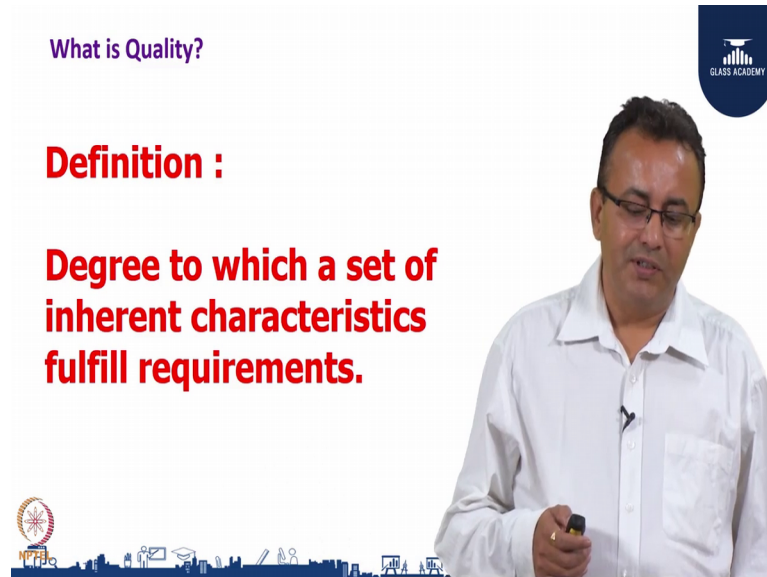


**Glass Processing Technology**  
**Prof. Anil Pant**  
**Department of Civil Engineering**  
**Indian Institute of Technology, Madras**

**Lecture – 71**  
**Introduction to Quality Management System (QMS)**

Welcome to the Introduction to Quality Management System (QMS)

(Refer Slide Time: 00:29)



What is Quality?


**Definition :**

**Degree to which a set of inherent characteristics fulfill requirements.**

The slide features a speaker, Prof. Anil Pant, on the right side. The background is white with a blue header and footer. The footer contains a row of small icons representing various engineering and quality management concepts.


So, before we start learning about quality management system, you must understand what is the definition of quality. Quality means degree to which a set of inherent characteristics of a product or service fulfilled requirement. In other words, we can call quality is a value for money.

(Refer Slide Time: 00:43)




**The *quality of an object* can be determined by comparing a set of inherent characteristics against a set of requirements. ( Customer specifications/EN/IS Standards)**

**If those characteristics meet all requirements; high or excellent quality is achieved but if those characteristics do not meet all requirements; a low or poor level of quality is achieved.**



So, the quality of an object can be determined by comparing set of inherent characteristics against a set of requirement like customer specification or EN or IS standards. If these characteristics meet all the requirements; higher excellent quality is achieved, but in this characteristics do not meet all the requirements specified by the customers or the applicable standard and low or poor level of qualities achieved.

(Refer Slide Time: 01:13)




**What is Quality Management?**

***Quality management* includes all the activities that organizations use to direct, control, and coordinate quality.**

**These activities include formulating a quality policy and setting quality objectives.**

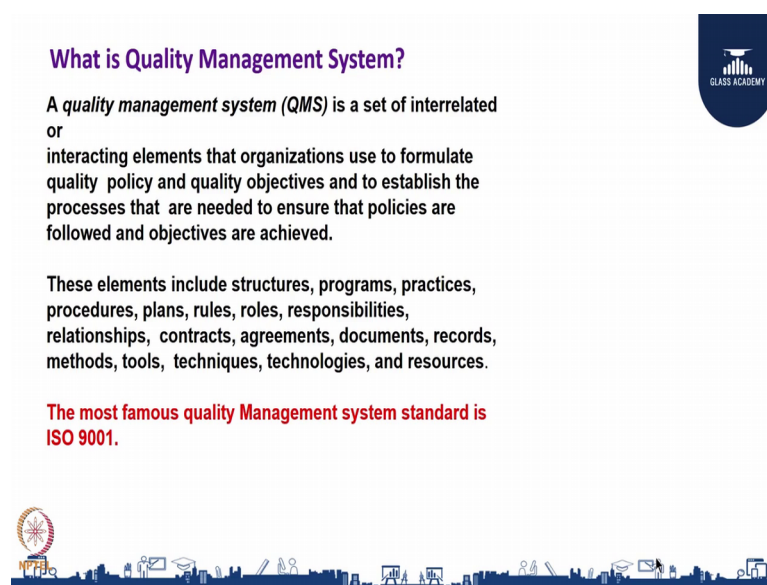
**They also include quality planning, quality control, quality assurance, and quality improvement.**



Now, let us understand what is quality management. Quality management includes all the activities the organization use to direct control and coordinate quality. These activities including formulating a quality policy and setting quality objectives.

The policy, it focuses on meeting the requirements, applicable requirements, customer satisfaction and continual improvement and quality objectives are setting target for timely delivery, rejections etcetera. So, the quality management also include quality planning, quality control, quality assurance and quality improvement.

(Refer Slide Time: 01:53)



**What is Quality Management System?**

A *quality management system (QMS)* is a set of interrelated or interacting elements that organizations use to formulate quality policy and quality objectives and to establish the processes that are needed to ensure that policies are followed and objectives are achieved.


These elements include structures, programs, practices, procedures, plans, rules, roles, responsibilities, relationships, contracts, agreements, documents, records, methods, tools, techniques, technologies, and resources.

**The most famous quality Management system standard is ISO 9001.**

Now, let us understand what is quality management system. QMS has a very popular interrelated standard in a form of ISO 9001. This standard sets of the requirement for making your company and internationally following an internationally recognized a management quality management system.

So, a quality management system is a set of interrelated or interacting elements that organization used to formulate quality policy and quality objectives and to establish the processes that are needed to ensure that policies are followed and objectives are achieved. This elements includes structures programs, practices, procedures, plans, rules, roles and responsibilities, contracts, agreements, documents, records, methods, tool technique, technologies and resources.

(Refer Slide Time: 02:43)



### What is Process?


A *process* is a set of activities that are interrelated or that interact with one another.

*Processes* use resources to transform inputs into outputs.

Processes are interconnected because the output from one process often becomes the input for another process.

*Organizational processes* should be planned and carried out under controlled conditions.

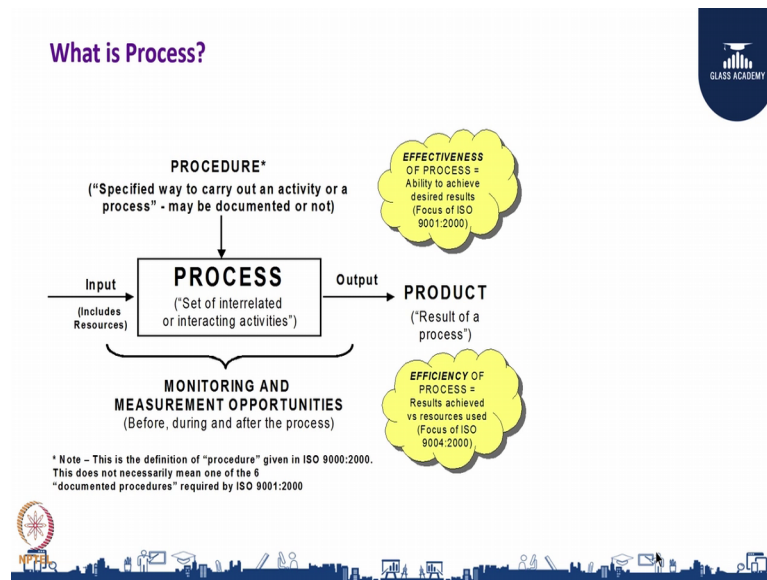
**An effective process is one that realizes planned activities and achieves planned results.**



So, the building block of a quality management system is a process. So, let us understand what is a process.

So, processes is a set of activities that are interrelated or that interact with one another. See our body human body is a system which is made of so, many process like visual process, auditory process, digestion process, respiration process. So, a human body consists of many processes which interact with each other and make a human system physical system. So, processes use resources to transform inputs into outputs. Processes are interconnected because the output from one process becomes input to the another process. So, organization process should be planned and carried out under controlled condition to achieve required output.

(Refer Slide Time: 03:37)



So, let us understand with the help of this diagram what is a process at the one end you can see the inputs are entering the process. And process is a set of interrelated or interacting activities or steps 1, 2, 3, 4 so on and at the end we get an output. A process has a procedure which contains specified way to carry out an activity or a process, it can be documented or not. If you documented, it can be useful for training your team members or staff. Then at the bottom of the process, you can see monitoring and measurement opportunities which require different forms to capture the data from the process product or process related.

So, process has to be effective means it should be able to achieve the desire results and it should be efficient means it should be able to use meaning of the resources to get the output.

(Refer Slide Time: 04:29)

### What is Process approach?



The *process approach* is a management strategy.

When managers use a *process approach*, it means that they manage and control the processes that make up their organizations, the interactions between these processes, and the inputs and outputs that tie these processes together.

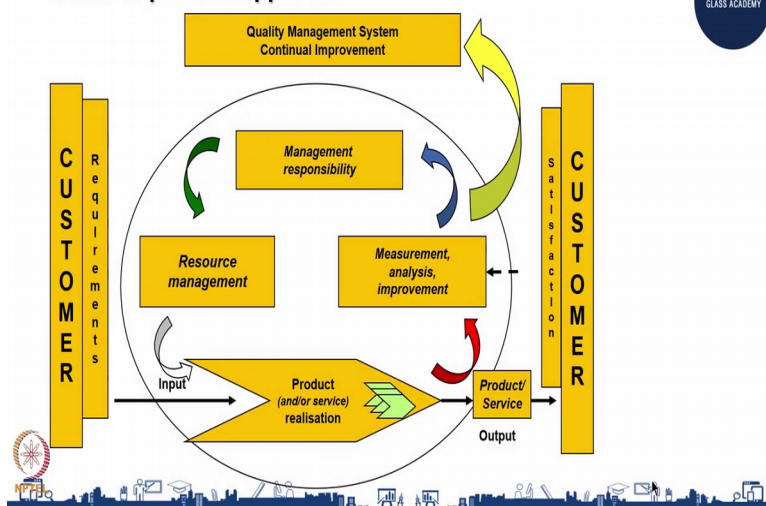
It also means that they manage these process interactions as a system.



Now, what is the process approach? Process approach is a management strategy when we use process approach means we manage and control the processes that make up the organization the interaction between this processes and inputs and the outputs that tie the processes together and the interaction between the process is to be manage as a system. This is process approach.

(Refer Slide Time: 04:55)

### Model of process approach



So, this is a model of process approach, from one hand you can see the customers giving his requirement which is coming has input and which help in product realization or

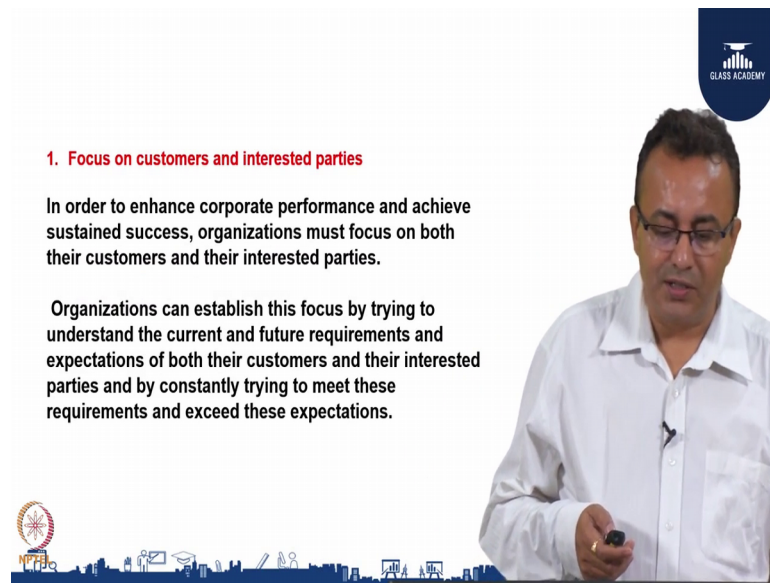
service realization, then the output is your product or service which goes to the customer. And based on the customer's feedback again by analysing of the customer feedback or your measurement analysis and improvement process, you provide more resources, manage your process better. This is cycle is called continual improvement cycle. So, this cycle goes on inputs are converted into outputs, outputs they go to the customers and based on the customer feedback or complaints more resources are fed to the product realization process.

(Refer Slide Time: 05:43)



Now let us understand the basic philosophy or seven quality management principles to which are used to design quality management system QMS.

(Refer Slide Time: 05:55)



**1. Focus on customers and interested parties**

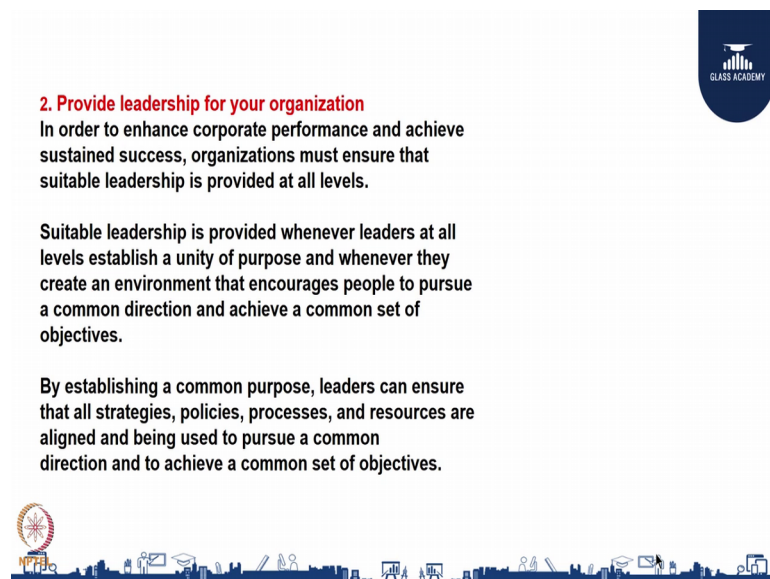
In order to enhance corporate performance and achieve sustained success, organizations must focus on both their customers and their interested parties.

Organizations can establish this focus by trying to understand the current and future requirements and expectations of both their customers and their interested parties and by constantly trying to meet these requirements and exceed these expectations.

The slide features a presenter on the right side, a 'GLASS ACADEMY' logo in the top right corner, and a decorative city skyline with icons at the bottom.

The first one is focus on customers and interested parties right. The customer is the most important person in your for any organization. So, if you understand customer and their requirement and other interested parties, requirement for other interested parties and if you plan to meet out this requirement will be able to have a successful relationship with the customer and interested parties.

(Refer Slide Time: 06:23)



**2. Provide leadership for your organization**

In order to enhance corporate performance and achieve sustained success, organizations must ensure that suitable leadership is provided at all levels.

Suitable leadership is provided whenever leaders at all levels establish a unity of purpose and whenever they create an environment that encourages people to pursue a common direction and achieve a common set of objectives.

By establishing a common purpose, leaders can ensure that all strategies, policies, processes, and resources are aligned and being used to pursue a common direction and to achieve a common set of objectives.

The slide features a 'GLASS ACADEMY' logo in the top right corner and a decorative city skyline with icons at the bottom.

Provide leadership for your organization. So, suitable leadership is provided whenever leaders at all level establish a unity of purpose and whenever they create an environment



that encourages people to pursue a common direction and achieve a common set of objectives. So, by establishing a common purpose leader can ensure that all strategies, policy, processes and resources are aligned and being used to pursue common direction and to achieve a common set of objectives.

(Refer Slide Time: 06:51)




**3. Engage and involve your people**  
In order to enhance corporate performance and achieve sustained success, organizations must be able to create and deliver value.

In order to do so they must have people who are competent, they must enhance their knowledge and skills, and they must manage them effectively by empowering them, by encouraging their involvement and engagement at all levels, and by recognizing their achievements.

Third quality management principles is engage and involve your people. So, in order to enhance your performance the performance of the company and to maintain sustain success, they must be able to create and deliver value. In order to create and deliver value, they must have people who are competent and they must enhance the knowledge skill regularly.

And they must manage them effective by empowering them by encouraging their involvement and engagement at all levels and by recognizing their achievements.

(Refer Slide Time: 07:25)




**4. Use a process approach**

In order to enhance corporate performance and achieve sustained success, organizations must use a process approach to manage their activities.


The process approach is a management strategy. When managers use this approach, it means that they manage and control their processes, the interactions between these processes, and the inputs and outputs that tie these processes together.

It also means that they manage these interactions as a system. When this approach is applied to quality management, it means that they manage their processes and their process interactions as a coherent quality management system.



Fourth one is as we have discussed earlier using a process approach. So, process approach is a management strategy when they use this approach. It means they manage and control their processes, their interaction between these processes and the input and outputs that tie this processes together.


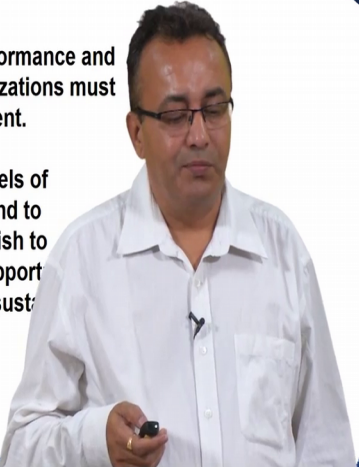
(Refer Slide Time: 07:45)



**5. Encourage improvement**

In order to enhance corporate performance and achieve sustained success, organizations must encourage and support improvement.

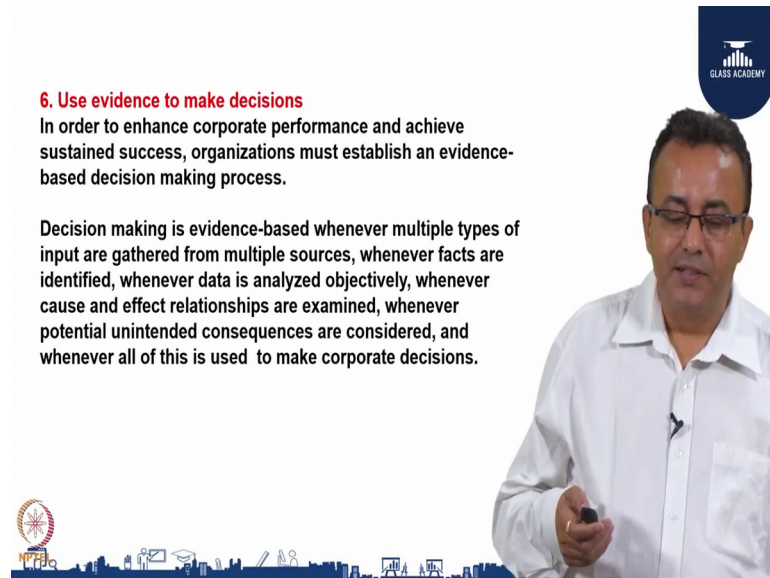
If they wish to maintain current levels of performance, if they wish to respond to changing conditions, and if they wish to identify, create, and exploit new opportunities, organizations must establish and sustain an ongoing focus on improvement.



Fifth one is encourage improvement, in order to enhance corporate performance and achieve sustain success, organization must encourage and support improvements. If you wish to maintain current levels of performance; if they wish to respond to changing

conditions, if they wish to identify create a exploit new opportunities ; organization must establish and sustain and ongoing focus on improvements.

(Refer Slide Time: 08:07)



**6. Use evidence to make decisions**

In order to enhance corporate performance and achieve sustained success, organizations must establish an evidence-based decision making process.

Decision making is evidence-based whenever multiple types of input are gathered from multiple sources, whenever facts are identified, whenever data is analyzed objectively, whenever cause and effect relationships are examined, whenever potential unintended consequences are considered, and whenever all of this is used to make corporate decisions.

The slide features a speaker on the right, a 'GLASS ACADEMY' logo in the top right, and a decorative footer with icons representing various business and educational concepts.

Sixth management principle is use evidence to make decisions organization must establish an evidence based decision making processes. Decision making is evidence based whenever multiple types of inputs are gathered for multiple sources, whenever facts are identified, whenever data is analyse objectively, whenever cause and effect relationship are examined, whenever potential unintended consequences are considered and whenever all of this used to make corporate decisions.

(Refer Slide Time: 08:39)



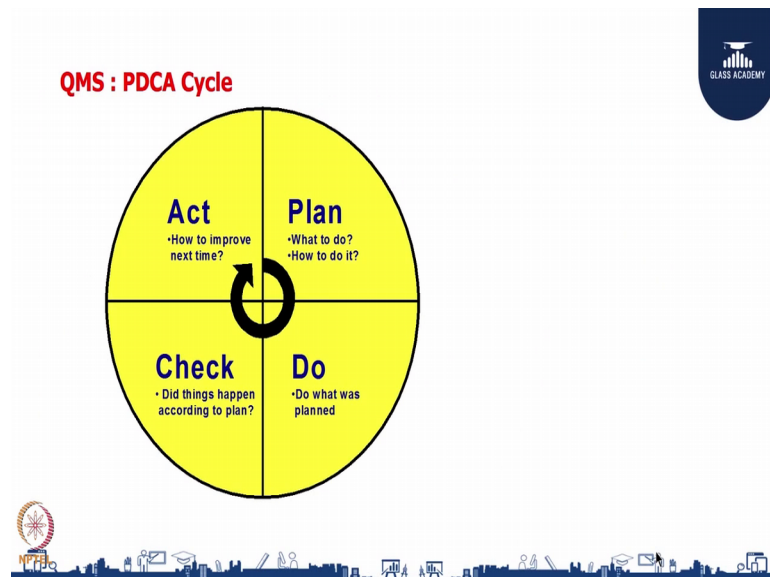
**7. Manage your corporate relationships**  
In order to enhance corporate performance and achieve sustained success, organizations must manage their relationship with suppliers, partners, and other interested parties.

Relationships must be carefully managed because suppliers, partners, and other interested parties can influence corporate performance and undermine corporate success.

The slide features a speaker in a white shirt on the right side. The background includes a blue header with the 'GLASS ACADEMY' logo, a decorative city skyline at the bottom, and a circular icon on the left.

Seventh quality meant principle is manage your corporate relationship. So, in order to enhance corporate performance and achieve sustain success operations, organization must manage their relationship with suppliers partners and other interested parties. Relationship must be carefully manage because suppliers, partners and other interested parties can influence corporate performance an under mind corporate success.

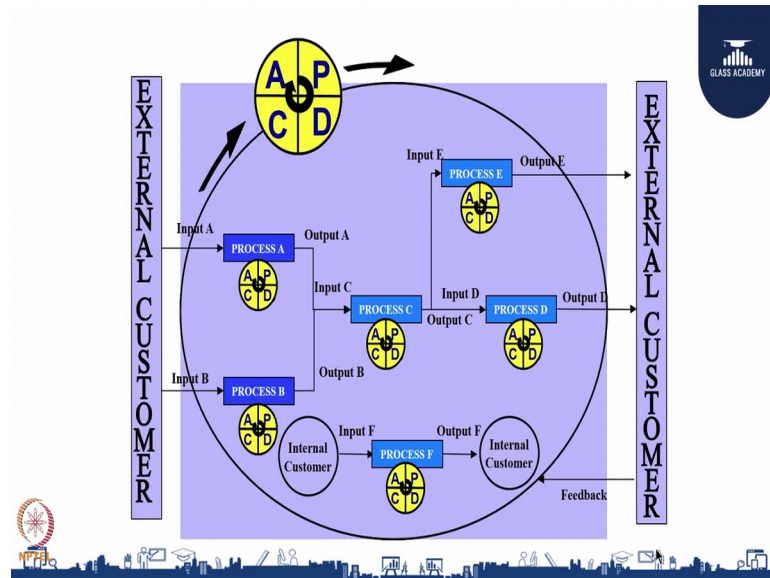
(Refer Slide Time: 09:07)



Another important concept in QMS is PDCA cycle P means Plan, what to do? Each process must have a plan what to do and how to do it. Then the steps for doing it must be

defined. So, you must do what was planned third is check. You have to check in each process did thing happened according to the plan and fourth faces act, if things did not happen as per the plan then how to improve next time.

(Refer Slide Time: 09:37)



This is a system made up of different processes. You can see the external customer provide providing specification as requirement which are going to different processes of our company and the outputs are again going back to the customer and each processes is following PDCA cycle; plan do check act.

(Refer Slide Time: 09:57)

**So for a establishing QMS,  
We need**

- well established processes,

**&**

- control on processes

The slide features a man in a white shirt speaking, positioned on the right side. The background is a light blue gradient with a city skyline at the bottom. A 'GLASS ACADEMY' logo is visible in the top right corner.

So, now I understand that to establish a quality management system we need well established processes and control on this processes.

(Refer Slide Time: 10:09)

### **Summary:**

By the end of this video, you have learnt about the:

- Quality management system
- Model of process approach
- Seven quality management principles
  - Focusing on customer and interested parties
  - Providing leadership for organisation
  - Engaging and involving people
  - Using a process approach
  - Encouraging improvement
  - Using evidence to make decisions
  - Managing corporate relationships
- PDCA cycle - Plan, Do, Check, Act