

QNO1;

The ten key learning out comes of project management;

1. Accepts responsibility as a professional expert of project management, applying project management principles and follows while maintaining high standards of practice, making ethical judgments and decisions in a reverential, and behind professional standing through a commitment to life-long learning
2. Determines effective use of written, verbal , and non-verbal communication, uses industry terminology, writes a variety of Project Management documents and plans, applies processes required to manage the communications of a project (including suitable and timely management of project information), and uses technology suitable to the task.
3. Performs interpersonal skills to manage the human resources of a project including organizing, handling and leading the project team, using effective strategies to affect others, manage struggle, and leads teams to successful project completion
4. Applies the generally recognized framework and good practices of project management within the frameworks of; the project management organizational influences; operations; strategic planning; portfolios; programs; project life cycles; and project management cycles
5. Applies the project management processes to start, plan, execute, monitor and control, and close projects and to organize all the elements of the project
6. Manages projects effectively including the management of scope, time, costs, and quality, ensuring satisfying the needs for which the project was accepted
7. Applies processes required to manage the procurement of a project, including acquiring goods and services from outside the organization
8. Manages project risk, including identifying, analysing and answering to risk
9. Analyses and manages stakeholder opportunities and engagement to ensure a successful project outcome

10. Intentionally applies project management practices in a variety of organizational and international settings.

The practical implementation of project management;

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General implementation of project management is a difficult, complex, and confusing proposition for organizations or companies that wish to institutionalize its practices. It's a bigger challenge yet to implement project management in a way that ensure the practices will become widely accepted and scientifically followed. Over the past few years, many organizations have tried using a number of newly developed instruments that attempt to measure their maturity relative to project management implementation. Unfortunately, many of these instruments are directed largely toward noting symptoms and calculating a "score." The true value of efforts such as this lies not in calculating a score, but in finding the underlying root causes of these symptoms. This can be a difficult task, requiring additional analysis, awareness, and significant expertise.

At the same time, many other organizations exist that are just beginning the process of implementing project management, and have little to measure. Obviously, maturity measurement instruments would have very limited value to them. This paper introduces a model, which describes five initial elements that need to be in place in nearly any organization

Before project management can be expected to take root and show. The model will serve as a sound approach for those just beginning the process of implementing project management. However, it can also be used by developed organizations that are considering the use of maturity measurement instruments to analyse their condition. Before taking the time and effort required to measure indicators and calculate maturity scores, these organizations should make certain that they have properly lectured the basics defined in this paper.

QNO2;

Budgeting is a scary concept for project managers, even for those with PMP certification. There is a perception that finance is incredibly complex and that you really need to be an accountant before dipping your toe in the water. But get out the Guide to the Project Management Body of Knowledge.

The two planning processes are Estimate Costs and Determine Budget. On other words: find out what you are going to spend money on and add up what they are going to cost you. That is all a budget is – a list of planned expenditure. It is something we all have to do in our private lives – when we plan trips or consider large purchases like houses or cars. Essentially, we want to know if we can afford it!

The next step is the tricky one: converting the “what” and “how long” figures into monetary values. To calculate staff costs, a visit to the finance department should give you the answers. They should know how much an hour of any staff member’s time costs the company in total. Staff costs have to include wages, but also overheads, such as light and heat and office space. What you get paid per hour and what you cost per hour are two different figures. When totalling the staff costs, do not forget to include yourself, the project manager.

Material and equipment costs might be very straightforward. Some projects, such as software development ones, rarely involve much in the way of materials (maybe some software licenses) and equipment. However, other projects, such as construction ones, require so much material and equipment, that specialists, called quantity surveyors, are needed to calculate them. As we saw in our previous article, obtaining equipment that is used over a long timescale is tricky - rent or buy decisions have to be made. Similarly, should we go off and buy materials now, or order them throughout the project? Price fluctuations, inflation and interest rates all have to be taken into account. If your organization has a purchasing department, pay them a visit - they will have useful advice to offer.

The level of uncertainty should be reflected in our preliminary budget. A rough order of magnitude cost estimate will provide a range where the final figure is likely to lie. This can range by plus or minus 50% of the estimated figure. It is useful though to provide an initial evaluation of the project.

However, after we have done our project planning, a more accurate estimate – called the Budget Estimate – needs to be provided. While a range is acceptable here too, we are looking at figures ranging from -10% to +25%. Even the final, definitive, estimate can range from -5% to +10%.

During the scope definition exercise (see the Project Scope Management notes from your PMP® course) we broke down the scope first into Work Packages and then broke the Work Packages into Activities. Now, in budgeting, we need to start aggregating these back together again. So we need to estimate the cost of each activity and allocate contingency for each.

It is always a good policy to make contingency explicit – padding estimates disguises errors in our estimation process and hides risks. Some companies will allocate the same contingency percentage to each activity. However, it is better to base the activity contingency on the level of confidence we have in the activity estimates. Some activities will need lots of contingency, while others might not need any.

These total activity estimates (estimate plus contingency) are now added together to form the Work Package estimate. Again, at this level, we need to add a contingency overhead. This might seem strange, particularly to novice project managers, those without the PMP®. Surely we have enough contingency included in the activity estimates? Students of formal logic will be aware of the statistical fallacy of composition. This is explained by the example of assembling a machine out of very light components. Just because the components are light does not mean that the machine will be light in turn. Similarly, all the activities might have been carefully estimated, but there is always the possibility that some minor integration activity was forgotten that requires additional resources to complete the Work Package.

The Work Package estimate, together with its contingency overhead is called a Control Account. These figures will be used during the project to assess how well the actual Work Package cost compared to the estimate. All the Control Account estimates are now aggregated to form the Cost Baseline. This is the budget for the entire project

Example of project budget;

Project Budget

 Project Task	 Labour Hours	 Labour Cost (\$)	 Material Cost(\$)	 Travel Cost (\$)
Project Design				
Develop Functional Specification	1.0	\$1.00	\$1.00	\$1.00
Develop System Architecture	1.0	\$1.00	\$1.00	\$1.00
Your Text Here	1.0	\$1.00	\$1.00	\$1.00
Subtotal	3.0	\$3.00	\$3.00	\$3.00
Project Development				
Develop Components	0.0	\$0.00	\$0.00	\$0.00
Procure Software	0.0	\$0.00	\$0.00	\$0.00
Your Text Here	0.0	\$0.00	\$0.00	\$0.00
Subtotal	0.0	\$0.00	\$0.00	\$0.00
Project Delivery				
Install System	0.0	\$0.00	\$0.00	\$0.00
Train Customers	0.0	\$0.00	\$0.00	\$0.00
Perform Acceptance Test	0.0	\$0.00	\$0.00	\$0.00
Your Text Here	0.0	\$0.00	\$0.00	\$0.00

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QNO3;

➤ Project quality;

According to the Project Management Body of Knowledge, Project Quality includes the processes and activities that determine quality policies, objectives and responsibilities so that the project will satisfy the needs for which it was undertaken.

Project quality management is concerned with the development and implementation of a quality management system. The three processes are:

1. **Plan Quality Management**
identifying the quality standards that must be met, and determining the criteria for success/failure.
2. **Perform Quality Assurance**
Analysing quality measurements and determining the success/failure rate of project quality.
3. **Control Quality**
Taking quality measurements and making necessary changes to the project quality plan.

The Plan Quality Management process results in the creation of a project quality plan, which contains the quality requirements of the project and the processes that will be used to measure and correct quality problems.

➤ Purpose of project quality;

The main objective in project quality management is making sure that the project meets the needs it was originally created to meet—nothing more, nothing less.

In other words, to ensure quality, you must meet the needs of the stakeholder.

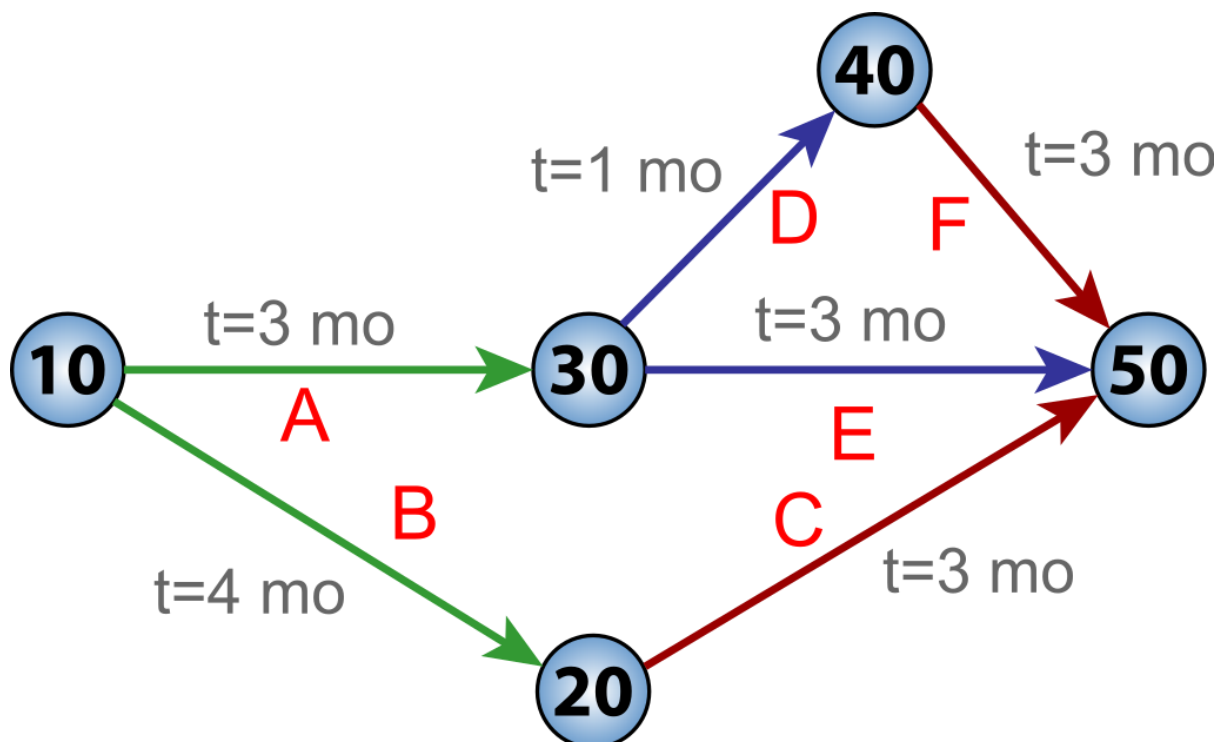
➤ Project quality management processes;

Managing the process of project quality involves many things, such as setting quality targets for your team to meet, defining how to measure those quality targets and reporting on them. Project management tools can prove helpful with this.

QNO4;

Critical path diagram through critical path method;

The **critical path method (CPM)**, or **critical path analysis (CPA)**, is an algorithm for scheduling a set of project activities.¹ It is commonly used in conjunction with the program evaluation and review technique (PERT). A critical path is determined by identifying the longest stretch of dependent activities and measuring the time required to complete them from start to finish.



The duration of critical path;

The network path with longest total duration is the critical path! Critical path is the shortest duration required to complete the project successfully. In our example this is the second path: A -> B -> C -> D -> G -> H, which comes to **49 minutes**.

What is the float of activity 3?

Activity 3 can start after activity 1 is completed and has an estimated duration of 6 weeks.

$$18 - 13 = 5 \text{ weeks.}$$

What is the float of activity 2?

The float of activity 2 is zero

Activity 2 can start after activity 1 is completed and has an estimated duration of 3 weeks.

What is the float of the path with the longest float?

5 weeks.

A new activity 6 is added to the project. It will take 11 weeks to complete and must be completed before activity 5 and after activity 3.

Management is concerned that adding the activity will add 11 weeks to the project. How much longer the project will take? New critical path is Start, Act1, Act3, Act6, Finish = 24 weeks Old critical path was 18 wks. We are adding $24 - 18 = 6$ weeks.

Thank you...