

Quality Management Systems - Need and Implementation Barriers for MSMEs in India

Rajesh Krishnamurthy Rao*, Manish Kothari**, Veena Shenoy***

ABSTRACT

This exploratory research studies the barriers for implementation Quality Management Systems in MSME Organisations in India. The key stakeholders identified for MSMEs are Leadership, Workforce, QMS and BE Practitioners and Customers. The methodology adopted is a Qualitative Analysis by Questionnaire followed by General Inductive approach. The study identifies Industry specific ISO certifications are valued by Customers and MSMEs. QMS is valued as important for defining processes, structured approach to work and organisational success. QMS enables Organisational Performance and Results, Growth and Sustainability, enhances Customer Focus, informs Leadership for right actions, supports employee engagement, performance, and growth, improves Quality and Reliability, helps to continually maintain, and improve processes, and makes organisation efficient and effective. Technology, Innovation, Organisation Knowledge, Transparency and Risk Management are also supported by good QMS Implementation. The constraints are improper Top management Commitment, QMS awareness, focus and implementation, Workforce reluctance, skills and knowledge, resources, Government support, Customer buying patterns, expensive Technological tools and lack of Innovation and new Products.

Keywords: *Quality Management System, ISO 9001, Business Excellence, MSMEs, India*

* FPM Scholar, ISBR Business School, Bangalore, Karnataka, India.
Email: rajeshkrao@outlook.com

** Managing Director, ISBR Business School, Bangalore, Karnataka, India.
Email: manish@isbr.in

*** Assistant Professor, ISBR Business School, Bangalore, Karnataka, India.
Email: veena.s@isbr.in

INTRODUCTION TO THE STUDY

QMS is regarded as essential part of organisations striving to achieve innovation in organisational process, people, and product dimensions for business excellence and competitiveness (Carvalho, 2021). There are many Quality practices and tools such as ISO 9001, Lean, Six Sigma, Information and Communication Technologies (ICTs), Total Quality Management (TQM), Environment Management Systems (EMS), Occupational Health and Safety Systems (OHS), TPM, Theory of Constraints (ToC) being adopted by organisations to comply to needs of Customers and Markets they serve or by organisational strategic initiative for future success, financial performance, and competitiveness (Yadav, 2020; Bagodi, 2020; Kumar, 2017).

MSMEs in India have witnessed growing opportunities in manufacturing and services and are grappled with multiple constraints for organisational growth. This has motivated research in Barriers to implementation of Lean, (Yadav, 2018), Critical success factors and measures for SMEs (Jani, 2016), reluctance in adopting TQM in SMEs (Majumdar, 2019), Lean implementation studies in SMEs (Sahoo, Lean implementation in small and medium-sized enterprises: An empirical study of Indian Manufacturing 2018).

This study attempts to understand from key stakeholders, namely, MSME Directors, QMS and BE Practitioners, MSME Employees and MSME Customers the preferred QMS Systems and Constraints for Implementation of such systems through a Qualitative Analysis using General Inductive approach.

RQ1: Which is the preferred QMS system for MSMEs in India?

RQ2: What are the constraints for implementation of QMS in MSMEs in India?

LITERATURE REVIEW

The Literature review included 20 research papers from reputed Emerald Insight (11), Elsevier (3), Inderscience (4), Sage Open and Taylor and Francis (1) Journals between 2016-2021. The geographical location of research was India (15), Austria (1), Brazil (1), Japan (1), Spain (1) and USA (1). The literature was grouped under QMS and Performance (6), Constraints in Systems implementation in MSMEs (5), CSFs for QMS Implementation (4), Innovation and Performance (1), Leadership and

Performance (1), Reluctance and QMS (1) and Third-Party Certification and Institutional Environment (1).

QMS and Firm Performance

All methodologies like QMS, LSS, ICTs impact organisational performance and the impact varies widely between the approaches including synergetic effect and maximum improvement when used in combination. The key indicators were Quality, Delivery, Sales, Financial, and Inventory (Yadav, 2020).

QMS improves processes, employee morale, customer base and financial position in the long run. Employee Indicators (EI), Process Indicators (PI), Customer Indicators (CI) and Financial Indicators (FI) showed significant interrelationship and recommends SMEs to focus on EI rather than only Financial Indicators (FI) (Bagodi, 2020).

- EI affects PI, CI and FI
- PI affects CI and FI
- CI affects FI

90% of studies confirm QMS have positive impact and at the same time 30% of ISO 9001 Implementation were not impacting the firm's performance (Kumar, 2017).

Lean Practices in SMEs in Automotive Sector were Cellular Manufacturing, TPM, 5S, Work Standardisation, and Quality Management which were implemented in a fragmented manner with further scope of improvement by overcoming barriers. (Sahoo, Lean implementation in small and medium-sized enterprises: An empirical study of Indian Manufacturing 2018).

Integrated Management Systems (IMS) have a positive impact on firm's performance due to intrinsic organisation motivation. When the IMS was mandated by external factors the impact has been negative (Vashishth, 2021).

Johri (2020), says that QMS certified industries have continual enhancement in method to quality measures resulting in breakthrough performance and client satisfaction in a case study of one organisation.

Constraints/CSFs in QMS Implementation

MSMEs have been sceptical about benefits of QMS and have short-sighted approach and generally do not take a long-term view. This limits

the leadership initiative or management commitment and cascading its effect on zeal and motivation of employees.

Internal Motivation of Leadership and hence organisations ensured success of QMS initiatives and resulted in optimisation of processes and structures, adapting to organisational challenges, improvement in quality and sales, business expansion and growth and customer loyalty. The constraints were financial, time and managerial resources, employee & leadership attitudes, doubting consultants and their competencies (Sternad, 2017).

Lack of Management Commitment, Leadership Commitment, Poor Communication and Lack of Knowledge and Resources were impeding the Lean Implementation (Yadav, 2018).

Lean Implementation had Resource and Financial constraints, Less Customers, Employees performing multiple roles, Uniqueness and Complexity of SMEs, Poor understanding of Quality Tools which were identified as limiters. Management Commitment, Organisation Culture, Willingness to Learn, Employee Involvement & Trust, Supplier Relationship, Customer involvement, Strategy-Vision-Mission Linkages, and Financial Capability were identified as CSFs (Jani, 2016).

Managerial Support positively correlated with Net Profit, Quality Policies and Goals increased Revenue and no correlation was found between delivery performance and revenue (Ramesh, 2017).

Lean Barriers were attitude of workmen, inadequate knowledge & lean expertise, lack of budget, organisational cultural changes, lack of senior management commitment and risk of disruption in operations, backsliding to old ways of working, internal resistance, need of integration with business associates and lack of resources. SMEs are likely to struggle with financial, technical and time constraints (Sahoo, Lean implementation in small and medium-sized enterprises: An empirical study of Indian Manufacturing 2018).

IT enabled ISO 9000 Implementation had positive effect on firm's performance (Kharub, 2019).

Study of Japanese Companies on TQM performance indicates presence of Soft Factors such as middle management involvement and support, reward and recognition and CSR focus (Georgiev, 2019).

Organisation Barriers, Systemic Barriers and Employee Barriers were identified which require change in mindset, training and education and moving away from traditional command and control leadership (Singh, 2020).

Innovation, Leadership, and Third-Party Certification

Open Innovation, Informative Knowledge, Process and Product Innovations impacts MSME Competitiveness (Carvalho, 2021).

Innovation by entrepreneurial capability, Technology Infrastructure (Physical, Human and Technical capital) and Government Initiatives are key for MSME Competitiveness.

Entrepreneurial orientation with innovativeness, being proactive, competitive aggression, and autonomy have positive impact on firms performance (Sahoo, Entrepreneurial orientation of SMES, total quality management and firm performance 2017).

Third party certifications for ISO 9001 and such QMS standards, requires improving legitimacy of the industry as a whole for the firm's effort to succeed (Lamin, 2020).

MSMEs to succeed can implement QMS and other Initiatives need to have longer term view, invest in training and development of employees and commit management support. To sustain technology, innovation and entrepreneurial orientation of leaders are essential. The identified barriers, constraints and challenges can be overcome by sustaining efforts in this direction.

METHODOLOGY

The survey was carried out with 3 independent open-ended questions for each of the 4 stakeholders – Leaders, QMS and BE Practitioners, Employees and Customers. The results were analysed for insights in the areas of management and quality systems necessary, benefits and advantages, key constraints, and challenges from different stakeholders' perspective.

The List of questions for QMS and BE Practitioners were - What management and quality systems are necessary for long-term sustainability of MSMEs? How to implement such systems and what would the advantages be? What are the key constraints and challenges of such implementing such systems in MSMEs?

The List of questions for Leaders were - How important are management and quality systems for your organisation's long-term sustainability? What are the systems that your organisation could implement or has already established, and what are the advantages? What are the key constraints and challenges for implementing of such systems in your organisation?

The List of questions for Customers were – What management and quality systems and processes are necessary for long-term sustainability of your MSME Suppliers? What are the advantages of such systems for your organisation? What are the key constraints and challenges for implementing such systems by MSME Suppliers?

The List of questions for Employees were – How important are management and quality systems in your role in the organisation? What are the systems that your organisation could implement or has already established, and what are the advantages? What are the key constraints and challenges for implementing of such systems in your organisation?

We had approached various stakeholders through Microsoft Forms Questionnaire Survey Links. We had utilised multiple forms of e-communication and reached out to more than 2000 stakeholders mentioning that the responses shall be confidential and will be utilised for the academic research. We are unable to quantify the number accurately due to use of social media such as WhatsApp groups, LinkedIn Posts, LinkedIn In-Messages, Telephonic discussions and requests in combination with email communication to relevant stakeholders. We obtained 81 responses (Table 4) which was 4.05% of total requests sent to stakeholders. This is comparable to similar response rates in MSME Qualitative Surveys. The responses were studied for relevance and all the responses were found relevant for the study and accepted.

RESULTS AND DISCUSSION

RQ1: Which is the Preferred QMS System for MSMEs in India?

Leaders are clear about Quality and Management systems being highly important (96% of Leaders) and seen as a backbone for MSMEs to improve Quality, differentiation in marketplace, internal strategies, building awareness, reliability, sustainability, best practices, strategic growth and adherence to quality system can be ensured by Internal Audits and MRMs. (Table 1) The systems and processes are also argued as burden (4%) of Leaders) due to no major advantages (4%), ad hoc manner of work systems (4%), viewed as status symbol (4%), not established to deliver results (4%), lack of awareness (4%), working without systems and set practices (4%).

Table 1: Why QMS is Required for MSMEs

QMS - Systems and Processes	defines processes
	creating standard operating procedures
	total quality management
	structured way of working
Performance	improves efficiency
	adherence to standard leads to quality products and services
	reduces waste
	improves business operations
	meets organisational objectives
	on-time service / delivery
Growth and Sustainability	achieves consistency
	sustenance and growth
	benefits employees and organisation
	long-term success
Leadership	provides series of activities to perform and monitor
	important for employee role and growth
Quality and Reliability	product quality
	zero defect
	minimal risk
Customer Focus	meet customer requirement
Continuous improvement	continually improve and maintain manufacturing processes

Employees of MSMEs also resonate that QMS is very important, essential, and critical (100%) to run the organisation in a structured way and the whole organisation stands upon Management and Quality Systems.

- QMS is important (66%) – Defining Processes, creating standard operating manuals, TQM, structured way of working and is most important for success.
- Performance (11%) – Improves efficiency, adherence to standards leads to production of quality products and services, reduce waste, improves business operations, meets objectives of organisation, on-time service.
- Growth and Sustainability (8%) – Basic requirement for consistency, sustenance and growth; benefits employees and the organisation; long-term success.
- Leadership (5%) – Provides series of activities which needs to be performed and monitored, important for employee role and growth.
- Quality and Reliability (5%) – Product Quality, Zero Defect and Minimal Risk.
- Customer Focus (3%) – Meet customer requirements.
- Continuous Improvement (2%) - This helps to continually improve and maintain the manufacturing process.

What Quality and Management Systems are Preferred for MSMEs?

ISO (International Organisation for Standardisation) systems are key QMS being proposed across all stakeholders and acceptance for QMS is evident—Leaders (77%), Practitioners (85%), Employees (83%), Customers (86%). The standards including ISO 9001, ISO 14001, ISO 45001, Integrated Management System, AS 9100D, ISO 17025, NABL Accreditation, IATF 16949 are highly valued by all stakeholders depending on the industries served.

The other systems considered are Business Excellence (MBNQA, TBEM), Lean, NABL accreditation, TQM, Supply Chain Excellence and Compliance Management. It is evident that MSMEs have less awareness of Business Excellence Models such as MBNQA and EFQM based approaches. The methodologies suggested were 5S, Agile, Lean, Lean Six Sigma and Total Cost Management. Quality – Clean Environment (5S), Quality Performance, “Do-it-right-first-time”, Excellence or First-class Products and Services, Quality Control, Traceability, and overall governs the success of manufacturing companies.

The aspects of Quality System requirements, expectations and results from the key stakeholders while excluding need for QMS are –

- Results and Growth (20%) – QMS enables consistent focus on future business, support sustained growth, improve performance and results, improve effectiveness and efficiency on continuous basis, enables comparison to compete within industry, increases productivity, reduces time to market, Improvement in Delivery, and reduction in lead-time.
- Leadership (18%) – QMS systems can facilitate decision making, delegation of work, assess progress of work, monitor progress, leadership development and provides basis on improving productivity. Leaders must have buy-in for successful implementation, commit resources, invest in Quality systems for long-term sustenance.
- Customer Focus (11%) – QMS provides framework for organisation to remain customer focused, better understanding of customer needs, co-ordinate and direct organisation towards meeting customer and regulatory requirements, increases customer satisfaction, leads to customer retention, opportunity for customer feedback, better customer complaint handling, helps customer onboarding,

customer mandate makes QMS imperative and attracting new customers.

- Workforce (11%) – QMS requires complete employee involvement and engagement. The systems make work-life easier, provides a structured training baseline for new and current employees, clarity of roles, performance evaluation and management, meritocracy and provides guidelines for excellence.
- Technology (9%) – ERP or Enterprise Business Application, Industry 4.0, Analytics, Accounting Tools, Focus on Digital, Predictive Analysis etc., aid implementation of QMS.
- Continual Improvement (6%) – Sustainable Continuous Improvement in systems and processes.
- Costs (5%) – Efficient QMS leads to reduction in costs, leaner organisations and reducing waste.
- Other Factors (19%) – Innovation, Organisation Knowledge, Knowledge Management, Transparency and real visibility, Maintenance (TPM), and Improved Risk Management.
- Change Management (1%) – The ongoing change required for success of QMS must be accepted by every individual in the organisation.

Customers of MSMEs view QMS benefits in areas (Table 2).

Table 2: How MSME Customers Perceive Benefits of QMS Implementation

Performance	enables to compete in global market
	realistic deliveries and cost
	good and smooth supplies
Quality	meet and ensure basic level of supplier requirements.
	quality assurance
	commitment to quality
	product quality
	establishing corrective action in initial stages
Growth and Sustainability	quality built-in at source
	and consistency in quality.
	ensures sustainability
	stabilisation of the organisation in the industry
Reliability	better placed for future generation
	participation in industry growth
	predicting and forecasting future growth
Cost	reliable commitments from suppliers
	can be extended arm to customers as they can focus on their core-competence.
Workforce	reduces waste
	effective cost management
Other Factors	facilitates team formation
	ensures compliances
	customer focus (satisfied customers)
	integrity (good code of conduct)
	transparency and further quality certification requirements are easy to acquire.

Table 3: Attributes Categorised by Areas of Constraints for all Stakeholders

Attributes - Weightatge	Leaders	Practitioners	Employees	Customers	Total
Workforce	18%	16%	25%	24%	83%
Leadership	-	43%	9%	27%	79%
QMS	26%	-	27%	11%	64%
Resources	15%	20%	-	16%	51%
Government	7%	-	-	7%	14%
Performance	-	-	14%	-	14%
Technology	4%	2%	7%	-	13%
Training	4%	3%	5%	-	12%
Change Management	6%	-	5%	-	11%
Quality and Reliability	-	3%	7%	-	10%
Practitioners	4%	3%	-	-	7%
Organisation Culture	-	7%	-	-	7%
Customer	6%	-	-	-	6%
Innovation and New Products	3%	-	-	-	3%
Practitioners	-	3%	-	-	3%
Agility	-	3%	-	-	3%
Suppliers	-	-	2%	-	2%
Other Factors	-	-	-	15%	15%

Table 4: Customers, Leaders and Employees of MSME - Demographics

Type	Gender	Education	Organization Classification	Average of Age
Customers	Female	Graduate	Large Enterprise	31
	Male	Graduate	Large Enterprise	39
			Medium (Turnover < 250 Crores, Investment < 50 Crores)	46
			Micro (Turnover < 5 Crores, Investment < 1 Crores)	49
		Post Graduate and above	Large Enterprise	47
			Medium (Turnover < 250 Crores, Investment < 50 Crores)	34
			Micro (Turnover < 5 Crores, Investment < 1 Crores)	49
MSME Employees	Female	Graduate	Medium (Turnover < 250 Crores, Investment < 50 Crores)	56
			Small (Turnover < 50 Crores, Investment < 10 Crores)	48
	Male	Graduate	Large Enterprise	29
			Medium (Turnover < 250 Crores, Investment < 50 Crores)	44
			Small (Turnover < 50 Crores, Investment < 10 Crores)	31
		Post Graduate and above	Medium (Turnover < 250 Crores, Investment < 50 Crores)	45
			Small (Turnover < 50 Crores, Investment < 10 Crores)	72
MSME Leaders	Female	Graduate	Small (Turnover < 50 Crores, Investment < 10 Crores)	31
		Post Graduate and above	Micro (Turnover < 5 Crores, Investment < 1 Crores)	36
	Male	Graduate	Medium (Turnover < 250 Crores, Investment < 50 Crores)	39
			Micro (Turnover < 5 Crores, Investment < 1 Crores)	53
			Small (Turnover < 50 Crores, Investment < 10 Crores)	48
		High School	Small (Turnover < 50 Crores, Investment < 10 Crores)	36
		Post Graduate and above	Micro (Turnover < 5 Crores, Investment < 1 Crores)	47
			Small (Turnover < 50 Crores, Investment < 10 Crores)	54

Table 5: Constraints for QMS Implementation in MSMEs in India

Area of Constraint	Leaders	Practitioners	Employees	Customers
Workforce	To get trained employees at right salary, adapting to West Culture, quality of workforce, knowledge of workforces, manpower capability and capacity constraints, impact of middle managers and employees, reluctance in ensuring compliance, time constraints, creation of talent in cost processes	Complete employee engagement, employee involvement, sustaining the cycle of continuous improvement, degradation of systems over time, over dependence on key resources, practicing best practices, training quality manpower, unprofessional work practices.	Awareness for uninterested employees, employee commitment, lack of communication and innovation, resistance and negative attitude, lack of preparation, lack of understanding of QMS, lack of understanding of customer needs and expectations.	Quality manpower affordability, employing good resources, lack of implementation by employees, reluctance to take up QMS, quality of employees, attitude, lack of understanding customer needs and expectations.
Leadership	Building awareness on QMS to ensure long term sustainability, inclination to QMS exists, which but lack of focus and resources impedes implementation, regular maintenance of systems, always seen as an additional advantage than primary requirement, use of the organisation's middle/ senior process implementation later in time.	Top management commitment, lack of vision and long-term plans, short-term profit motive, acceptance of changes needed, building implementation systems, using short-cuts in difficult situations, time constraints, lack of understanding of QMS, lack of understanding of customer needs and expectations, lack of understanding of customer needs and expectations, lack of understanding of customer needs and expectations, lack of understanding of customer needs and expectations.	Insufficient understanding on how QMS can improve day-to-day management, internal communication, support from Middle Management, Lack of communication and flow of information	Business condition, commitment, will to progress, interest, hunger, support and passion to implement, realising the potential and understanding the benefits of QMS, maintaining continuous improvement, regular review by leadership, certification and implementation of QMS, lack of strengthening organisational capabilities.
QMS	building awareness on QMS to ensure long term sustainability, inclination to QMS exists, which but lack of focus and resources impedes implementation, regular maintenance of systems, always seen as an additional advantage than primary requirement, use of the organisation's middle/ senior process implementation later in time.	Top management commitment, lack of vision and long-term plans, short-term profit motive, acceptance of changes needed, building implementation systems, using short-cuts in difficult situations, time constraints, lack of understanding of QMS, lack of understanding of customer needs and expectations, lack of understanding of customer needs and expectations, lack of understanding of customer needs and expectations.	More focus on theory than practice, lack of awareness, more documentation, and data management, QMS implementation is not consistent with day-to-day business practice, more documentation for different standards, Business Excellence can be applied to development and sustenance in the current era which also provides structured approach to self-evaluation.	Fighting for immediate customer commitments, poor internal policies, poor risk management
Resources	Wants to develop business, financial resources and support, are a higher priority for the available resources.	Financial constraints, budgets and costs, deflated prices availability, investments, poor cashflow, time and effort allocation practices, improper constraints.		cost of certification, budget constraints, tight budgets, lack of experience, lack of knowledge about the market, lack of understanding of customer needs and expectations, lack of understanding of customer needs and expectations, lack of understanding of customer needs and expectations.
Government	Government Approvals, In-facility Environment, Financial Support from Government & MSME Ministry, Difficult to grow in current scenario.			Assessing and implementing across is seen off late but requires speed, a awareness of the QMS systems for better outcomes, small shoplets and sub-suppliers may have resource constraints, Government support for training of manpower.
Technology	Software Tools are expensive, Poor information due to Manual Processes, Technology adoption after scaling up.	ERP Tools and other Digital Tools	Information is required, ERP only for reduced information, traditional business processes make it difficult to adapt to technology.	
Training	Stakeholder education and untrained staff	Lack knowledge of workforce, continuous education to middle management.		Training of employees
Change Management	Cultural habits of Workforces, resistance to change.		Adapted to changes for betterment.	Change Management required
Quality and Reliability		No focus on Quality, total understanding of quality and consistency are not shared and are implemented in ad-hoc methods.		
Practitioners	QMS Interpretation varies widely among practitioners, dependencies on Practitioners, middle process is person driven and hence partially effective.			
Organisation Culture		Misdirect, Culture of collaboration, Continuous Improvement seen as a culture than a tool.		
Customer	cost reduction by Customers, rapid changes in customer buying patterns, new entrants in various low product development, standardisation restricts ability to think and implement freely.			fluctuating sales volumes impacts profitability and planning
Innovation and New Products				
Agility		procedural compliance in line with speed and adherence to systems.		
Suppliers			Lack of supplier's support.	Supplier's Management, tight to growth's continuous, Cost performance.
Other Factors				

- Performance (28%) – Enables to compete in global market, realistic deliveries and cost, good and smooth supplies, OEE and ensure basic level of supplier requirements.
- Quality (28%) – 100% Quality Assurance, Commitment to Quality, Product Quality, establishing Corrective Action in initial stages, Quality built-in at source, and Consistency in Quality.
- Growth and Sustainability (14%) – Ensures sustainability, stabilisation of the organisation in the industry, better placed for future generation, participation in industry growth, predicting and forecasting future growth.
- Reliability (11%) – Reliable commitments from Suppliers, can be extended arm to Customers as they can focus on their core-competence.
- Cost (6%) – Reduces waste and effective cost management.
- Workforce (3%) – Facilitates Team formation.
- Other Factors (11%) – Compliances, Customer Focus (satisfied customers), Integrity (good code of conduct), Transparency and further Quality Certification requirements are easy to acquire.

RQ2: What are the Constraints for Implementation of QMS in MSMEs in India?

The requirement for ISO Certifications for Long-term sustainability is viewed as important. We need to understand the constraints which hamper the effectiveness of QMS Systems from different perspectives (Table 5). Leaders (96%) do not think themselves as one of the key constraints as they attributed the constraints to other areas than Leadership itself and few Leaders (20%) have no constraints. The factors which are roadblocks or constraints according to Leaders are –

- QMS (26%) – Building awareness on QMS to ensure long term sustainability, inclination to QMS exists widely but lack of focus and resources impedes implementation, regular maintenance of systems, always seen as an additional advantage than primary requirement, size of the organisation too small for robust processes, implementation later in time.
- Workforce (18%) – To get trained employees at right salary, adapting to Work Culture, quality of workforce, knowledge of workforce, manpower capability and capacity constraints, mindset of middle managers and employees, reluctance in ensuring compliances, time constraints, retention of talent in core processes.

- Resources (15%) – Funds to develop business, financial resources and support, and higher priorities for the available resources.
- Government (7%) – Government Approvals, Industry Environment, Financial Support from Government & MSME Ministry, Difficult to grow in current scenario.
- Change Management (6%) – Cultural habits of Workforce, resistance to change.
- Customer (6%) – Cost reduction by Customers, rapid changes in customer buying patterns.
- Technology (4%) – Software Tools are expensive, Poor information due to Manual Processes, Technology adoption after scaling up.
- Training (4%) – Stakeholder education and untrained staff.
- Practitioners (4%) – QMS interpretation varies widely among practitioners, dependency on Practitioners, audit process is person driven and hence partially effective.
- Innovation and New Products (3%) – Constraints in successful new product development, standardisation restricts ability to think and implement freely.

Practitioners' assessment of constraints for effective QMS are in the following areas –

- Leadership (43%) – Top management commitment, lack of vision and long-term plans, short-term profit motive, acceptance of changes needed, building a environment of trust, consistency of approaches, desire to implement systems, taking short cuts in difficult situations, time constraints of leaders, mindset of leaders, decision making, paradigm of owners and employees (I decide, you follow), sustaining, maintaining and practicing the systems for improvement, only operations focus, and unprofessional actions.
- Resources (20%) – Financial constraints, budgets and costs, dedicated persons availability, investments, poor cashflow, time and effort dedication by teams, manpower constraints.
- Workforce (16%) – Complete employee engagement, employee involvement, sustaining the cycle of continuous improvement, degradation of systems over time, Overdependence on key resources, practicing the systems, retaining quality manpower, unprofessional HR practices.
- Organisation Culture (7%) – Mindset, Culture of collaboration, Continuous Improvement more as a culture than a tool.

- Training (3%) – Less knowledge of workforce, continuous education to middle management.
- Quality (3%) – No focus on Quality, actual understanding of quality and limitations.
- Practitioners (3%) – Consultants are old school and are implementing industrial age methods.
- Agility (3%) – Procedural compliance in line with speed and adherence to systems.
- Technology (2%) – ERP Tools and other Digital Tools.

The employees are seeing constraints in QMS implementation in few areas and notably leadership does not figure in the constraints –

- QMS (27%) – More focus on theory than practice, lack of awareness, more documentation, and data management, QMS systems to be improved over time to remain consistent with fast changing business landscape, more documentation for different standards, Business Excellence can be applied to development and sustenance in the current era which also provides structured approach to self-evaluation.
- Workforce (25%) – Awareness for uninterested employees, employee commitment, lack of communication and motivation, resistance and negative attitude, lack of preparedness from employees, mental blocks towards QMS, older workforce not adapting to new methods, and teamwork.
- Leadership (9%) – Insufficient understanding on how QMS can improve day-to-day management, Internal Communication, Support from Middle Management, Lack of communication and flow of information.
- Technology (7%) – Automation is required, ERP only for midsized organisations, traditional business processes make it difficult to adapt to technology.
- Change Management (5%) – Adapting to changes for betterment.
- Suppliers (2%) – Lack of Suppliers' support.

Few suggestions from employees stressing the importance of QMS which state the lack of QMS systems, and they are –

- Performance (14%) – Effective Planning required, QMS can influence cost, quality and time and improve delivery, gain cost reduction.
- Quality and Reliability (7%) – Zero defects, Commitment to Quality and Reliability.

- Training (5%) – Education on importance of implementing QMS, Initial Training.

The Customers of MSMEs also weigh in on Leadership and Workforce aspects as critical constraints in successful implementation of QMS.

- Leadership (27%) – Business condition, commitment, willingness, interest, hunger, support and passion to implement, realising the potential and understanding the benefits of QMS, monitoring continuous improvement, lack of exposure in MSMEs, regular review by leadership, certification over implementation of QMS, lack of strengthening organisations’ capabilities.
- Workforce (24%) – Quality manpower affordability, employing good resources, lack of implementation by employees, inadequate skills, Quality and Employee mindset, lack of transportation and other benefits, lack of understanding customer needs and expectations.
- Resources (16%) – Cost of certification, budget constraints, tight cashflow, investment and expenses, lack of adequate tools and machinery, lacking resources, short-sighted due to internal financial constraints.
- QMS (11%) – Firefighting for immediate customer commitments, poor internal policies, poor risk management.
- Government (7%)– Assessing and Implementing across is seen off late but requires speed, awareness of the QMS systems for better outcomes, small suppliers and sub-suppliers may face resource constraints, Government support for training of manpower.
- Other factors (15%) – Change Management, Training of employees, Compliance Management, fight for Growth is continuous, Cost performance, fluctuating Sales volumes impacts profitability and planning.

THEORETICAL AND MANAGERIAL CONTRIBUTION

The study identifies ISO 9001, ISO 14001, ISO 45001 and other Industry specific ISO certifications are valued by Customers and MSMEs. However, the extent of success largely depends on Intrinsic motivation of MSME Leaders to begin a “Journey” of Business Excellence. This requires support of QMS and BE Practitioners for successful beginning and all stakeholders to sustain and improve the processes and products.

The Practitioners support after Third-Party Certification is essential to bring outside view of whether the gains are being sustained is essential and adapt the cycle of Continuous improvement. Training and Development, Employee Motivation, Rewards and Recognitions, Work Culture and Environment are necessary soft aspects of the QMS. The study also validates the findings of other researchers and points to generalisation of the constraints.

The managers are informed that QMS is more than third-party certification of systems and processes. The constraints identified can be studied for removing implementation hurdles specific to the organisation. The bold decisions of changes to organisation structure, adapting to systems and processes and employee involvement in change can be taken up for success of the organisation.

FUTURE SCOPE OF STUDY

- Future studies can increase the sample size to larger number, re-design the questionnaire for specific areas and use statistical tools were not utilised to validate this qualitative survey.
- The study was focused for MSMEs in India, and other countries both developing and developed can be studied for similarities.
- The linear progression from Basic Systems and Processes, ISO 9001, then Business Excellence Models such as MBNQA and EFQM can be studied empirically.
- Quality Tools and Methodologies are wide and many, and hence focused structure for implementation can also be suggested and validated for MSMEs in India/other countries.

CONCLUSION

The Leaders, Customers, Employees and Practitioners agree the need for QMS for MSME Organisations in India. The preference among all systems is ISO Standards and as required TQM, Lean, Six Sigma, Business Excellence Models and others can be implemented based on Organisation's Products and Services and Industry specific requirements. There is a need for intrinsic motivation on part of Leaders and Middle Managers for effective QMS and in addition a long-term view of cost of

implementation impacts positive financial performance (Dietmar Sternad, 2017).

The constraints for adopting and implementing QMS systems are to be overcome by consistent approach.

- Employees – Awareness, Training, Work Culture, Capability and Capacity, Retention, Engagement, Involvement are key workforce factors.
- Leadership – Commitment, Willingness, Long Term Vision and Plans, Trust, Quality Mindset, Communication, Information Flow, Training and Exposure, Review, Rewards and Recognition are key Leadership factors.
- QMS and Practitioners – Building Awareness, Organisation Culture and Mindset, Collaboration, Continuous Improvement, Reduction of Documentation, Excellence and Customer Focus, Internal Policies and Procedures and Agility are key QMS related issues.
- Resources – Financial Resources, Dedicated Personnel, Cashflow, Cost of QMS Certification and Implementation are key Resource concerns and requires Government Support.
- Technology – Investing in Technology, Reduction of Manual Processes, ERP Tools, Digital Tools and Automation is required but impacted by Financial Constraints.

There are a few suggestions that are from this study to overcome the constraints.

- Leadership – Long Term View and good implementation of QMS will help the business in the long run.
- Employees – Leaders can improve Employee related constraints by proper talent acquisition, training and development, employee engagement and retain by providing competitive remuneration and growth for employees.
- Practitioners can utilise digital tools for training of MSME workforce to reduce cost of QMS Training and Employee Development. Third Party Certification and in addition handholding to continuously improve the organisation's Journey is essential.
- Resource and Financial Constraints can be reduced by step-by-step approach. The MSMEs can train employees in areas which require no investment and reap the benefits of QMS, Lean, 5S, Visual Management, Daily Work Management etc.

- Technology is key area where automation of processes, activities can generate cost reduction. MSMEs can again take step-by-step approach by implementing best practices in CRM, Financial Accounting, and other areas from wide range of low-cost Technology offerings.

REFERENCES

- Vashishth, A., Chakraborty, A., Gouda, S. K., & Gajanand, M. S. (2021). Integrated management systems maturity: Drivers and benefits in Indian SMEs. *Journal of Cleaner Production*, 293.
- Lamin, A., & Livanis, G. (2020). Do third-party certifications work in a weak institutional environment? *Journal of International Management*, 26(2).
- Avari, B. (2007). *India – The ancient past – The History of the Indian sub-continent from 7000 BC to AD 1200*. Taylor and Francis.
- Sternad, D., Krenn, M., & Schmid, S. (2017). Business excellence for SMEs: Motives, obstacles, and size-related adaptations. *Total Quality Management & Business Excellence*, 30(2), 1-18.
- Government, U. S. (2021, June). Malcolm Baldrige National Quality Award. Retrieved from www.nist.gov
- Carvalho, G. D. G. D., & Resende, L. M. M. D. (2021). *Innovation and management in MSMEs: A literature review of highly cited papers*. Sage Open.
- Heras-Saizarbitoria, I. (2011). Internalization of ISO 9000: An exploratory study. *Industrial Management & Data Systems*, 111(8), 1214-1237.
- Singh, J., & Singh, H. (2020). Assessing barriers to implementation of QMPs in Indian organisations - An empirical investigation. *International Journal of Advanced Operations Management*, 12(1), 28-64.
- Majumdar, J. P., Kundu, G. K., & Manohar, B. M. (2019). Causes of reluctance of Indian manufacturing SMEs in adopting total quality management. *International Journal Services and Operations Management*, 32(3), 362-386.
- Kharub, M. (2019). Critical factors of effective implementation of IT-enabled ISO-9000 QMS. *International Journal of Quality & Reliability Management*, 36(9), 1600-1619.

- Kumar, P., Maiti, J., & Gunasekaran, A. (2017). Impact of quality management systems on firm performance. *International Journal of Quality & Reliability Management*, 35(5), 1034-1059.
- Management, EFQM - European Foundation for Quality. (2021, June). Retrieved from www.efqm.org
- Micro, Small and Medium Enterprises, Government of India. (2021, June).
- Ramesh, N., & Ravi, A. (2017). Enhancing the performance of micro, small and medium sized cluster organisation through lean implementation. *International Journal of Quality and Innovation*, 21(3), 325-342.
- Yadav, N., Shankar, R., & Singh, S. P. (2020). Impact of industry4.0/ICTs, lean six sigma and quality management. *The TQM Journal*, 13(1).
- Prize, D. (2021, June). Japanese Union for scientists and engineers. Retrieved from Juse.or.jp
- Sahoo, S. (2019). Assessing lean implementation and benefits within Indian automotive component manufacturing SMEs. *Benchmarking: An International Journal*, 27(3), 1042-1084.
- Sahoo, S., & Yadav, S. (2017). Entrepreneurial orientation of SMES, total quality management and firm performance. *Journal of Manufacturing Technology Management*, 28(1).
- Sahoo, S., & Yadav, S. (2018). Lean implementation in small and medium-sized enterprises: An empirical study of Indian Manufacturing. *Benchmarking: An International Journal*, 25(1).
- Johri, S., & Kumar, D. (2020). Evaluation of effect of ISO 9001:2008 standard implementation on TQM parameters in manufacturing & production processes performance in small enterprises. *Materials Today: Proceedings*.
- Singh, D. (2019). Implementation of technology innovation in MSMEs in India. *Journal of Science and Technology Policy Management*, 10(3), 769-792.
- Singh, U. (2008). *A history of ancient and early medieval India – From stone age to 12th century*. Pearson.
- Jani, S. Y., & Desai, T. N. (2016). Review of lean manufacturing practices - Critical success factors and performance measures for SMEs. *International Journal of Quality and Innovation*, 3(1), 30-41.
- Georgiev, S., & Ohtaki, S. (2019). Critical success factors for TQM implementation among manufacturing SMEs. *Benchmarking: An International Journal*, 27(2), 473-498.

- Yadav, V., Jain, R., Mittal, M. L., Panwar, A., & Sharma, M. K. (2018). An appraisal on barriers to implement lean in SMEs. *Journal of Manufacturing Technology Management*.
- Bagodi, V., Venkatesh, S. T., & Sinha, D. (2020). A study of performance measures and quality management system in small and medium enterprises. *Benchmarking: An International Journal*.
- Global Toyota. (2021). Retrieved June, from <https://global.toyota/en/company/vision-and-philosophy/production-system/>