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What is more important in projects - Time, cost or quality?

by **Vector Consulting Group**

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Project management literature talks about the need to measure and control all three variables of the project – Time, Quality, and Costs (or budget). Most project managers would tell from their experience that there are inherent conflicts between these variables. In many situations, when people try and speed up projects, they invest in additional resources, making the budget go haywire. While in many other situations, scope or quality is compromised to get a delayed project back on track. The conflict is also the other way round; when managers try and control budgets, time takes a backseat. (Long rounds of negotiation with multiple vendor cause significant delays in purchase items). Similarly, people try to scope in more in a particular project in order to meet the "real" needs of the client, thus compromising on time and budget. (for example, specific unplanned features that will help the client use the software more effectively!!).

With this experience, the need to monitor and control these three variables evolved – so that there is no compromise on either of them. Good project management is to ensure that all the three variables meet the standards defined in the original commitment. This would entail that all the three factors must be monitored and controlled. Right?

This is a widely accepted theory. But in the real time scenario, no effective solution has been developed to deal with the associated conflicts. It becomes very complex for a manager to derive the optimum from all the three variables. For example, how much more time can one afford to spend on negotiating a cheaper deal with the vendor, without compromising on project delivery. The extra time spent in negotiation may be recovered later or it might not be. One can only check the efficacy of the decision in hindsight. In taking decisions at runtime, some managers make a choice between what is visibly getting compromised at that point in time or wherever there is maximum pressure for control. As a result many mangers find themselves focusing too much on one variable during one phase of the project and then focusing on the other in the next phase. For example, in many E&C projects, costs are controlled very strictly during the initial part of the project while time slips away and towards the end of the project, people spend a lot to get the project back on track. Similarly, in a software environment, you can find many scope compromises close to an important release date. In a shutdown project, many scoped items will be skipped at the end, when it becomes obvious that the due date is in jeopardy.

Thus we can conclude that attempting to manage all three variables together does not help. It adds to the complexity and encourages compromises all throughout the project. In the end, none of the variables are satisfactorily managed; people invariably look at compromises made on some of the variables and then conclude that they have to focus on all the three. Well focus on many, actually means no focus.

To find a better solution, we need more understanding on how the variables are related to each other. Many would claim that they all are negatively co-related. To be good with one means to be bad with the other. It is almost like trying to keep all the ping-pong balls simultaneously under water in a swimming pool. You get one down, the other moves up. Right?

However, in the actual execution of a project, time is the most important variable which controls the other two positively – to manage time effectively means to be good on costs and quality. It is only when the project goes out of control that the variables start becoming negatively co-related.

Let us check with our collective experience

Most projects environments suffer from significant waste in time, particularly in the initial part of the project. The projects gain momentum only close to important milestones or at the end, when the resources stretch beyond their natural limits. The proposals finalization for new products may months together but when it comes to final testing of the product, people expect it to be over as of yesterday. Similarly, it would take months to finalize a contractor but resources will work 24 hours at the end to hit the delivery date. Managers would tolerate days of delays in customer approval of design in the initial part of the project but work overtime to meet the due date at the end of the project. Often people take up tasks without complete preparation in order to gain lost time thus leading to more rework and poor quality.
If we are able to minimize this waste of time in the initial part of the project, then the pressure on time observed towards the end will reduce significantly. Most of the compromises made on budgets, scope, and quality actually stem from this pressure to complete the project in time.

Projects which utilize time efficiently will also ensure a better quality output. So it is not surprising that projects which are delivered ahead of time are also delivered within budgets and with good quality. Even though hard data of project performance points to this relationship between quality and time, the commonly held belief is lesser time means poor quality.

How have the people developed the idea that time and quality are negatively correlated? It comes from their experience – they do remember that whenever there was pressure of time, quality and scope were compromised hence it is an obvious assumption that adequate time (read no time pressure), leads to better quality.

It is true that when someone tries to do a task less than its touch time or the net time quality is bound to suffer but the key question is why did we land up in this mess? Retrospecting on the project, we invariably find a lot of time being wasted in the form of interruptions in the project or unnecessary work expansion in the earlier, which, could have been easily avoided. If that time was not optimized and utilized to its full potential, this situation would not arise.

So in a way, lesser project lead time actually means lesser pressure. The key is in maximizing time utilization. Time seems to be the most important variable. The focus on time throughout the project not only helps in preventing the compromises but also in most project environments, time is directly related to money made by the company.

For example, for a shutdown project, early completion means early production. For a multi-project environment, lower lead times means that resources are free much earlier to do more projects. For a large plant erection, early commissioning is earlier than planned pay back period.

CCPM processes of execution helps in preventing such waste of time in projects. Without any intermediate deadlines and focus on buffer management, the pressure for meeting task deadlines goes away. With a focus on flow management, the issues causing interruptions are resolved ASAP. The flow of project improves significantly while reducing the chaotic expediting environment. Resources do not overstretch to complete projects earlier. This in turn helps in improving quality and prevents scope compromises.

Do we have a proof? Our experience does support the hypothesis

In our experience of implementing CCPM in a software environment, not only the lead time reduced, but also the bugs reported in the software dropped down significantly. In a shutdown environment, CCPM implementation helped reduce the ramp up time to peak production besides helping finish the project much ahead of schedule.(Ramp up time to peak production is an indicator of quality of shut down projects). For a panel tool and die cast dies manufacturer, the TO sample quality improved from 85% accurate to more than 90% accuracy.