

Journey to the Centre of the Quality Management System

Karri Naveen

Research Scholar, Department of Mechanical Engineering, Lincoln University College, Malaysia

Abstract - Unique - "Mantra" for the Success of Quality Management System doesn't just relies upon the Statistical Process Control Tools (Pareto outline, circumstances and logical results graphs, checksheets and histograms, process stream outlines, run outlines, control graphs, scatter plots, Six Sigma) and Non Statistical Tools (Why-Why investigation, Force field examination, Nominal gathering strategy, Affinity outlines, interrelationship digraphs, Matrix charts, Network graphs, process choice program graph, PERT, CPM, Tree Diagram, JIT, Failure Mode and Effect Analysis, Benchmarking) yet earnest commitment and responsibility too.

ISO 9001:2015 (International Organization for Standardization) Standard give a phenomenal chance to investigate the Essence of the Theories of Total Quality Management Gurus: Josph M. Juran, Ronald Fisher, W. Edwards Deming, Walter A. Shewart, Armand V. Feigenbaum, Kaoru Ishikawa, Philip B. Crosby, Genichi Taguchi.

Greatest advantages couldn't be gotten from ISO 9001 by MSME's (Micro, Small and Medium Enterprises) due the fact that; ISO 9001 is taken for Certification instead of thinking about it as an assurance to a Journey for pushing the restrictions of Quality Performance.

Key Words: Risk & Opportunities, Control of Production, Service provision & Non Conformance

1. INTRODUCTION

Overall accentuation on quality intensity brought about general acknowledgment of ISO 9001 norm. Quality administration framework determines the criteria for process performance. A Journey to the focal point of the Quality Management System could qualify MSME for different national and global recognition like: Malcom Baldrige National Quality Award, Deming Prize, EFQM Excellence Award, Rajiv Gandhi National Quality Award, IMC Ramkrishna Bajaj National Quality Award, CII Excellence, and so forth.

Quality is unmistakable dependent on recognition:

$$Q = O/B$$

Where; Q = Quality

O = Outcome

B = Benchmarking Criteria

Each of the requirements or provisions in ISO 9001:2015 standard is a subject in itself providing unlimited intends to embrace appropriate instruments and methods. MSME ought to implement following components while adopting Quality Management System:

1.1 Risk and Opportunities

MSME shall consider the Internal issues (Such as: Employee Health, Behavior, Attitude, Morals, Values, Culture, Knowledge, Performance, and so forth) and External issues (Such as: Pandemic, Legal, Technological, Competitive market, Cultural, Social, Economic Environments) to decide the risks and opportunities that should be tended to. Activities taken to address risks and opportunities shall be proportionate to the potential effect on the congruity of products and services.

Alternatives to address risk can incorporate dodging risk, facing challenge so as to seek after a chance, disposing of the risk source, changing the probability or result, sharing the risk or holding risk by educated choice. Opportunities can prompt the reception of new works on, propelling new items, opening new markets, tending to new clients, building associations, utilizing new innovation and other attractive and practical prospects to address the association's or its client's needs.

1.2 Infrastructure

MSME shall decide, provide and keep up the foundation important for the activity of its procedures and to accomplish similarity of products and service. Infrastructure can include: a) Buildings and related utilities, b) Equipment including equipment and programming, c) Transportation assets, d) Information and communication innovation. Blockchain can be viewed as a meta-innovation as it uses, improved programming advancements. It permits to make adaptable innovative arrangements that mean to limit the office of outsider suppliers and, as it were, to restore the Quality back to the clients. This can be accomplished by the blockchain giving a domain where clients can cooperate unreservedly in a trustless environment with astonishing pace.

1.3 Environment for the operation of processes

MSME shall decide, provide and keep up the environment for the activity of its processes and to achieve conformity of products and service. A reasonable situation can be blend of human and physical factors, for example, a) Social (E.g. non-

prejudicial, quiet, non-fierce), b) Psychological (E.g. Stress lessening, burnout counteraction, genuinely defensive), c) Physical (E.g. Temperature, Heat, Humidity, Light, Airflow, Hygiene, Noise). These components can vary relying upon the products and service provided.

1.4 Organizational Knowledge

MSME shall decide the information vital for the activity of its processes and to achieve conformity of products and service. The information shall be kept up and be made accessible to the degree vital. When tending to changing needs and patterns, MSME shall think about its present information and decide how to get or get to any essential extra information and required updates.

Organizational information can be founded on Internal sources, for example, licensed innovation; information picked up for a fact; exercises gained from disappointments and effective tasks; catching and sharing undocumented information and experience; the after effects of enhancements in processes, products and services. Outer sources, for example, guidelines, the scholarly community; meetings; gathering information from clients or outside suppliers.

2. Monitoring and measuring resources

MSME shall decide and provide the resources expected to guarantee legitimate and dependable outcomes when checking or estimation is utilized to confirm the congruity of products and services to prerequisites. MSME shall ensure that the resources provided: a) Are appropriate for the particular sort of monitoring or measuring activities, b) Are kept up to guarantee their proceeding with qualification for their motivation. MSME shall hold proper recorded data as proof of qualification to screen and estimation assets. Figure: 1 depicts the non conformance rate when procedure is focused.

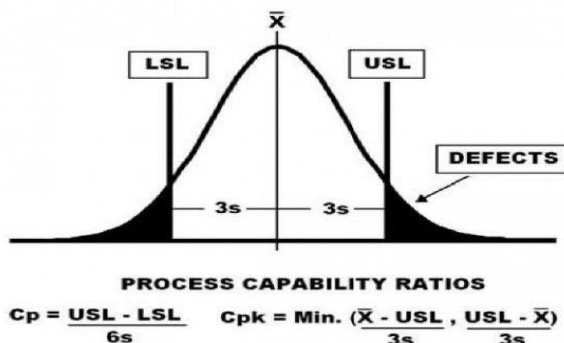


Fig -1: Non conformance rate when process is centered

2.1 Measurement traceability

At the point when estimation discernibility is a prerequisite or is considered by the MSME to be a basic piece of giving

trust in the legitimacy of estimation results, estimating gear shall be:

- a) Calibrated or verified or both at indicated interims or before use, against estimation norms recognizable to universal or national measures; when no such gauges exists, the premise utilized for alignment or check will be held as archived data.
- b) Identified so as to decide their status.
- c) Safeguarded from changes, harm or disintegration that would discredit the adjustment status and ensuing estimation results.

MSME shall decide whether the legitimacy of past estimation results has been antagonistically influenced when estimating hardware is seen as unfit for its unintended reason, and will make fitting move as important.

2.2 Control of Production and service provision:

MSME shall implement production and service provision under controlled conditions which incorporate a) The accessibility of archived data that characterizes the attributes of the products to be delivered, the services to be provided, or the exercises to be performed, and the outcomes to be accomplished. b) The accessibility and utilization of reasonable checking and estimating resources. c) The execution of observing and estimation exercises at proper stages to check that models for control of procedures or yields, and acknowledgment rules for products and service have been met. d) The utilization of reasonable foundation and condition for the activity of procedures. e) The arrangement of competent people, including any necessary capability. f) The approval and intermittent revalidation of the capacity to accomplish arranged consequences of the procedures for production and service arrangement where the subsequent yield can't be checked by resulting observing or estimation. g) The usage of activities to forestall human blunder. h) The usage of discharge, conveyance and post-conveyance exercises.

2.3 Identification and traceability

MSME shall utilize reasonable intends to distinguish yields when it is important to guarantee the congruity of products and services. They will distinguish the status of yields as for checking and estimation prerequisites all through production and service arrangement. They will control the exceptional distinguishing proof of the yields when recognizability is prerequisite and will hold the reported data important to empower detectability.

2.4 Preservation

MSME shall preserve the outputs during production and service provision, to the degree important to guarantee adjustment to prerequisites which can incorporate

distinguishing proof, taking care of, sully control, bundling stockpiling, transmission and insurance.

3.1 Post delivery activities

MSME shall meet necessities for post-conveyance exercises related with the products and services for which they ought to consider: a) Statutory and regulatory prerequisites. b) The potential undesired outcomes related with its products and services. c) The nature, use and proposed lifetime of its products and services. Post conveyance exercises can incorporate activities under guarantee arrangements, legally binding commitments, for example, upkeep products and services, for example, recycling or final disposal.

3.2 Control of change

MSME shall review and control changes for production or service provision arrangement to the degree important to guarantee proceeding with congruity prerequisites. MSME shall archive data depicting the consequences of the review changes, the people approving the change, and any important activities emerging from the review.

3.3 Release of products and services

MSME shall implement planned arrangements at appropriate stage to verify that the product and service requirements have been met. The delivery of products and service to the client shall not continue until the arranged plans have been agreeably finished, except if in any case affirmed by a pertinent power and as relevant by client. And shall retain documented information on the release of products and services which shall include: a) Evidence of congruity with the acceptance criteria. b) Traceability to the people approving the discharge.

3.4 Control of non conforming products

MSME shall guarantee that yields that don't comply with their prerequisites are recognized and controlled to forestall their continuous use or conveyance. MSME shall take proper activities dependent on the type of the non conformity and its impact on the congruity of products and services. This will likewise apply to non conforming products and services identified after conveyance of products, during or after the provision of service.

MSME shall manage non adjusting yields in following manners: a) Correction, b) Segregation, regulation, return or suspension of provision of products and service, C) Communicating with client, d) Obtaining approval for acknowledgment under concession. Adjustment to the necessities will be checked when non accommodating yields are revised.

MSME shall retain the reported data that: a) Describes the non similarity, b) Describes the activities taken, c) Describes

any concessions got, d) Identified the authority announcing the activity in regard of the non congruity.

MSME can adopt the appropriate techniques as depicted in Figure: 2 to address the non similarities. Six sigma alone doesn't carry anything new to the nature of deformities counteraction. Six sigma is minimal in excess of an old evaluation procedure that centers around issues after they have just happened.

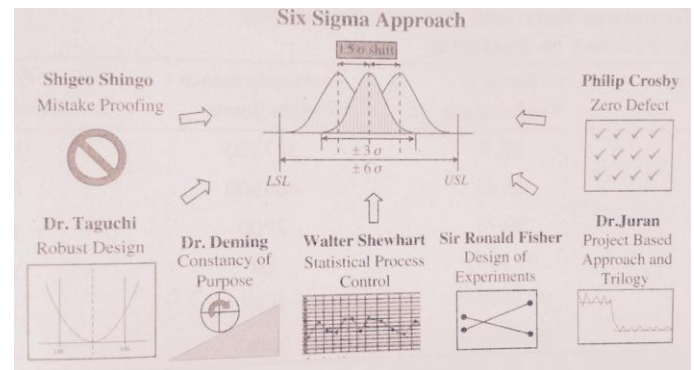


Fig -2: Various approaches for handling non conformance

4. CONCLUSIONS

The majority of the MSME's don't yield shrouded advantages of ISO 9001:2015 post Certification. Boundless prospects could be investigated to become world class specialist co-op and improve the procedure execution by pushing the constraints of Quality Excellence. MSME's taking an interest in Quality and business awards would fetch a chance to improve all activities ceaselessly and a framework to gauge these enhancements quantitatively. It's a high time for certified MSME's to receive Benchmarking apparatus to gain competitive advantage.

ACKNOWLEDGEMENT

1. Dr. Rohan Senanayake, Professor and HOD, Department of Mechanical Engineering, Lincoln University College, Malaysia
2. Dr. Arindam Das, Dean, Lincoln University College, Malaysia

REFERENCES

1. ISO 9004, Managing for the sustained success of an organization
2. (1978) Strategies for Applied Research Management. National Academies Press
3. Foster JJ, Barkus E, Yavorsky C (2006) Understanding and using advanced statistics. SAGE Publications
4. Rawlings JO, Pantula SG, Springer DAD Applied Regression Analysis: A Research Tool, Second Edition

5. Okoli C, Schabram K (2010) Working Papers on Information Systems A Guide to Conducting a Systematic Literature Review of Information Systems Research A Guide to Conducting a Systematic Literature Review of Information Systems Research
6. Assarlind M, Gremyr I (2014) Critical factors for quality management initiatives in small- and medium-sized enterprises.
7. Murphy WH, Leonard D (2016) Quality management (QM) leads to healthier small businesses.
8. Kumar M, Khurshid KK, Waddell D (2014) Status of Quality Management practices in manufacturing SMEs: A comparative study between Australia and the UK.
9. Sfakianaki E, Kakouris AP (2018) Obstacles to ISO 9001 certification in SMEs.
10. ISO 10001, Customer satisfaction
11. Heras-Saizarbitoria I, Boiral O (2013) Ceremonial Adoption of ISO 9000 in SMEs: The Role of Internal Contingencies.
12. Kakouris A, Sfakianaki E (2019) Motives for implementing ISO 9000 – does enterprise size matter?
13. (PDF) Critical factors to Quality Management System implementation: Relevant literature review 1992-2012. <https://www.researchgate.net>
14. Psomas EL, Fotopoulos C V., Kafetzopoulos DP (2010) Critical factors for effective implementation of ISO 9001 in SME service companies.
15. ISO 10002, Guidelines for Compliant handling
16. ISO 10003, Guidelines for dispute resolution
17. ISO 10004, Guidelines for Monitoring & measurement
18. ISO 10005, Guidelines for Quality Plan
19. ISO 10014, Guidelines realizing financial & economic benefits
20. ISO 10015, Guidelines for Training
21. ISO 10018, Guidelines on people involvement and competence

BIOGRAPHIES



Author has two decades of professional experience and holds Bachelor's and Master's in Mechanical Engineering and a Marine Engineering Degree. Author has conducted more than two thousand third party audits across twelve counties which granted an opportunity to interact with more than two thousand Quality Management Professionals/CEO's/Owners/Proprietors/Workers to understand the core of The Quality Management System.