# 3 Quality Management

3.1 Measuring Management Strategic information

Quality management system (QMS) can be expressed as the organizational structure, procedures, processes and resources needed to implement quality management. Early systems emphasized predictable outcomes of an industrial product production line, using simple statistics and random sampling. By the 20th century, labor inputs were typically the most costly inputs in most industrialized societies, so focus shifted to team cooperation and dynamics, especially the early signaling of problems via a continuous improvement cycle. In the 21st century, QMS has tended to converge with sustainability and transparency initiatives, as both investor and customer satisfaction and perceived quality is increasingly tied to these factors. Of all QMS regimes, the ISO 9000 family of standards is probably the most widely implemented worldwide - the ISO 19011 audit regime applies to both, and deals with quality and sustainability and their integration.

3.2 Documentation Systems Quality Management
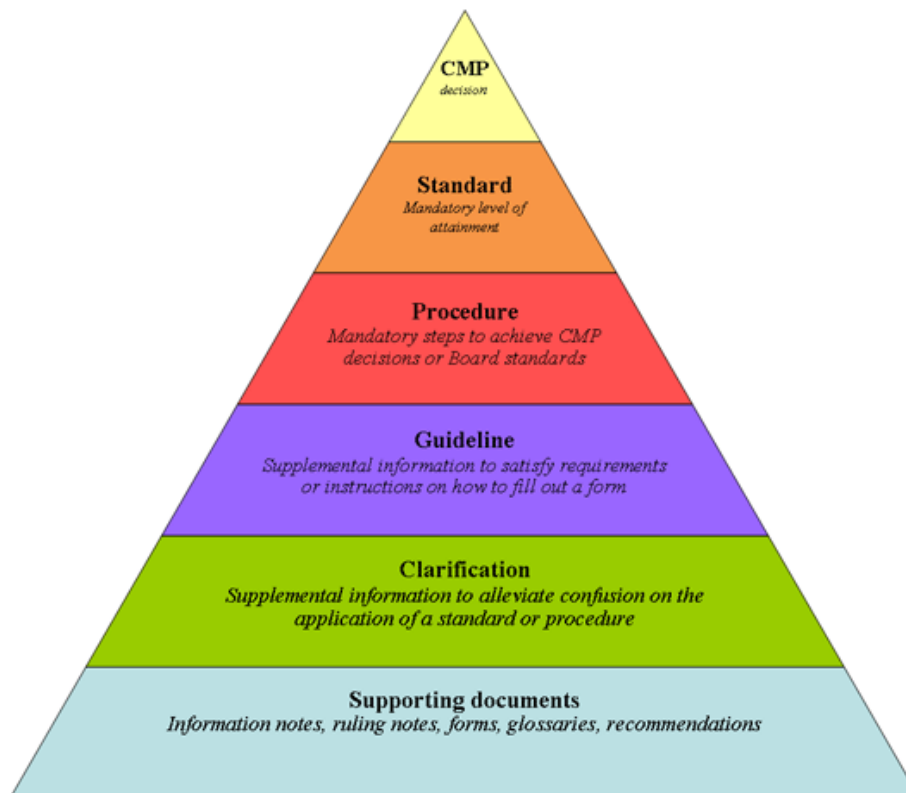
A quality system is the method used to ensure that the quality level of a product or service is maintained.

All documentation moves from one level to the next in a descending order. If the system is properly structured, changes at one level will seldom affect the level above it, but may affect those below.

Policy

The first tier of documentation is the policy manual. This is the document that defines what will be done and why. A quality policy manual should be written so it is clear, precise and practical, and easy to understand. The why can be stated just once as a quality policy statement. This statement should be a short, simple definition of the organization's quality intentions.

The remainder of the policy manual addresses that will be done to comply with the standard being used. Another way looking at the policy manual is to think of it as the commandments of the system. Each element of the standard is addressed individually and usually requires one page of less.

3.3 Contents of a Quality Procedure

The second tier of documentation is quality procedures. These procedures describe the methods that will be used to implement and perform the stated policies. The procedures define who should perform the specific tasks, when the task should be done, and where the documentation will be made showing that task was performed.

They indicate the strategies that will be used to ensure the quality of the system. Procedures are more detailed than policies; whoever, they, too, should be written in a manner that will allow for easy understanding. It should be noted that procedures are not required for all elements. Many organizations combine the policy and procedures into one document. A procedure is needed if its absence would adversely affect the activity.

Work Instructions

Work instructions are usually department, machine, task, or product oriented a spell how a job will be done. The instructions are the most detailed of the documentation hierarchy. A work instruction may be in the form of a detailed drawing, recipe, routing sheet, specific job function (for example, turn nut four turns clockwise), photograph, video, or simply a sample for comparison or conformity.

The writing of work instruction is best carried out by the employee who performs the task. This person knows the process and problems encountered in that process. However, a documentation specialist may needed to do actually writing. This method also creates a pride of ownership in the document, making it more likely to be carried out. Additionally, employee participation helps to ensure that future improvements will be suggested. Not every task requires a work instruction. For example, you don't need to tell a computer specialist to turn on the PC.

Records

Records are a way of documenting that the policies, procedures, and work instructions have been followed. Records may be forms that are filled out, a stamp of approval on a product, or a signature and date on some type of document, such as routing sheet. Records are used to provide traceability of actions taken on a specific product or batch of products. They provide data for corrective actions and a way of recalling products, if necessary.

3.4 Format of a Quality Procedure

The International Organization for Standardization maintains a series of standards for ensuring quality. The ISO 9001 standard requires that a compliant company has a set of procedures, monitoring processes, documentation, defect checking and regular reviews to facilitate continuous improvement. To become certified, a company is audited by an independent body to demonstrate that it has established these formal business processes and procedures. You must also conduct internal audits yourself to ensure the system is working. An audit reveals the descriptions, written references and usage validation as well as whether the procedure is actually helping to improve quality.

Quality Management Systems Procedure Development

Quality is a subjective term that typically means a product or service meets. The ISO 9000 family of standards is based on eight quality management principles: customer focus, leadership, people involvement, process approach, system approach, continuous improvement, decision making and good supplier relationships. Define procedures to help you understand your current and future customer requirements. Align activities to a clearly articulated vision and strategic goal. Involve employees and make them responsible for their actions. Define procedures that use resources effectively and imaginatively. Integrate procedures to ensure consistency and adherence. Plan to adjust procedures regularly to maintain a level of continuous improvement. Analyze data produced by procedures to make effective decisions. Minimize costs associated with procedures.

3.5 Implementation of Quality Management Systems

Benefits associated with ensuring quality as defined by the ISO quality standards include increased revenue and lower operational costs due to increased productivity. By incorporating and widely communicating quality procedures into your operations, you contribute to a consistent strategy and vision for all levels of your company. Encouraging creativity in response to problems found through the quality management process motivates innovative approaches.