000 registration, while Litsikas (1997), Poksinska et.al. (2002), and Williams (2004) include it on the list of the most important reasons for pursuing registration.

Bachelor (1993) points out: “We have had a positive feedback from 20 companies for every company with a negative experience”. Leung et.al. (1999) state: “Very few companies belong to group that believe ISO certification is expensive and not worthwhile”.

Mann & Kehoe (1994) state “When one evaluates the effects of quality activities, a major problem is the fact that only a few companies have a method for isolating these effects or for measuring quantitatively the resulting benefits, thereby limiting the illustration of the effects to qualitative terms”. Naturally, assessing the evolution of these benefits over the years is even more difficult.

The Lloyd’s Quality Assurance Register was the first organization to investigate the changes in the perception of ISO 9000 benefits over time (Brecka, 1994),
emphasizing that the time factor is very important when studying the benefits of registration. The conclusion of their study is that the companies which had been registered for more than five years reported greater benefits than the companies that had just completed the process. The study, with 400 participating organizations, also suggests that companies should realize that the benefits of registration may not come immediately; therefore they should look at ISO 9000 as a long-term investment.

2.3 ADOPTION OF ISO 9000 AND ITS IMPACT

According to Motwani et.al (1996) the benefits that potentially accrue from obtaining ISO 9000 certification include

a) Assurance of business relations with the European Community.

b) Worldwide recognition, because the standards are considered a universally accepted quality standard.

c) Use of a label certification in marketing.

d) A listing in the international “certified supplier” directory.

e) Improved quality and productivity, and reduced costs associated with a basic quality system.

f) Elimination of expensive, time-consuming, second party audits by prospective customers.

Lee et.al. (1999) stated the benefits of ISO 9000 as clearer work procedures, improved quality of product/service, improved team spirit, better control of subcontractors, increased efficiency and less customer complaint. The ISO 9000 quality system has a great advantage in promoting worldwide quality awareness. Through assessment and certification, ISO 9000 standards create a global awareness of quality systems. Yung (1997) argued that the benefits of adopting ISO 9000 are obvious. They are marketing advantages of ISO 9000 certification, better documentation system, quality awareness among internal staff, efficiency improvement/cost reductions, efficiency and productivity increase and reduced
Mo & Chan (1997) stated the benefits of implementing ISO 9000 in quantitative and non-quantitative terms. Quantitative benefits include expanding market share (especially export market), reduce scrap rate, reduce work, increase productivity and reduce product defect rate. Non-quantitative benefits include increase employee morale, minimize role ambiguity, better control of suppliers, improve existing system and improve customer satisfaction. This survey also stated the internal benefits like reduce scrap and obsolete stock, reduce rework, increase productivity, improve product quality, minimize role ambiguity, increase employee morale, improve existing system and improve customer satisfaction. Some interviewees even admit that the requirement by ISO 9000 to maintain good documentation and a record of quality has streamlined their operations. After the ISO 9000 process, the company has established a good system of filing and information retrieval.

According to Tang & Kam (1999), ISO 9000 has enhanced the company’s quality image, increased client satisfaction, won more agreements/contracts, improved administrative system among different functional departments, reduced management attention required for routine matters and supervision, trimmed the onerous procedures to simpler version and improved efficiency and productivity, reduced the amount of paperwork with a better documentation control, improved design process and improved management to the site resident staff, increased certainty of achieving contract requirements and deadlines, achieved saving through a reduction in design failures and reworks and improved personal job satisfaction and morale.

According to Lee (1998), the benefits from ISO 9000 were divided among three parts. Benefits gained with respect to internal operations were better team spirit, less staff conflict, reduced wastage, increase efficiency and shorter lead-time. Benefits with respect to customer relations were improved sales through new customers, longer contracts with existing customers, less control from increasing customers and fewer complaints from existing customers. Benefits gained with respect to subcontractor relations were, subcontracted to become certified, better relations with subcontractors and more stringent control over subcontractors. Atherton and Austin’s (1996) survey highlighted that firms focused on external benefits (market share and promotional aspects) and internal benefits (management control, improved services).
Haversjø (2000) found that the financial performance improved simultaneously with, and not necessarily as a result of, ISO 9000 registration. Another similar research is that of Wayhan et al. (2002), who showed a fairly limited positive impact of ISO 9000 registration on financial indicators. Finally, Corbett et al. (2002) found that “the decision to seek ISO 9000 certification did lead to substantial performance improvements, but is difficult to justify in advance using a traditional cost-benefit analysis, implying that it has to be based, to some extent, on faith”.

Despite the fact many companies invest significant resources in obtaining certification of their QMSs according to ISO 9001:2000 standard, they have different motives to do this, which finally influence the outcomes. There are companies which use certification mainly for marketing purposes, while some others consider it as a path for continuous improvement of their organizations (e.g. Naveh et al., 2004; Pivka & Mulej, 2004; Savaira & Duarte, 2003; Stone, 2003).

Park et al. (2007) conclude that companies which are certified because of internal development reasons performed compliance with the major requirements of ISO 9001:2000 standard better than those certified just because of customer request; also, companies with different operating periods show significant difference in performance for infrastructure, purchasing, monitoring and measurement. Studies done by Poksinska et al. (2006) show that ISO 9001:2000 is only a framework for identifying and managing activities that have an impact on quality; a QMS and its effects on business performance are not determined by ISO 9001:2000 requirements, but by the organizational context and the way the system is implemented and operated. Pivka (2004) has also shown that quality assurance with the formal fulfilment of ISO 9001:2000 standard requirements does not help companies to achieve greater competitiveness and business success. The quality system compliance with standard requirements confirms that the company has achieved a maturity level that is capable of defining processes and performing them according to the definitions; and this not necessarily means business processes are also efficient. In the same line, Arauz & Suzuki (2004) found that the activities embraced during the different stages of preparation for certification influence the performance and the influential factors vary according to firm size. Keeping the same register, Martinez-Costa and Martinez-Lorente (2003) highlight that acquisition of ISO 9000 certification by companies does not necessarily lead to a rise of firm’s market value.
Therefore, Pivka (2004) considers that quality audits bring value-added in the attempt of increasing process efficiency and effectiveness. Dereli & Baykasoglu (2006) came to the same conclusion. Their researches show that ISO 9000 certification process is a cybernetic system where the feedback part is quality auditing and an effective auditing can therefore improve and accelerate the certification process. In addition, Lin & Wu (2006) see quality auditing a point of departure for creating innovation within an organization.

According to one of the most relevant “subjective” studies in this field (Brown and Van der Wiele, 1995), the main benefits stemming from ISO 9000 registration are “better quality awareness, overall company management and internal relationships, as well as improvements in customer satisfaction and products offered”. On the other hand, according to a survey carried out in Hong Kong (Lee, 1998), the benefits derived by the registered firms included “achieving better team spirit, having fewer staff conflicts, reducing wastage, increasing efficiency, improving sales through attracting new customers, and getting less customers complaints”.

Jones et.al. (1997), in a survey of 272 Australian ISO 9002 registered companies, also examined the impact of time on the perceptions of benefits received. The authors used two profiles of companies, namely the newly-registered companies and the longer-established registered ones. However, due to the fact that the survey was conducted in 1995 when the ISO 9000 movement was still in its infancy, the longer-established registered companies had been registered for three years only. This empirical investigation found no evidence to indicate that registered companies progressively experience more beneficial outcomes. On the contrary, this study indicates that companies appear to experience declining benefits with time. The authors partly contributed the difference in results compared to the Lloyd’s study to the fact that their participating firms had only three years of experience with ISO 9000 quality systems, while Lloyd’s had five years.

The last work that provides some insight regarding the perceived increase or decrease of benefits after the certification and over time, is the work of Leung et.al. (1999). In this research, the authors analyzed both the cost and benefits of ISO 9000 registration, specifically whether there are differences depending on the years since registration. They concluded that this is not a significant factor when organizations
decide whether benefits outweigh the costs or not. Therefore, this study found no support for the findings of Brecka (1994) and matches the findings of Jones et al. (1997).

However, some researchers query on the effectiveness of the standards. They underscore the problems, such as applicability to different industries (Tarn et al., 2000), a high volume of paperwork (Chini & Valdez, 2003), lack of flexibility and poor compatibility with other management systems (Dick, 2000; Wilkinson & Dale, 2002). Terziovski et al. (2003) found that ISO 9000 certification did not have a significantly positive relationship with organizational performance. On the contrary, ISO 9000 had some adverse effect as it increased operation costs and reduced product quality.

Research on the effects of adopting an ISO quality assurance scheme spans over a wide range of business performance indicators and frequently the results are contradictory (Tsekouras et al., 2002; Dimara et al., 2004). The early contributors (Deming, 1986; Juran, 1982; Inshikawa, 1986) viewed quality management as a holistic management strategy aiming to improve internal processes of companies and enhance the overall competitive performance (Yahya & Goh, 2001). Evidence shows that ISO 9000 registration can be leveraged into a competitive advantage when it is made consistent with a firm's strategic direction (Curkovic & Pagell, 1999) and is related to expectations about its contribution to improved quality and especially to those factors perceived by the management of the firm as important to competitive success and competitive advantage (Escanciano et al., 2001; Withers & Ebrahimpour, 2000). For example, Forker et al. (1996) examined a sample of strategic business units and individual firms in the furniture industry and found that high quality leads to improved business performance.

According to more moderate expectations regarding the effects of an ISO quality assurance scheme, it as a factor reducing internal inefficiencies as well as a factor contributing towards the reduction of development times for new products, of start-up problems and of costs in general (Gotzamani & Tsiotras, 2002; Santos and Escanciano, 2002). For example, Reinacheld & Sasser (1990), argue that the adoption of an ISO quality assurance scheme reduces the costs of scrap, rework or jammed machinery. Furthermore, certain studies argue that the ISO 9000 has the potential to
reduce transaction costs by serving as the seller's guarantee of quality (Holleran et al., 1999). In a world survey with data collected from 977 business firms located in the major industrialized regions of the world, Adam et al. (1997) found that although the quality improvement approach successfully influenced quality, the impact on financial performance was somewhat weak.

On the other hand, a growing number of researchers argue that the ISO 9000 series, being a paper-driven process of limited value, does not really have an impact on firm performance and that ISO 9000 certification is just another marketing cue (Curkovic & Pagell, 1999; Uzumeri, 1997; Terziovski et al., 1997; Curkovic & Handfield, 1996).

Elsewhere empirical support for such a view is provided (Lima et al., 2000; Stashevsky and Elizur, 2000; Adams, 1999; Terziovski et al., 1997). Casadesus & Karapetrovic (2005) employ a longitudinal impact study and argue that ISO 9000 standards are limited in providing a set of concrete benefits over time. The authors argue that their finding may be partly explained by the large increase in ISO 9000 registrations worldwide which reduces the ability to claim competitive advantage from ISO registration.

Bhuiyan & Alam (2005) identified the perceived benefits of the ISO 9001:2000 are improved documentation, improved quality perception, disciplined work environment, consistency across the organization and improved customer confidence. While a study conducted by Zhang (2000) reported further that registered firms tended to achieve improvement in employee morale and personal accountability for job performance as a result of employees understanding their role in the total process. However, recent empirical studies have concluded that the most important benefits sought from ISO 9000 are profit improvements (Naser et al., 2004; Heras et al., 2002b; Zairi & Baidoun, 2003), customer satisfaction (McAdam & Canning, 2001; Escanciano et al., 2001), continuous improvements (Boys et al., 2004; Aarts & Voss, 2001; Zairi & Baidoun, 2003), process improvements and marketing benefits (Wayhan et al., 2002; Aarts & Voss, 2001; Eklof et al., 1999), and profitability.

Prabhu et al. (2000) researched the influence of ISO 9000 standard and total quality management (TQM) on the competitive capacity of British undertakings. About 294
British companies from both manufacturing and services participated in the research. The study of individual elements (components) of ISO 9000 standard and TQM on the competitiveness of enterprises showed that there are significant correlations between the elements of TQM and the improvement in competitiveness in 74 percent of companies, as well as in 28 percent of companies that were ISO 9001 certified. The research also confirmed significantly higher values for indicators of competitive capacity in companies that initiated the implementation of the ISO 9001 quality standard and upgraded it into TQM and which used it as a managerial tool in companies. Conti (1999b) also researched quality systems as management tools in companies. They derive from TQM and are named organizational models for improvement (Conti, 1999a).

Research on the effects of the ISO 9001 quality standard implementation, which included 288 Spanish companies (Casadesus & Gimenez, 2000) showed that in 65 percent of companies positive internal and external effects of the ISO 9001 standard implementation were recorded. Among the internal effects the following were mentioned: increased order and transparency of processes and clearer competences and responsibilities. Among the external effects the following should be mentioned: improved responsiveness to customer demands, increased satisfaction and access to new markets. In the next research (Corbett et al., 2002) the effects of ISO 9000 certification on public traded manufacturing firms in the USA were examined. It was found that certification does appear to lead to improved financial performance, measured by return on assets (ROA). More precisely, they found that firms that failed to seek certification experienced substantial deteriorations in ROA, productivity, and sales, while firms that did seek certification generally managed to avoid such declines. In other words, firms that received certification did not, on average, see their absolute performance improve, but they did see their relative performance improve substantially.

Research on the effect of the ISO 9000 on quality management practices in Thai industry (Hong & Phitayawejiwiwat, 2005) showed that the requirements of the ISO 9000 standardization made a particular impact on five of the quality management practices:
(1) Management responsibility affects leadership;

(2) Document and data control impinge on information and analysis;

(3) Quality goals and quality plans influence strategic quality planning;

(4) Human resource development is affected by the identification of training needs and the provision of training for all personnel who perform activities that affect quality; and

(5) New product design review, specification and process control, preventive maintenance, and quality control have an effect on quality assurance.

The research (Heras et al., 2002) analyzed the comparative financial performance of ISO 9000 certified firms compared to those without certification. The research was undertaken in the Basque Autonomous Community; in Spain. Results showed significant differences in the profitability of the ISO 9000 certified companies and the non-certified companies. They stated that the implementation of any type of tool, system or program related to quality trends pay off in the long, rather than the short time. Tan et al. (2003) in their paper stated that under quality information system, organizations will be better able to manage their quality related knowledge. Furthermore, ISO 9000 encourages information sharing as a key to internal auditing, overcomes the communication barriers existing in organizations (Ruiz et al., 2005).

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Magd et.al. (2003) studied the costs, benefits and the satisfaction level with ISO 9000 implementation in Saudi Arabian firms. A survey of 140 ISO 9000 certified manufacturing companies was carried out. The results suggest that manufacturing companies were satisfied with ISO 9000 as far as the benefits gained from certification and its costs were concerned. They considered the benefits of ISO 9000 certification to exceed the costs of attaining the standards, and believed that ISO 9000 contributed to organizational survival and success.

Reports on the results of an ISO 9000 mail survey, administered in four far eastern countries including Japan, South Korea, Hong Kong and Taiwan showed following benefits of ISO 9000 certification: improved corporate image, quality improvement, increased customer satisfaction, and improved internal procedures (Pan, 2003).

Ho et al. (2005), Martinez-Lorente & Martinez-Costa (2004) and Carpinetti et al. (2003) researched the same area and equally confirmed positive effects of quality systems on company’s business activities. Juran (1989, 1991) wrote that in order to attain quality improvement of a certain product or service a quality leap is needed in order to decrease weaknesses and reach a new level of quality control. Unfortunately, the management does not always feel responsible for improvements. If the management does its job well (long-term company policy, education, interdepartmental communication and cooperation, etc.), the system is likely to improve, people are willing to cooperate and exploit their abilities, knowledge and creativity.

Rayner & Porters (19910 in an investigation of the standard’s impacts on 20 SMEs found that 70 per cent of companies cited marketing advantages as the principal benefits: customer retention, customer acquisition, entry into new markets and fewer dissatisfied customers were the specific outcomes of certification. The vast majority of firms (85 per cent) felt their expectations had been met or exceeded. In 1992, Street & Fernie obtained data from 52 certificated Scottish manufacturers. One-third claimed to have experienced a growth in the customer base, while one-quarter experienced increased sales.

Mann & Kehoe found that ISO 9000 had significantly greater impact on business performance, broadly defined, than other quality improvement methods such as statistical process control, Taguchi and Internal Audits, but less impact than TQM. Prasad & Naidu’s survey of 870 small and medium sized American exporters (or intending exporters) found a very high incidence of indifference towards or ignorance of (64 per cent) the standard. Those respondents who were not so inclined believed that the standard enhanced competitiveness and provided a major competitive advantage. Taylor obtained data from senior executives in 115 ISO 9000 registered businesses in Northern Ireland. Thirty claimed to have pursued registration because of pressure from customers, and 45 per cent claimed to have experienced economies subsequently. Terziovski et al. (2003) reported that there was no significant link between ISO 9000 certification and customer satisfaction. Unhappily, they failed to ask customers directly whether they were satisfied, preferring only to seek the views of contacts in their manufacturing firm sample. Vloeberghs & Bellens (1996) conducted a census of all known Belgian certificate-
holders. Most of the benefits experienced by these firms were internal; however, the greatest benefit is that the formal quality assurance (QA) system leads to greater client trust.

In addition to these academic investigations, there have been a number of other reports on the impact of ISO 9000. Some of these reports are specific to certain sectors – local authorities, software companies, manufacturers, suppliers to the water utilities, and small businesses. Few are general in scope.

One of the earliest investigations was that of Straw. His 1988 analysis of the impact of the standard on the metal finishing industry found that customer rejects fell to 40 per cent of their pre-certification level, resulting in more repeat business and a steady increase in new business. In 1991, the manufacturing group of the Institute of Quality Assurance conducted a survey of IQA members and others. Of 12,000 questionnaires distributed, 502 (4.2 per cent) were returned. Seventy-five per cent of these claimed to have experienced improvements in product/service following the introduction of BS 5750. In 1991 PERA International/Salford University Business Services Ltd telephone interviewed 2,317 firms who had taken advantage of the DTI quality consultancy initiative. Of these, only 28 per cent were certificated to BS 5750, but 89 per cent of the entire sample claimed to have experienced operating efficiencies as a result of the introduction of quality management systems. The 1992 survey by SGS Yarsley of 500 certificated firms found that 90 per cent had recovered or expected to recover the costs of certification within three years.

A 1993 study of the US and Canadian chemical industry reported that 25 per cent ranked customer demands and expectations as the most important reason for seeking registration; half that number report that they did experience a marketplace advantage; 24.5 per cent claimed also to have experienced enhanced customer satisfaction. The 1994 LCCI survey of 237 companies reported that 74 per cent of service firms and 57 per cent of manufacturers believed that BS 5750 certification had increased their competitive advantage.

Mendham et.al.'s survey of 4,091 small businesses reported that their principal motivation for seeking certification, other than to improve quality, was to win new customers. Brown and van der Wiele's census of accredited firms in Western Australia found that pressure from customers was the primary motivation for
seeking certification, and that the four most important benefits experienced were improved quality awareness, improved awareness of problems, improved management control and improved customer service. A 1996 survey by Quality Systems Update and Dun and Bradstreet Information Services found that 29 per cent of 1,880 ISO 9000 US registrees had experienced improved customer demand, whilst 18 per cent experienced improved market share. Guerin and Rice investigated the perceptions of UK, German and Dutch companies importing wood from the USA. Only one of the 27 firms sampled said that they would be more inclined to purchase from an American supplier with ISO 9000 accreditation. Veritas Labs' 1996 survey of 48 certificated companies in the New York (USA) area found that the primary reason for seeking certification was pressure from existing customers, and that benefits were obtained in the form of increased employee motivation and personal accountability for job performance. A number of similar studies, reaching broadly the same conclusions, together with preliminary interviews, played a central role in defining the character of the questionnaire administered in this study.

Raynor & Porter (1991) report on an interview survey of 20 small to medium sized firms in the UK in the engineering or machinery manufacturing industry. Findings indicate that customer pressure (or marketing factors) is the major driving force behind ISO 9000 series certification. Some firms found that internal benefits such as better internal control (based on improved transparency of processes) and waste avoidance resulted from certification. They conclude that most organisations in their sample found benefits from certification while only a few had a minimal commitment at the start, reflecting the view and the attitude of the chief executive.

Research by Taylor (1993) in Northern Ireland found organisations somewhat reluctant to measure and quantify the benefits of certification, which he attributed to the fact that many felt to be driven to certification by external forces. Another survey in the UK by Lloyds Register Quality Assurance (1994) reported a highly favorable reaction to ISO 9000 certification with benefits including it being a valuable public relations and marketing tool, increased ability to bid for contracts, fewer customer audits and that it had helped enter international markets. Only a few expressed negative views about costs and paperwork. Again another UK survey by Vanguard Consulting (1994) found that only 15 percent of respondents believed that they had found the benefits claimed by the British Standards Institution. Respondents were
also somewhat more critical about the standards and the expertise which was available to advise on implementing a quality system according to the standards. This study also found that companies who reported success with ISO 9000 introduced it for broader reasons than simply being forced to.

Additionally the consequent application of a quality assurance system can have a significant cost reduction effect which results in performance improvement (Berry, 1991). Deming stated that improvements in quality automatically result in overall organizational productivity improvement (Deming, 1982, 1984).

At the beginning many companies perceived the certification as a tool for improving their market position. As the number of certificates continuously increases, the certification tends to become rather a prerequisite for companies survival than a competitive advantage. Although different opinions are often expressed, many writers consider the existence of a QAS to be an essential first step towards the adoption of total quality management, which aims at the continuous improvement of business performance with principal focus on the customers' satisfaction and the gain of a competitive advantage (Deming, 1986; Berry, 1991; Tummala & Tang, 1996; Tsiotras & Gotzamani, 1996).

Researchers from different countries have been concerned with the investigation of the principal reasons which lead companies to enter the registration process, by recording the methods used as well as the cost and time needed for the achievement of this goal and by pointing out the difficulties experienced and the benefits emerging from the certification. Dale & Duncalf studied the quality assurance practices of 110 UK manufacturing companies, comparing the results of large and small businesses (Dale & Duncalf, 1984).

Reasons for certification are usually classified into two main groups: market related reasons and reasons related to the improvement of internal procedures. Market related reasons were the most important factor for seeking certification for 16 out of 20 small and medium-sized companies interviewed by Rayner & Porter (Rayner & Porter, 1991). Also in a survey concerning the Swedish industry, market-related reasons were a dominating factor, while quality improvement reasons were ranked second and legal requirements had little influence on the decision to implement the system (Carlsson & Carlsson, 1996). However, out of the five firms examined by Withers and Ebrahimpour in USA, only one indicated that customer requirements led to seeking registration (Withers & Ebrahimpour, 1996). Tsiotras and Gotzamani reported that companies' quality policy and internal organisational improvement were the main motivating factors for the 84 Greek enterprises examined, while the improvement of competitiveness was a less important factor (Tsiotras & Gotzamani, 1997). Although market-related reasons have been reported to be the dominating factor for deciding the implementation of the system, the consensus among Swedish firms was that primarily internal routines and procedures have been positively affected by the system. A positive influence on customer relations and competitive ability was also reported (Carlsson & Carlsson, 1996).

The use of an external consultant for the preparation of the system is not recommended by Carlsson & Carlsson, because it was the only factor having a negative influence on the result of certification, although a lack of consensus regarding this issue was detected (Carlsson & Carlsson, 1996). The results of the extended survey conducted by Taylor among 682 firms suggest that the intervention of consultants made no difference to executives' understanding of the purpose of ISO 9000 (Taylor, 1995).

The benefits of globally accepted uniform standards are recognized by businesses and governments throughout the world. The major benefits experienced by manufacturers implementing ISO 9000 include increased productivity, quality improvement, efficiency, customer satisfaction, and eventually the competitive edge that can lead to a greater market share (Elmuti, 1996).
However, this internal effect can be achieved only if ISO 9000 standards are translated into a company and work organisation that promotes and demands the fulfillment of the quality assurance as a task for all employees (Pfeifer, 1993).

According to Zink, several firms, particularly small and medium size enterprises, have experienced considerable problems with the introduction, development and measurement of quality improvement (Zink, 1994). Rayner & Porter also concluded that "too many small and medium-sized firms still fail to realise the full strategic importance of quality" (Rayner & Porter, 1991).

Dale & Duncalf as well as Allen and Oakland found that small companies have more difficulties in practising quality assurance (Dale & Duncalf, 1984; Allen & Oakland, 1988). The implementation of ISO 9000 has been found to improve customer satisfaction (Avery, 1994), gain competitive advantages (Vloeberghs & Bellens, 1996), increase profitability (Scotto, 1996) and improve product and service quality (Idris et.al., 1996).

Lloyds Register Quality Assurance (1994) commissioned a large study in the UK to determine why organisations obtain ISO 9000 certification and what effect it has on their business. One of the main conclusions of the study was that "Like a fine wine, the benefits of ISO 9000 registration improve with age". The study found that ISO 9000 companies experienced improvement in management control, better service delivery, higher productivity and competitive advantage. Research also revealed that ISO 9000 certification can provide the building blocks for successful implementation of TQM (Askey & Dale, 1994).

A common misconception is that ISO would mandate higher levels of product quality (Motwani et.al., 1996). ISO certification gives no guarantee that the quality of products or services of an organization is better than the quality of other organizations. Thus, ISO certified organizations do not automatically have a good product quality. In fact it is possible that the products or services of a registered organization are not of such a good quality, but of a constant quality. However, such an organization can still have an ISO certificate just because the products or services are produced in accordance with the procedures (Meegan & Taylor, 1997). ISO is aimed at the production systems, and in this way it assures that the production process meets the standards or the criteria Motwani et.al., 1996). Therefore, it is
better to say that ISO is aimed at the assurance of quality consistency instead of a higher quality of the products or services of an organization (Tsiotras & Gotzamani, 1996). ISO 9000 standards help to ensure that organizations follow specific well documented procedures in the making of their products or services, and nothing more. These procedures describe how operations in an organization must be conducted. When employees work according to the procedures that are described in the ISO series, and anything should go wrong then it is possible to find efficiently where the problem arose in the production process. By doing so, these procedures are meant to guarantee that the products or services of an organization are in accordance with customer specifications. As such, one could say that ISO certification is a necessary condition for good product quality. ISO certification is said to give certain benefits for organizations that can be divided into internal and external benefits. Internal benefits are related to the internal functioning of organizations. These benefits are related to the processes and structure of the organization. These are, for example, increase in productivity, improvement in efficiency, reduction in costs and waste, better management control, clearly-defined organizational task structure and responsibilities, improved co-ordination structure, support in decision making, and increase in personnel motivation.

External benefits are benefits concerning the organization in relation to its environment. Examples of external benefits are: competitive advantage, increase in sales and market share, possibility for entering new markets, keeping customer relations, finding new customers, increased customer satisfaction, increase in company reliability and reputation which can result in better possibilities for establishing partnerships, co-makerships and mergers. Besides all the benefits, which can be gained by getting an ISO certificate, there are also some disadvantages, which result from ISO certification. Some disadvantages which can be often found in the literature are: extra costs for achieving ISO certification, increase in paper workload, no attention for development of personnel, little attention for the support functions in an organization. Furthermore, ISO certification may discourage creative and critical thinking in an organization, because employees are forced to work according to well-described procedures and rules. Critics tend to say that ISO certification brings about a lot of extra costs, and seems not to result in benefits. They think that gaining an ISO certificate is an "hollow achievement"
(Jones et al., 1997). For an extensive overview of all the benefits, as well as some disadvantages, we refer, for example, to the work of Carlsson & Carlsson (1996), Tsiotras & Gotzamani (1996), Buttle (1997) and Jones et al. (1997).

These benefits and disadvantages are often, in one way or another, incorporated in the performance indicators to measure an organization's performance. Although ISO 9000 contains no more than principles and criteria for a management system and has a strong internal focus, if it is practiced well it is expected to make a significant improvement to a company's performance (Dunstan, 1993). At least these claims can be found in the literature. However, more skeptical remarks are also to be found. Meegan & Taylor (1997) note that European companies are too much preoccupied with registration to ISO 9000; too often European companies see the registration not as a mean but as an end in itself. They are of the opinion that ISO 9000 registration in isolation is of limited value (Meegan & Taylor, 1997).

Most companies have experienced an increase in the overall sales after certification (Kantner, 1997). Supporting this, Calingo et al. (1995) found that ISO 9000 yielded better quality systems, customer satisfaction, competitive advantage and reduction of quality problems. Further, Haversjo (2000) also reported that ISO 9000 certified companies have better earnings (rates of return) than similar non-certified companies, largely due to increased sales. As for country specific studies, Casadesus & Gimenez (2000) have reported that 65 per cent of the certified companies in Spain have experienced high levels of internal (human resources management, operations management), external (external customer satisfaction, less complaints, repeat purchases), and financial benefits (e.g. market shares, sales per employee, return on sales and return on assets). This is consistent with Kaye (2000) who also reported benefits such as better documentation, greater quality awareness of employees, better internal communication, and an increase in operational efficiency.

Recent research work undertaken by the Spanish academic fraternity on ISO 9000 shows that there is no evidence of improved performance after registration (Heras et al., 2002a, b). A sample of 400 certified industries shows superior financial performance in comparison to a control sample of 400 non-certified firms, a result attributed to the fact that firms with superior performance have a greater propensity to pursue ISO 9000 registration. In another study, Heras et al. (2002b) show that the
returns on assets employed are consistently better in certified than non-certified firms.

Forker et.al. (1996) examined a sample of strategic business units and individual firms in the furniture industry and found that high quality leads to improved business performance. Furthermore, Brah et.al. (2002) provide support to the proposition that TQM implementation correlates with quality performance. However, in a world survey with data collected from 977 business firms located in the major industrialized regions of the world, Adam et.al. (1997) found that although the quality improvement approach successfully influenced quality, the impact on financial performance was somewhat weak. In a recent study of Greek firms, Tsekouras et.al. (2002) has found significant differences in a range of financial performance variables between firms that implemented ISO 9000 standards and a control group of firms that did not implement ISO 9000. Haversjo (2000) obtained the same results in a study of the financial consequences of ISO 9000 registration among Danish companies. Furthermore, a growing number of researchers argue that the ISO 9000 series, being a paper-driven process of limited value, does not really have an impact on firm performance and the ISO 9000 certification is just another marketing cue (Curkovic & Pagell, 1999; Uzumeri, 1997; Terziovski et.al., 1997; Curkovic & Handfield, 1996). Certain studies also provide empirical support to such a view (Lima et.al., 2000; Stashevsky & Elizur, 2000; Adams, 1999; Terziovski et.al., 1997).

Tsekauras et.al. (2002) found that in the Greek manufacturing and service sectors the adopters of ISO 9000 quality assurance standards were larger companies producing intermediate goods. In another study conducted by Elmuti & Kathawala (1997), in two manufacturing plants, one ISO 9000 certified and the other non-ISO 9000 certified, owned by a large corporation in the USA, it was found that the ISO 9000 quality program improved the participants' quality of work life. In addition, there was a positive impact on employee productivity and export sales. A follow-up interview with the management of the corporation indicated that ISO 9000 supported the organizational objectives of productivity, quality of products, increased export sales, and quality of work life.
Chittenden et al. (1998) found that, in the UK, firms that adopted ISO 9000 tended to be large, multi-product and manufacturing based. These firms had customers that were larger than themselves or from government departments. These firms also had a formal management structure. On the other hand, the firms which did not adopt ISO 9000 tended to be smaller businesses that dealt with domestic customers and serving the local market. The authors concluded that a high majority of ISO 9000 users felt that the advantages of using ISO 9000 outweighed the disadvantages. Manufacturing firms that implemented ISO 9000 were primarily motivated by the desire to improve internal processes, while small firms were motivated by marketing and competitive advantages.

Contrary to the above two studies, McAdam & McKeown (1999) reported that in Northern Ireland ISO 9000 certification resulted in benefits for the small businesses. The specific benefits were:

- Better control of business;
- Increased sales/business;
- Reduced costs;
- Increased productivity; and
- Fewer customer complaints

The authors also reported that the businesses that were gaining most from TQM implementation had started with ISO 9000 and focused on both external (e.g. customer satisfaction, etc.) as well as internal measures (scrap, efficiency, etc.). These organizations also had full management commitment, high levels of employee participation and training. In a same vein, Sun (1999) found that in Norwegian companies, implementation of the ISO 9000 standard was significantly correlated with the reduction of bad quality products and customer complaints, and business performance such as profitability and productivity.

Quazi & Padibjo (1998) found that ISO 9000 certified small and medium size enterprises in Singapore reaped a number of benefits including:

- An increased customer preference;
- Improved company quality image and competitiveness in the market;
Compliance to customer requirement;
Streamlined procedures and documentation;
Increased consciousness for preventive and corrective actions; and
Provision of a foundation in the pursuit of TQM

The study also found that ISO 9000 certification provided a stepping-stone toward TQM practices.

The study of Anderson *et al.* (1999) reported a different type of benefit that was achieved through ISO 9000 certification. They found that manufacturing firms in North America adopted ISO 9000 as a means to provide credible signals of quality assurance to external parties. In addition, ISO 9000 was adopted as a tool in a larger strategy of achieving competitive advantage through quality management and communicating quality results. For most firms, complying with customer or regulatory requirements appeared to be a secondary consideration. (Quazi & Padibjo, 1998).

Tsekauras *et al.* (2002), in their study on Greek manufacturing and service sectors, found that the effects of adopting an ISO 9000 standard on certain dimensions of profitability were not significant in a period of five to six years after adoption. Similarly, the study of Terziovski *et al.* (1997) found that quality certification had no significant, positive relationship with business performance. The study of Simmons & White (1999) in the USA did not support the claims that ISO certified companies help realise the advantages in operational performance over non-ISO certified companies. Sun (1999) also found that the ISO 9000 certification had little influence on market position and competitiveness, and no influence on employee satisfaction and environment protection.

Contrary to the above mentioned studies, Heras (2002), in a recent study involving 400 ISO 9000 certified companies and 400 non-certified companies in the Basque autonomous community, reported a positive association between ISO 9000 certification and superior financial performance.

Regarding the impact of firm size, the study of Kie & Palmer (1999) on manufacturing companies in New Zealand found that smaller companies, when
compared to the larger ones, were more likely to implement ISO 9000 because of external factors rather than internal factors. They found that the small companies were less likely to implement a TQM program compared to large ones and were likely to stop after implementing one ISO program. Further, large companies appeared to be more likely to use ISO 9000 as a precursor to TQM, whereas small companies were satisfied with ISO 9000 accreditation. Sun and Cheng (2002) reported the effects of ISO 9000 certification and TQM implementation in Norwegian SMEs and large firms. They found that the SMEs implement ISO 9000 standards and TQM because of market and customer demand or external pressure rather than internal initiation. Further, they found no significant relation between current ISO 9000 certification and improvement of business performance. In a study of organizations with less than 250 employees in Australia, Wiele & Brown (1997/1998) found that most SMEs seemingly felt forced to go for ISO 9000 certification and did not move further down the quality path. Goh & Ridgway (1994) reported a very similar finding on SMEs in the UK. Their study revealed that the ISO 9000 certification was considered the end-point in the quality journey of the sample companies.

Jones et.al. (1997) studied the reasons of certified Australian companies. They divided them into three categories: “developmental”, “non-developmental” and “mixed”. Companies, which belonged to the first category, were motivated by the internal benefits obtained from the certification process like the improvement of the “company’s internal processes” or “business performances”, whereas companies belonging to the “non-developmental” category were pushed towards certification by the market forces (explicit demand of important customers or necessary condition to bid for government tenders). The “mixed” category regrouped companies having both types of reasons. In fact, the developmental reasons are synonymous with the internal reasons, and the non-developmental reasons are synonymous with the external ones. Out of the 272 companies that replied to their mail questionnaire, only one company in every seven pursued the certification for developmental reasons. When examining the reasons of certified Malaysian companies, Yahya & Goh (2001) adopted the same approach of Jones et.al. (1997). However, they found no dominant category between the companies studied. Escanciano et.al. (2001) adopted the internal-external classification of Vloeberghs & Bellens (1996) and found that
Spanish companies were more motivated to pursue the certification for internal reasons rather than for external ones.

Buttle, (1997) found that “improving efficiency”, “improving awareness of procedural problems” and “better management control” were the top three benefits perceived by the firms studied, followed by “using standard as a promotional tool” and “increasing customer satisfaction”. (Escanciano et.al, 2001) found similar results where “better understanding of processes/responsibilities” and “company image in the market improved” were considered as the most important benefits.

The majority of articles studying the positive side of ISO 9000 standards largely agree on the most important benefits that the standard provides. These include improvement of quality awareness and customer satisfaction (Cebeci & Beskese, 2002; Quazi et.al, 2002), reduction of waste and customer complaints (Dwyer, 2002; Ruzevicius et.al, 2004), standardization of work procedures and improvement in communication (Heras et.al, 2002), as well as enlargement of market shares (Arauz & Suzuki, 2004; Martinez-Costa & Martinez-Lorente, 2003).

Further, some researchers explored the sustainability of the effectiveness of the standards. Casadesus & Karapetrovic (2005) found that ISO 9001:2000 registered companies perceive less benefits from the implementation than do their ISO 9001/2/3:1994 peers. The ISO 9001/2/3:1994 standards had a higher score on any particular benefit than ISO 9001:2000 did. They also discovered that the level of reported benefits of ISO 9001/2/3:1994 decreases with time, which was evidenced by two empirical studies conducted in 1998 and 2002.

The benefits of ISO have also been well reported. Santos & Escanciano (2002) have investigated the benefits of ISO 9000 through a survey of Spanish companies, and found that organizations experienced a better understanding of processes and responsibilities as well as the awareness of quality among employees because of the implementation of ISO 9000. Besides internal benefits, companies also enjoyed external benefits such as improvement in market reputation. Laframboise (2003) studied empirically the link between quality practices and business performance excellence in central Canada. His findings, based on a study of 280 firms, reveal that ISO 9000 registration coupled with a high-level quality initiative, such as a national
quality award program, has a very significant impact on the perceived performance excellence.

Carlsson & Carlsson (1996) found that management commitment had a positive influence on successful implementation of ISO 9000. One of the major benefits of the ISO 9001:2000 standard is its structure, which provides compatibility with other management systems, including environmental, occupational, and health and safety systems. McDonald et al. (2003) discuss the plausibility of integrating management systems. After identifying similarities among quality, environmental, and safety systems, the authors state that an organization can achieve a high return on investment by taking advantage of integration. Furthermore, they point out some benefits to an organization from adopting integrated management systems, including: simplified systems (reduces confusion of documents); optimized resources (less time, money and man-hours required for a single system that covers the requirements of all three standards); and improved performance (helps to identify and provide opportunity for improving risk, hazard, complaints, wastage, product nonconformity, accidents and illness).

Chin et al. (2000) found that the most critical issue in maintaining the ISO 9000 system is corrective and preventive action. The top three measures that were found to be effective in maintaining the ISO 9000 system are:

(1) Strengthening of internal quality audits;

(2) Improving culture through teamwork; and

(3) Management support and participation.

According to McLachlan (1996) there are 35 benefits of ISO 9000 reported by the users of this standard in the literature. The UK and Japanese leading firms registered under ISO 9000 recognised a number of benefits associated with such accreditation, of which the most important include improved quality, customer satisfaction, efficiency and gaining competitive advantage (Ho, 1997, p. 12). Research undertaken by Haversjo (1997) among both manufacturing and service Danish companies indicates that two years after registration to ISO 9000, their rate of return was 35 per cent higher than that of the control group of non-ISO 9000 registered companies. This constituted an increase of 15 percentage points as compared to one
year prior to registration. A comprehensive study by Buttle (1996) also shows that UK SMEs found implementation of ISO 9000 to be a significant factor for increased performance.

Improvement of internal efficiency was also found in a study undertaken by Conway (1994) among UK small service companies. In many cases for smaller companies the standard has proved to be easier to introduce than in companies with much larger workforces. Williams (1997) also found significant improvements in management operations and employee involvement in smaller firms. ISO 9000 has also been known to propel smaller firms onto a growth trajectory previously unknown.

There is, however, some evidence that being ISO 9000 registered does not guarantee improved performance due to high explicit and implicit costs associated with the development. According to Street and Fernie (1993), many manufacturers found ISO 9000 registration too expensive, time consuming, too formalised and impersonal. A major survey of Australian small businesses (Eisen & Mulraney, 1992) discovered that the costs of implementing ISO 9000 were greater than the benefits derived for a majority of the firms. Mo and Chan (1997) report similar findings. Sanders (1994) argues that small businesses often complain that ISO 9000 cannot give them advantages, such as increased productivity, reduction in rework, reduction of scrap, but just results in a large increase in paperwork. Research undertaken by Conway (1994) within the sector of small service companies indicates that the purchase of expert advice, training of internal auditors, registration/assessment fees and investment of time were the major costs associated with ISO 9000 certification.

Adanur & Allen (1995), in a survey of 150 textile companies, identified five benefits of ISO 9000: reduced customer complaints and improved supplier quality, better involvement of people, restriction of inferior-quality products from being shipped, increased business, and reduced costs. According to Giguere & Smith (1999), an improved image clubbed with enhanced marketing and strategic risk management are the significant benefits of ISO 9000 for service companies. Calisir et.al. (2005), in a survey of 43 ISO-certified Turkish textile companies, reported that most benefits of certification were actually associated with increased product quality, reduced error/defect rate in production, and increased overseas market share.
Atwater & Discenza (1993) reported that their respondents from a sample of 29 firms listed the ISO 9000 registration benefits as follows: improved plant operating efficiency, greater customer satisfaction, and improved competitive position. A study by Beattie & Sohal (1999) found that improved market share was the number one benefit in the list of strategic business benefits, supported by customer service, which in turn was the second most important operational benefit. Rayner & Porter (1991) emphasized the fact that certification tends to result in improved marketing. Ragothaman & Korte (1999) noted that managers of smaller firms held a stronger belief that ISO 9000 registration results in cost reduction and export potential increase than did managers of large firms. A study conducted by the Australian Manufacturing Council (1994) found that managers of certified companies, particularly those working in the export market, voiced similar views that customer perception of product quality increases following certification. Furthermore, this perception could often be vital in winning new customers, retaining customer confidence, and penetrating international markets. The AMC study concluded that certification is expected to lead to both actual and perceived quality improvements, as well as to overall improvements in organizational performance.

The results of an extensive study by Terziovski et al. (1996) of 1,341 manufacturing sites were contradictory. They concluded that the presence or absence of ISO 9000 certification is a poor indicator of organizational performance and quality as measured with respect to defect rates, warranty costs, and other key measures such as full on-time delivery. Batchelor (1992) supports this view by providing empirical evidence showing that only 15 percent of the 647 certified manufacturing and service organizations had derived business value on nine dimensions of organizational performance. These dimensions were market share, new customers, customer satisfaction, procedural efficiency, staff motivation, staff attitudes, error rates, wastage, and costs. Another extensive study by Samson and Terziovski (1999) indicated that behavioral factors such as executive commitment, employee empowerment, and an open culture are capable of producing competitive advantages more strongly than TQM tools and techniques such as process improvement, benchmarking, and information and analysis.

According to Binney (1992), companies should start their journey in “Quality” by understanding the principles and concepts of both ISO 9000 certification and TQM.
Thus, companies need to consider the role of quality in their organizational philosophy and business strategy before embarking on certification, TQM, or both. Similarly, Beattie & Sohal (1999) state that certified quality management systems per se do not achieve major benefits, but when they are combined with quality-improvement initiatives, substantial improvements can be expected. Prajogo (2005) found no significant difference in the level of most of the TQM practices and quality performance between manufacturing and service firms. Also, Brown & Van Der Wiele (1995) found that many organizations, acknowledging the wider notion of quality management as being important, are considering ISO 9000 as a good basis to start the process of quality improvement from.

A cross-sectional study undertaken on the Australian market showed that the motive for adopting ISO 9000 certification and the maturity of the quality culture are significant factors for determining the benefits derived from ISO 9000 certification (Terziovski et.al., 2003). The style of the auditor, on the other hand, does not appear to have a significant and positive effect on the benefits derived from ISO 9000 certification. According to that, the natural conclusion is that certification contributes to business performance when the quality culture in the organization is well developed and the manager’s motivation to gain certification is to improve business performance and not to conform to a standard.

Furthermore, many empirical evidences show that ISO 9000 certification is a necessary condition to support competitive and marketing objectives. Attention must be given in assuring that the company and its customers obtain the maximum benefits by the integration of the certification process in the marketing program (Stevenson & Barnes, 2002). To confirm the influence of ISO 9000 certification on marketing results, a recent study performed on a set of Spanish companies, analyzed the stock market’s reaction to a publicly announced winner of a quality award (Nicolau & Sellers, 2002). Results show that the stock market reacts positively to such a certification. Quality certification can be considered as a useful tool for reducing the information asymmetry between buyers and sellers, as well as a strategic element for the companies to distinguish themselves in the business competition (Nicolau & Sellers, 2002).
2.4 PROBLEMS FACED IN IMPLEMENTATION

The implementation of ISO 9000 has not been free from obstacles. In fact, the problems associated have been the reason for hesitation of organisations in the implementation of quality management system.

Tang & Kam (1999) stated the lack of strong senior management involvement, resistance or bad attitude from the staff, engineers are trained to look for quality and are often not convinced that ISO 9001 is the best way to do so. In an absence of well structured quality system and procedures, lack of effective communication even under quality procedures requirements, too much documentation and record, impractical ISO 9001 requirements on consultancy services, not fully understanding the requirements of ISO 9001 by the staff, change in culture, insufficient quality training to staff, no cooperation from the client to meet your procedures under project quality plan and aim at maintaining the ISO 9001 certification as a 'Work Permit' but not seeking for further quality improvement, were the difficulties in implementing ISO 9001.

Carlsson et al. (1996) identified the difficulties experienced in implementing ISO 9000. They are time and resource-consuming, difficulties in interpreting the standard, cumbersome and bureaucratic documentation, initial difficulties in making the quality system understood and accepted, difficulties in choosing a suitable level for documentation, difficulties in setting relevant quality goals, difficulties in communicating the message, difficulties in securing employee commitment, the accountants lack knowledge of our line of business and unclear guidelines from the certifying body.

Chelsom (1997) finds that the major reason for poor performance of some ISO 9000 registered companies is the improper motivations for such accreditation. Indeed, many businesses aim at obtaining ISO certification only because their major clients require them to do so. As Curran & Blackburn (1994, p. 91) argue that small firm registration is often something they feel compelled to do in order to stay on preferred supplier lists. With such an attitude, these companies are less likely to understand the standard and commit to continuous improvement. Getting a certificate quickly becomes an ultimate goal, which results in a poor implementation
process and performance (Subba et al., 1997). According to Penson (1997) a static and narrow approach towards implementing the standard, as well as lack of monitoring and commitment on the part of top management, are the major causes for the poor performance of some ISO 9000 certified firms.

Misunderstanding of the requirements of the standard as well as ignorance of the real potential costs and benefits involved in the ISO 9000 system development and implementation prior to certification inflates expectations of many firms which cannot be met by the reality. Consequently, these businesses are unhappy with their performance which is reflected in the outcomes of various studies (e.g. Cave, 1997; Mo & Chan, 1997). These rising expectations towards the potential effects of ISO 9000 may also result from careless statements about ISO 9000. For example Chelsom (1997) has pointed out that while approximately 40 per cent of all ISO 9000 registered companies in 1997 were based in the UK, only 2 per cent of them were rated world-class. Similarly, the Directorate General of the European Commission has questioned the effectiveness of the standard, claiming that ISO 9000 is not helping European firms to improve their competitiveness in the international arena (Zuckerman, 1994). However, while the ISO 9000 system should lead to improved performance (Rothery, 1993; Tricker, 1997), it does not necessarily bring about the benefit of attaining a world-class status by an accredited company. As Dobb (1998) emphasises, ISO 9000 is a good business practice that helps companies survive. Similarly, Jackson and Ashton (1995) state that operating to ISO 9000 standards brings about improvements in the operation of a business which can benefit in the form of improved efficiency.

O’Brien (1995) found some differences between large and medium and small sized enterprises in an Australian survey on ISO 9000. Four barriers were identified as less significant for small organisations, namely: lack of management commitment, lack of communication between departments, insufficient time spent on training and a targeted time frame which was too short. These suggest that smaller organisations, in particular, may have some advantages which may be partly attributable to using external consultants to introduce ISO 9000 and the fact that there are fewer levels of management. Chan & Jeganathan (1996) found in an Australian study that high costs were the greatest inhibitor to ISO 9000 series certification by small business.
McTeer & Dale (1994) surveyed eight enterprises with less than 50 employees in the UK. Their findings also suggest that customer pressure is the main reason for embarking on ISO 9000 and few of the companies developed plans for moving to TQM once certified. Time and lack of knowledge were the main problems faced by the smaller companies who placed considerable reliance on consultants to assist them. The cost of developing a quality system and gaining certification was seen as justified. Interestingly, some of these smaller companies relied on past experience with suppliers rather than ISO 9000 when doing their own purchasing.

Some of the most common barriers to the implementation of quality programs are, among others: lack of management commitment, resistance of workforce, lack of proper training of employees, failure to develop effective communication channels as well as to change organizational philosophy (Whalen and Rahim, 1994).

A quality implementation program will succeed only if top management is fully committed beyond public announcements (Oakland, 1989; Taylor, 1995). Another common problem in implementing a quality program is the lack of acceptance by middle and lower managers and the limited experience and training of many executives (Newall & Dale, 1990).

Many writers have put emphasis on the role of the human resources and the importance of training, because they have proved to be critical factors for the successful implementation of QAS and the improvement of business performance (Stahl et.al., 1993). Newall and Dale observed that poor education and training present a major obstacle in the development and implementation of a quality program (Newall & Dale, 1994), while the lack of understanding and proper training are considered to be large contributors to worker resistance (Whalen and Rahim, 1994).

A key component for the achievement of an organisational transformation is to allow employees to get comfortable with change (Gaines, 1994; Carlsson & Carlsson, 1996). Training and education are important for the preparation of an organization for change, for the accomplishment of the change itself, and for its institutionalization as a permanent part of the organization (Kappelman & Prybutok, 1995).
Although quality related literature is quite rich, several writers indicated the need for more empirical research. In their extensive literature review Ahire, et.al., stated that emphasis has been so far on conceptual articles and case studies, while relatively few articles concern empirical research (Ahire, et.al., 1995). Also, according to Wilkinson & Willmott, only "few studies reflect the practical implementation of quality management" (Wilkinson & Willmott, 1996). Carlsson & Carlsson pointed out the "need for more knowledge about the system on all levels from an overall perspective down to more detailed issues" (Carlsson & Carlsson, 1996). Also, Withers & Ebrahimpour consider that, with the exception of articles stressing the need for registration or providing anecdotal evidence of the benefits, research on ISO 9000 quality system standards has been limited and that comprehensive empirical evidence of the implications of registration is sorely needed (Withers & Ebrahimpour, 1996). Similarly, Williams considers that there is a severe lack of research that identifies the methods used by registered organisations and how effective ISO 9000 can be used as a platform for TQM (Williams, 1997).

The process of ISO 9000 certification is not always smooth. Most companies have encountered problems during and after the process of certification. Goetsch & Davis (1998), Kantner (1997), and Mo & Chan (1997) have highlighted some of the implementation problems, namely, the failure to provide adequate controls over documents and the data in them, the failure to define responsibility and authority for personnel, and inadequate training.

Some common post-implementation problems include having a cumbersome unworkable document control process that leads to the failure to carry out management reviews of the quality system to ensure system effectiveness, and the audit programs failing to provide feedback to management on compliance with the quality policies and procedures.

Other challenges associated with implementation include gaining management and employee commitment, and problems with interpretation of standards, with assessors and consultants, and with documentation (Brown & Van der Wiele, 1995a, b).

Despite the benefits reported above, there were numerous barriers that were faced by ISO 9000 certified companies, which included high cost of implementation, lack of
full commitment and participation of top management, lack of financial and human resources, employee resistance, no perceived advantage in certification of the service industry, and that proper training and education of employees could not be ensured.

However, some researchers query on the effectiveness of the standards. They underscore the problems, such as applicability to different industries (Tam et al., 2000), a high volume of paperwork (Chini & Valdez, 2003), lack of flexibility and poor compatibility with other management systems (Dick, 2000; Wilkinson & Dale, 2002).

Terziovski et al. (2003) found that ISO 9000 certification did not have a significantly positive relationship with organizational performance. On the contrary, ISO 9000 had some adverse effect as it increased operation costs and reduced product quality. The issue of improving sustainability of implementation of the ISO 9001 standard has engaged both practitioners and researchers for a long time. In fact, the sustainability of implementing the ISO 9001 standard depends not only on the company’s benefits so gained from ISO 9001-certification, but also the effectiveness of the quality management audit. Recent highly publicized cases in both financial and quality auditing pointed to the need for further examining the effectiveness of audit, as well as the methods to improve it, specifically focusing on the audit reliability and associated risks (Beckmerhagen et al., 2004).

Numerous studies show that there are many hurdles to obtaining registration (Bhuiyan & Alam, 2004; Yahya & Goh, 2001; West et al., 2002; Samson & Challis, 2002; Salegna & Fazel, 2000; Chin et al., 2000). In a survey of ISO 9000 implementation in companies in Singapore, it was found that devoting time to quality initiatives, lack of management support, and employee resistance to change were the main obstacles in establishing an ISO 9000 quality assurance model (Calingo et al., 1995; Quazi & Padibjo, 1998). Findings of another survey for Greek companies by Lipovatz et al. (1999) revealed that changing employee mentality was the main problem in preparing for ISO 9000 registration. These general roadblocks were also pointed out by Yahya & Goh (2001) in their study of ISO implementation in Malaysian companies, while Bhuiyan & Alam (2004) have pointed out similar ones in their study of Canadian companies. Fuentes et al. (2000) have examined the
literature associated with the ISO 9000 quality assurance system in Spain. Organizational barriers such as cooperation among managers, resistance to change, and employee involvement were found to be major obstacles to successful implementation. Kim (1994) reported that understanding ISO 9000 and underestimating efforts for the implementation played a key role in hindering progress to quality assurance system implementation. Carlsson & Carlsson (1996) investigated the experience of implementing ISO 9000 in Swedish industries, and found that the most difficult factors during implementation were the interpretation of the standard, and the time and resources required in undertaking the initiative.

2.5 INDIAN SCENARIO

The developments related to Indian companies, concerning quality of products and services; need to be examined on a comparative global scale. A survey made in 1994 in which products and services from 41 countries were ranked by World Competitiveness Report indicates that the quality of Indian products and services is disappointing. According to the summary of results given in Skaria (1995), India’s rank based on different quality parameters is as follows (the rank out of 41 is given followed by the parameter):

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Parameter</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Price to quality;</td>
<td>39</td>
</tr>
<tr>
<td>2</td>
<td>Practice of tqm;</td>
<td>38</td>
</tr>
<tr>
<td>3</td>
<td>Customer orientation;</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>Product liability;</td>
<td>28</td>
</tr>
<tr>
<td>5</td>
<td>Time to innovate;</td>
<td>39</td>
</tr>
<tr>
<td>6</td>
<td>Time to market;</td>
<td>38</td>
</tr>
<tr>
<td>7</td>
<td>Corporate credibility</td>
<td>22</td>
</tr>
</tbody>
</table>

Source: Skaria, 1995

The report clearly suggested that on a global scale, Indian products and services are far from satisfactory, and have a poor image. This is a major cause of worry for the corporate managers particularly for those looking for new markets, and ventures with foreign collaborators. One commonly quoted reason for getting away with low quality in India, is lack of pressure from consumers. Many managers are of the
opinion that unless the customers are aware of their right to demand high quality, and insist on companies to invest in quality, they continue to receive poor quality products.

While the growth and spread of quality practices are slow in India, ISO 9000 has firmly seated itself in other Asiatic countries. In a cover feature on 'Quality in Asia' reported in World Executive Digest (1996), it is stated that as Asia grapples with the challenge of globalization, more and more companies seek ISO 9000 certification and adopt TQM. Companies in Hong Kong, Taiwan, Malaysia, Singapore, and China are overtly involved in embracing practices of total quality to march ahead in global markets. According to The Economic intelligence Unit (1996), which surveyed companies in Hong Kong on quality practices, many TQM issues identified in other parts of the world are also issues in the region. The growth of TQM across Asia however means that new approaches are being developed in the region.

These observations clearly suggest that India has to carefully watch the developments in the Asiatic region, as ISO 9000 principles have been successfully applied by several countries improving their output quality, attracting more foreign investment, and hence capable of restricting India's share in the global market.

In spite of the hype created by the ISO 9000 bandwagon, which today has more than 1,500 companies certified as such, quality is yet to emerge as a major strength of Indian products. Managers of Indian companies have still a lot to learn and implement in the image building process based on quality. This is perhaps aptly summarized by a statement made by Philip Crosby as reported in The Times of India (1997). While addressing a news conference at the end of his weeklong visit to India, Crosby has said that complacency is a major problem with the Indian management system. The managers of Indian industries should take this seriously.

In an interview published in Business India (1997-98) James Harrington, a leading authority in the field of quality, has stated that India still has four types of companies: those with poor performance, with good performance, with better performance, and with outstanding performance. Harrington remarks that companies
with poor performance went bankrupt in other parts of the world, while those with
good performance would follow them. But those with better performance will
survive and those with outstanding performance would explode into the twenty-first
century. This indicates that India still has scope for bad products, and bad
performance, which need to be immediately curbed. It is pointed out by Sukumar
(1998) that ISO 9000 continues to baffle corporate India, as evident by the different
interpretations made by each person in the industry about what is ISO 9000. It was
observed during the Sixth Quality Summit organized by the CII in New Delhi, that
Quality Management means anything and everything depending on the individual's
perspective, politics, and paradigms. During the summit as many as nine different
definitions were presented by the speakers about what constitutes TQM.

This means people in the corporate sector have no consensus about the concept of
TQM and it could be a deterrent in its implementation. In another survey, conducted
by Arun et.al. (1998) with regard to ISO certified companies interesting
observations were made about implementing TQM in a company. Out of 17
companies that were surveyed, managers in seven companies said that though they
believe in ISO 9000 they do not know how to implement it. The survey further
revealed that the long term supplier relationship, an essential ingredient for
successful implementation of ISO 9000, has not yet been recognized as important
for achieving total quality. Other barriers impeding the implementation of TQM
were found to be: continued dependence on traditional incentive schemes, numerical
targets, performance rating, slogans for improving productivity, and not identifying
and providing the right type of training for each and everyone as demanded for
every job. The survey concludes that if all these factors are not mitigated a company
may continue as ISO certified but not be recognized as a TQM company.
2.6 RESEARCH GAPS

Although a number of studies have been carried out on the impacts and problems associated with the implementation of ISO 9000, but the following gaps were observed:

- No study has been carried out on the impacts of ISO 9000 in the garment manufacturing industry.
- No study has been carried out specifically in the Indian context.
- The previous studies have not compared the implementation of ISO 9000 in large and small organizations.
- No study has been carried out from the customer's perspective on ISO 9000.
- No study has been carried out to identify the influence of individual elements of ISO 9000 on the performance of organisations.

This study is an attempt to fill few of the above gaps by carrying out the research on Indian garment industry with comparison between small and large organisations.