

Quality Management Systems

Fostering globally competitive organisations through qualitative processes and outputs

"Quality is never an accident; it is always the result of high intention, sincere effort, intelligent direction and skillful execution; it represents the wise choice of many alternatives" William Foster

In order to sustain a competitive position, modern organisations ought to successfully formulate and execute a business strategy to drive the company's ability to generate value-creating capabilities that contribute to operational excellence. This strategy is determined by key internal resources and capabilities that are the primary source of profit for the company. Quality Management Systems underpin the service excellence required to compete in the current competitive and volatile global economy and is therefore critical to the post-modern survival of any organisation. A Quality Management System (QMS) is a collection of processes, procedures and policies applied to the planning, production and execution of products and services across the core business areas of an organisation. QMS is an integrated approach that enables the organisation to identify, measure, control and improve the various core business processes that will ultimately lead to improved business performance, customer satisfaction and future sustainability.

Benefits of attending this exciting interactive workshop include:

- Increasing organisational productivity through exposure to the latest global trends
- Empowering your organisation with the tools and strategies necessary to overcome internal and external challenges that directly affect quality within your organisation
- Tailoring a Quality Management Systems framework that cuts to the continuity of your organisation
- Streamlining your organisational processes to improve efficiency
- Generating a return on investment from your Quality Management Systems
- Mitigating risk and failure modes across your organisation
- Conducting effective audits of your organisation to improve qualitative strategic planning, organisational processes and organisational output
- Ensuring an organisational culture of excellence and constant improvement

Proposed Programme (Subject to Change)

Day 1

This two (or three) day workshop commences with a series of sessions exploring Measurement System Analysis (MSA). MSA is a specially designed experiment that seeks to identify the components of variation in the measurement. Just as processes that produce a product may vary, the process of obtaining measurements and data may have variation and produce defects. A Measurement Systems Analysis evaluates the test method, measuring instruments, and the entire process of obtaining measurements to ensure the integrity of data used for analysis (usually quality

analysis) and to understand the implications of measurement error for decisions made about a product or process. By the end of this series of sessions delegates will be able to effectively analyse the collection of equipment, operations, procedures, software and personnel that affects the assignment of a number to a measurement characteristic.

Session One

Highlighting the considerations made in the process of MSA

- Selecting the correct measurement and approach
- Assessing the measuring device
- Evaluating procedures & operators
- Reviewing any measurement interactions
- Calculating the measurement uncertainty of individual measurement devices and/or measurement systems

Session 2

Exploring the various components that form the function and implementation of MSA

- Eliminating bias in the testing methods and gauges used in MSA processes
- Ensuring stability and consistency in the methodology of measurements to ensure accuracy
- Creating linearity to facilitate a logical, seamless flow of information throughout your MSA processes
- Designing your MSA processes in a manner which enables repeatability and reproducibility
- Performing an accurate attribute study to better understand your MSA framework
- Looking at practical examples for calculating Bias, Stability, Linearity, Repeatability and reproducibility, Attribute study

Session 3

Accounting for the internal and external factors which have a direct impact on measurement systems

- Equipment: measuring instrument, calibration, fixturing, etc
- People: operators, training, education, skill, care
- Process: test method, specification
- Samples: materials, items to be tested (sometimes called "parts"), sampling plan, sample preparation, etc
- Environment: temperature, humidity, conditioning, pre-conditioning, and more recently, the reality and the impact of climate change
- Management: training programs, metrology system, support of people, support of quality management system, etc

Day one of this interactive training workshop will end with an introduction to a series on sessions on **Failure Modes and Effects Analysis (FMEA)**. FMEA is a procedure for analysis of potential failure modes within a system for classification by severity or determination of the effect of failures on the system. Failure modes are any errors or defects in a process, design, or item, especially those that affect the customer, and can be potential or actual. *Effects analysis* refers to studying the consequences of those failures. At the end of this series of sessions, delegates will be empowered to steer their organisations in:

- Improving the detection of failure modes

- Reducing the occurrence of the failure modes
- Eliminating the failure mode
- Minimising the severity of failures

Session 4

Gaining a working knowledge of the various types of FMEA

- Process: analysis of manufacturing and assembly processes
- Design: analysis of products prior to production
- Concept: analysis of systems or subsystems in the early design concept stages
- Equipment: analysis of machinery and equipment design before purchase
- Service: analysis of service industry processes before they are released to impact the customer
- System: analysis of the global system functions
- Software: analysis of the software functions

Session Five

Harnessing the strategic importance of FMEA and utilising this tool in a plethora of ways to benefit your organisation

- Designing a system requirements that minimise the likelihood of failures
- Developing of methods to design and test systems to ensure that the failures have been eliminated
- Evaluating the requirements of the customer to ensure that they do not give rise to potential failures.
- Identifying certain design characteristics that contribute to failures, and minimising or eliminating those effects
- Tracking and managing potential risks in the design - avoiding the same failures in future projects
- Ensuring that any failure that could occur will not injure the customer or seriously impact a system.
- Producing the world class, globally competitive quality products

Day 2

The second day of this training workshop continues where the last session of the first day left of – the subject of FMEA. Today's FMEA sessions focus on the steps, and advantages of implementing FMEA across an organisation.

Session One

Applying the practical steps necessary for the implementation of FMEA

- Severity – determining all failure modes based on the functional requirements and their effects
 - Recognising that a failure mode in one component can lead to a failure mode in another component
 - Understanding failure effects as the result of a failure mode on the function of the system as perceived by the user
- Occurrence - looking at the cause of a failure and how many times it occurs.
 - Looking at similar products or processes and the failures that have been documented for them.
 - Identifying and documenting all the potential causes for a failure mode, and giving them an occurrence ranking
- Detection – testing the efficiency of appropriate actions
 - Selecting the proper and appropriate inspection methods

- Identifying testing, analysis, monitoring and other techniques that can be or have been used on similar systems to detect failures
- Ranking the ability of planned tests and inspections to remove defects or detect failure modes in time
- Effectively utilising Risk Priority Numbers (RPN) in FMEA
 - Recognising the role of RPN as threshold values in the evaluation of these actions arising from FMEA.
 - Valuing and ranking RPN – realising that it is not always the failure modes with the highest severity numbers that should be treated first
 - Recommending actions with targets, responsibility and dates of implementation

Session Two

Exploiting the advantages of FMEA for your organisation

- Improving the quality, reliability and safety of a product/process
- Improving company image and competitiveness
- Increasing user satisfaction
- Reducing system development timing and cost
- Gathering information to reduce future failures, capture engineering knowledge
- Reducing the potential for warranty concerns
- Identifying and eliminating potential failure modes at an early stage
- Emphasising problem prevention
- Minimising late changes and associated cost
- Employing FMEA as a catalyst for teamwork and idea exchange between functions

Capability Maturity Model Integration (CMMI) is a process improvement approach that provides organisations with the essential elements for effective process improvement. It can be used to guide process improvement across a project, a division, or an entire organisation. By the end of this series of sessions dealing with this subject matter, delegates will be equipped to integrate traditionally separate organisational functions, set process improvement goals and priorities, provide guidance for quality processes, and provide a point of reference for appraising current processes.

Session Three

Generating a deeper understanding and capitalising on the benefits of CMMI

- Creating informative model components that contain information relevant to a particular discipline
- Achieving process improvement within individual process areas through capability levels, and defining this improvement by the appropriate specific and generic practices for the process areas.
- Generating CMMI models from the CMMI Framework
- Prioritising a continuous representation structure - providing a recommended order for approaching process improvement within each specified process area through capability levels
- Setting generic goals – describing the characteristics that must be present to institutionalise processes that implement a process area.
- Implementing generic practice activities that are expected to result in achievement of generic goals
- Embracing generic practice elaborations - providing guidance on how the generic practice should be applied to a process area

- Evaluating maturity levels to achieve the desired degree of process improvement across a predefined set of process areas in which all goals in the set are attained.
- Undertaking staged representation - attaining the goals of the set of process areas to establish a maturity level, thereby enabling each level to build a foundation for subsequent levels
- Providing guidance for interpreting and implementing specific or generic practices through effective sub practices

Session Four

Performing a critically analytical CMMI Appraisal for process and performance improvement

- Determining how well the organisation's processes compare to CMMI best practices
- Identifying areas where improvement can be made
- Informing external customers and suppliers about how well the organisation's processes compare to CMMI best practices
- Meeting and exceeding the contractual requirements of one or more customers
- Empowering your appraisal teams to use a CMMI model and ARC-conformant appraisal method to guide their evaluation of your organisation and their reporting of conclusions
- Capitalising on information received from appraisal results to effectively plan improvements for your organisation
- Exploring the Standard CMMI Appraisal Method for Process Improvement (SCAMPI) which meets all of the ARC requirements

Session Five

Comparing traditional and modern ways in which you can achieve CMMI Compliance

- Establishing an Engineering Process Group (EPG) and Process Action Teams (PATs)
- Training members of the EPG and PATs be trained in the CMMI
- Performing an informal yet effective (SCAMPI) appraisal on your EPG and PATs and prioritising process areas for improvement
- Significantly reducing the time to achieve compliance by deploying commercially available, CMMI-compliant processes

Why you cannot miss this event:

Competing internationally places emphasis on quality standards coupled with indisputable ethics. You may have heard of terms such as 'Quality Assurance' and 'Total Quality Management', however, Quality Management Systems because of their technical and strategic importance to the corporate governance, business process and profit inducing output of an organisation bring about a very different focus in the manner in which qualitative productivity is to be achieved within your organisation. QMS will streamline your business functions and outputs, eliminating unnecessary processes and mitigating risks across your organisation.

Exploring and implementing the latest global trends, recommendations and standards will position your organisation to attract and retain foreign investment, guarantee customers quality service and product delivery which will generate the kind of customer loyalty that produces triple bottom line. In dynamic economic and market conditions, it is imperative that you arm your organisation with the kind of qualitative productivity that provides your organisation with a sense of resilient and

ever improving quality. This is definitely a training workshop that you do not want to miss.

Presented by:

Anita Arendsen

Business Strategist, Consultant and Co Founder.

Edacom, South Africa

Edacom is a management consulting company offering superior end-to-end strategic and organisational development solutions. The success of Edacom is due to the skills and capabilities of its professional resources, coupled with extensive experience in the fields of Human Resources, Strategy Alignment, Change Management and Enterprise Development expertise. Our strategy is to serve the unique needs of:

- Organisations – through the facilitation of quality management systems, strategy alignment and change management, which encompasses leadership and skills development training;
- Individuals – through career planning, coaching, mentoring and individualised skills development solutions.

About your facilitator:

Anita Arendsen is co-founder of Edacom CC, which has been operating since 2004. As COO, Anita brings a wealth of management experience gained over 29 years in a number of fields including management, customer service, operations, risk, health and safety, human resources, marketing, financial, supply chain, sales, customer relationship management and contact centre. Anita's dynamic enthusiasm toward assisting both customers and staff, strong interpersonal skills and drive for high achievement is uniquely coupled with an exceptional ability to analyse business needs and build rapport with value chain management on all levels.

Anita's qualifications include a MBA, Lead Auditor: QMS ISO 9001:2008, a National Diploma in Treasury Management & Trade Finance and a National Diploma in Financial Services: Credit, The Expert Negotiator, Financial Management, Project Management, International Banking and Product Management. In addition to these achievements, Anita is an accredited facilitator on a number of NQF levels registered with SAQA. The materials which Anita researched developed and designed for her workshops and strategy interventions have been accredited with The South African Board for People Practice (SABPP) ETQA.

Anita is currently furthering her studies with a PHD in Organisational Behaviour which she is studying through the University of Pretoria. Anita intends to be best positioned to provide, stimulate, and leverage the agility that businesses will need to accommodate the accelerating changes that will typify business sustainability and survival into the future.

Accreditation

This programme is accredited with the South African Board for People Practices (SABPP) ETQA on NQF level 5. On completion of the programme and portfolio of evidence, participants will receive a certificate of competence, bearing 20 credits.