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Literature Review on "A Study to Measure the Impact of Financial Assistance from Government on Quality at Selected MSMEs in the State of Gujarat, India"

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Abstract:
Studies have found that MSMEs' (or SMEs) lack of quality prevents them from competing in the international market. International Standard ISO 9001:2015 (earlier ISO 9000:2000), known as the "Quality Management Standard," requires organizations to implement and maintain specific requirements mentioned therein. Studies have also found that Indian MSMEs are not proactive in getting themselves ISO 9001 certified due to various barriers. Customers in the international market prefer ISO 9001-certified suppliers. Getting certified for ISO 9001 allows MSMEs in exporting their products. Many researchers have concluded that 'finance' is one of the barriers to achieving ISO 9001 certification. To overcome this barrier, the Government of India provides financial assistance to the MSMEs (SMEs) to achieve ISO 9001 certification for quality management. This literature review aims to find out the research gap in the impact of financial assistance from government on quality at selected MSMEs of Gujarat.

Keywords: MSME, SME, Quality, Financial assistance, ISO 9001:2015, ISO 9000:2000, barriers

1.0 Introduction

Industry in India is also referred to as 'enterprise', 'company' or 'organization'. Small industries face many difficulties in running day-to-day business. Sacheati (n.d.) in its report, discussed that the smaller the size of the company or enterprise more difficulties it faces in managing its funds, technology, man and material, and marketing skills (Sacheati, n.d.). To overcome its difficulties in growing, Governments of various countries are supporting such companies by providing financial loans, tax relief, and other incentives.
The Indian Government also provides support to MSMEs through different financial schemes. One of such scheme is providing financial support to MSMEs to get them certified for ISO 9001 standard. Keeping this in view, the present study is undertaken for Indian MSMEs to know: (a) the impact of the Government's financial assistance to MSMEs on its quality management system (b) whether finance plays a significant barrier in MSMEs' adopting quality management system (c) MSMEs' awareness of such scheme (d) MSMEs' willingness to opt for the financial scheme (e) MSMEs' intentions on adopting quality management system. The literature review for the same is conducted in this paper.
The Indian Government has classified various industries or enterprises as Micro, Small and Medium enterprises (known as MSMEs). This is based on their turnover and amount invested. Industries or enterprises having higher turnover or investment than specified by Government are large-scale industries. Registration for MSME is required as per the norms set by the Government.

1.1 MSME

The MSME sector is often termed as "The Engine Growth" for India. (Basu, Bhola and Das, 2020). The Indian

MSMEs sector has nearly 29% contribution in India's GDP. (MSME Industry in India (https://www.ibef.org/industry/msme.aspx). Indian MSME sector's importance in Indian economy can be understood by the India Brand Equity Foundation (IBEF)'s report. It is "a trust established by the Department of Commerce, Ministry of Commerce and Industry, Government of India". It reports that "Indian MSME's export contribution of All India exports is 49.4% and 49.8% for FY21 and FY20 respectively" (About Us, n.d.) (MSME Industry in India, n.d.).Various countries have different classification methods for identifying SMEs (Small and Medium Enterprises) or MSMEs. The Government of India's latest classification of MSME effective from 1st July 2020 is detailed below in table 1:

Table 1: The MSME in India is classified as under:

Type	Investment in plant and machinery or equipment	Annual Turnover	Requirement
Micro	INR 1 Crore maximum	INR 5 crore maximum	Both the conditions i.e. Investment and Turnover needs to be satisfied simultaneously
Small	INR 10 crore maximum	INR 50 crore maximum	
Medium	INR 50 crore maximum	INR 250 crore maximum	

Source: https://www.msme.gov.in/know-about-msme

The notification further clarifies that MSMEs include manufacturers, traders, retailers, and wholesalers.

1.2 Quality:

The term 'quality' is defined by various quality professionals working in the quality field is as follows:

- "Conforming with the specifications and standards" (Gilmore, 1974)
- "Fitness for use" (Juran & Bingham, 1974)
- "Production as per the requirements of customers" (Crosby, 1979)
- "Good quality is a predictable degree of uniformity and dependability with a quality standard suited to the customer". (Deming, 1982)
- "Meeting customers' expectations. Also, going beyond it". (Parasuraman, Zeithmal, & Berry, 1985).
- "Removing defects and zeroing loss" (Ross, 1989)

As mentioned above, various quality practicing researchers define quality by their understanding. ISO; a worldwide federation of national standards bodies (ISO member bodies) defines the term "quality" as "the degree to which a set of inherent characteristics of an object fulfils requirements" (Quality management systems — Fundamentals and vocabulary, n.d.). In the present study, authors have considered the definition of quality similar to what the ISO federation defines.

ISO 9001 is not a product standard but a quality management system standard. Any organization certified for ISO 9001 means it is 'meeting the specification or requirement' or 'it ensures degree to the extent to which it is fulfilling the requirement' and product or service- related legal requirements.

1.3 Benefits of quality:

Chandrupatla (2009) concludes that quality improvement is a continuous process and applies to all organizations. Deming (2000) mentioned, "By following proper principles of management, organizations become able to gain customer loyalty". It can be achieved by improving quality and at the same time reducing costs by reducing waste and rework. The Chartered Quality Institute (CQI), the chartered body for quality professionals, mentions that quality helps in pursuing excellence, ensuring that organizations are fit for its purpose and improving continuously (What is quality, n.d.). From the study of the automotive industry, Curkovic et al (2000) concluded that quality improves financial performance, also higher quality maintaining organizations has a better market share (Curkovi,, Vickery, & Droge, 2000). Quality and cost are positively associated with organizational performance (Chaveza, Yub , & Jacobsc, 2017)

From the above concepts of definitions, quality's various understandings can be construed as shown in figure 1.

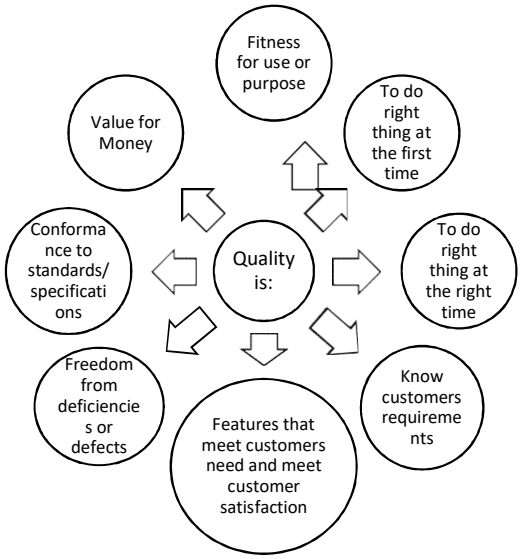

Figure 1: Quality as a concept

1.4 Quality Management System - ISO 9001

Micro, Small, and Medium Enterprises (MSMEs) are provided financial assistance by the Government of India to achieve ISO 9001 certification so that this sector can focus on its quality management system and compete globally (Technology Upgradation and Quality Certification, n.d.)

The standard ISO 9001:2015 (now onwards referred to as ISO 9001) is titled as "Quality management systems –requirements". It was published by the International organization for standardization (ISO). It was published on 15th September 2015. The ISO is an international agency comprised of more than 160 national standard bodies. The standard gets revised occasionally based on industry and experts' inputs. The first edition was published in 1987. The 5th edition, the latest one published in 2015 makes all earlier versions. (What is ISO 9001:2015 – quality management systems?, n.d.).

In the present study, the latest version i.e., ISO 9001:2015, is considered. Any subsequent revision or change to the ISO 9001:2015 is not considered in this study. As mentioned above, ISO 9001 is a 'quality management system' standard requiring an organization to fulfil the requirements of the clauses mentioned in the standard. The enterprise can demonstrate its ability to meet the standard's requirements, which may enhance the quality of the product or services by meeting customer requirements and enhancing customer satisfaction (What is ISO 9001:2015 – quality management systems?, n.d.).

Thuri (2022) stated that if the MSME is certified for ISO 9001, it helps the enterprise to export its products and services to the international market. An increase in export increases profit and market share. Due to bulk products, the economy of scale changes, which helps in reducing the cost per unit (Thuri, 2022). Singh, Garg & Deshmukh (2010a) revealed that small-scale industries must continuously improve quality and delivery without increasing costs (Singh, Garg, & Deshmukh, 2010). Mukherjee, S. (2018) revealed that in developing countries, SMEs, quality, and productivity are a concern (Mukherjee, 2018). Kumar (2017) states that India's MSME produces 45% of overall production, and out of total export, MSMEs manufacture 40% of products (Kumar, 2017). Considering the overall contribution of the MSME sector to the India's GDP and the Government's efforts to boost it by providing financial assistance for ISO 9001 certification, this study is important to check the impact of such a scheme.

1.5 Quality Management System (ISO 9001) and its benefits:

CQI (Certified Institute of Quality) states, "Quality management is for better performance by the organizations for their stakeholders. It includes improvement in products, services, systems, and processes, to ensuring that the whole organization is capable in demonstrating its requirements. Achieving quality means continuously trying for excellence: ensuring that whatever the organization does is up to standard, and strives for betterment" (What is quality, n.d.). Balushi (2024) found that ISO 9001 worked well at process oriented industries and slightly well at semi-process industries. Organizations could enhance resilience by adopting ISO 9001 (Balushi, 2024). Riwayadi et al. (2024) from their case study found that ISO 9001 implementation benefitted company in identifying various issues and helped in correcting and improving these issues by identifying corrective actions (Riwayadi, Murti, & Cah, Company performance analysis based on ISO 9001 compliance using balanced scorecard method in PT. SN Electronics, 2024). Bakhtiar et al

(2023) from their study concluded that attributes like Planning, commitment, application of procedures, quality culture development of ISO 9001 have positive value relationship increasing the operational performance (Bakhtiar, Nugraha, Suliantoro, & Pujotomo, 2023). Proskurnina and Bilouso (2023) concluded that quality management improvement helps company decide its position in the international market. It adds to its reputation and market share. It also helps in reducing cost and increased customer satisfaction (Proskurnina & Bilouso, 2023). Hillnhagena et al. (2023) from their case study found that the company had ISO 9001 certification for several years, as a result, documentation was in place. The processes were also stable. Industry followed the ISO 9001, which helped in the analysis of company's varying internal product planning and control requirements (Hillnhagena, Mützeb, Nyhuisb, & Schmidta, 2023). Abdelhaleem et al (2022) concluded from their study that "seven quality management principles described in ISO 9001:2015 viz. (1) Customer focus (2) , leadership, (3) engagement, (4) process, (5) improvement, (6) discussion, and (7) relationship can influence positively to the business of lodging industry" (Abdelhaleem, Hewedi, Ali, & Abdelhakim, 2022). Arif, Mercan, & Murvanidze (2022) from their case study found improved quality of the ISO 9001 certified company, with enhanced customer satisfaction. The company also gained business and attracted more customers being ISO 9001 certified company. This was was an additional feature, which helped their marketing efforts in removing barrier in their export (Arif, Mercan, & Murvanidze, 2022). Bathan (2022) concluded that organization having ISO 9001 can deliver quality service to clients and can improve employee performance. Employees involved in the implementation could perform well and had higher ratings than their counterparts in their performance review (Bathan, 2022). Fonseca, Cardoso, & Pereira (2021) found that ISO 9001 certified organizations had better operational imprvoement, profitability and maret share (Fonseca, Cardoso, & Pereira, 2021). Siltori et al (2020) from their study concluded that "improvement in the business processes quality, improvement in reducing errors and defects, improvement in the documentation processes and customer satisfaction are directly addressed by the standard", which are benefits of implementing the ISO 9001 standard (Siltori, et al., 2020). Murmura and Bravi (2017) concluded that by adopting ISO 9001, the organization can reduce variations in the processes thus improving quality. Also, by adoption of standards the organization can explore for new business globally as it leads towards readiness for its global competition (Murmura & Bravi, 2017). Rusjan & Alic (2010) stated that possessing ISO 9000 certification helps organization achieve their goal (Rusjan & Alič, 2010). By achieving ISO 9000 certificate, the organization has achieved quality assurance and is interested in standing in global competition (Terziovski & Guerrero, 2014). ISO 9001 requirements give the organization confidence in meeting the customer requirements and help to achieve products at optimum cost using resources efficiently (Heras- Saizarbitoria & Boiral, 2015). Jain and Singh Ahuja (2012) from their study found that ISO 9000 helps in achieving improved performance in the global market. Due to ISO 9000 growth and sustainability achievement is possible (Jain & Singh Ahuja, 2012). Kharub et al (2018) concluded from their research that certifying for ISO 9000 benefits for its risk management for the product and increases in customer satisfaction. It also reduces lead time, rejection, and resources on rework. It further helps in per unit cost (Kharub & Sharma, 2018). Khanna et al (2010) revealed that the "quality management approach through its embodiment of concepts, methods, and applications is useful in achieving organization's most significant objective i.e., customer satisfaction" (Khannaa, Laroiyaa, & Sharmaa, 2010) . A study by Psomas et al (2012) confirmed improved product/service quality due to objective achievement as prescribed by ISO 9001 (Psomas, Pantouvakis, & Kafetzopoulos, 2013).

1.6 The ISO 9001 standard's compliance and issuance of certificate

The standard ISO 9001 is applicable to any organization, irrespective of its type, size, products, or services it provides. The standard's requirements are generic (ISO 9001:2015 Quality management system requirements, 2021). Organization seeking certification of ISO 9001:2015 need to demonstrate that it can meet the requirements of quality management standard. For this, the organization need to meet the customer's specifications and it complies with the regulatory requirements related to its product. The certificate of compliance with ISO 9001:2015 is issued by the authorized accredited certification bodies after the audit is carried out by its authorized auditors. These certification bodies are accredited by national accredited bodies. Various accredited bodies are the ANSI National Accreditation Board (ANAB of USA), the United Kingdom Accreditation Service (UKAS), and others. The number of such accreditation bodies are changing due to the compliance requirements by ISO. (Iso benchmark
- ISO 9001 - ISO 14001, n.d.). In India, the accreditation body for ISO 9001 is NABCB (National Accreditation Board for Certification Bodies - http://nabcb.qci.org.in/).

General process of organization's ISO 9001 certification is as shown in Figure 2

Figure 2: ISO 9001 certification process

1.7 Objectives

This paper has following objectives:

(i) To check the impact of financial assistance on quality of MSME post ISO 9001 certification by checking improvements in the quality of products and services in the MSME sector. The improvement in quality of products and services would be checked by various factors such as organization's ability to meet with the specification provided by the customer, improvement in rejection and rework, achievement of on time delivery, enhancement in customer satisfaction, improved compliance related to legal compliance.

(ii) To know the reasons or barriers faced by Indian MSMEs in implementing a quality management system, ISO 9001.

(iii) To know if finance is a significant barrier in achieving ISO 9001.

(iv) To know why MSMEs are not interested in obtaining ISO 9001 certification despite knowing that financial assistance by Government is available for certification.

Figure 3 shows the approach for the study to know 'finance as a barrier', "Interested MSME for ISO 9001 certification", and "Not interested MSME for ISO 9001 certification".

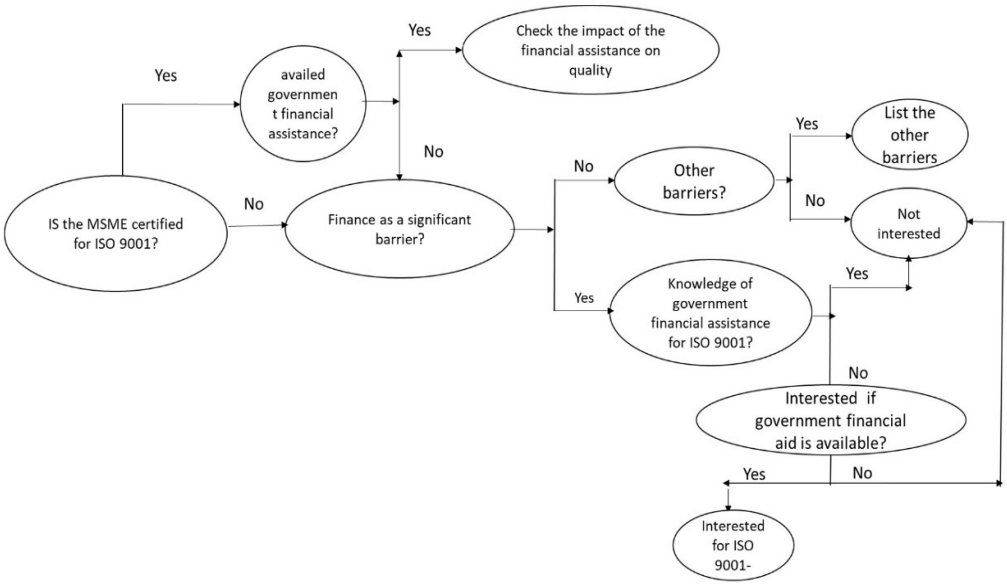

Fig. 3: Overall approach of the study

Figure 4 shows framework to know "if financial assistance provided by Government for ISO 9001 is adequate", and "whether MSME has arranged its own fund in achieving it". Also, it is framework to know the "impact of quality after ISO 9001 certification".

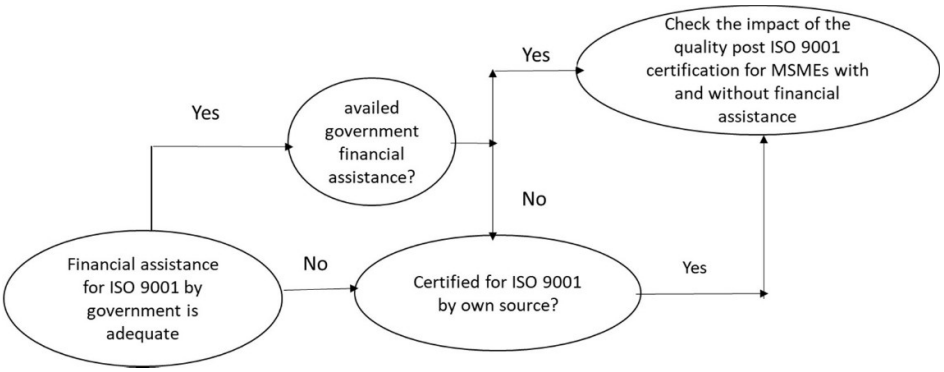

Fig. 4: Flow chart for knowing the adequacy of the financial assistance

The purpose is to check if non-availability of finance is a barrier for MSMEs in adopting quality management systems. Also, it would be checked if any financial assistance provided by the Government would make them opt for ISO 9001 certification. In addition, their willingness for certification would also be checked with and without financial assistance.

2.0 Paper type
Literature review
2.1 Research questions
This paper explores 4 important facets for MSMEs in following quality management systems. They are described in terms of research questions as follows:
RQ1. What is the improvement in the quality management system and subsequently quality due to financial support by the Government to MSMEs pre and post-ISO 9001 certification?
RQ2. What are the barriers for MSMEs in achieving ISO 9001 certification? Whether finance is one of the barriers to achieving it?
RQ3. Is the financial assistance for obtaining ISO 9001 certification adequate?
RQ4. What are the reasons that prevent MSMEs from opting for ISO 9001 certification despite knowing that financial assistance from the Government is available?

- RQ1's reply may be reached by studying the changes in the before and after implementation of QMS by MSMEs for (a) product quality, (b) % age rejection, (c) quantum of rework, (d) customer satisfaction, (e) business volume (f) compliance against committed on-time delivery (g) Profit (h) market share (i) change in export business. Here (a) to (f) may be directly affected as it is a requirement of ISO 9001 covered under its various clauses. Points (g), (h), (i) may be due to the direct and indirect effects of QMS implementation, which the MSME can confirm.
- RQ2's reply may be through a literature review, secondary data published by the Government, and surveying the MSMEs.
- Replies of RQ3 and RQ4 can be reached through literature study and by surveying the MSMEs

2.2 Rationale of the study
This section provides an academic justification for choosing the current topic by seeking the broader research agenda for quality in Indian MSMEs. In this study, the impact on the quality management system of MSMEs, post implementation of ISO 9001 due to the Government's financial assistance, is narrowed down to selected MSMEs of Gujarat. It is necessary to know as previous research work showed that the poor quality in MSMEs of India affects –

(i) Indian MSMEs' global competitiveness
(ii) Effect on Indian economy due to poor quality
(iii) Increase in expenditure on rework, rejection of product (service) (https://www.devicetech.com/manufacturing/the-very-real-cost-of-poor-quality- copq-to-manufacturers/)
(iv) Customer trust, satisfaction, and loyalty

ISO 9001:2015 considers "delays in product delivery and services" as quality issues and insists that the organization adhere to its commitment. The poor quality and delayed delivery increase customer dissatisfaction, threatening credibility, future business, and customer loyalty for the product or services

(Ketkar & Vaidya, 2012). Per the ISO 9001 standard, "The organization must consistently demonstrate its capability to deliver products and services meeting regulatory requirements. Also, it must meet with enhanced customer satisfaction through the system's effective implementation of the system" (What is ISO 9001:2015 – quality management systems?, n.d.). Hence, in this paper, organizations certified for quality management system i.e., ISO 9001, are assumed to deliver quality products and services. Further, it is also assumed that such organizations are interested in customer satisfaction and its enhancement. From the literature review, why and where the MSMEs are missing in ISO 9001 certification achievement despite the Government's financial assistance and impact on quality pre and post- certification will be studied. At present, no such study is available for the impact on the quality management system, due to financial assistance from the Government. There is a gap in this regard. Hence, this study would help in understanding the topic more vividly.

The purpose of this research study is to propose a comprehensive conceptual framework to discuss essential relationships that influence identifying the impact of the Government scheme of providing finance for maintaining the quality management system in MSME. The proposed framework will provide reliable suggestions to the owners of the MSME, industrial managers, Policymakers, academicians, and the decision-makers in the administration who make policy decisions at a national and global level.

A literature review of 23 publications, as referred to in this paper, found that previous researchers have tried to understand improvement and impediments or barriers in implementing the quality management system of Indian MSMEs. In doing so, the issues related to the non-availability of finance for quality management system is not studied in detail. Though 'finance' is identified as one of the barriers apart from others, the 'impact of Government's financial assistance due to implementation of ISO 9001' has been untouched. This topic requires in-depth investigations. From the literature reviewed between 2003-2022, no research publications addressed such research. There is a gap in this subject. The present study though primarily categorized as empirical, is exploratory research and includes conceptual development for laying down the foundations of the subject.

3.0 Methodology of the literature review Literature selection criteria

3.1 Search strategy

Articles published between the years 2003- 2022 were included in the search. Also, online databases like IEEE, ASQ, Google scholar, Springer, and Emerald were used as search criteria.

3.2 Inclusion criteria

- Publications in 'English' were considered.
- The keywords used for the search are "barriers to quality in MSME", "financial barrier to SME", "resource barrier", "limitation to quality", "reluctance to quality by MSMEs", "Government assistance on quality", and "obstacle to quality".
- The peer-reviewed research paper, and empirical studies published during the period 2003-2022 that have highlighted the above topics were included in the research criteria.

3.3 Exclusion criteria

- Studies not related to "Quality in MSME" and/or "barriers to maintaining quality" were excluded.
- Quality aspects considered only in large industries were excluded.
- Study material with insufficient data or having a lack of clarity on Quality in MSME and barriers to maintaining quality were excluded.

3.4 Selection of articles for review

Initially, the paper's title was used as a general term such as "A study to measure the impact of financial assistance from Government on quality at selected MSMEs in the state of Gujarat". To find the relevant literature on online databases like IEEE, Springer, and Google Scholar were searched. The search terms further narrowed down were to "challenges to MSMEs," "Constraint of quality to MSMEs," and "Reluctance for quality by Indian MSMEs" subsequently changed to specific terms such as "barriers to MSMEs," "Quality in MSMEs," and "financial barriers to MSMEs." Finally, these search terms were combined so that all the relevant study gets included in the review. While searching the details, it was found that in India, "micro" industries exist; hence the term used is MSME, whereas other countries use the acronym SMEs for small and medium enterprises. No 'micro' term is used for identifying an enterprise in many countries other than India. Hence, instead of MSME while searching, using SMEs brought out more articles relevant to this study. As a result, in this study paper, the terms MSME and SME are used interchangeably.

The words "SME" and "MSME" were used to check from titles and abstracts of various papers to find similarities in topics with the present study. 48 such research papers were identified addressing the topic of the subject matter. Of this, 28 papers were excluded as they were not relevant. These papers either included 'quality' in large industries only, no barriers identified for MSMEs in maintaining quality, and no addressing of financial assistance or support by the Government to Indian MSMEs. As a result, after screening the 60 papers, 23 research papers describing topics like quality in SMEs, barriers/challenges/impediments/obstructions/obstacles in quality by SMEs, financial support/ assistance to SMEs in developing quality products, and maintaining quality products were retrieved with the full text. Figure 5 depicts the study's flowchart and the papers' selection. All the 23 relevant publications are listed in Table 2, along with significant findings.

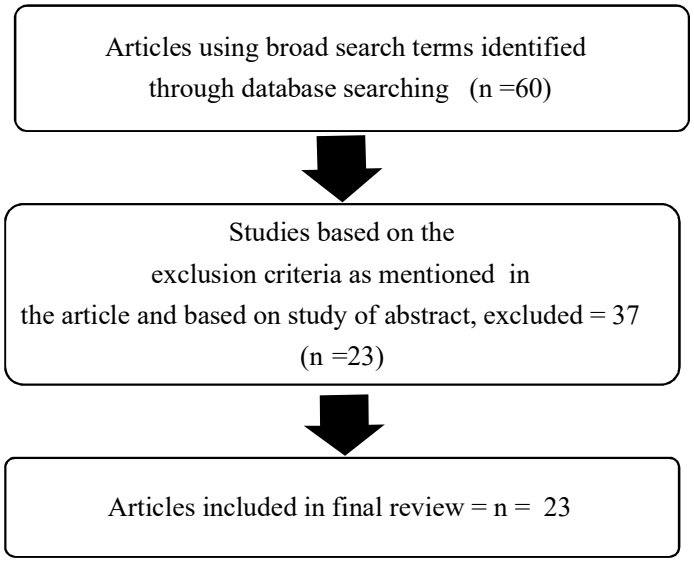

Figure 5: flowchart for the selection of the papers

4.0 Discussion

4.1 MSME's Quality and barriers for achieving quality i.e. ISO 9001

As mentioned in Section 1.1, it is assumed that if the MSME has obtained/achieved the ISO 9001 certificate, it has followed quality management standard requirements. Hence, MSME is interested in following the specifications and legal requirements for quality products and services.

4.2 MSME's quality

In the international market, Indian products are less preferred over their western competitors due to a lesser focus on total quality management (Seth & Tripathi, 2005). Majumdar and Manohar (2016) observed that many Indian SMEs adopting ISO 9001 certification due to pressure from their customers, who are large-scale companies, only due to fear of losing the contract with them. They are not interested in ISO 9001 for improving quality. Srinivas and Swamy (2013) stated that for SMEs to become globally competitive, they must focus on quality in products, processes, and services. To succeed in the future, they need to meet the customer's new requirements by utilizing Quality Management Practices (QMP) to gain continuous improvement. SMEs can compete with larger firms and sustain if they implement QMP (Srinivas & Swamy, 2013). Basu and Bhola (2014), from a survey of 15 small organizations, think that though IT-enabled SMEs have adopted good information technology, delays in commitments, lacking quality, and inability to meet customers' requirements are severe concerns for such industries. Such lacuna in services requires finding out the specific quality management approach (Basu & Bhola , 2014) .

4.3 Literature review - Barriers in implementing ISO 9001

Mitchel & Fakhruddin (2022) from their study identified four groups of barriers in implementing ISO 9001. These groups included many other barriers within. The four groups identified were: (1) Resource barrier (2) Organisational barrier (3) Technical barrier (4) Cultural barrier. For the 'resource barrier' it included (a) insufficient financial resources (b) high cost of certification (c) lack of government support. There are other sub barriers also as identified by the authors in implementing the ISO 9001 (Mitchel & Fakhruddin, 2022).

Lazibat, Damić & Markotić (2022) from their research revealed that smaller firms face resource crunch in implementing ISO 9001. They concluded that there is a lot of cost involved and time- consuming process posing a great challenge for small firms in implementing ISO 9001. Cost involvement is very important as small enterprises do not have abundant resources (Lazibat, Damić, & Markotić, 2022).

Dreković, Radosavljević,, & Bejtović (2021) from their survey on implemetation of ISO 9001 found that there are two main barriers viz. (1) Material barrier (which includes finance as a barrier) and (2) Non-material barrier (which includes Limitations of human capital, structural capital, organizational culture, and insufficient capabilities and skills) (Dreković, Radosavljević,, & Bejtović, 2021). Rao, Kothari & Shenoy (2021) from their study concluded that those implementing ISO 9001 found "financial constraints, budget and costs, investments" as part of the financial barrier in addition to other barriers identified. They also revealed that even customers identify that "price for certification, budget limitations, limited cash-flow, financing and expenditure, limited tools and machinery, inadequate resources, inability in thinking due to internal financial cash flows" as barriers which impede in obtaining ISO 9001 certification. They concluded that "price of Quality Management System certification and execution are key resource issues and requires Government Support" (Rao, Kothari, & Shenoy, 2021). Santos & David (2021) from their study of state universities and colleges found that challenges during implementation phase of ISO 9001:2015 were "inadequacy of resources, compliance meeting, change adoption, and managing various tasks or responsibilities" (Santos & David, 2021).

Kiarie (2020) from the case study found four barriers in implementing ISO 9001 viz. (1) Inadequate funds (2) Documentation requirements (3) lack of understanding of standard (4) resistance to change (Kiarie, 2020). Al-Mijrab & Elwalda (2020) from their study concluded cost related to ISO 9001 certification as the main barrier which included cost of trainings, equipment calibration, and consultation costs (Al-Mijrab & Elwalda, 2020).

Wickramarachchi, Sandanayake & Ekanayake (2018) found through the survey of 40 respondents in the Srilankan construction industry, a significant difference between the importance and execution of total quality management in the Sri Lankan SMEs (Wickramarachchi, Sandanayke, & Ekanayake, 2018). Sfakianaki and Kakouris (2018) concluded that there are various limitations in achieving ISO 9001 for SMEs. They found out "bureaucracy, money required, time, resources, lack of top management commitment, and the reaction of employees" as the limitations (Sfakianaki & Kakouris, 2018). Murmura and Bravi (2017), studied 522 Italian manufacturing and service sector companies certified for ISO 9001. They concluded that the substantial obstacles in achieving ISO certification for smaller enterprises were "bureaucracy, increased costs, and the organization's own complications" in implementing the standard (Murmura & Bravi, 2017).

Mendes & Lourenco (2014) suggested that medium-sized manufacturing firms suffer more in terms of barriers than large firms which have many usual advantages (Mendes & Lourenco, 2014). Bose & Uddin (2014), from their exploratory analysis and descriptive research of the 26 cement industries of India, stated that SMEs are the 'heart' of the country's economy. To boost a country's economy, they emphasized the capacity building of SMEs, which involves cost.

Madan and Ghosal (2013), from the study of 30 Indian MSMEs, concluded that MSMEs are not interested in achieving ISO-9000 or related quality models under the excuse of resource constraints (Madan & Ghoshal, 2013).

Sivaram et al. (2012), from their literature review of various studies, mentioned that though ISO 9001 certification has numerous benefits, it also has certain obstacles while implementing it. They identified various obstacles like "time, finance, human, and financial resources. In addition, lack of top management commitment and support, low priority on training employees and their involvement in the implementation process, unnecessary importance to documentation, absence of internal audit, people's behaviour and working styles are other issues identified by them" (Sivaram, Devadasan, Sreenivasa, Karthi, & Murugesh, 2012).

Abdolshah and Abdolshah (2011) described resource problems as one of the factors apart from other factors as barriers to implementing TQM (Abdolshah & Abdolshah, 2011). Al-Najjar & Jawad (2011) identified finance as one of eleven barriers while implementing ISO 9001 in Iraqi industries (Al-Najjar & Jawad, 2011).

Rajković, Đokić & Đokić (2009) from their research stated that to meet the high-quality needs of buyers, SMEs need to implement a quality management system i.e., ISO 9001 (Dragan , Đokić, & Đokić, 2009). Pinho (2008) studied 135 SMEs and concluded that Total Quality Management (TQM), or the firm's routine activities for new inventions, brought a forward- looking and focused impact on performance. The same study also led to a positive link between Total Quality Management and customer orientation (Pinho, 2008).

Magd (2008), studying 70 Egyptian manufacturing units, found that financial resources play a pivotal role as a barrier apart from other barriers in implementing ISO 9001 (Magd, 2008).

Briscoe, Fawcett, & Todd (2005) revealed that the cost and time connected with ISO 9001 execution in SMEs

could be a significant obstacle. Due to limited resources, such firms face challenges in adopting ISO 9000, and it becomes hard for them to implement and seek the benefits of ISO 9001 (Briscoe, Fawcett, & Todd, 2005). Beheshti & Lollar (2003) revealed that though quality is a significant contributor regardless of the industry's size, the SME sector has a scarcity of finance to implement TQM, causing its effects on products (Beheshti & Lollar, 2003). Yusof and Aspinwall (2000) found two significant hurdles to counter by a majority of the SMEs in implementing TQM are: (1) financial constraints and (2) resource constraints like time, manpower, and techno-managerial expertise (Yusof & Aspinwall, 2000).

4.4 Variables impacting quality adoption in MSMEs

Majumdar and Manohar (2016) ranked the problems Indian manufacturing SMEs encountered while implementing TQM. The researchers placed 'financial resources' at the top of the list; other problems followed lower ranks than financial barriers (Majumdar & Manohar, 2016). Seth & Tripathi (2005) felt that managing resources is important for the success of TQM and Total Productivity Management (TPM). They identified that TQM and TPM are affected due to "(1) Materials, (2) Equipment, (3) Finances" (Seth & Tripathi, 2005). Sebastianelli & Tamimi (2003) cited constructs forming barriers to TQM adoption as Lacking in "(1) human resource development (2) planning for quality (3) leadership in quality (4) resources for TQM (5) customer focus" (Sebastianelli & Tamimi, 2003). Pachouri & Sharma (2016) found that SMEs do not have the sufficient financial capacity and human resources to undertake structured and sophisticated R&D. As a result, there are more non-R&D innovation activities (Pachouri & Sharma, 2016). Desai (2008) found that SMEs are unable to avail themselves due to a lack of resources and knowledge to implement many techniques for improving quality and enhancing productivity (Desai, 2008). Abdolshah and Abdolshah (2011) found out the reasons for failure in the implementation of TQM as the unavailability of: "(1) management's dedication, (2) resources and (3) using right framework". Raj and Attri (2011) felt that by adopting TQM, the benefits achieved are more extended, though the waiting time is more. However, the Indian SME owners do not have the patience to wait for this more extended period to get the full benefit of TQM. Their 'short-term gain' tendency results in SMEs reluctance to adopt TQM (Abdolshah & Abdolshah, 2011). Chakraborty (2019), from the literature, suggests inadequate resources and top management commitment impede SMEs from taking quality initiatives (Chakraborty). Basu, Bhola, and Das (2020) observed that, as SMEs have significant resource constraints, prioritizing QM practices is critical (Basu, Bhola, & Das, A framework of quality management practices for Indian service SMEs, 2020). Srinivas and Swamy (2013) concluded that if SMEs want to stand in the international market, they need to focus on quality to be integrated with the totality of products, processes, and services (Srinivas & Swamy, 2013). Raj, T., and Attri, R. (2010) concluded that having known the ratings of the barriers, managing people should take precautionary steps and appropriate decisions to deal with such barriers (Raj & Attri, 2010). Majumudar, Kundu & Manohar (2019) from their research revealed hat in developing countries SMES contribute a lot through total quality management. They have found difficulties for this which they ranked under 'importance' and 'criticality' which may help the Indian SMEs (Majumdar, Kundu, & Manohar, 2019).

From the above study, it can be concluded that international as well as Indian researchers, through their studies, have found that if small enterprises (or SMEs as referred by some non- Indian researchers) want to adopt quality and want to implement ISO 9001, finance barrier plays an important role apart from other barriers. Indian MSMEs are also facing similar resource barrier which restricts them for ISO 9001 certification.

4.5 Relationship of financial assistance from Government on quality of MSME Valmohammadi (2011) studied 53 industries in Tehran. He revealed that the Iranian administration's policy greatly supports SMEs. For this, financial assistance is provided to SMEs. He suggested that if such finance is made available for TQM-related training and new methods of TQM, and tools and techniques, it will enable these firms to meet customers' needs and expectations, increase their market base, increase profit, customer satisfaction, and growth. Such measurable parameters may indicate if there are changes pre and post-implementation in quality (Valmohammadi, 2011). Singh, Khamba & Nanda (2017), based on a study of 135 North Indian industries, suggest that for small firms,' Government initiatives can help get modern technology and quality certification (Singh, Khamba , & Nanda, 2017).

Further, such initiatives will be helpful for small industries in availing R & D lab facilities at subsidized rates along with favourable tax policies to enhance their technology and latest product development. Mukherjee (2018) studied the coir board industry and concluded that the unavailability of the latest technology obstructs the MSME's potential causing a reduction in demand for its product. He further states that the market simultaneously prefers rivals' superior quality, which reduces their profit (Mukherjee, 2018). Though

the Indian Government has introduced various schemes for micro, small, and medium enterprises to improve their technology, more efforts are required to increase their competitiveness to increase their share in the domestic and foreign markets.

From the above, it can be inferred that Indian MSMEs are not opting for quality certification ISO 9001, which is a globally accepted quality management standard due to various barriers. If an Indian MSME desires to participate in global competition and wants to increase its stake in the supply, it must improve its product quality and services. It will have to rise from its present position and must surpass the challenges of its quality. The present contribution to the Indian economy, although considerable, can still be better if its products and service timings are equal to or better than international industries.

To overcome the financial barrier and achieve ISO 9001 certification, the Government of India supports the MSMEs by providing financial assistance. So that MSMEs may develop and maintain quality management systems and improve their products' quality and services at par with their foreign counterparts. Such a financial scheme may enable them to stand in the international market. Thus, it is imperative to study the impact of such financial assistance on the quality improvement of MSMEs.

5.0 Critical analysis of the gaps

From the study of the existing literature, it is observed that the barriers to quality have been identified by various researchers. However, it has not been drilled down specifically for the 'finance' as a barrier to achieving quality or in term the quality management system by achieving ISO 9001 certification. Only six papers identify "finance" as a barrier to quality out of 20 papers studied. Also, the prioritization of barriers and other barriers is done only in one paper. However, the percentage effect of 'finance' as a barrier to implementing quality in MSME is not researched at all. Further, only two papers mention the provision of Government support to overcome the financial barrier in achieving ISO 9001 certification. However, the adequacy of financial assistance is not researched in any research papers that need to be addressed. Also, these research papers are silent on the measurement of the impact of financial assistance by the Government.

5.1 Why this gap exist?

The Indian Government provides financial aid to MSMEs to improve quality. However, the whole sector needs to be more organized. India has nearly 6.3 crore MSMEs. There are 30,00,822 MSMEs registered on the portal of Udyam Registration as of 16/05/2021, which means only 4.7% of MSMEs are registered. Of these registered MSMEs, micro industries are approximately 28 lakhs, small industries registered are 1.78 Lakhs, and medium industries are only 24,657. In percentage, these work out as 93%, 1.78%, and 1%, respectively, against total registered MSMEs. (MSME Industry in India, n.d.). This data is sufficient to show that MSMEs lack interest in registration and opt for facilities provided by Government scheme(s). There may be other reasons also for MSMEs not opting for ISO 9001 certification, however their reactiveness towards maintaining quality in their products and services have not been studied in detail.

5.2 What future research is required to fill this gap?

By conducting the study as suggested in this paper, future research work can be carried out to find out why MSME is not interested in achieving quality certification.

6.0 Conclusion

From the literature review, it can be concluded that the major reason for MSMEs' inability to compete globally is their lack of product and service quality. They can get a global competitive advantage if they improve their quality management system. Also, it will bring other benefits like innovations, knowledge of new markets, and other related benefits.

MSME's nearly 29% contribution to GDP through its domestic and foreign trade is a significant share in any economy by a single sector. Government initiatives to support this sector in improving quality would reduce per-unit cost due to export. As the exporter gets new knowledge and experience, discovers new technologies, marketing practices, and new acumen in foreign competitors (Export Definition, 2021). Such export emphasizes improvements in products and services and strengthens companies in any markets they compete in (Strategic reasons to export, n.d.). Hence, to increase the market share of foreign exports and contribute to their national GDP, MSMEs need to reduce product rejection and create global demand. Rejection and rework in MSME products (services) should be minimized as it wastes resources and increases the delivery time and product cost. It affects the overall quality of MSMEs. Though the Government is trying to raise the bar of MSME quality, a systematic study based on primary and secondary data is unavailable. An overall analysis of the literature study indicates that very few or no efforts were made in this direction.

Existing empirical studies suggest that MSMEs lack quality products and require much effort to show their ability at the international level.
Nevertheless, the adequacy of Government support for MSMEs needs to be studied systematically. Also, the current study lacks information on whether there is any improvement in the quality of MSMEs due to such financial support. All this leads to the scope of systematic study for future research.

7.0 Research limitations/ implications

The present study provides insights to measure the "Impact of financial assistance by the Government post ISO 9001 certification on quality to selected MSMEs of Gujarat, India". Total 23 papers between the years 2003-2022 describing 'quality in MSMEs/SMEs' and 'finance as a barrier' for adopting ISO 9001 were studied. This literature review identifies gaps and provides understanding for future research to the researchers for studying MSMEs' inclination for adopting a 'quality management system'. In addition to providing financial assistance for achieving ISO 9001 certification, the Government of India is providing financial help for ZED (Zero Effect Zero Defect) certifications, which is not part of this study.

Table 2: Showing the relevant studies and major findings

Title/Author/ Year: Journal name	Study method/ N: samples used	Findings
"Understanding the Obstacles to TQM Success" Sebastianelli R. & Tamimi N. (2003): Quality Management Journal	Survey method, Questionnaire and analysis/1188 samples	They did factor analysis. It was on managers' ratings of frequently cited barriers to TQM. It revealed five underlying constructs as follows: They are lack of: "(1) Human resource development (2) Quality planning (3) Leadership for quality (4) Resources for TQM (5) Customer focus".
"Relationship between TQM and TPM implementation factors and business performance of manufacturing industry in Indian context" Seth, D. and Tripathi, D (2005):	Empirical survey-based research/ 108 samples	The study found out significant research avenues having confluence of TQM and TPM on each other. Very less research is carried out in this aspect.
Title/Author/ Year: Journal name	Study method/ N: samples used	Findings
International Journal of Quality & Reliability Management		
"TQM and performance in small medium enterprises The	Cross section research design by Survey method. A structural equation	This study concluded that Total Quality Management or the firm's routine activities for new

mediating effect of customer orientation and innovation" Pinho J. C. (2008): International Journal of Quality & Reliability Management	modelling used. A single-indicator analysis done/ 1200 samples of SMEs drawn from Dun and Bradstreet and EXPENTE databases. 135 SMEs replied	invention brought a forward looking and focussed impact on performance. This study also led to a positive link between Total Quality Management and customer orientation.
"Cost of quality in small- and medium-sized enterprises: case of an Indian engineering company" Desai, D. A. (2008): Production Planning & Control	Research paper/ a case analysis of 108 manufacturing units of India	The study found that, due to lack of resources and knowledge to implement, many techniques of improving quality and enhancing productivity are unavailable with the SMEs. This may be due to unawareness, shortage of time and financial resources.
"Benefits At Ims – QES Model In SMEs" Rajković D; Đokić I; Đokić S P. (2009): International Journal for Quality Research	Conclusive research	If better quality is achieved other advantages like market position, competition benefit, and better relationship with customers are gained.
Title/Author/ Year: Journal name	Study method/ N: samples used	Findings
"Quantifying barriers to implementing Total Quality Management (TQM)." Raj, T., & Attri, R. (2010): European J. Industrial Engineering	Mathematical model giving Graph theory	The authors concluded that, having known the ratings of the barriers, the managing people should take precautionary steps and appropriate decisions to deal with such barriers. The mathematical model may help in evaluating ranking of the barriers and about treating them.

"Barriers to the successful implementation of TQM in Iranian manufacturing organizations" Abdolshah, M., & Abdolshah, S. (2011): International Journal of Productivity and Quality Management	Descriptive study - cross sectional approach/ 55 nos. manufacturers	The study pointed out reasons of failure in implementation of TQM as unavailability of : "(1) management's dedication (2) resources and (3) use of correct structure".
"The impact of TQM implementation on the organizational performance of Iranian manufacturing SMEs" Valmohammadi, C. (2011): The TQM Journal	Survey method / 53 samples from different manufacturing sectors	The study concluded that, TQM related training and new methods of TQM and mechanisms be taught to SMEs. This will enable SMEs in meeting customers' needs and expectations and would increase their market base, profit, customer satisfaction, and growth.
"Quality management practices in rural and	Survey /	They concluded that those organizations implementing QMP
Title/Author/ Year: Journal name	Study method/ N: samples used	Findings
urban SMEs – a comparative study" Srinivas R., Swamy D R (2013): International Journal for Quality Research	300 managers/ entrepreneurs of SMEs	(Quality Management Practice) will have better edge and are more effective compared to their competitors in meeting needs of the customers and employees.
"An Approach to Prioritize Quality Dimensions of IT Enabled Small Service Firms A Study of Indian SMEs" Basu, R., & Bhola (2014): IEEE Xplore	Data collection, analysis and interview/15 small organization	They concluded that though SMEs have adopted information technology, delay in commitments, poor quality and inability to meet customer's requirement is a serious concern for SMEs. To overcome these specific quality management approach on use of scanty resource is required.
"Factors that hinder quality improvement programs' implementation in SME Definition of a	Survey and analysis /95 SMEs as samples	Findings from this research, highlighted seven different factors affecting quality programs: "(1) Top management's education/ training level and

taxonomy" Mendes L, Lourenc¸ O. L. (2014): Emerald insight		priorities (2) Costs and actual performance (3) Lack of support from external agents (4) Human resources' overload (5) Aversion to change (6) Lack of resources (7) Culture and training".
Title/Author/ Year: Journal name	Study method/ N: samples used	Findings
"Surge in SME surge in economy – an explorative analysis" Bose, T. K., & Uddin, M. R. (2014): International Journal of Economics and Business Research	Exploratory analysis/ qualitative and descriptive research/ 26 cement manufacturing companies of India	SMEs are heart of the country's economy. To help the economy in growing boosting of SME sector by capacity building is necessary.
"ISO 9001 Implementation Barriers and Misconceptions: An Empirical Study" Al-Najjar, S. M., & Jawad, M. K. (2011) International Journal of Business Administration	Empirical Study by surveying 50 random samples	The study identified nine factors acting as barriers for the implementation of ISO 9001. One of them was financial resources. The study also found ten misconceptions about adopting of ISO 9001.
"Why Indian manufacturing SMEs are still reluctant in adopting total quality management" Majumdar, J. P. and Manohar, B. M. (2016) International Journal of Productivity and Quality Management	Research Descriptive type research study	It concludes that, many large Indian industries have adopted TQM. But, the SMEs are not interested in following ISO 9001 requirements though they are certified for that. They adopt ISO 9001 as they have fear of losing contract with their customer i.e. large scale industries. The number of SMEs following TQM might increase if they consider it as a business challenge provided their

Title/Author/ Year: Journal name	Study method/ N: samples used	Findings
		lapses for meeting with TQM are identified. They will also be tempted do so, if their inherent strength is effectively utilized. They have also given rank to the problems of Indian manufacturing SMEs encountered while implementing TQM. The researchers have placed 'financial resources' on the top of the list other followed it subsequently.
"Influence of technological innovation on performance of small manufacturing companies" Singh, D., Khamba, J. S., & Nanda, T. (2017): International Journal of Productivity and Performance Management	Research paper/ Multiple regression analysis/ 135 firms of North India	The findings verified most important TIIs (Technological innovation influencers) for small firms. This include entrepreneurial capability, technology infrastructure capability and Government initiatives.
"Total Quality Management Implementation in Sri Lankan Construction Industry : A Study of Small and Medium Sized Enterprises"	case study/ Survey method/ 40 respondents of the company	Through the survey of 40 respondents in the SriLankan construction industry a difference between the importance and execution of TQM in the Sri Lankan SMEs was found.
Title/Author/ Year: Journal name	Study method/ N: samples used	Findings
Wickramarachchi, H. R., Sandanayake, Y. G., & Ekanayake, B. J. (2018): Moratuwa Engineering Research Conference		

"Challenges to Indian micro small scale and medium enterprises in the era of globalization" Mukherjee, S. (2018): Journal of Global Entrepreneurship Research	Research paper/ case study	Through case study it is found that for the MSME to become more competitive following is required: "(1) more investment in latest technology and R & D (2) more use of digital and technology enabled platform (3) technology transfer (4) increased investment in human resources (5) availability of finance (6) narrowed infrastructural gap (7) ease of doing business regulations"
"Quality Management Practices in Indian SMEs" Chakraborty, A. (2019): intechopen	Research paper/ survey/ 16 Medium scale sample units plus 36 sample of small scale	The research found that tools and techniques applied by SMES for quality were in limited range. This was due to significant training expenditure and unawareness on tools & techniques apart from the literature review findings of lack of top management commitment. .
Title/Author/ Year: Journal name	Study method/ N: samples used	Findings
"Causes of reluctance of Indian manufacturing SMEs in adopting total quality management" Majumdar, J. P., Kundu, G. K., & Manohar, B. M. (2019): International Journal of Services and Operations Management	Descriptive, exploratory research with quantitative technique/ 355 SMEs as samples	This research revealed that in the developing countries SMEs by implementing TQM contribute a lot. Factors for difficulties are ranked by 'importance' and 'criticality' to help the Indian SMEs.
"A framework of quality	Empirical analytical/ 469	The research work explains to

management practices for Indian service SMEs" Basu, R., Bhola, P., & Das, M. C. (2020): Quality Management Journal	IT enabled service organizations	service ventures and start-up survivals to allocate its resources for building quality and maintaining scalability for efficient and effective manner.
"Quality Management Systems -Need and Implementation Barriers for MSMEs in India" Rajesh Krishnamurthy Rao R. K, Kothari, M., Shenoy V. (2021): Drishtikon: A Management Journal	Exploratory research by identifying key stakeholders for MSMEs Qualitative Analysis by survey. 81 responses were received which were analysed to reach to the findings.	The research work finds out barriers in implementing ISO 9001. From the Practitioners' assessment and customers' responses the research assessed 'resource' as one of the constraints for effective QMS apart from other constraints. The percentage share for the same was 20% and
Title/Author/ Year: Journal name	Study method/ N: samples used	Findings
		16% respectively. It described resource constraint include "financial constraints, budgets and costs, dedicated persons availability, investments, poor cash flow, time and effort dedication by teams, manpower are resource constraints." They concluded that "price for QMS Certification and Implementation are main concerns and requires Government Support.
"Determinants, barriers and outcomes of ISO 9001 implementation in SMEs" Lazibat, T., Damić, M. & Markotić, I. (2022): Poslovna izvrsnost	Literature review	The researchers from their research found that smaller firms face resource crunch in implementing ISO 9001. They concluded that "Organizational resources are the main hindrances to ISO 9001 execution in SMEs."
"An Analysis of Barriers to the Implementation of	An exploratory research/ Survey and interviews of	The researchers identified 17 barriers out of which eight were

an ISO Certified Quality Management System for National Meteorological and Hydrological Services in the Anglophone Caribbean. Meteorological Applications"	29 respondents of 16 Aeronautical Meteorological Offices (AMOs) of Trinidad and Tobago Meteorological Service offices.	related to resources. Financial resource barrier identified as most critical in addition to insufficient staff.
Title/Author/ Year: Journal name	Study method/ N: samples used	Findings
Mitchell, C., & Fakhruddin, B. (S.) (2022): Meteorological Applications		

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