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MIDOCEAN
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Project Quality Management

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PMG354

The 7th Lecture :

HPMQC

The Efficiency of the “Resultant deliverables” with PVA

Welcome to the professional quality track!

Hi, in this lecture you
will learn how can
answer
the big question

BASED ON THE HPMQA

- Building the project's efficiency
- Adding new role
- Planning HPMQC activities
- The role of the HPMQA at the design quality system and build quality system
- the relationship between the HPMQA and the GCOQ(good cost of quality)

What is the relationship between the HPMQC
and the PVA??

Lecture outline

1st section contents :

The HPMQC base line

Identifying the Performing the HPMQC process and procedures :

2nd section contents :

The role of the HPMQC with the HPMQA

3rd section contents :

The impact of HPMQC corrective action during the execution phase with the preventive cost

The impact of HPMQC corrective action after the execution phase with the appraisal cost

HPMCP

HPMQC comprehensive validation process helps :

- 1-builds trust and confidence among stakeholders, as it
- 2-demonstrates a commitment to delivering high-quality and accurate results by alignment with the PFS_QP and PDQP.
- 3-can minimize **the risk of errors or inconsistencies in the final deliverables**, ultimately leading to successful project outcomes and deliver the “Resultant Deliverables”
- 4- focusing on stakeholder satisfaction

“Resultant Deliverables” is confirming the efficiency of the PFS-QP and its alignment with quality-fitting PDQP targets and standards to ensure delivering the right deliverables with the right DFT with the right PjT to the right customers at the right time

The target of this stage

Is having a resultant deliverables

- 1- it helps to create a defect-free and high-quality product.
- 2-its activities are performed **mainly** throughout the monitoring and controlling phase the project results in deliverables that meet the specified requirements of the customer .
- 3- Monitoring and Evaluating the customer satisfaction

The appraisal costs

The appraisals cost is for

- 1- determine and analysis the quality issues
- 2- determine the quality benefits
- 3- building quality solution s by taking the corrective actions



The roles of the HPMQC



1- The Role of HPMQC during the execution phase with the preventive cost

Minimizing the rework

If there is to be rework, focus on finding it as early in the life cycle as possible.

-Remember that errors in the analysis will generate into errors in design and errors in construction. If you don't find the errors until the execution Phase, there might be rework required throughout the life cycle .

The role of the HPMQC during the execution phase
(PjT with the project procurement management)
During the Milestones and Phase reviews

1-This comprehensive validation process helps to identify any potential errors or discrepancies, allowing for necessary adjustments and improvements to be made **before the deliverables are finalized.**

2-Additionally, it **ensures** that the deliverables are aligned with the project's quality objectives and can effectively meet the needs and expectations of stakeholders.

3-Confirm Performance Milestones Reached

1. The first step in managing a supplier's performance is to identify the contract milestones that trigger a formal performance review.
2. Each time a milestone is reached, a **formal review** is initiated to assess the supplier's overall level of performance against the terms of the contract.

Adjustments may be made to increase or decrease resources and expenditures or shift resources to an activity or event on the critical path where needed.

-As a result of the ongoing monitoring of milestones, changes to plan may result, for example, recomputing of the critical path or revision to resource allocation plans. All changes must be documented.

4-Phase Reviews

review the progress of the project to date and determine whether the project has met its stated objectives. By assessing the deliverables produced by the project to date, the Project Board determine whether the project is "on track" and ready to progress to the next phase within the project lifecycle.



2- The role of HPMQC after the execution phase with the appraisal cost

is to conduct a thorough review of the quality of the executed deliverables . This review will help identify any discrepancies or unexpected costs that may have occurred during the production process.

Additionally, it is important to analyze the quality of the deliverables and assess if any rework or improvements are necessary, as this can also impact the overall cost appraisal.

Additionally, it may be necessary to identify any areas where cost overruns occurred and implement measures to prevent similar issues in future projects.

The reviewing process of each executed deliverable,

- 1-For each executed deliverable, the HPMQC Review shall evaluate major components or subsystems as necessary to establish acceptable workmanship.
- 2- Each HPMQC report will be a separate Deliverable with all applicable quality checklists completed and attached.
- 3-HMPQA shall conduct scheduled QC reviews by following thePDQP, and the approved Quality Standards, and Quality Checklists.
- 4- PDQP Quality Standards, and Quality Checklists will indicate the type of review expected, e.g. data analysis, schedule analysis, standards or process conformance analysis, and additional analysis based on subject matter expertise.
- 5-The completed checklists will be provided with the QC Deliverables and shall become input to the Quarterly QA Status and Improvements Report ,Project Assessment Report, and the Project Budget & Schedule Variance Report



the HPMQC and the PCOQ
(Keeping the quality issues)

Appraisal costs are those associated with any activity meant to ensure high levels of quality across a process or organization. If a manufacturing plant hires a quality control specialist, and that person's job is to review parts that come down the manufacturing line and either return the work for correction or report the level of quality as a metric, then the salary of that person and any expenses related to his or her employment are appraisal costs.

Appraisal(evaluation) Costs

Appraisal costs are those associated with any activity meant to ensure high levels of quality across a process or organization. If a manufacturing plant hires a quality control specialist, and that person's job is to review parts that come down the production process and either return the work for correction or report the level of quality, then the salary of that person and any expenses related to his or her employment are appraisal costs. In some cases, those expenses might also be considered prevention costs, but they would not be counted twice when calculating CoQ.

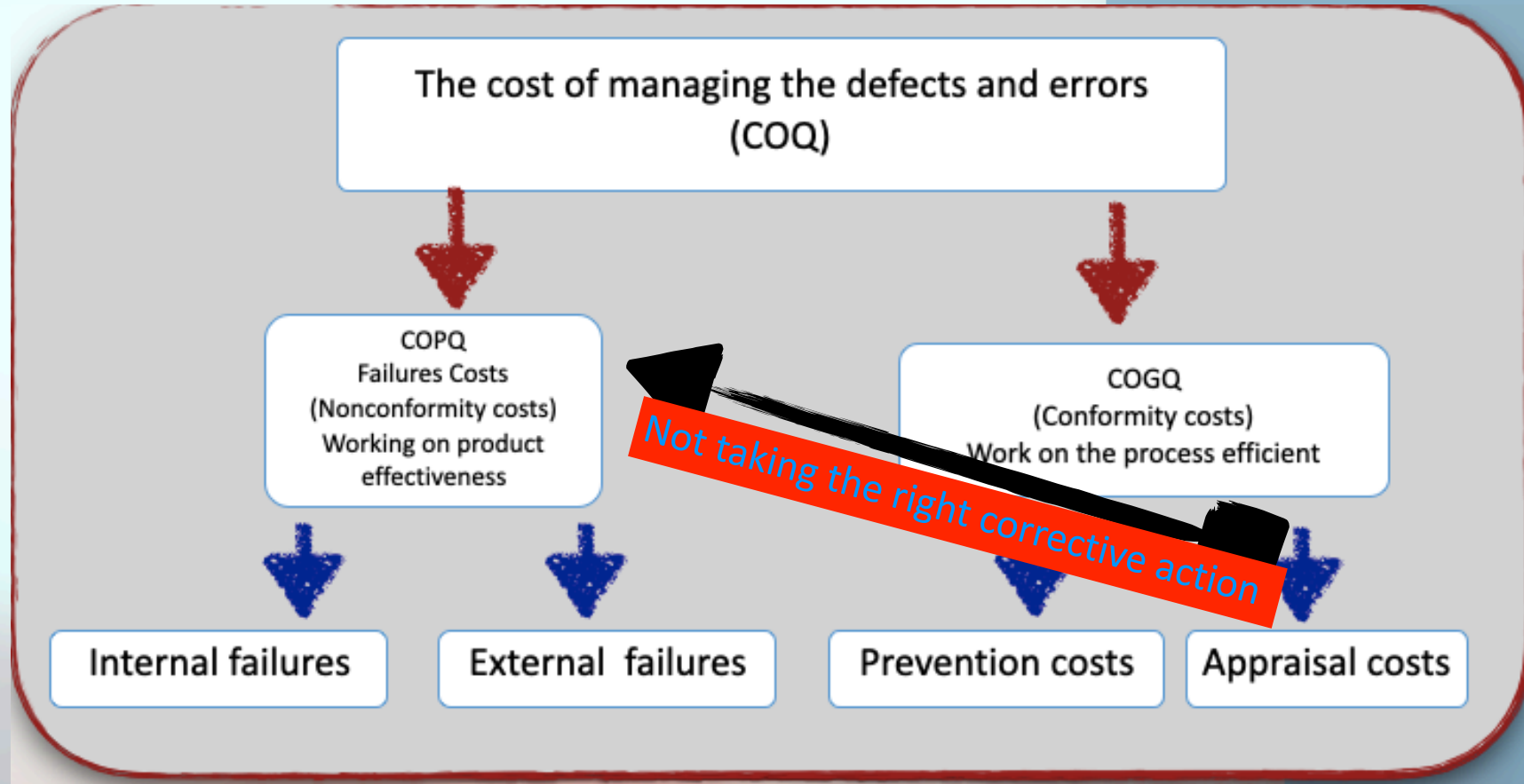
Test Product

Qualification testing of products from suppliers

Product samples or materials consumed in quality control

Auto inspection by operators

Quality cost is a HPMQC success factor



Internal Failure Costs (Before dealing with the customers)

These costs can include not only the direct expenses associated with redoing the work or making modifications, but also the indirect costs such as lost productivity, wasted materials, and potential damage to the company's reputation.

It is crucial for project to minimize rework costs by ensuring proper planning, effective communication, and thorough quality control measures throughout the project lifecycle.

External Failure Costs (After meeting the customers)

These failure costs can include the expenses associated with product recalls, returns, and replacements.

Additionally, they may bound the costs of legal actions or damage to the company's reputation due to customer dissatisfaction.

The quality issues

Examples of the (failure costs) cost of poor quality-include:

1. **Warranty work.** This includes work that is performed on a product or application for free (or a reduced price) under a warranty.
2. **Repairs / maintenance.** This is work that is done to fix problems after the solution goes live.
3. **Client dissatisfaction.** If a solution is of poor quality, the client will not be happy and may not buy from you again at a later date. If the project is internal, the client may not want to use the project manager and team members on subsequent projects.

4.**Support staff.** Much of the effort and cost associated with a support staff is needed to maintain and support a solution because of problems, errors, questions, etc.

5. **Rework.** This is work that is required to fix deliverables that you thought were already complete and correct.

6. **Bad decisions.** If there are errors in your systems you will end up making decisions based on bad information.

7. **Failure investigation.** It takes time to troubleshoot and determine the cause of errors and defects that occur on the project.

8. **Poor morale.** No one likes to work for an organization or a project that has poor processes or produces poor quality solutions. Costs of poor morale include increased absenteeism, higher turnover and less productivity from the staff.

Uncontrolled changes

Uncontrolled changes in the project are often referred to as process creep, scope creep, effort creep, or cost creep.



The process of the HPMQC



1-Discovering The quality issues

1-assessing the deliverables produced

By assessing the deliverables produced by the project to date, the Project Board determines whether the project is "on track" and ready to progress to the next phase within the project lifecycle or not. So we need to determine the targets very carefully as follows :

- 1- **Monitoring the performance** of the PFS outcomes and controlling their changes.
- 2- **Controlling the project quality plan** ensures that all requested changes and recommending corrective actions on the deliverable outcomes
- 3- **Managing the actual changes** of the quality process that is related to outcomes when they occur and are integrated with the other control processes.

2- knowing the standard of performance for each quality issue

It relates to collecting the standards of performance documented in the PDQP

3- Plan and collect the right DATA

Planing and Collecting Appropriate Data on the chosen “Control subject” – through inspection and testing in order to determine the actual performance of the execution process at the mentioned critical **milestones** or the quality level of characteristics of its outcomes.

The TECH. of the HPMQC

1-Peer Reviews

Asking team members to review each other's deliverables to control the **level of quality** achieved by the project. Peer Reviews will also allow you to identify any quality issues early in the Execution phase of the project.

2-Deliverable Reviews

You can plan and perform formal **reviews of deliverables** across the project to increase your likelihood of meeting the Quality Targets.

3-Documentation Reviews

Documentation reviews are similar to deliverable reviews, except that they involve reviewing the project documentation produced by the project.

4-Phase Reviews

At the end of each project phase, you should review the progress of the project to date and determine whether the project has met its stated objectives.



4-sum up the gathered data of the actual performance the chosen subject

Summarize Data of the Actual Performance and outcomes of the chosen “Control subject”—It relates to **Providing answer to the questions:**

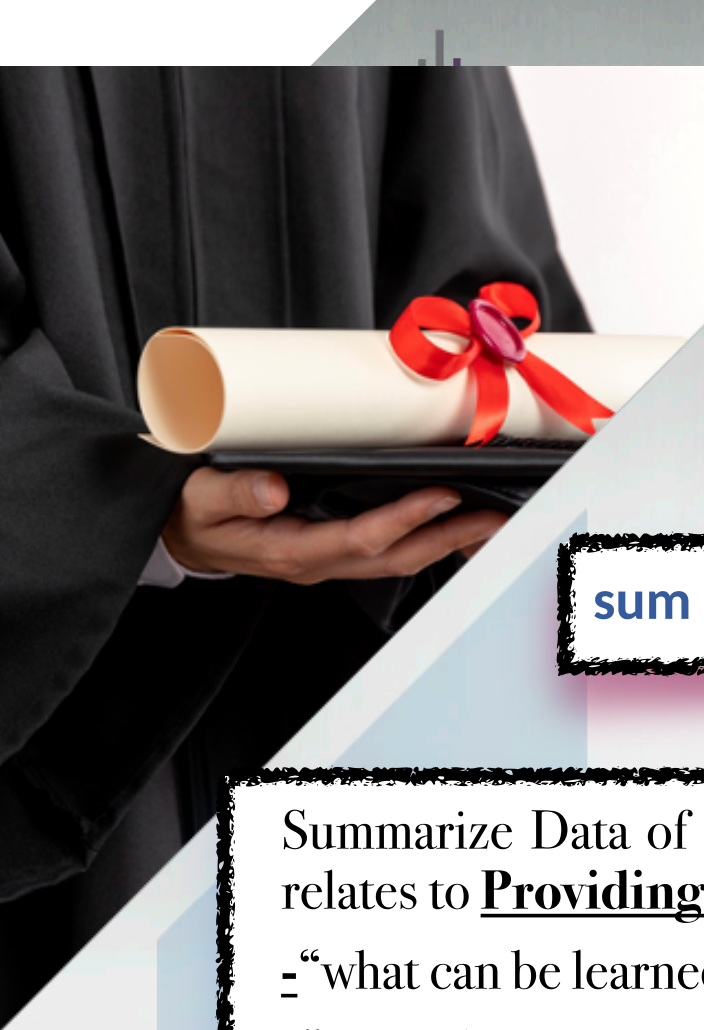
- “what can be learned from the collected data?” and
- “Does the process conform to its quality goals?”

The answer to this question is an understanding and a summary of the collected data in some meaningful graphical formats

5- Compare Actual Performance and outcomes to original quality Standards

The act of comparing the actual performance and outcomes of the chosen “Control subject” to standards is often seen as the role of the quality control function with the enterprise business called on to carry out any or all of the following activities:

1. Compare the actual quality performance to the quality goal.
2. Interpret the observed difference; determine if there is conformance to the PDQP
(Having the quality issues -nonconformance -)



6—Assess the Apprising cost of Quality issues against the benefits of providing a quality solution.

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By Building a quality solution

It costs money and time to build a quality solution. You may think that it is cheaper to leave the quality steps out, but this is usually not the case.

It is important to recognize that there is also a cost to having poor quality.

These costs may not be clear when the project is progressing, but should definitely be taken into account as part of the full life cycle cost of the solution being delivered.

Whereas many of the costs of quality show up in the project, life cycle of the solution. The benefits of quality may include:

1. **Increased client satisfaction.** Fewer defects mean that the client will be more satisfied. Higher service quality will also make the client experience much more pleasant. If you are in a “for-profit” business, this will result in goodwill and may translate into additional sales, or higher margins on future products.

2. **Higher productivity.** Fixing errors and reworking previously-completed deliverables are a drain on productivity. In fact, they contribute to negative productivity.

If the deliverables are produced with higher quality and less rework, the overall project productivity will go up.

3. **Lower costs / shorter duration.** Although there is an initial higher cost to a quality process, this is more than made up with less rework toward the end of the project. This will save time and cost on the project.

4. **Higher project team morale.** Team morale suffers if there are many errors uncovered during the project. People feel bad when errors are uncovered and it can be frustrating to have to correct errors repeatedly. Team morale will rise (or at least hold steady) if deliverables are created with fewer errors the first time.

5. **Fewer errors / defects.** Higher quality shows up over the life of the solution with fewer defects and errors. If you are producing a product for sale in the marketplace, higher quality means fewer returns, less warranty work, fewer repairs, etc. If you are creating a long-term solution, this means less support and maintenance problems over the life cycle.

7— initiate change requests

The outcome of the HPMQA and HPMQC actions is a set of quality results. These results describe the overall status of the project as well as the current quality level of the deliverables produced by the project (

1-The PDQP Manager reviews the results and determines whether any actions are required to correct quality issues. If any change to the project is required, then the PDQP Manager completes a **Change Request** Form and forwards it to the Project Manager for approval, along with the list of corrective actions.

2-Recommended and alternative correction actions plans, with options identified, presented for each identified risk to prevent and/or reduce potential for the risk occurring or the danger escalating

8-Take Action on the Difference (Corrective actions)

The last step is Taking Action on the Difference. It relates to start off adjustment which restores conformance with quality goals.

This step is popularly known as “troubleshooting” or “firefighting.” It involves **rework decisions, process adjustments decisions, and quality improvement decisions.**

The corrective action is taken when a non-conformance is detected, aiming to heal the issue and prevent its recurrence. This may involve HPMQA which is analyzing the root cause, implementing necessary changes, and conducting follow-up checks to verify the effectiveness of the corrective measures.

Additionally, preventive costs refer to investments made upfront to avoid potential quality issues .

9—Tracking rework

You can track rework to determine how much of your project time is spent “thrashing” or working on the same problems twice.

4- Tracking the total number of errors fixed,

You can track the total number of errors fixed, as well as the total number of errors that require rework.

Causing of rework.

- you may find that the change does not work to fix the problem adequately, will cause rework.
- You may also find that the fix of one change may break something else. This second, unintended error will cause rework as well.

10—Validate Control Subject

It relates to acceptance decisions from the quality control results, which will indicate how well the chosen “Control subject” has achieved quality assurance specifications and project quality objectives and customer acceptance criteria

Output

Having resultant deliverables that are validated with the PFS-QP and quality-fitted with the PDQP ensures that the final output meets the desired standards and specifications of the customers requirements



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Thank You

