

QM Strategic Initiatives

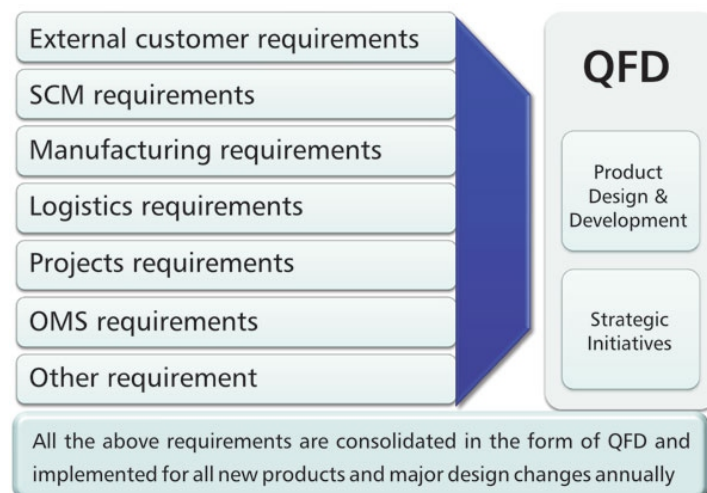
To reduce all types of incoming sources of variation in both product characteristics as well as process characteristics, to improve quality, reliability, performance of the product, customer satisfaction and reduce cost, some of the major global quality management initiatives that encompass the entire organization are:

- **Voice of Customer (VOC)**
- **Quality Function Deployment (QFD)**
- **New Product Development – Stage Gate Methodology**
- **Design Change Management – Stage Gate Methodology**
- **Supplier Quality Management(SQM)**
- **Skill & Competency Enhancement Programs (JSEP, SCEP, QCEP)**
- **PDCA Methodology**
- **Audit Management**
- **Quality Improvement Projects (DMAIC & 8D)**
- **Quality Improvement Forums**
- **Suzlon Excellence**
- **Program Management**

A glance at the attached graph helps determine the importance of VOC as a process and establishes the need for its implementation as one of our strategic initiatives.

VOC is a structured method by which to transmit and translate customer requirements. Through each stage of the product development and production process, that is to say, throughout the product realization cycle, these requirements would mean a collection of customer needs, including all satisfiers, excitors/delighters as well as dis-satisfiers.

Voice of the customer collected across the value chain from time to time gets integrated to the product design and development and also to Suzlon's strategic initiatives.



This is followed for all major product development and also on an annual basis, irrespective of new product development.

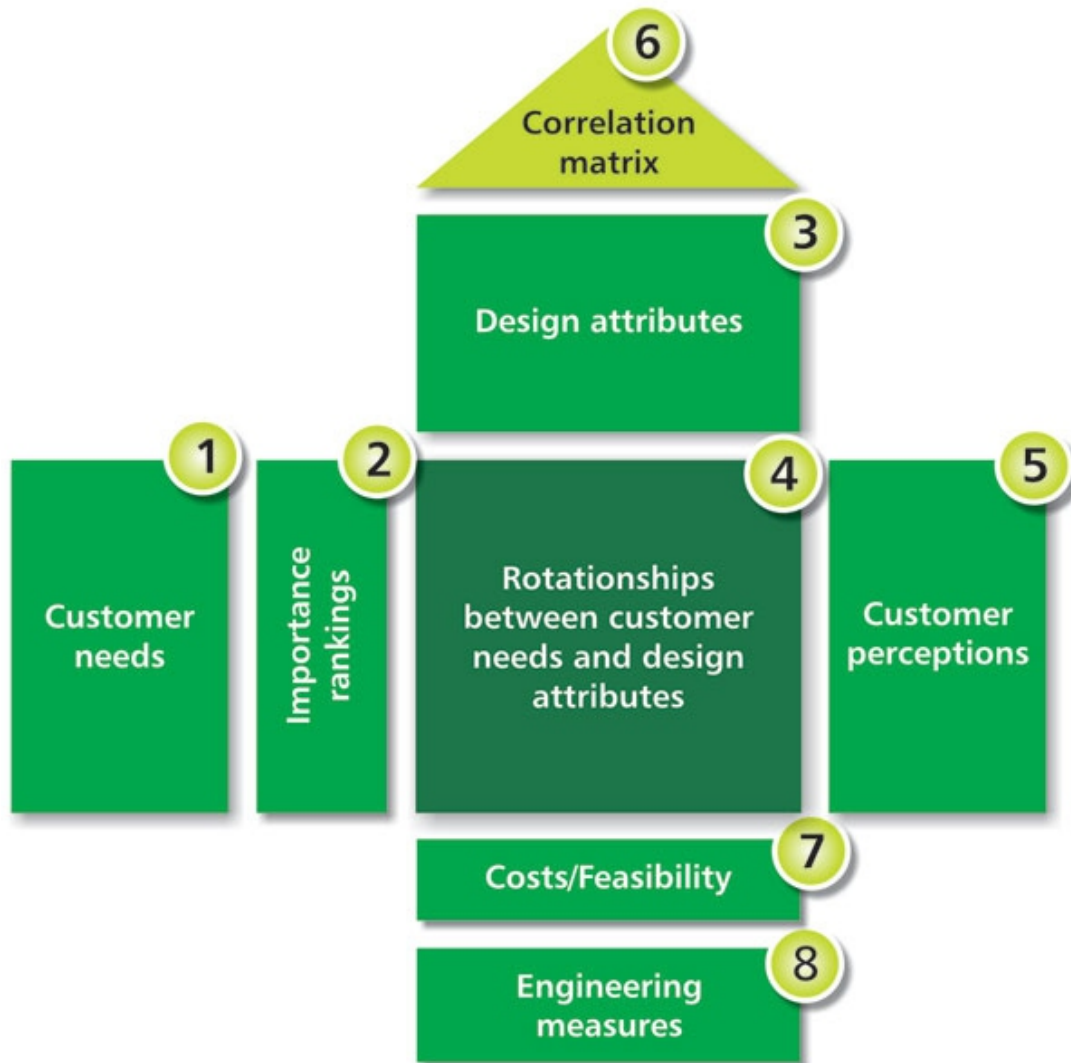
2. Quality Function Deployment (QFD):- A glance at the attached figure helps determine the importance of QFD as a process and establishes the need for its implementation as one of Suzlon's strategic initiatives:



QFD requires a base and structured method with which it could be deployed and to this effect, the House of Quality was found to be the most effective method that enables capturing customers stated as well as implied needs, helps identify design attributes, relate customer requirements with the design attributes resulting in an evaluation of the customer perception in comparison to the benchmarked design attributes so as to establish firm targets and determine specific design attributes that need to be deployed during the remaining process.

QFD is being initiated at Suzlon by deploying House of Quality at various levels in design, manufacturing, projects and OMS.

The House of Quality



House of Quality deployment at Suzlon helped to identify customer stated and implied needs. It led to identification of design attributes and customer perception. Finally, they are converted to engineering measures considering cost and feasibility. This process has been deployed and being practiced for all new product developments.

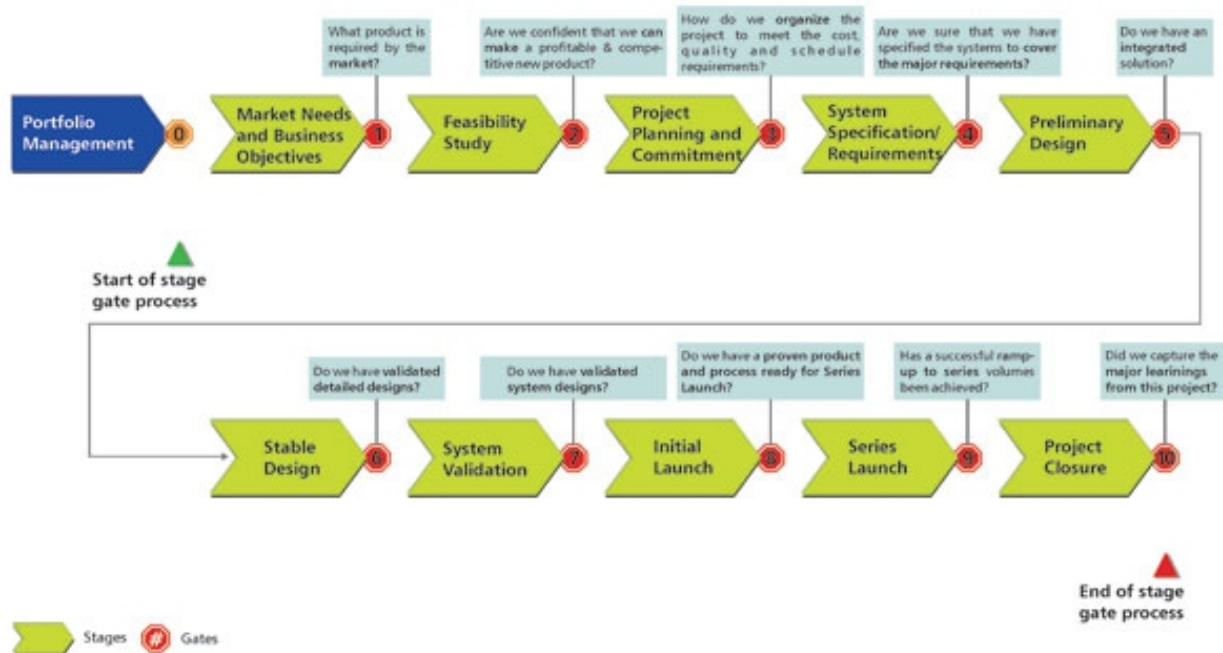
3. New Product Development (NPD):- The NPD method is stringently followed in the definition of what a new product is with clear responsibilities and removal of overlapping roles. Work is divided into small tasks creating well defined work packages linked to organization structure and roles of the entire value chain.

A clear product strategy for product development/product life cycle considerations systematically linked to Suzlon's strategy and eventually leading to definition of technology strategy taking into consideration market/customer needs using quality function deployment (VOC/QFD).

Processes which could support development of new products are strengthened with effective internal gates with sufficient capitalized experience from one project to another and testing/prototyping/0-series to serial processes being applied.

Stage gate methodology for new product development ensures:

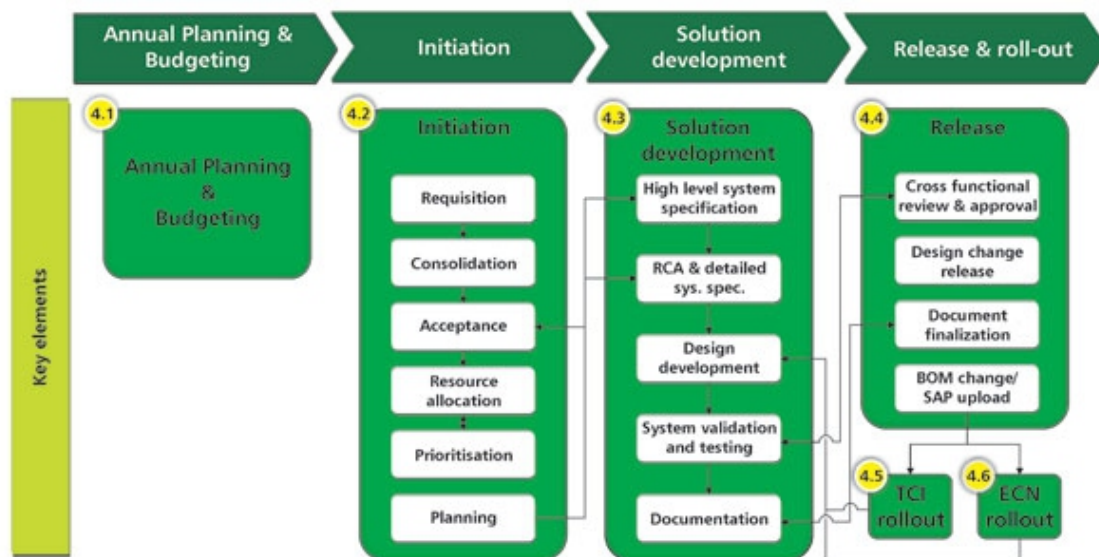
- Customer focused new product, ideally with clear differentiation factor
- Heavy front-end homework before development begins
- Spiral development-loops with users throughout development
- Holistic-effective cross-functional teams as a major key to reduce cycle time
- Metrics, accountable teams, profit/loss reports for continuous learning
- Focus and portfolio management with funnelling approach
- Lean, scalable and adaptable stage-gate process



4. Design Change Management – Stage Gate Methodology:-

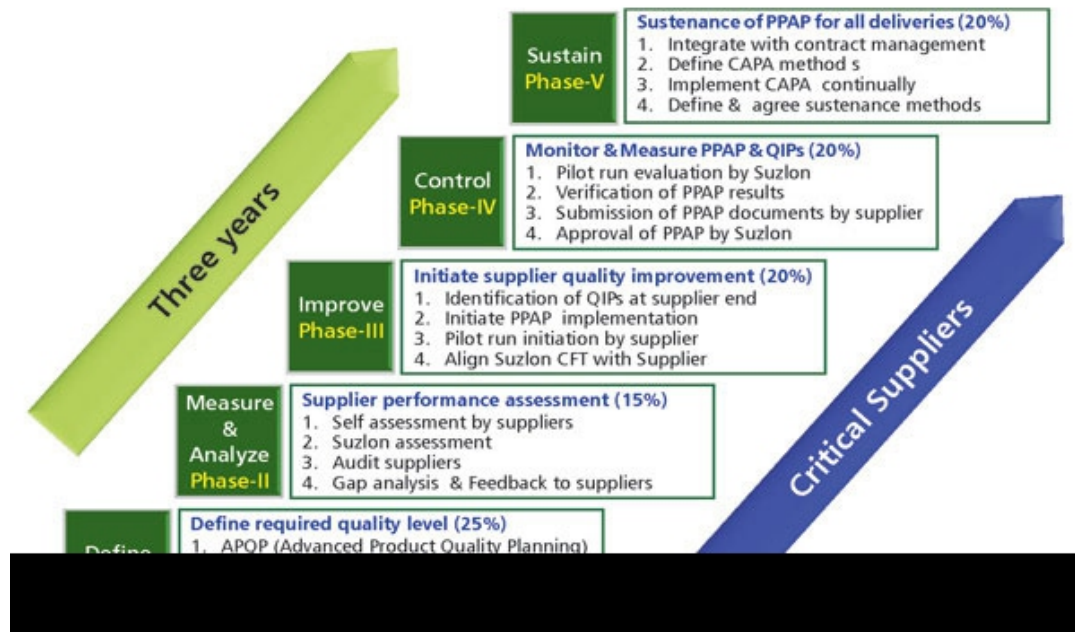
The major objectives of the DCM process at Suzlon are:

- Pre-agreed budget and resource allocation for each product and overall targets
- Techno-commercial evaluation and prioritization of change requests and upfront project planning
- Cost, quality and time service level agreements for solution development
- Stage gate processes including sufficient testing and validation
- Version release post cross functional commercial reviews
- Coordinated implementation of changes in Manufacturing, Projects and OMS.



5. Supplier Quality Management (SQM):

The Supplier Quality Management Program covers the value chain supplies related to manufacturing, projects and OMS. In order to assist our suppliers in helping us achieve our priorities and focus areas, we have adopted Suzlon Global Supplier Quality Management Standard that provides guidance and direction to our supplier base and our internal functions. As an extension of this initiative, Suzlon has deployed Quality Product Engineering, Operations, Supplier Quality Assurance and Supplier Development personnel to understand supplier's existing capacity, technology, infrastructure, expertise and quality management systems, and strategies which would play a pivotal role for a collaborative engagement to ensure continuous improvements and deliver a product of the best quality, lowest cost, global reach, and innovative technology.

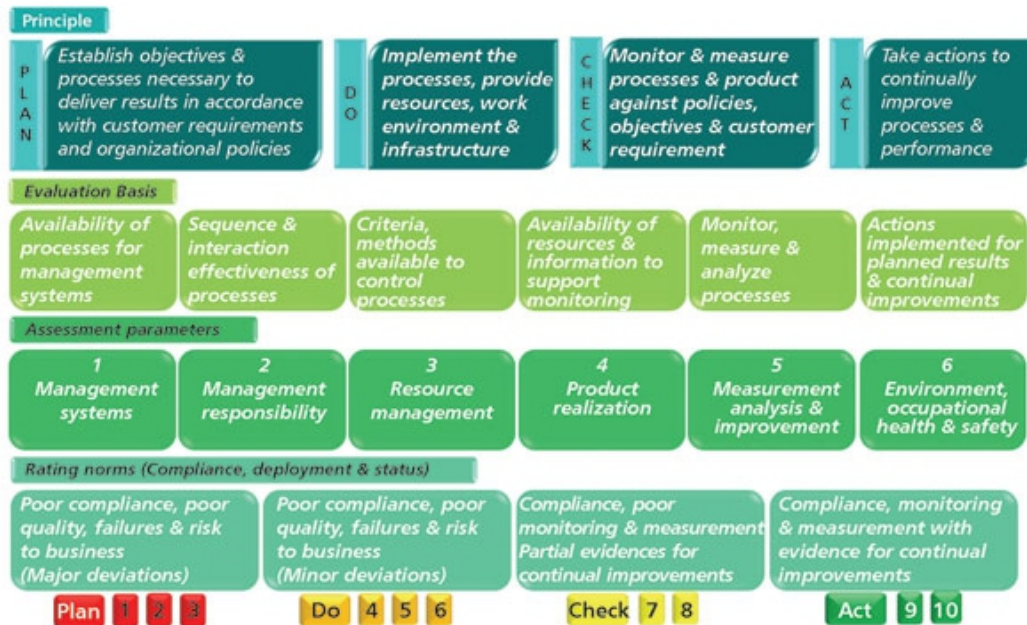


SQM would further lead to monitoring and measuring of the PPAP and QIP implementation that would call for activities such as pilot run evaluation by Suzlon, verification of PPAP results, submission of PPAP documents by supplier and approval of PPAP by Suzlon to ensure the initiative is monitored and controlled in alignment with Suzlon's SQM program. This program envisages a two way improvement and progress for Suzlon as well the suppliers that are a part of this program.

6. Skill and Competency Enhancement Programs (JSEP, SCEP, QCEP):

This is a 4-Quadrant method that has been initiated to all operators, technicians, engineers, supervisors, managers, and top management of design, manufacturing, projects, OMS, and corporate support services. The skill and competency enhancement program is focused on reducing/eliminating incoming sources of variation (man, machine, method, material, measurement and mother nature) while achieving the product characteristics and process characteristics with the Junior Skill Enhancement Program, Senior Competency Enhancement Program and Quality Competency Enhancement Program across the organization.

PDCA being adopted as a process at Suzlon, has assisted in effective evaluation and rating of processes, systems and people based on the principles of Plan, Do, Check and Act to understand the current level of effectiveness of QMS in the areas of quality, environment and safety. The PDCA evaluation exercise is followed as a continual annual exercise at Suzlon.

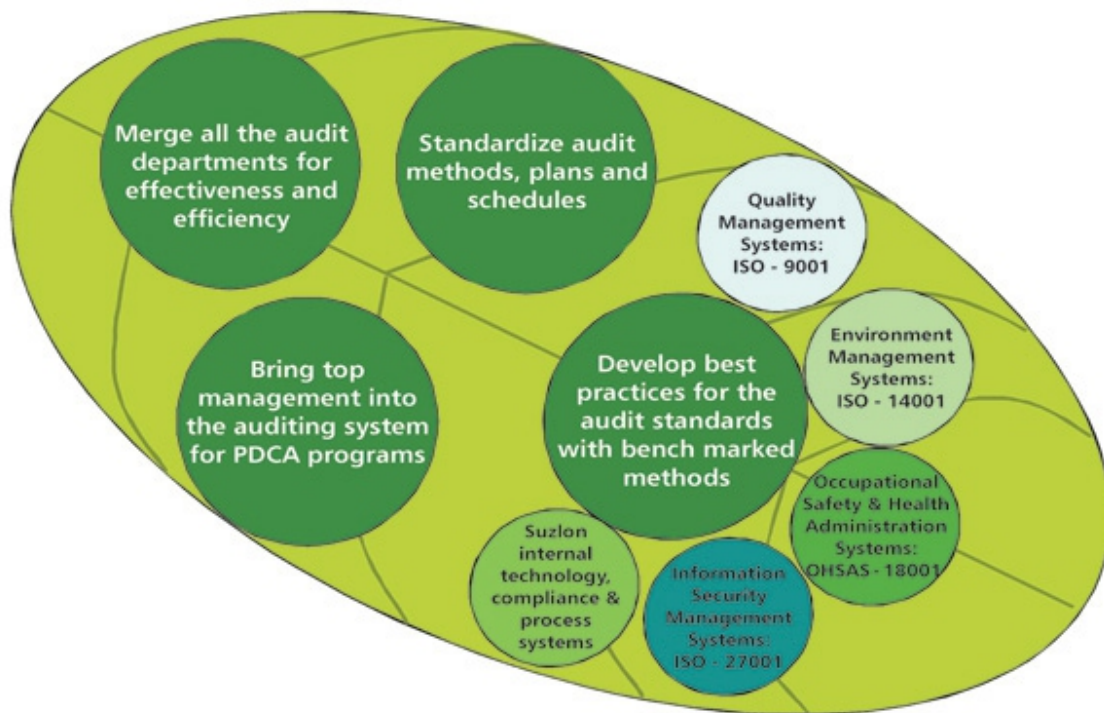


With such clear guidelines and metrics for measurement of progress and improvement, Suzlon value chain elements have enabled the scope for driving their quality improvements with periodical assessment of progress and process redefinitions to fill the identified gaps as per defined milestones and this would further lead to excellence in processes, people and systems and finally to benchmarking quality levels.

8. Audit Management

Suzlon has enabled effective integration of the internal audit departments with standardized audit methods, plans and schedules. Top management support with active involvement and participation in audit programs helps leverage opportunities for effective team engagement as well as taking corrective and preventive actions for all deviations observed and also provide appreciation for noteworthy points found during the audit process.

To enhance responsiveness to audit management, a pre-defined annual calendar to perform audits, to take corrective and preventive actions and report to all stakeholders about the scope for improvement on a continual basis has been adopted.



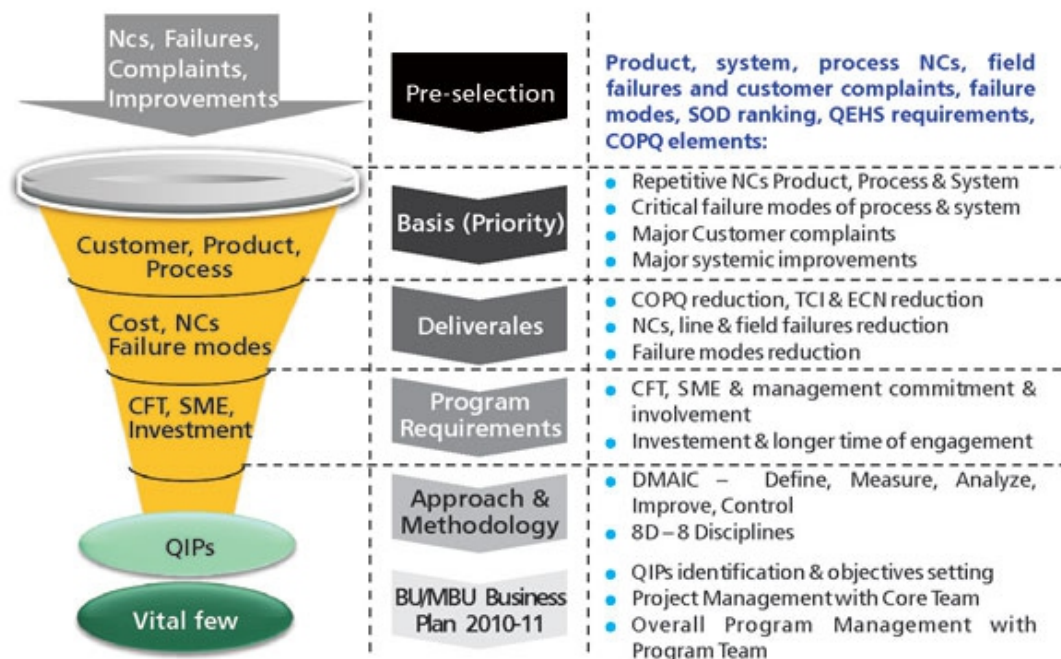
9. Quality Improvement Projects (QIP):

As per the business plan of each year, we have created a baseline through various quality initiatives which supports QIP selection process taking into consideration product, system, process non conformances, field failures and customer complaints, failure modes, SOD ranking, QHSE requirements COPQ elements etc. Repetitive non conformances of product, process and system, critical failure modes of process and system, major customer complaints, major systemic improvements are the facts considered while considering priority of projects.

These issues are being addressed through a continual improvement process with a focused approach, subject matter experts, a cross functional team and strong program management.

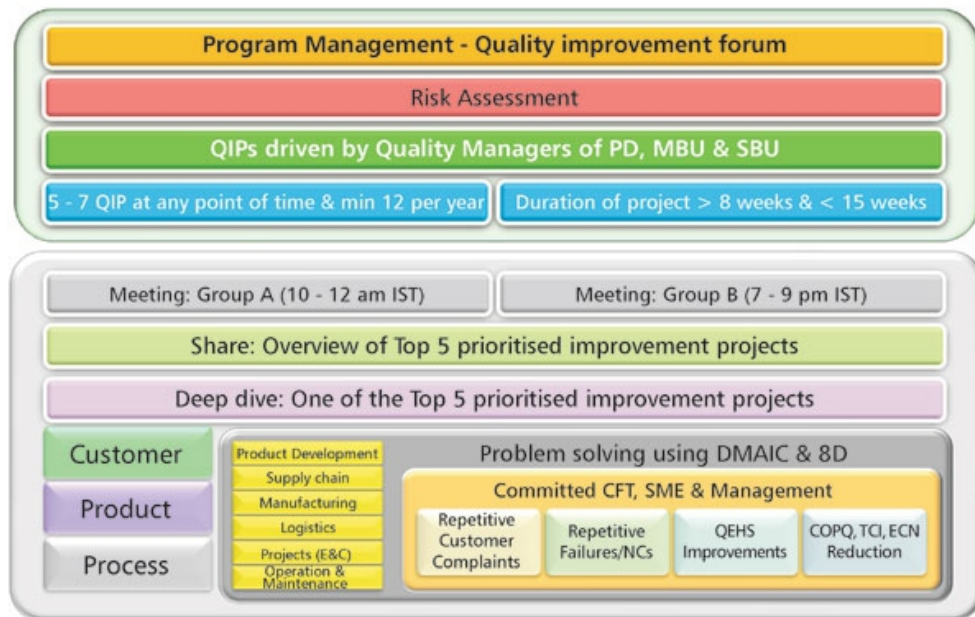
Methodologies being employed in deployment of QIPs are the DMAIC and/or 8D after selection of vital few QIPs, which are implemented with overall program management with the program team.

Implementation of QIPs is helping augment learning through sharing of best practices and high customer satisfaction.



10. Quality Improvement Forum (QIF):

To proactively drive quality improvement projects with proper project management and a structured approach to ensure learning and achievements could be deployed horizontally, the Quality Improvement Forum has been initiated by the Quality Management Organization whereby the overall program approach and plan is defined and shared with the quality managers of countries, manufacturing units, design development units and corporate support groups.



The QIF encourages collaboration between the value chain functions with respect to quality improvement progress, status and learning, encompassing six dimensional areas of:

Team Work

- How to ensure cross functional expertise is used?
- How to keep team members motivated?
-

Timely completion and roll out

- How to ensure timely completion of a project
- How to ensure the roll out of a project is done
-

Metric tracking

- How to ensure a metric is tracked regularly

Identification of improvement areas

- How was the identification of improvement areas done
- How to initiate projects proactively

Quality tools and methods

- What kind of quality tools were used? DMAIC, 8D, Six Sigma, 5 whys, Cause and effect diagrams, FMEA

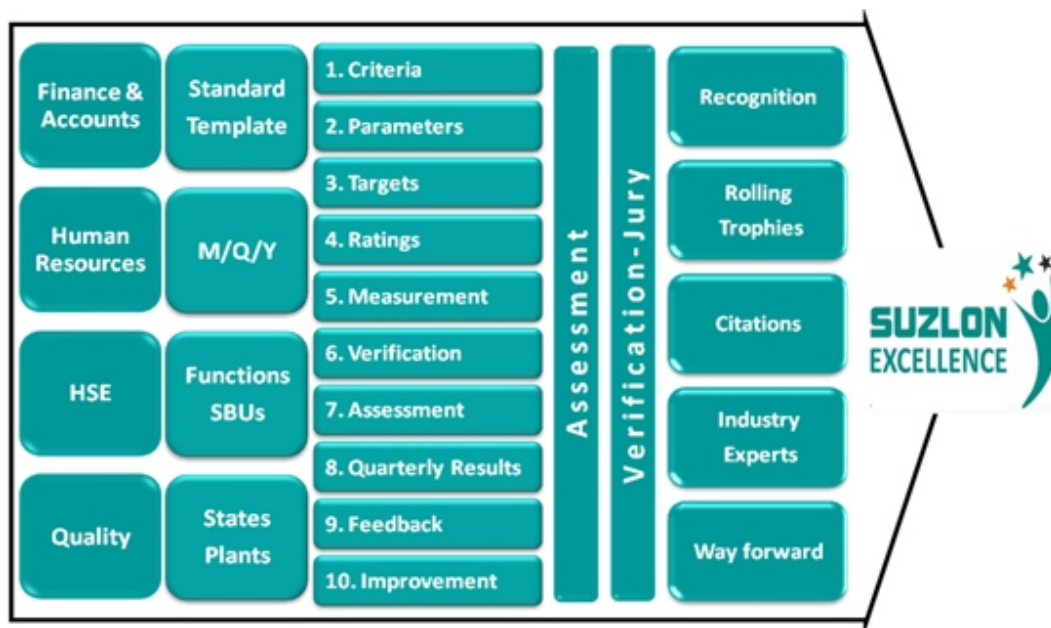
Mitigation of other key challenges

- What were the key challenges faced and how were they mitigated

11. Suzlon Excellence:

Suzlon Excellence is the recognition & award methodology intended to encourage organizational excellence. It is a model house of quality excellence with specific approach for implementation and execution.

Suzlon Excellence Model has clearly defined parameters on which the competitive efforts of the organization are being assessed in its quest of achieving quality excellence and continual improvements.

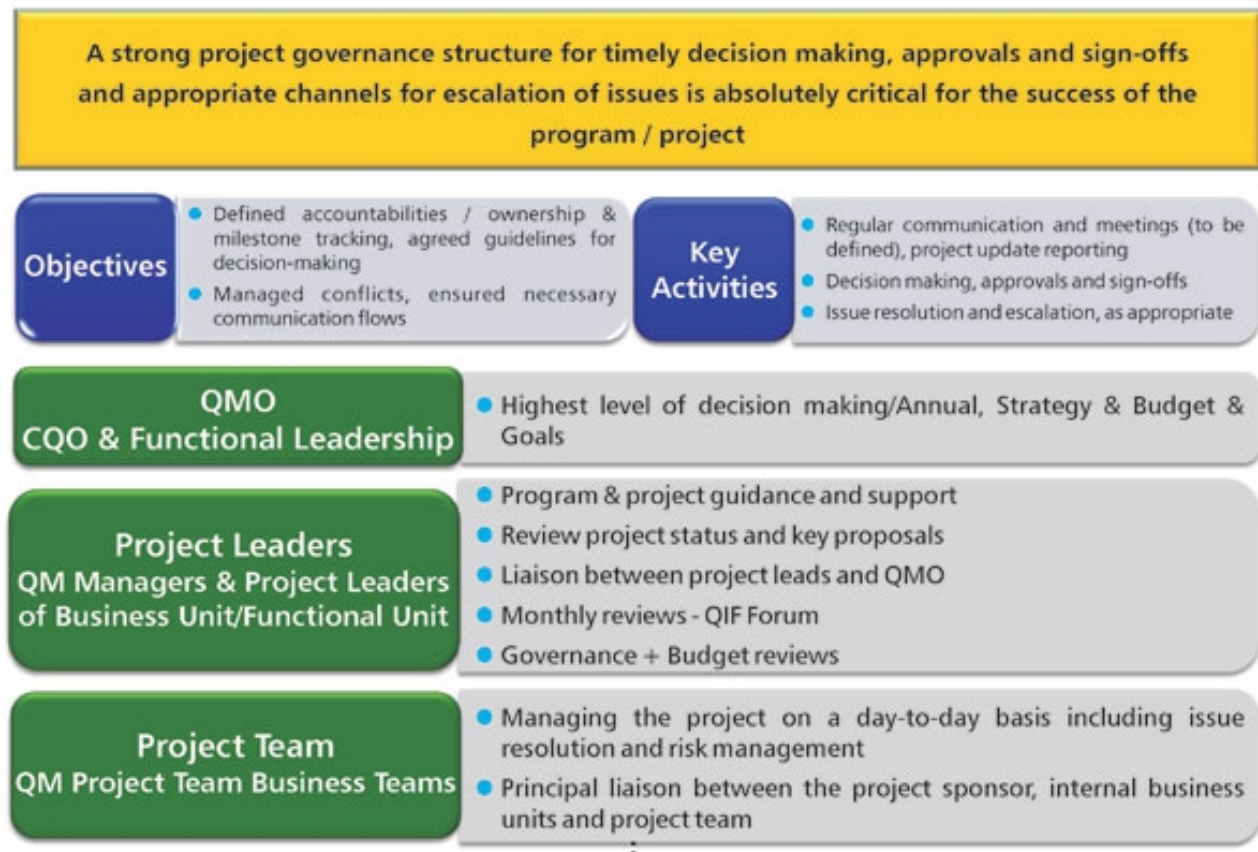


Suzlon Excellence criteria play an important role in strengthening Suzlon competitiveness in a manner that would:

- Help improve organizational performance practices, capabilities and results
- Facilitate communication and sharing of best practices information
- Serve as a working tool for understanding and managing performance and for guiding organizational planning and opportunities for learning.

12. Program Management:

Program management and governance go hand in hand. An effective program management is keeping Suzlon in line with the objectives and initiatives. Tracking and governance is helping integration of the quality management organization project leaders, project teams, cross functional team members as well as the business heads towards a common line of action.



It can thus be concluded that effective program management is an enabler of success, consistency, quality, and cost well managed within specified timelines.