CHAPTER 4  LITERATURE REVIEW

Quality is perceived to be different by different people, and many legends have contributed in the field of quality management as indicated in Chapter 1. As indicated in Chapter 2, SMEs play a very vital role in the economic growth of our country. The significance of quality management for the SMEs is also explained in Chapter 2. Chapter 3 has already covered theory on ISO 9000, its historical background and evolution till date, and TQM principles and benefits of TQM, hurdles in the implementation of TQM etc.

The popularity of ISO certification has motivated many researchers to work on the benefits derived out of certification. In the following sections few of the findings and details are presented based on referring various research papers. There are many studies and literatures that have been completed by other researchers which are related to ISO 9000 and TQM. Different methods, perspectives, and view are used. Nowadays, as numbers of ISO 9000 accredited firms have grown rapidly, there is a widespread belief in motives and benefits of ISO accreditation.

4.1  ISO 9001

4.1.1  Benefits derived and motivators for ISO certification

Buttle F. (1996)[25], in his conclusion with the help of the survey stated that “companies pursue ISO 9000 certification in order to enjoy both operational and marketing benefits which impact on costs, revenues, and, by inference, profit. The most important benefit sought from certification is profit improvement. Ranked second and third most important are process improvements and marketing benefits. Marketing benefits include gaining new customers, keeping existing customers, using the standard as a promotional tool, increasing market share, increasing growth in sales and improving customer satisfaction. By and large companies are satisfied with the impact of the standard on their organizations.”

All HafiexABas et al. [26] in their literature review quoted a study of Arauz and Suzuki (2004) [27] in which it is explained that promoting corporate image is the main
implementation motivator. Therefore it can be understood that the motives of the firms to obtained and implemented ISO 9000 are divided into two, which are internal reasons (such as improve quality of products and services) and external reasons (such as competitive advantages, customer expectation). From the previous research, ISO 9000 implementation improved the financial performance of the companies. It was also mentioned in their literature review that according to Chua et al. (2003) [28], ISO 9000 certification leads to better financial performance. While Buttle (1996) [25] finds that, return on sales (ROS), lender security (LS), free cash flow (FCF) and economic value added (EVA), to examine the relation with company performance. It is found that ROS and EVA determine the performance of the Malaysian listed companies.

All HafiexABas et al. [26] also quoted Magd (2006)[29] stating that “ISO 9000 implementation improved the efficiency of the quality system; better documentation procedures; and increased quality awareness in the firms.” Arauz and Suzuki (2004)[27] found that performance benefits are highly correlated with reducing process variance, improving reliability, morale and skills, and increasing customer satisfaction.

Buttle [25] further stated that, according to Chua et al. (2003)[28], ISO 9000 certification allows firms to experience better internal processes through clearer working instructions or procedures, better bottom line through greater profitability, and stronger export through expansion into international markets. ISO 9000 implementation also exposes the employees to be expert in influenced development – they were trained in the concept and methodology of implementing quality systems and technical and specialized training were imparted to build up competence in their primary functions, such as marketing, design, purchasing, process, and product engineering.

Kunnanatt, (2007) [30] in his research findings stated that “as a result of ISO 9000 implementation the dysfunctional organizational climate motives such as control, dependency, and affiliation undergo a u-turn transformation giving way to the
functional and conducive climate motives such as achievement, expert influence, and extension.”

Grajek, Michal (2004) [31] in the Introduction of their research paper mentioned that, ‘The main goal of the International Organization for Standardization (ISO) is to harmonize standards around the world, which, as it is widely claimed, promotes trade and therefore global welfare. Examples of the work done by ISO include technical, environmental, and management standards. ISO 9000 family of standards – often referred to as generic quality management standards – is one of them.’

They stated that “The vision of the developers is that through its worldwide acceptance and use, the ISO 9000 family of standards will provide an effective means for improving the performance of individual organizations and providing confidence to people and organizations that products (goods and services) will meet their expectations thereby enhancing trade, global prosperity and individual well-being.”[32]

The authors [31] further stated that “few existing empirical analyses of ISO 9000 focus on managers’ motivation to seek the certification and on market reaction to it.” Examples include Anderson et al. (1999) [33], who find that after controlling for regulatory and customer pressures, providing credible signals of quality assurance to external parties motivates the adoption decision. Further, Docking and Dowen (1999) [34] examine the reaction of the firms’ stock price to the announcement of ISO 9000 registration. They find that, for smaller firms, investors react positively to the announcement and that there was no significant reaction for larger firms.

They [31] also mentioned that, in general, motivations behind the implementation of ISO 9000 could be divided into three main categories:

i) compliance with government regulations,

ii) ability to enter new forms of vertical relations due to use of a common language, and

iii) Internal efficiency gains.
In fact, all the factors influencing managers to seek ISO 9000 certification identified by Anderson et al. (1999) [33] in a comprehensive review of practitioners journals fall into one of the three categories.

Grajek, Michal [31] concluded that the ISO 9000 standards have indeed significant positive impact on international trade.

In their paper Prof. R.T.Salunkhe et al. [35] stated that, “the case study implemented at ABC industry is useful for them not just for improving their outsourcing strategies and approach but also high customer satisfaction, very low inventory level and increase in profit. From the reports of rework and rejection it is observed that there is considerable reduction in the rework and rejection. Major issues are discussed in the management review committee meeting and the corrective and preventive actions are taken to eliminate the cause of non-conformities in order to prevent recurrence. The quality level is also increased from 3.83σ to 4.15σ. From this the effectiveness of quality management system is observed.”

Castka, Balzarova and Kenny (2006)[36] conducted a survey which resulted in to an indicator related to motivators for ISO certification. They are mainly Quality Improvement, marketing, corporate image and customer pressure. According to the survey finding manufacturing companies considered ISO for getting Marketing advantage( important) and then Customer pressure( somewhat important), avoid potential export barrier(somewhat important) and major competitor certified (somewhat important). It was also found that most of the companies thought that ISO is not the final destination and they were going beyond the requirements of the standard. The respondents of the survey indicated that they enjoy substantial benefits in terms of ‘ Improved internal procedures’ and ‘quality improvement’ and moderate benefit like’ increased customer satisfaction’ and improved corporate image’. Manufacturing sector also indicated a minor benefit of ‘cost reduction’.

Shivakumar B. Burli et al[37] in the abstract of their research paper mentioned that, ‘Based on extensive literature survey six determinants of TQM practices were identified, and their impact was measured on overall performance of ISO certified
and Non-ISO manufacturing SME’s in Karnataka and Maharashtra. The investigated constructs included Management Support, People Management, Training, Continuous Improvement, Customer Focus, and Supplier Relationship. Sample of this study comprised of 133 ISO certified manufacturing industries of Karnataka and Maharashtra and 40 Non-ISO firms. The focus of analysis was to produce results that reinforce the belief of senior management in quality management practices. The findings of this study bring out the significant benefits of ISO 9001:2000 in SMES and, encourage the Non-ISO firms to begin quality initiatives via ISO.

The author [37] further mentioned that ‘ISO is a measure of whether the company has been certified by the ISO 9000 specifying which version is being applied. Since ISO 9000 series of standards first emerged in 1987, many authors found that ISO offered a reasonable first step toward implementing quality (Bradley, 1994 [38]; Escanciano et al., 2001 [39]; Gotzamani and Tsiotras, 2002 [40]; Skrabec, 1999 [41]; Stephens, 1997 [42]; Sun, 2000 [43]; Tummala and Tang, 1996 [44]; Withers and Ebrahimpour, 2001 [45]; Yusof and Aspinwall, 2000)[46]. This initial version of ISO addressed quality issues in categories such as quality policy, quality documentation and quality planning.’

Dr. Omer Abdel Aziz El Tigani [47] mentioned the following in their paper.

The ISO 9000 QMS (Quality Management System) can provide the organization with benefits. According to Philips (2009) [48] Top ten reasons to get ISO 9001:2000 QMS discussed ten of these benefits that are summarized below:

1) Increase the efficiency of the organization, because SO 9000 QMS enable the processes to be established and guidelines in place for anyone to follow easily, making training, transitions, and trouble-shooting easier.

2) The ISO 9000 QMS registered organizations experience increased productivity and improved financial performance, compared to the unregistered ones.
3) The ISO 9000 QMS defines roles, duties, responsibilities, and authorities of workers. Also it enables the organization to establish training systems and ensures all contribute to more satisfied and motivated workers.

4) International recognition from the International Organization for Standardization (ISO).

5) ISO 9000 QMS to document all daily activities in the organization, which facilitates information gathering and decision making based on the available data.

6) Mutually beneficial supplier relationships are one of the key attractions to ISO certification. Following the processes for documentation and testing ensure quality raw materials go into your production system. The process also requires thorough evaluation of new suppliers before a change is made and/or consistency with respect to how and where orders are placed.

7) Documentation of all processes ensures consistency throughout production and accountability of all workers. This also guarantees traceable records are available when needed.

8) Documentation of all processes minimizes the room for error and ensures consistency in productivity and the quality and of the produced products or presented services.

9) Customer satisfaction is ensured because of the benefits of ISO 9001:2000 QMS to company efficiency, consistency and dedication to quality service.

10) Continual improvement can be ensured, as improvements are carefully planned and implemented based on facts, using a system of documentation and analysis, to ensure the best decisions are made for the organization.

From the above benefits that the ISO 9000 QMS provides, the author [47] perceives that respondents did not observe all or part of those benefits in their organizations because of the improper implementation practices. The ISO 9000 QMS applicability is the fourth and last factor in the third section of the questionnaire. In this factor,
the author assesses how the ISO 9000QMS can be easily applied in the organizations and to what extent do the organizations' workers accept or refuse it.

The author [47] suggested that the top management of the organization should keep up with the enthusiasm and commitment to the ISO 9000 QMS prior and following the certification audits and should not take the ISO 9000 certificate as a destination.

Dr. Esra ASLANERTİK & Dr. Burcu İlter TABAK [49] in the introduction of their case analysis paper stated that, “Global competition and increasing customer awareness have made the quality as the key indicator for customer satisfaction and a success factor to achieve competitive advantage. On these circumstances, companies try to become quality leadership companies and they began to implement certain quality management approaches. But at the same time, they recognize that sustainable growth not only demands quality leadership and customer satisfaction but also cost leadership, human resource effectiveness and effective business integration with the suppliers.”

The authors [49] quoted Chittenden et al., (1998) [50] whose study compares the characteristics of the registered and unregistered firms. Only a tiny minority of small firms has registered for ISO 9000. However, the great majority of small business using ISO 9000 felt the advantages of the standard outweighed the disadvantages. Based upon the analysis in this study, it was concluded that ISO 9000 provides a formal solution to the problems of quality management and a badge of quality to reassure purchasers about the quality consistency of their suppliers’ products and services.

Also the following benefits for adopting ISO 9000 were identified from over 1000 respondents;

- 52% retaining business
- 44% less customer complaints
- 38% broke into new markets
- 30% increased sales turnover
The authors [49] cited various authors in their paper stating that: The pros of ISO 9000 implementation was derived as follows; (Sun 1999 [51], 2000 [43]; Khan and Hafiz 1999 [52]; McAdam and McKeown 1999 [53]; Ismail and Hashmi 1999 [54]; Kanji 1998 [55]; Rao, Ragu-Nathan and Solis 1997 [56])

- Implementation of ISO 9000 standards improves product quality and reduces quality costs
- Improves productivity and profitability
- Enhances marketing advantage vis-à-vis no certified companies’ leads to increased sales and market share.

Dr. Esra ASLANERTİK & Dr. Burcu İlter TABAK [49] further cited Hurang, (1999) [57] stating with the help of a survey that “survey that the ISO 9000 certificates helps companies gain benefits in internationalization, quality improvement, sales enhancement, and cost reduction.”

They [49] also cited Ragothaman and Korte 1999 [58] stating with the help of another survey that “respondents agreed that ISO 9000 certification improved documentation, was a beneficial marketing tool and improved export potential. There was also general agreement that implementation had benefits in dealing with both suppliers and customers.”

Sachdeva, A., et al. (2007) [59] in their research paper concluded that ISO 9000 standards are a set of documented and standardized procedures that provide assurance of product uniformity and conformance to specifications through superior management control. This study on a selected sample of ISO 9000 certified firms has highlighted how the organizations, after acquiring the certificate, have been able to improve their performance in terms of quality and cost of quality aspects. The certification helped the organizations to become more disciplined in their operations and quality conscious, thus forcing the firms to systematize and streamline the production processes. Thus it leads to the conclusion that certification has a direct impact on quality during the production process. A significant impact was observed in time performances too. It is established that after
acquiring certification, the firms become more punctual, cut short their delivery lead
time and production throughput times. Significant improvements were also reported
in performance indicators related to purchasing function. The certification, in fact,
helped the certified organizations to communicate to their suppliers about the
quality requirements of the organization in an effective manner. Better control of
product quality and effective monitoring of suppliers’ quality assurance system
further verified the impact on the purchasing aspect. The improved documentation
of the quality system itself – from operating instruction to management procedures,
and the intensification of inspection activities (which usually accompany
certification), also contributes to the improvement in performances. There was also
some improvement, though less marked, in external quality performance; however
certification did not help the organizations in winning the confidence of the
customer by merely getting the certification. The literature reflects that the aim of
the organizations, particularly SMEs, in obtaining certification is to send a signal to
their customers that they have the mechanism for quality practices. But the study
indicates that the customers are rarely satisfied with mere certification; rather, they
believe more in tangible evidences relating to the extent of the implementation of
such claims.

Atul Gupta (2000) [60] referred Raghunathan et al. (1997)[61] indicating with the
help of a comparative study that ‘quality was considered important in the country.
Leadership, strategic quality planning and quality assurance practices were given
greater importance than the other constructs compared in the analysis. The other
constructs considered in this study were information and analysis, supplier
relationships, quality results, customer orientation and human resource
development.’

The author[60] also referred Mallak et al. (1997)[62] who found that quality
improvement programs in ISO 9000 organizations seek to achieve and maintain
product quality, assure management that quality standards are being achieved, and
provide consistent products to consumers. Findings of this study suggest that ISO
9000 certification efforts are supported by such values as team orientation, group
training, defect prevention and attention to detail. Further the same author [60] cited Min (1998) [63] suggesting that ‘strict adherence to supplier quality requirements, incorporation of customer feedback for process improvements, and employee training/empowerment are essential components of a world class quality improvement program.’ In this study quality improvement programs such as customer orientation, QC team building, QC circle, employee training/empowerment, cooperation with the suppliers, QC cost analysis and strategic quality planning were considered.

Sachdeva, A., et al. [59] In the results and discussion of their research paper stated that “ISO and non-ISO organizations do differ on at least four aspects: i.e. technology management; quality management programs; causes of poor quality; and quality control techniques used. In terms of quality management programs, team building and training turned up to be significant. In this era of total quality management, organizations tend to resolve problems through teams. This type of task is normally assigned to steering committees and in ISO organizations steering committees are already in existence. The use of steering committees goes beyond departmental boundaries and several problems that are interrelated can be resolved easily. The significance of teams in ISO companies may be due to the familiarity with the steering and working committees and the group work involved in those committees.

Companies that achieved ISO certification advocate a corporate-wide employee involvement strategy using training programs. Training supports a self-perpetuating quality environment that promotes investment returns by advancing education and familiarization among employees. Characterized by a training delivery scheme based on customer requirements, it also addresses issues associated with change and performance standards. Moreover, training correlates very well with the gathering and evaluation of important process information associated with ISO 9000 standards. It also initiates control and strategic policies that let employees analyze work processes, correct system faults and receive acknowledgment for changing.”

Alan Brown, Ton van der Wiele [64] cited in their research paper the result of a survey carried out by Llyods Register Quality Assurance (1994) [65] and the study was
conducted by Research International, and based on interviews with 400 quality managers and senior managers. One of the several conclusions of this study was that ‘Like a fine wine, the respondents saw ISO 9000 registration improves with age’. The majority was of the opinion that ISO 9000 is a complement to TQM. It also concluded that the ISO results in to valuable public relations and marketing tool, and an increase in the ability to bid for contracts. A reasonable number of respondents found increased market share and they thought that the certification has helped to enter in to international market and has fewer customer audits. Only a very few respondents were negative about the increase in paperwork and the costs involved with certification. Most importantly the majority of respondents of smaller firms have defined ISO certification as beneficial.

In the conclusion the author stated that many companies report ISO as a useful start for introducing broader quality concepts.

Lt Gen H Lal (Retd) (2004) [66], In his article very categorically mentioned that ‘quality management has remained a philosophy only and is not yet accepted universally as a practical process.’ He refers to the contribution of quality gurus like Deming, Juran, Crosby, Ishikawa and Taguchi each of them came out with a different recipe for managing quality. According to him if all these contributors in the field could not agree on a single definition of quality and its method of achievement, the average quality professional or a manager or a consultant could be forgiven for being confused. It was because of such scenario need for standardization of the concept of quality management did arise and so ISO 9000 entered in the scene.

The best part of ISO system is that for the first time an internationally accepted method of quality management as unavailable in the form of a specification whose implementation was also verifiable. It also provided a basis for a transparent mechanism of third-party certification of quality management systems, which helped in establishing the credibility of suppliers and potential customers had the reasons to stay away from their own evaluation of suppliers.
S.D. Kalpande et al. [67] stated that, “in the current time period which is very much
dynamic if one concentrates only on product quality is not sufficient enough. All the
organizations are required to produce products and services which are competitive
and are of better quality. ISO 9001 and TQM are suitable to achieve the expected
quality level of the output of an organization, but the systems differ in their
systematic approach to keep the system in order to manage continuous
improvement.”

Jaideep Motwani et al. (1996) [68] carried out a case study of a large US
manufacturing organization to explain how it achieved the ISO 9000 certification.
The authors said that “Although the certification process is lengthy and the
documentation extensive, ISO 9000 provides substantial benefits in terms of, for
example, higher customer satisfaction, smoother operations and lower costs, higher
quality and productivity. According to the CEO of the company, ‘ISO registration
assures consistent quality of products, processes and services.’ Other benefits
include the organization’s positioning in the European and domestic markets,
together with the standardization of procedures and rules of operation, and the high
level of discipline throughout the company.”

Matts Calsson and Dan Carlsson (1996) [69] in the study they carried out of Swedish
industry stated that, “ISO system is here to stay. “ They identified the system as an
important catalyst for change, which, if correctly used, has got a great potential for
bringing about positive change.

Tat Lee et al (1999) [70] conducted a comprehensive survey with a view to identify
the benefits achieved by ISO 9000 certified companies in Hong Kong. They found
that the certification helps the companies to improve quality in terms of work
procedures, product and service quality, team spirit, subcontractor control,
efficiency and complaints. While a large proportion of the certified companies would
like to continuously improve their quality on the basis of the certified management
system, many of them do not know how to make a start.
Rui Sousa, Christopher A. Voss [71], stated that “Quality management (QM) has become an all-pervasive management philosophy, finding its way into most sectors of today’s business society. After the initial hype and enthusiasm, it is time to take stock of the knowledge accumulated in what is now a mature field of study and look for directions to take the field further forward.” Their article was aimed at reflection on the mass of literature in the field, synthesizing, organizing and structuring knowledge and offering suggestions for future research. They concluded as under:

(i) Quality performance (mainly conformance quality) has a significant and strong effect on operational performance; and

(ii) Quality performance has a weak and not always significant effect on business performance. In turn, the studies on the relationship between QM practice and performance seem to indicate that, as a whole, QM practices have a significant and strong impact on quality and operational performance. However, the impact of QM practices on business performance is weaker and not always significant.

Paulo Sampaio et al. [72] in their research paper concluded that: The ISO 9001 certification represents a worldwide phenomenon, and, if this standard is correctly implemented and understood, as opposed to being used just as a marketing and promotional tool, there seem to be significant benefits derived for the organizations that do so – both internal and external ones.

Furthermore with the help of the literature review carried out they derived following main conclusions:

- ISO 9001 motivations and benefits can be categorized as being mostly external or internal ones. The first group is essentially related with marketing and promotional issues, while the internal category is related to internal organizational improvements.

- There is an interesting relationship between ISO 9001 motivations and the corresponding benefits. According to the literature, companies maximize
their benefits if they achieve ISO 9001 certification based on internal motivations.

- Quality management systems implementation does seem to have positive and significant impacts over the companies’ performance. However, if the analysis is focused over its impact only over business financial performance, results of a contradictory nature are reported.

- The majority of researchers do argue that ISO 9001 should be faced as the first step to a posterior TQM implementation, but there is no general agreement in this regard either.

Robert Sroufe & Sime Curkovic [73], in their research paper mentioned that ‘Many of the criticisms of ISO 9000:2000 espoused by managers seem valid on the surface but may actually mask an underlying strategic position of a plant. This study attempts to demonstrate that companies who fully integrate a QMS can reap significant benefits internally and externally in terms of quality assurance. ISO 9000:2000 does not have to be a non-value-added, paper-driven process. However, companies that see registration as a game to keep business will not obtain the additional benefits seen in more proactive plants where more effort is put into quality standards integration and supply chain quality assurance.’

They also stated further that ‘ISO registration contains important foundations for QA. Registered plants are forced to examine all of their processes and, in doing so, their own competitive priorities. Many plants with a strong focus on QMS integration have used the documentation process as a tool to discover and later solve problems. Much the same as any new initiative, low-hanging fruits will be found early in the implementation of a quality system and its registration. Those plants that do a good job of integration will reap early benefits. They will also find more long-term returns through inclusion in a customer’s supply base, less variance in manufacturing processes, visibility and communication with supply chain members, an external image of quality, and the ability to attract new customers that understand and work with registered suppliers.’
Milé Terziovski et.al [74] carried out a cross sectional study in Australia and tested several hypothesis relating to ISO 9000 quality system certification using the data collected. They used Multivariate analysis to analyze the quantitative data and test the hypotheses. Their findings show that there is a significant and positive relationship between the Manager’s motives for adopting ISO 9000 certification and business performance. It was stated that organizations that pursue certification willingly and positively are more likely to report improved organizational performance. The principal motivation to pursue ISO 9000 certification was found to come from customer pressure. Auditing style was found to have an insignificant (positive or negative) effect on business performance. The ability of the new ISO 9001-2000 standard to capture and meet the conformance and performance requirements of the organization as part of a continuous improvement strategy will be a prime determinant of the extent to which managers embrace or reject ISO 9000 certification in the 21st century.

Joaquín Texeira-Quirós et.al [75], with the help of exhaustive literature review tried to analyse the relationship between the implementation of systems of quality management, ISO 9000 certification, quality costs, results and business performance. In their conclusion they said “The ISO 9000 family of standards are benchmarks for the implementation of systems of quality management, which represent an international consensus on good management practices with the aim of ensuring the supply of products that meet customer requirements and focus on continuous improvement. They are also a basis for the design, implementation, evaluation, specification and certification of quality systems, introducing a common language internationally. It is also now an essential requirement for a company to stay on the market.”

They further concluded that:

- One of the benefits attributed to ISO 9000, is that constitutes a good first step in the direction of TQM system, thus creating a climate of change in the way of running the company.
• The version of ISO in the year 2000 introduced some key aspects of quality in the previous version (1994), such as continuous improvement and customer orientation, which are two aspects of great importance, and without them the companies implemented a quality management at a superficial level.

• The ISO 9000 and TQM have points in common, yet one of the most important reasons for obtaining ISO 9000 certification are the external reasons, i.e. companies tend to do so by pressure from customers and suppliers, or for marketing reasons.

• Companies often are too anxious to get certified and tend to neglect what should be the main reason to obtain the certification, that is, a better system of quality management.

• The time and cost to implement TQM can vary between companies, and the size of the potential gain from TQM implementation can be affected by the company's technology. As well, the synergies in the implementation of TQM may depend on the various markets in which firms operate. Any type of tool, system or program-related quality tends to be amortized over time.

• The ISO 9000 certification process represents an evolution in how a company and quality system needs to be monitored and may be the key to successful business management. The consistent implementation of a system of quality management contributes significantly to a better financial performance. The way the company implements the standard is what distinguishes a business from others in performance. The better the company uses the standard in their daily operational practices, the greater the performance.

• The ISO 9000 standards assume an evolution in how to manage a company, organization, communication and quality system, which in general are the key to success in business management, where the aim of continuous improvement becomes a basic tool to advance the competitiveness of business.
• The standard can contribute directly or indirectly in the results, by improving the TQM enablers. However, the results of certification depend on the type of motivation and why companies decide to certify.

Hongyi Sun and Tsz-Kit Cheng [76] with the help of their survey of 180 Norwegian manufacturing companies came out with findings that the SMEs implement ISO 9000 standards and TQM mainly because of market and customer demand or external pressure rather than internal initiation;

They also indicted that according to Taylor, 1995[77]; Mo and Chan, 1997[78], the quality management system based on ISO 9000 standards is a necessary foundation for other quality methods under TQM. Further they noted Huarng, 1999[79] finding that ISO 9000 certificates (standards) help companies gain benefits in internationalization, quality improvement, sales enhancement, and cost reduction.

Luca Cagnazzo et al. [80] in their paper beautifully categorized impacts of ISO 9000 certification on business performances i.e. on customers, international trades, quality system, financial performances, human resources/organizational climate and barriers & pitfalls of implementations.

Micaela Martínez-Costa & Angel R. Martínez-Lorente [81] suggested in the results that the internally motivated ISO 9000 certified companies do improve after the certification. However, the externally motivated ISO 9000 companies failed to show improvement after the certification. They also came out with the findings with the literature review as under:

Regarding ISO 9000, researchers such as Corbett et.al (2005) [82] found a positive financial impact of ISO 9000. However, for a long time, there was no general agreement regarding the effects of ISO 9000 on the company performance.

Tufan Koc [83] pointed out by a study that the combination of the findings of the research questions suggests a fit between ISO 9000 practices, manufacturing performance, competitive priorities and firm performance. It is claimed that companies that have improved their manufacturing parameters through ISO 9000
practices benefit improvement in the value that they offer to their customers by means of their competitive priorities that leads to improvement in firm performance. Based on the analysis, the findings also suggest that the improvements in internal manufacturing competences are likely to increase the customer demand by better value offered by the firm that in turn leads to improvement in firm performance. Therefore firms are advised not to focus primarily on conformity and documentation but rather they should focus on combining the quality management with overall business success. It is expected that especially for the non-certified firms these findings provide implications related the potential areas in manufacturing for improvement by the adoption of ISO 9000 QMS.

4.1.2 Contradicting views about ISO 9000

There are some studies which proved that ISO 9000 implementation did not only perceive as positive, but also negative impact to the organizations.

All HafiexABas et al. [26] mentioned in their paper that different result obtained from study by Heras et. al (2002) [84] using a longitudinal analysis of performance before and after accreditation has found no improvement in profitability in years following registration. The researcher concluded that superior performance of certified firms is due to be having a greater propensity to pursue ISO 9000.

ISO was described as being costly and time-consuming. Money and time would be the major obstacle that need to over-come in order to convince the top management to introduce ISO into the organization (Mallak et al., 1997) [85]

The same result found by McLachlan (1996) [86] that ISO was being too expensive; it did not address the needs of small businesses; biased towards manufacturing; irrelevant; and rubbish were still being made and sold.

According to Chua et al. (2003) [28] deficient supplier management, unclear lines of authorization, non-conformance to procedures, lack of management review and in consistent in bound practices also become the barriers to the excellence implementation of ISO 9000.
Grajek, Michal [31] in their paper, empirically assessed the link between the ISO 9000 family of standards and international trade. According to the vision of its developers, ISO 9000 should provide confidence to people and organizations that products will meet their expectations, thereby enhancing trade and global welfare. In contrast, its critics claim that it is merely a barrier to market entry and a tariff on international trade.

The authors [31] in their conclusion stated that the negative effect of ISO 9000 is that, since domestic certified firms are likely to choose other certified firms as suppliers, the average bilateral imports from all trade partners will fall with domestic adoptions if the concentration of adoptions around the world is high enough.

Dr. Omer Abdel Aziz El Tigani [47] in the Abstract of his research paper stated that “Organizations in the region (Qatar) implement the ISO 9000 Quality Management System and obtain the consequent approvals, rewards and certificates, but unfortunately, without the actual and effective implementation on the ground. The purpose of this research study was to assess the impact of the implementation of the ISO Quality Management System upon the performance of participating workers. Qualitative as well as quantitative research was conducted. Data were collected using a quantitative survey administered to 150 participants from either governmental or private and both sectors in the State of Qatar. Findings include the implementation of the ISO 9000 QMS has no impact on the performance of the participating organizations’ workers. This research study also revealed some important points related to the organizations' workers and their performances under the umbrella of the ISO 9000 Quality Management System, which leads the Researcher to raise some questions to the concerned people in the International Organization for Standardization (ISO).”

The author [47] also stated that “The results obtained from the statistics that the respondents disagreed with the positive impact of the implementation of the ISO 9000 QMS on the performance of the organizations' workers.” The researcher thinks that one of the most important reasons causing these challenging results, besides the lack of top management commitments, is the poor performance of the external
auditors during the certification audits. Because when the organization has a pre-
information that the certification audits will not be comprehensive or that much stiff, this will surely lead the organization to spend its minimal resources, efforts and time to obtain the certificate as a destination.

Dr. Omer Abdel Aziz El Tigani [47] also cited Nelson (1996) [87] describing that the ISO 9000 certification is like a driver's license. One can learn how to drive without getting a driver's license, but to prove you can drive, you need the license. The proof is not in the ability itself, but that an external judge of driving ability found you fit to drive. Because when the organization gets the ISO 9000 certificate for the first time, which means it only meets the minimum requirements of having a quality management system to start its journey with.

Dr. Esra ASLANERTİK & Dr. Burcu İlter TABAK [49] In their case analysis paper found to be citing various authors stating that: the cons of ISO 9000 implementation was derived as follows; (Zhang 2000 [88]; Lima, Resende and Hasenclever 2000 [89] ;Simmons and White 1999 [90] ; Terzionski, Sohal andMoss 1999 [91]; Van Der Wiele and Brown 1997 [92] )

Implementation of ISO 9000 does not yield improved productivity, quality or profitability

- No difference in performance between ISO certified and non certified companies

- No sales, marketing or competitive benefits.

Alan Brown, Ton van der Wiele (1996) [64] concluded in their paper that many companies are forced to seek ISO certification and have to a large extent experienced disappointments with the results of certification.

According to Lt Gen H Lal (Retd) (2004) [66], various forums expressed the view that ISO 9000 certification has fallen short of expectations. The evidence of this fact can be read from the statement by Dr. Eicher, made in November, 2001,
“The conformity assessment community was facing a serious challenge caused by a certain number of certification bodies which acted without integrity.”

(Quoted from article “Standards, What Standards?” Published in ‘Quality World’ of August, 2002, issue)

Linda Campbell, Chief Executive of UKAS, commented:

“There is enough smoke to suggest fire. In particular, we hear of allegations that certification bodies mix certification with the provision of consultancy in such a way as to undermine the independence of the certification process.”

(Quoted from article, “Standards, What Standards?” Published in ‘Quality World’ of August, 2002, issue)

In the said article various problems pertaining to audits for certification were highlighted and limitations of certification process were indicated. The author concluded that commercial conflicts of interest and unethical practices by some certification bodies have eroded the confidence of the market in these standards. According to him there is a need for ‘corrective and preventive action’. He also gave some suggestion to improve the credibility of certification process.

Paulo Sampaio et.al [71] in their research paper concluded on the brighter side of ISO certification, but they also added in to their conclusion that:

- In spite of the international significant growth in the number of ISO 9001 certificates issued, some countries are already reaching a market saturation level regarding the number of ISO 9001 certified entities.

- An apparent erosion of ISO 9001 perceived benefits over time, after registration occurs, does seem to occur and deserves further exploration.

- Lack of top management involvement is considered to be the main obstacle faced by companies during ISO 9001 implementation and certification.
Durai Anand Kumar, Dr. V. Balakrishnan [93], with the help of a survey conducted on the target group consisting of about Mechanical, Civil and Electrical contractors in UAE summarized in their conclusion as under:

Even though more than a million organizations have been certified to ISO QMS 9001 standard till date, there were certain common problems faced by majority of these certified organizations, which influences their business performance.

These problems are broadly classified into three categories as:

- Leadership related issues (Inadequate Commitment by Top Management, Lack of Motivation, Recognition, Organizational learning, Strategic Planning & long term focus)
- Strategy Related Issues (Mission, Vision, Values, Strategic Planning, Strategy Mapping, Cascading down the line, KPIs & Initiatives)
- Quality System related issues (Weak Plan-Do-Check-Act cycle, generic system, internal audit not in depth, non value adding meetings/trainings & excessive paperwork)
- Society oriented gaps (Corporate Social Responsibility, Environmental Management & Sustainability)

When an organization carefully eliminates these above mentioned gaps, it can be sure of the whole business model to be effective with value added processes, methods, systems and efficient resources contributing for continual improvements and towards business excellence.

S.X. Zeng et.al [94], Using a structural questionnaire survey, tried to examine the main barriers for enterprises in effective implementation of the ISO 9001 standard.

In their findings they mentioned that the problems in implementing the standard, which determines the sustainable implementation are

1. Short-sighted goal for “getting certified”
2. Over-expectation on the ISO 9001 standard

3. Mandatory requirement (not wholehearted commitment) in some industries, and

4. Following others (the trend) in certification

Further with regard to the effective audit of the ISO 9001 standard, the main problems explored were:

1. Lack of commitment from some certifying bodies

2. Excessive competition between certifying bodies, and

3. Offering of a total packaged service from consultancy to certification by certifying bodies.

4.2 TQM

Shivakumar B. Burli et al. [37] in their research paper with the help of a survey of ISO & Non ISO manufacturing firms of Karnataka & Maharashtra concluded that ‘SMEs act as a vital component of growing economy by contributing significantly for the development of economy by creating employment for both urban and rural workforce and by providing much needed flexibility and innovation in the economy as a whole. If TQM policies and practices are applied in a positive manner in manufacturing SMEs, it will significantly contribute in their performance in terms of quality and customer satisfaction. ISO has been adapted in many SMEs but certain TQM practices observed to be weak and hence, need management attention. The study brought out that the manufacturing SME’s must accept, and practice TQM practices to enhance performance and customer satisfaction. The study also revealed that ISO certified firms demonstrate higher level of TQM practices as compared to Non-ISO SMEs. Hence the firms must initiate TQM implementation via ISO and then slowly expand to address soft dimensions like people management to achieve continuous improvement of processes and increased level of customer satisfaction.’
The authors further stated that TQM is defined as the art of managing the whole to achieve excellence [4]. This definition emphasizes the need to focus on all the functions of an organization in an integrated manner to achieve customer satisfaction. The author expands the meaning of TQM as both, ‘a philosophy, and a set of guiding principles’, that represent the foundation of a continuously improving organization. Flynn et al, (1994)[95] defined and empirically tested a scale for measuring TQM. The same authors for evaluation of TQM in the company performance later used this scale. This scale was chosen for the current study in order to measure TQM implementation. This is appropriate for manufacturing companies, and also has been validated and accepted as a good measurement of TQM in the literature. Lee and Kelce, (2003) [96] investigated the existing status of TQM practices in 112 SMEs (manufacturing firms) of China and its impact on their performance. It was found that manufacturing process of these small firms was not an obstacle to the implementation of TQM; instead it was the size of firm, which posed as a threat for implementation. Research showed that majority of the firms were new to TQM practices and that it was initiated by their top management. A positive influence of TQM was observed on performance as waste, inventory and costs was reduced, and an increase in sales was observed. In the same manner, performance of SMEs was observed in (Malaysia by Sohail and Hoong, 2003 [97]; in India by Mahadevappa et al., 2004 [98]; in Portugal by Sousa et al., 2005 [99]; in Spain by Bou and Beltrain, 2005 [100]; and in Turkey by Demirbag and Zaim, 2006 [101]) .

All researchers were of the view that ISO certification should be acquired by the SMEs, and, ISO quality management systems should be integrated with TQM for continuous improvement of the overall business performance.

Shirley Coleman and Alex Douglas [102] indicated in their research paper that ‘many organizations after getting certified with ISO 9000 do not know as to where they should be heading forward to. Some of them move further by following TQM principles. Out of them some fail to do so and some get succeed. The reason behind
failure may be lack of clarity about the TQM requirements. It is a general perception that ISO 9000 is a stepping stone towards TQM.’

They also referred to a comment of Sun’s (1999)[103] international survey of 600 companies from 20 countries derived that only ISO did not contribute much to the quality improvement, but the combination of ISO with TQM contributed the most.

Authors also quoted Gotzamani and Tsiotras (2001) [104] who in their research paper indicated that, the companies with belief of quick and simple certification with no real commitment to quality are having pessimistic view. Whereas where the ISO 9000 is considered to be the first step to TQM for which there are no clear requirements and clear directions.

The same authors referred Taylor (1995) [105], who with his survey came out with a statistical data that less than 40% companies implemented TQM, and almost 25 % considered ISO 9000 as the final destination of the journey. He also observed that small firms were less interested in going beyond ISO 9000 when compared with large companies.

Contrary to this they quoted Lee et al (1999) [106] indicating with his survey of 400 ISO 9000 companies that 70% companies would like to move beyond ISO status but then 26% would maintain the status quo once they got the ISO certification.

It was felt that perhaps lack of clear requirements and directions about TQM made the companies to stop their journey of quality once the ISO certification is availed.

The author [102] of this paper concluded that ‘large number of organizations view ISO 9000 as the end of their quality journey. Probably because they have been forced to get the certificate or may be because TQM is very much abstract with many definitions and a lack of clear cut requirements.’

They also derived that 70% companies considered ISO 9000 as a stand-alone quality system with 18 % seeing it as a launching pad for TQM and 10% as a precursor of some other quality initiative. According to them there was no difference in the perception of SMEs and large organization regarding this finding.
Shivakumar B. Burli et al. [37] in their Results and discussion stated that “Level of TQM practices in ISO certified manufacturing SME’s are significantly better than Non-ISO certified manufacturing SME’s. This leads to an important implication of ISO that the manufacturing SME’s that are ISO certified are much better in terms of adoption of quality practices and, are slowly moving towards TQM culture.”

They concluded that ‘If TQM policies and practices are applied in a positive manner in manufacturing SMEs, it will significantly contribute in their performance in terms of quality and customer satisfaction. ISO has been adapted in many SMEs but certain TQM practices observed to be weak and hence, need management attention. The study brought out that the manufacturing SME’s must accept, and practice TQM practices to enhance performance and customer satisfaction.’

Alan Brown, Ton van der Wiele (1996) [64] in their research paper wrote the following:

This paper is intending to examine the links between quality assurance, of the quality system according to the ISO 9000 series and the broader approach of TQM.

An ISO certificate does not guarantee that the process or the products are of the best quality. It only states that there is an existence of proper system of working and which provides confidence that the organization will be consistent in the management process.

Following is the table (Table 4.1) which shows differences between ISO & TQM:

<table>
<thead>
<tr>
<th>ISO Certification</th>
<th>TQM Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standardisation of activities</td>
<td>Continuous improvement</td>
</tr>
<tr>
<td>Audits to ensure compliance</td>
<td>Self assessment to find opportunities for improvement</td>
</tr>
<tr>
<td>Statistical tools as techniques</td>
<td>Statistical tools to understand variation in process</td>
</tr>
<tr>
<td>Bureaucratic because of written down procedures &amp; quality manual</td>
<td>Culture orientation &amp; high involvement of people</td>
</tr>
<tr>
<td>Conformity to specifications</td>
<td>Customer satisfaction &amp; customer enlightenment</td>
</tr>
</tbody>
</table>
It gives a concrete goal | A never ending journey
---|---
Internal orientation on processes | Orientation on organization & relations within & outside the organization
Focusing on quality goals based on internal capabilities | Focusing on goals based on external benchmarks

S.D. Kalpande et al. [67] cited that ‘TQM is rising above the system-oriented approach and makes the connections to the needs of the customers in the society and the improvement of the quality of the product and the organization as a whole.’ (Rao and Tang, 1996)[107]

Faisal Talib et al. (2010) [108] in their review of literature stated that, there are many definitions of TQM. Youssef et al. (1996)[109], defined TQM as: “An overall philosophy whose objectives is to meet or exceed the needs of the internal and the external customer by creating an organizational culture in which everyone at every stage of creating the product as well as every level of management is committed to quality and clearly understands its strategic importance”.

Demirbag et al. (2006) [110] on the other hand, defined TQM as: “A holistic management philosophy aimed at continuous improvement in all functions of an organization to deliver services in line with customer’s needs or requirements under the leadership of top-management”.

Christofiet al. (2008) [111] defined TQM as: “A supply-chain-wide quality commitment-from the supplier, to the producer, to the consumer-of an organization, in order to achieve excellence in production and service management”.

The authors [108] further stated that, “There are several definitions given by different authors but the essence of these definitions share many common elements. First, they share the customer as the centre of attention and driving force in the TQM philosophy. Second, they consider management commitment as an essential component for success of TQM. Lastly, they consider cultural and organizational changes as necessary conditions for TQM success. To summarize, TQM is a management philosophy that helps managing organizations to improve its overall performance and effectiveness in achieving quality status at global level.”
(Zhang et al., 2000 [112] ; Yousof and Aspinwall, 2000[113], 2001[114]; Arumugam et al., 2008[115]).

Faisal Talib et al [108] observed that the first nine CSFs operationalized by the highest number of authors were: top-management commitment, customer focus and satisfaction, training and education, continuous improvement and innovation, quality information and performance measurement, supplier management, employee involvement, employee encouragement, and process management.

It is concluded that top-management commitment is listed as the top CSFs with customer focus and satisfaction close behind. Regular participation of top-management team in the process will motivate employees to take active part in quality activities. · Service industries needs to train and educate their employees regularly on industries operations and statistical skills. · Service industries needs to ensure that they should maintain and think about continuous improvement and innovation. This is never ending task. They should adopt new strategies to improve company responsiveness to customer’s complaints.

After that, factors like quality information and performance measurement, supplier management, employee encouragement (reward and recognition), and process management should be incorporated.

Managers can get the full benefits of TQM by training all employees at all levels in order to develop awareness, interest, and action towards TQM program. Thus, role of top management commitment and leadership might be fruitful in the development and successful implementation of appropriate training program on TQM.

Daniel I. Prajogo, Amrik S. Sohal [116] in their paper on TQM and Organization performance cited Prajogo and Sohal [117] who found two competing views regarding TQM and innovation. One suggests that TQM is positively related to innovation performance because it establishes a system and culture that will provide an environment which gives way to innovation (Mahesh, C.[118]; J.W. Dean & D.E. Bowen[119]; Kanji,G.[120]; Tang, H. [121]; Roffe, I. [122]). On the other side of it
some views say that implementation of TQM principles and practices could hinder organizations from being innovative (Samaha, H. [123]; Harari, O. [124]).

The TQM philosophy has successfully elevated the implementation of quality management practices from an operational level to a strategic level. (G. Bounds et al. [125])

Daniel I. Prajogo, Amrik S. Sohal [116] suggested that the fundamental premise of TQM is that the costs of poor quality are far greater than the costs of developing processes that produce high quality products and services.

The authors also cited Philips et al. [126] concluding that quality creates a competitive advantage through customer loyalty as well as it minimizes customer sensitivity to price. With the empirical study, they also gave a finding that product quality exerts a beneficial effect on cost position via market share. According to TQM, however, quality directly impacts on cost reduction at an operational level rather than via market share. Deming [127] affirmed that organizations could enhance competitiveness by improvement in the quality resulting in reduction of cost through the elimination of rework and scrap.

The authors [116] concluded that ‘a harmony between differentiation strategy, TQM practices and organization performance in terms of quality and innovation. TQM ‘s role is more effective for pursuing differentiation in terms of quality rather than innovation.’ Further they added that ‘TQM only partially mediates the relationship between differentiation strategy and the three performance variables (product quality, product innovation, and process innovation).’

Mengsteab Tesfayohannes [128] mentioned that ‘in the intricate world of industrial technology, the basic problems troubling many companies are: failure to do the right things at the right time, at the right place, with the right means of production, and with the appropriate design and aesthetics. To achieve strategic objectives expressed in sustainable competitiveness at least in their market domain, firms need to perform the following tasks: formulate effective and appropriate business and functional policies and strategies; design effective and efficient operational
functions; apply the appropriate technology; and implement relatively efficient and effective production system. Failure to apply these and other vital elements of the value chain directly ends up in producing mediocre products emanated from using poor operational processing system. This scenario possesses higher potential to jeopardize customer satisfaction (Simon and Sohal, 1995)[129]. However, as a supportive approach, Total Quality Management (TQM) can be instrumental in enhancing operational efficiency and effectiveness of companies. Business communities, stakeholder governments and concerned customers in both developed and developing countries have a lot of interest in TQM implementation for commonly shared benevolent outcomes. However, it is important to highlight that senior managers should not worship TQM as a panacea that can cure all company ills emanated from its failure to achieve the desired operational efficiency and effectiveness.’

‘As several research findings revealed, there is a strong relationship between the degree of TQM implementation and the dedication of stakeholders. The degree of TQM implementation depends on: entrepreneurs attitudes to change and for change; employees level of involvement in strategic and operational decisions; firm’s policies on quality management and control, firm’s culture and dynamism, firm’s managerial competency, and the firm’s overall resourcefulness towards achieving sustainable competitive advantage (Mann and Kehoe, 1995 [130]; Andres et al., 2001[131]; Fco et al., 2003 [132]).’

The author [128] found that most manufacturing firms involved in TQM implementation have a larger number of employees (about 76% of them have more than 100 employees). This finding is consistent with Mann and Kehoe (1995) [130] and Salaheldin (2003)[133], who found in their study about factors affecting the implementation and success of TQM that companies with a large number of employees are more likely to have implemented TQM strategy.

The author [128] further stated that “their findings indicate that 17 out of 50 manufacturing firms (34 per cent) have got ISO certification. The majority of ISO certified companies (12 out of 17) pointed out that adopting the ISO certification
means implementing TQM. Unfortunately they have had this wrong assumption. However, ISO certification should be regarded as a first step towards TQM (Stephens, 1994 [134]; Bradley, 1994 [135]; Williams, 1997 [136]; Yung, 1997 [137]; Samuel, 1999 [138]). Moreover, although adopting ISO certification will ensure that a company's products meet customer specifications, having a quality assurance system may not be sufficient if there is no continuous improvement strategy which represents the core of TQM implementation (Yusof and Aspinwall, 2000 [139]).

Mengsteab Tesfayohannes [128] also mentioned that, 'There is a consensus among South African SMEs engaged in manufacturing that insufficient infrastructure, lack of training, workers' reluctance to get involved in decision making, and inadequate knowledge base are regarded as resisting forces that inhibit the introduction of TQM strategy.'

'Organizational resistance to change is regarded as one of the resisting forces that inhibit TQM implementation based on the points of view of some of respondents. That is not surprising, because some workers still think that any change will threaten their current positions. Therefore, it should be hindered.'

'Because the implementation of TQM strategy takes a long time, manufacturing firms that are willing to implement it should be patient and persistent and also embracing customer orientation philosophy.'

4.3 TQM/ISO IN CONNECTION WITH THE SIZE OF FIRMS

Shivakumar B. Burli et al. [37] in their research paper introduction stated that, “with the advent of planned economy from 1951 and the subsequent industrial policy followed by Government of India, both planners and Government earmarked a special role for small-scale industries and medium scale industries in the Indian economy. Due protection was accorded to both sectors, and particularly for small-scale industries from 1951 to 1991, till the nation adopted a policy of liberalization and globalization. Certain products were reserved for small-scale units for a long time, though this list of products is decreasing due to change in industrial policies and climate. SMEs form the backbone of the Indian manufacturing sector and have
become engine of economic growth in India. It is estimated that SMEs account for almost 90% of industrial units in India, and 40% of value addition in the manufacturing sector."

According to them, about four million industrial undertakings in India are under small and medium-sized enterprises (SME’s) category and their contribution to the gross domestic product (GDP) of the nation is very much significant. For survival and growth of SMEs, it has become highly imperative for them to adapt cost effective manufacturing strategies by eliminating defects from every one of the company’s products, process, and business transactions.

SMEs in India met the expectations of the Government in this respect. SMEs developed in a manner, which made it possible for them to achieve the following objectives:

- High contribution to domestic production
- Significant export earnings
- Technology oriented industries

At the same time one has to understand the limitations of SMEs, which are:

- Low Capital base
- Lack of professionalism

In spite of these limitations, the SMEs have made significant contribution towards technological development and exports. SMEs have been established in almost all-major sectors in the Indian industry such as food processing, agricultural inputs, engineering, electrical, electronics, textiles and garments, and computer software, etc. Those SMEs who have strong technological base, international business outlook, competitive spirit, and willingness to restructure themselves shall withstand the present challenges, and come out with shining colours to make their own contribution to the Indian economy.

All HafiexABas et al. [26] stated that ‘Feng et al (2007)[140] found out that company size is associated with organizational performance when the relationship is adjusted
for the effect on implementing ISO 9000 certification. Larger and medium-size companies were found to perform better than small firms in both operational and business performance. This result may be due to the tendency of the large and medium-size companies to place stronger emphasis on having a strategic plan than small firms. The implication, therefore, is that large and medium-sized companies commit more resources and achieve greater advantages from the ISO 9000 certification process, than the small companies’.

Shirley Coleman and Alex Douglas [102] referred Taylor [105] observing that small firms were less interested in going beyond ISO 9000 when compared with large companies.

Sun and Cheng (2002) [141] concluded in their research paper that:

1. SME’s main reason for implementing QM is customer requirement while large companies implement QM mainly due to corporate decision, survival of the company, and the need to cut cost. They stated that for SMEs, TQM and ISO 9000 should be used as proactive tools to improve quality management system, improve product quality and reduce product cost so that they can improve their competitive capability.

2. TQM contributes less in SMEs than it does in large firms. Also TQM is more successfully implemented in large firms than SMEs. More efforts are needed to investigate how to implement TQM in SMEs successfully.

3. Although SMEs implemented TQM less than large firms, the rate of adopting ISO 9000 standards is close to that of large firms. This means that SMEs focus more on ISO 9000 standards than on TQM. It may be due to the fact that large firms require their SME suppliers to get ISO 9000 certification.

4. Regarding the relationship between ISO 9000 certification and TQM implementation/business performance, no significant correlation was found. ISO standards and TQM are different practices for quality management. ISO 9000 standard aims to standardize certain processes and maintain the quality level while
TQM aims to establish a quality culture and continuously improve quality level. They cannot replace each other. The proper combination of the two will produce more benefits for both SMEs and large firms.

S.D.Kalpande et al. (2010) [67] stated in their research paper that “SMEs using different approaches for the achievement of TQM. Most common of all is ISO certification.” (Maheshwari, et al., 1994 [142]; TQM Centre, 1996 [143]). This certification acts as a bridge between the traditional management of SMEs and a more sophisticated one. It plays a catalytic role in the adoption of new management tools. The department of new trade and Industry (1995) commented, “The ISO standard is viewed as a good foundation on which to build.”

### 4.4 TQM IN SMEs

In spite of success stories of TQM, still the concept has not been really adopted by SMEs (Dale and Duncalf, 1984) [144]. The main reason for low use of TQM in SMEs are, cost constraints and lack of sources (Wilkinson, 1994) [145]; second, lack of information on TQM, Specially oriented to SMEs; third, lower level of awareness and understanding (Taylor, 1996)[146].

Higher quality products, improved business performance, customer satisfaction, improved people, improved policy deployment, development of quality culture and improved training were the main benefits achieved by introducing TQM in SMEs (Ahire et al., 1996 [147]; Deming, 1986[148]; Luzan, 1993)[149].

Sha’ri M. Yusof and Elaine Aspinwall (2000) [46] in the abstract mentioned that ‘TQM is a philosophy mainly dominated by large companies. Small businesses are lagging behind larger ones when it comes to introducing and adopting new managerial philosophies and advanced technology. Many small companies have stopped at quality system certification, such as ISO 9000, in their quality journey rather than pursuing further continuous improvement efforts through TQM. Small businesses must understand the need to go beyond the quality system stage and work towards a total approach for quality. Only through this total approach will their quality effort be a success.’
Hongyi Sun and Tsz-kit cheng [76] also came across the research findings of Reedy, 1994[150]; Stratton,1994[151] which were critisizing ISO 9000. Van der Wiele and Brown (1997)[152] found that most SMEs (65% below 50 employees, 55% between 50–100 employees) seemingly feel forced to apply for ISO 9000 series certification and do not move further down the quality path. This means very few SMEs are expected to be converted into quality believers and will move forward on the TQM journey. Most SMEs feel they have done their bit when they hang the certificate on the wall. A study by the Manchester Business School found that ISO 9000 registration is a worthwhile exercise, but it is not clear how many of the certified companies are small firms. Other researchers also query whether small firms adopt ISO 9000 standards of their own free will, or are forced to do so by customers and also in some cases with government interventions.

A Ghobadian, DN Gallear, [153] in their research paper quoted from the paper of Wernick S [154] that large organizations have been more embracing the TQM principles. However smaller organizations with limited resources can equally apply the TQM principles with measurable success, and without undue expense. They also quoted that the TQM concept provides the basis for a systematic approach to establishing customers’ needs and requirements. Moreover, it will help to create an environment favourable to forging a strong cooperative link between vendors and purchasers: and to improve the effectiveness of communication between the two parties. They also came across the fact through the literature that in SMEs were slow to implement the concept of TQM.

Rodney Mcadam & Michael Mckeown [155] in their paper examined whether or not small businesses (fewer than 100 employees) can successfully pursue total quality management (TQM) beyond ISO 9000. A review of the literature on quality in small businesses shows that the benefits of ISO 9000 can far outweigh the costs of achieving registrations (even for small businesses) but also emphasizes that ISO 9000 should be viewed as a step towards TQM and not the end of the quality journey. Although many small businesses are benefiting from ISO 9000, an increasing number of small ISO businesses are not progressing towards TQM. To explore the actual
impact of quality on small business, a number of small ISO 9000 businesses were surveyed. The main conclusions and recommendations arising from the thesis are that small businesses can benefit from implementing TQM. However, small TQM practitioners need to learn to be more externally focused, i.e. customer focused, to measure the financial impact of TQM on bottom line performance and to use direct methods to measure customer satisfaction.

4.5 TQM/ISO COMBINED

Martinez-Costa [156] in the abstract of their research paper stated that ‘After analyzing a sample of 442 of the biggest Spanish manufacturing companies, some evidence about the influence of Total Quality Management (TQM) on the companies’ operating performance has been obtained. However, companies applying TQM together with the ISO 9000 standards did not show positive results. This fact leads us to believe that, despite the beliefs of ISO 9000 as a good first step in the way of implementing TQM, once implemented some ISO 9000 principles are in contradiction with TQM philosophy. These non-congruent systems applied together would cause the company to obtain fewer benefits than only one of them. The study concludes that when ISO 9000 and TQM are applied simultaneously, the resultant benefits to the company are no better than those experienced if either system were applied in isolation.’

Micaela Martínez-Costa et.al [157], in the abstract of research paper stated that ‘After more than two decades since quality became part of managers’ everyday lexicon, total quality management (TQM) and ISO 9000 have taken the centre stage. However, there has been much debate about how they might be related to each other. This research is a new contribution to the knowledge on the relationships between TQM and ISO 9000, and it addresses their implications on performance and motivations for implementation. While past studies have considered them separately, we study them together in one study. As might be expected, both TQM and ISO 9000 lead to improvement in performance. However, it appears internal motivation to implement ISO 9000 is associated with high performance, whereas external motivation is not. Further, companies with high internal motivation for ISO
9000 naturally show a high level of TQM practices. We use institutional theory and resource based view to consider the internal versus external motivations for implementing ISO 9000. The data for this research has been obtained from a large sample of Spanish industrial companies. Longitudinal objective data have also been used.’

They derived conclusion that, ‘the relationship between TQM and company performance has been well established and they found strong support for it, as expected. TQM showed strong correlations with both internal performance and external performance factors. However, the relationship between ISO 9000 and company performance was not so clear cut. Certified companies performed better than non-certified companies on the internal performance results, but certified companies did not do better than non-certified companies on the external performance results.’

In terms of the motivational issues surrounding ISO 9000 implementation, it was found that more internally motivated companies saw better performance outcomes, for both internal and external performance factors.

They also concluded that both TQM and ISO 9000 do affect company performance in a positive way. However, the performance implication of ISO 9000 still needs to be studied further, given the mixed results. It was ascertained unequivocally that TQM causes performance improvement and ISO 9000 also causes performance improvement though limited to external results. They also demonstrated the importance of internal motivation when implementing ISO 9000, and how internal motivation helps to improve quality practices. It was learnt that when motivation of implementing ISO 9000 is internal, what the company is doing is in essence to increase TQM practices.
4.6 SUMMARY OF LITERATURE REVIEW

4.6.1 ISO 9001

- Small firms consider ISO 9001 as the final destination in the journey of quality management

- Firms with internal motivation gets more benefits from ISO certification when compared with the firms with external pressure

- There are serious doubts about the external audit carried out by the certifying agencies

- ISO 9001 certification helps in retaining customers, increasing sales turnover, and reducing customer complaints, increasing profitability, increasing productivity, improvement in export potential,

- ISO 9001 certification helps in dealing with both customers and suppliers

- ISO 9001 helps companies to have systematic, standard, streamlined and disciplined working practices and clear working instructions.

- ISO 9001 certification helps in obtaining performance benefits which are highly correlated with reducing process variance, improving reliability, morale and skills, and increasing customer satisfaction.

- Though documentation is considered as botheration but systematically documenting all daily activities in the organization, facilitates information gathering and decision making based on the available data. It also ensures consistency throughout production, accountability of all workers and guarantees availability of traceable records when needed.

- ISO 9000 standards are a set of documented and standardized procedures that provide assurance of product uniformity and conformance to specifications through superior management control.
The aim of many organizations, particularly SMEs, in obtaining certification is to send a signal to their customers that they have the mechanism for quality practices. But the customers are rarely satisfied with mere certification; rather, they believe more in tangible evidences relating to the extent of the implementation of such claims.

Different recipes were given by different quality gurus for managing quality. All these contributors in the field could not agree on a single definition of quality and its method of achievement and because of such scenario need for standardization of the concept of quality management did arise and so ISO 9000 took birth.

Certification helps the companies to improve quality in terms of work procedures, product and service quality, team spirit, subcontractor control, efficiency and complaints.

ISO 9000:2000 does not have to be a non-value-added and a paper-driven process. Companies that see registration as a game to keep business will not be able to obtain the additional benefits seen in more proactive plants where more efforts are put into quality standards integration and supply chain quality assurance.

Companies often are anxious to get certified but tend to neglect what should be the main reason to obtain the certification.

ISO 9000 certificates (standards) help companies gain benefits in internationalization, quality improvement, sales enhancement, and cost reduction.

ISO 9000 is a good first step or necessary foundation for the implementation of TQM system.

The motives of the firms to obtain and implement ISO 9000 are divided into two categories of reasons:
1. Internal reasons such as improve quality of products and services and

2. External reasons such as competitive advantages and customer expectation (marketing & promotional issues)

- Deficient supplier management, unclear lines of authorization, non-conformance to procedures: lack of management review and inconsistent in bound practices become the barriers to the excellence implementation of ISO 9000.

- One of the most important reasons causing the challenging results, besides the lack of top management commitments, is the poor performance of the external auditors during the certification audits.

- Implementation of ISO 9000 does not yield improved productivity, quality or profitability

- Commercial conflicts of interest and unethical practices by some certification bodies have eroded the confidence of the market in these standards.

- Lack of top management involvement is considered to be the main obstacle faced by companies during ISO 9001 implementation and certification.

- Short-sighted goal for “getting certified”, Over-expectations, Mandatory requirement (not wholehearted commitment) in some industries, and following others (the trend) in certification are the problems in implementing the standard.

- Lack of commitment from some certifying bodies, Excessive competition between certifying bodies, and Offering of a total packaged service from consultancy to certification by certifying bodies are the main problems with regard to the effective audit of ISO 9001 standard.

- An ISO certificate does not guarantee that the process or the products are of the best quality. It only states that there is an existence of proper system of
working and which provides confidence that the organization will be consistent in the management process.

4.6.2 TQM

- The main determinants of TQM are Management Support, People Management, Training, Continuous Improvement, Customer Focus, and Supplier Relationship.

- Nine CSFs operationalized by the highest number of authors are: top-management commitment, customer focus and satisfaction, training and education, continuous improvement and innovation, quality information and performance measurement, supplier management, employee involvement, employee encouragement, and process management.

- Quality creates a competitive advantage through customer loyalty as well as it minimizes customer sensitivity to price.

- Organizations can enhance competitiveness by improvement in the quality resulting in reduction of cost through the elimination of rework and scrap.

- Total Quality Management (TQM) can be instrumental in enhancing operational efficiency and effectiveness of companies.

- If TQM policies and practices are applied in a positive manner in manufacturing SMEs, it will significantly contribute in their performance in terms of quality and customer satisfaction.

- A positive influence of TQM was observed on performance as waste, inventory and costs was reduced, and an increase in sales was observed.

- Small firms are less interested in going beyond ISO 9000 when compared with large companies.

- Quality improvement programs such as customer orientation, QC team building, Quality circle, employee training/empowerment, cooperation with
the suppliers, QC cost analysis and strategic quality planning are considered to be important.

- Small firms are less likely to go for TQM

- The degree of TQM implementation depends on: entrepreneurs attitudes to change and for change; employees level of involvement in strategic and operational decisions; firm’s policies on quality management and control, firm’s culture and dynamism, firm’s managerial competency, and the firm’s overall resourcefulness towards achieving sustainable competitive advantage

- The main reason for low use of TQM in SMEs are, cost constraints and lack of sources second, lack of information on TQM, Specially oriented to SMEs; third, lower level of awareness and understanding.

- Higher quality products, improved business performance, customer satisfaction, improved people, improved policy deployment, development of quality culture and improved training were the main benefits achieved by introducing TQM in SMEs

- SMEs engaged in manufacturing experienced that insufficient infrastructure, lack of training, workers' reluctance to get involved in decision making, and inadequate knowledge base are the resisting forces that inhibit the introduction of TQM strategy.

- Large and medium-sized companies commit more resources and achieve greater advantages from the ISO 9000 certification process, than the small companies.

- TQM is more successfully implemented in large firms than SMEs.

4.6.3 ISO/TQM

- Strict adherence to supplier quality requirements, incorporation of customer feedback for process improvements, and employee training/empowerment are essential components of a quality improvement program
• Majority of the firms were of the opinion that ISO 9000 is a complement to TQM, and that the ISO results in to valuable public relations and marketing tool, and an increase in the ability to bid for contracts.

• SMEs focus more on ISO 9000 standards than on TQM. It may be due to the fact that large firms require their SME suppliers to get ISO 9000 certification.

• ISO certification should be acquired by the SMEs, and, ISO quality management systems should be integrated with TQM for continuous improvement of the overall business performance.

• ISO does not contribute much to the quality improvement, but the combination of ISO with TQM contributes the most.

• Lack of clear requirements and directions about TQM make the companies to stop their journey of quality once the ISO certification is availed. TQM is very much abstract with many definitions and a lack of clear cut requirements.

Though lot of work has been carried out in the field of ISO and TQM, it gives still a confusing picture about the reality. There are contradicting views about various aspects of ISO 9000 certification and TQM. Moreover ISO 9001 is no more a new standard now and has acquired enough maturity. Hence it was decided to carry out a detailed research with the help of a survey of ISO certified companies with a few TQM followers and also thought of including a few companies which are neither ISO certified nor they are following TQM principles with a view to assess as to how are they managing the issue of Quality?