

## Capacity for Quality Work (CfQW)

### Understand it, manage it, improve portfolio success

A Project Portfolio Excellence, Inc. position paper

#### What is "Capacity for Quality Work" (CfQW)?

Are you old enough to remember the episode of "I Love Lucy" where Lucy and Ethel were working in the candy factory? If so, you'll remember that they were supposed to take the chocolates coming down a conveyor belt, wrap them individually, and put them back on the belt where they would then go to the next room for boxing. They're told that if one chocolate gets past them without being wrapped, they will be fired. This segment is on YouTube if you've never seen it, or if you'd like to see it again. Search for "Lucy and Ethel candy factory." If you're too young to remember it, maybe you'll remember the homage to it from "Drake and Josh" where, instead of a candy factory, they're in a sushi factory.

At any rate, the conveyor belt starts up at a nice, gentle pace, and the ladies start wrapping the chocolates as they come down the line. Everything's going well; Lucy and Ethel are keeping up with the leisurely pace – and then the numbers of chocolates coming down the line to them increases! As they realize that they can't keep up with the number of chocolates coming down the line, they end up stuffing chocolates into their mouths, their blouses, and their hats, to keep the supervisor from seeing that they're not keeping up. The supervisor comes in and, not seeing any leftover chocolates, assumes that the ladies are doing fine. She then yells into the next room, "SPEED IT UP!" The scene finishes with Lucy and Ethel faced with even greater numbers of chocolates coming at them. It's a classic. If you haven't seen it, you should check it out. It's also a good analogy of the Capacity for Quality Work concept.

In Project Portfolio Excellence there are several Truths that pertain to Capacity for Quality Work (CfQW).

PPE Truth #129

Capacity for Quality Work is the amount of work that can be executed while maintaining an acceptable level of quality.

We include the attribute of “acceptable level of quality” because when we overestimate our capacity it’s done at the expense of quality. This is a mistake that many companies regularly make, and the corresponding Truth states that:

PPE Truth #130

If you exceed your Capacity for Quality Work, the result will always be work of inferior quality.

We can extrapolate that:

PPE Truth #131

If the results you’re getting are of inferior quality, you are, by definition, exceeding your Capacity for Quality Work.

This is where we begin the discussion of Project Portfolio Excellence. The first priority of portfolio management should be examining whether or not we’re satisfied with the results we’re already achieving. If not, it doesn’t matter how many or how few projects we’re trying to balance, the fact is we’re exceeding our CfQW.

You must understand that it’s very possible, no matter how many resources you have at your disposal, to have a CfQW of zero! This is because your CfQW is determined by the effective combination of resources, environment, and processes in your organization. Here are a few examples of conditions that might negatively affect your CfQW:

- Incompetent resources - folks who don’t have the training, skill level, or capacity to effectively perform the tasks and assignments they’ve been given
- Unsuitability of the environment in which work is performed - substandard facilities, tools, or systems with which to collaborate, create, and test deliverables
- Flawed processes - lack of respect for the time and effort needed to envision, design, build, test, and support complex systems

This supports the Truth that:

PPE Truth #132

Any condition that diminishes resource competence, suitability of environment, or process capability, negatively affects CfQW.

On the other hand, any condition that leads to increased resource competence, suitability of environment, or process capability, can only increase the potential CfQW. Actually increasing CfQW is dependent on the effectiveness of collaboration among mutually dependent

organizational groups – namely, Senior Managers, Business Professionals, and Technology Professionals. It doesn't matter how talented and capable Senior Managers, Business Professionals, and Technology Professionals are, if they can't work together to accomplish the strategic goals of the enterprise.

### Why is CfQW important?

In the manufacturing world we have a process called Sales and Operations Planning, or S&OP. In S&OP we balance demand (customer orders) with capacity (human and machine availability) to arrive at a production schedule which fulfills forecast and actual demand while also applying resources in the most efficient way (minimizing waste.) In order to perform the S&OP process, we have to have an understanding of what our capacity is. If we have no idea as to what our capacity is, we might make production commitments that are impossible to achieve.

Unfortunately, anyone with a background in manufacturing knows that impossible demands are placed on production all the time and production plans are fragile things that are broken as soon as your 800 lb. gorilla of a customer demands preferential treatment. But the fact that plans are altered due to circumstance doesn't preclude the necessity of planning. Understanding CfQW is critical to effective portfolio management. In fact:

PPE Truth #133

It's impossible to optimally manage a project portfolio  
if you don't understand your Capacity for Quality Work.

The key word here is "optimally." Because if you don't understand CfQW one of two things will happen:

- 1) You will attempt too many projects, thereby exceeding your CfQW, resulting in either failed projects or post-production quality-related issues.
- 2) You will attempt too few projects, possibly resulting in lost opportunity cost, as projects that could have been undertaken are neglected.

Although the second possibility is preferable to the first, I would venture to say that companies in which this is the case are few and far between. Alternatively, companies that are suffering from the first condition are all over the place, scratching their heads wondering why their project results never seem to live up to what they had expected, or what they were told by vendors.

Also consider that, in manufacturing production, it's not advisable to expect that you can run at 100% of your capacity for any length of time. Excess capacity is almost always planned, so that unforeseen circumstances can be addressed. It only makes sense that project planning should

include excess capacity as well to deal with the inevitable unplanned activities that occur in daily production environments.

Now that we've talked about what CfQW is and why it's important, let examine how it pertains to Senior Managers, Business Professionals, and Technology Professionals.

### CfQW and Senior Managers

Senior Managers are the executive sponsors of the projects in the portfolio. They either directly, or through delegated representatives, create or approve the vision for the project. They approve the scope, schedule, and budget for the project, as well as any changes thereto. They champion the vision and benefits of the project in order to justify the worthiness of the investment of resources for its accomplishment. They are ultimately responsible for the realization of the project's benefits, substantiating that the application (or investment) of money, time, and energy used to accomplish it was of value.

If your company doesn't operate in this way, it doesn't mean the standard is invalid. It means your process is flawed! Let's not waste time debating, defending, or rationalizing a flawed process. Let's think about how it needs to change.

Shouldering the responsibility for the realization of project benefits is no small matter, and executives have lost their jobs when they've found themselves, fairly or unfairly, pinned with the blame for major project failures. The best way for them to protect themselves from this risk is to be engaged in the projects for which they are responsible and to stay adequately informed as to project statuses and issues. Accordingly, a proactive way for companies to protect themselves from failures in the portfolio management process is to refuse to fund projects for which there is no engaged executive sponsor.

CfQW for Senior Managers means ensuring that they have the capacity to devote the time necessary to understand the progress, risk status, and evolving cost and benefit profiles of the projects to which they've committed company resources. It also means fulfilling an ongoing role in negotiating barriers to success that the project team encounters and, if necessary, approving changes to scale, scope, schedule, and budget. In unfortunate cases, it may also mean having the courage to pull the plug on a losing effort. Sometimes the best decision is to cut your losses.

In order for Senior Managers to fulfill these responsibilities, it's critical that the reports they receive be timely, accurate and truthful. This won't happen if subordinates are uncomfortable reporting the truth. If they're worried that reporting bad news will get them in trouble, they'll avoid such reports. For more on this, read [The Verisimilitude Manifesto on the Project Portfolio Excellence – free resources page](#).

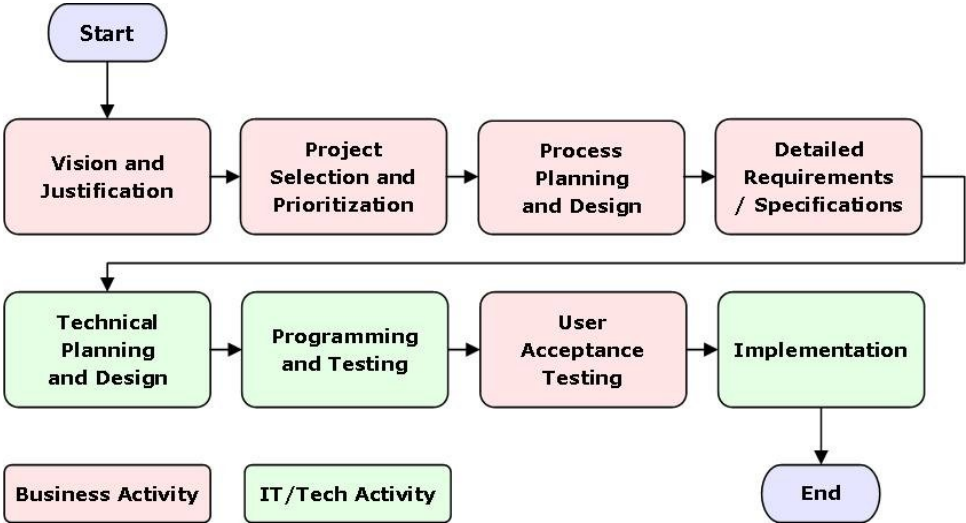
Lastly, portfolio management decisions need to engender the best use of resources for the entire enterprise. Therefore, these decisions should be made by a committee of Senior Managers who, collectively, understand the concerns of all business areas and how the strategy and goals of the company affect all business areas. The Senior Managers who make up this selection committee need to have the time and focus to properly consider how these enterprise level decisions affect the success of the portfolio and the company.

This will be a new responsibility for many Senior Managers. Some may resist the responsibility because of their already heavy workloads, but it should be made clear that this is a part of the job. If they truly don't have the bandwidth to take on this requirement, they need to delegate less critical job functions, or they need to find another position.

Representation on the Portfolio Management Committee can be delegated, but if it is, the delegate must be empowered to make the decisions for the area they represent. The business of the committee can't be postponed because delegates need to ask for approval for their decisions from their managers. For this reason it's probably best for the Senior Manager to directly participate.

CfQW and Business Professionals

CfQW for Business Professionals is often overlooked or taken for granted. We tend to think of capacity as being related to Technology Professionals – that the number of projects we can undertake is limited by the number of available programmers. But, consider this illustration:



Granted, this is a highly simplified example of the project lifecycle. But the intent is to show that at least half of all project activities are the responsibility of Business Professionals. And most companies don't even consider the capacity of Business Professionals when they're discussing portfolio management decisions. It's more often the case that folks who are already

running as fast as they can are thrown into project teams and expected to fulfill project duties in addition to their “real” jobs. What are some of these project duties?

- Requirements gathering and definition
- Process design, including associated measurements and documentation
- Specification writing in collaboration with Technology Professionals
- User Acceptance Test (UAT) case creation and documentation
- UAT Traceability matrix creation
- UAT Test Plan and Test Schedule creation
- User Acceptance Testing and associated issue creation and management
- Defining post-implementation support needs
- Post-implementation support

These are all components of comprehensive project planning, management, and execution. However, many Business Professionals may be unfamiliar with some of them. It’s not their fault. We’ve just never emphasized their necessity. This translates to the fact that quality is often not given the respect it deserves. That’s reflected in the results that most companies experience with software-related projects.

If you’re not prepared, as an organization, to perform the tasks necessary to succeed with software, whether during creation or post-production support, you can save a lot of time, money, energy, frustration, and heartburn by not starting projects which will be destined to fail anyway when these tasks are neglected or dismissed.

### CfQW and Technology Professionals

As stated earlier, most of the time our perception of capacity is based on the availability of programmers and other Technology Professionals. And even with that focus, capacity is usually overestimated, especially in the case of contract workers.

Every time a programmer has to stop coding to go to a 1 hour status meeting, you lose at least 1.5 hours of productivity. Every time a programmer has to switch between tasks because they’re waiting for an answer about fuzzy specifications, you lose productivity. Every time a programmer has to drop what they’re doing to address an unexpected operational issue, you lose productivity. These losses of productivity can result in schedule slippage if they haven’t been taken into account during the estimation and scheduling processes, and most of the time they aren’t. Instead, we set aggressive schedules, based on when we’d “like” to have results, and end up throwing quality and testing overboard in our attempts to meet them. Then the time and cost we think we’ve saved is lost to ongoing post-implementation quality fixes and their related costs.

The reason capacity is often overestimated in the case of contract workers is because many companies, in an attempt to maximize the amount of project work that can be capitalized, institute a policy that every hour must be assigned to a project. Not only does this policy overstate project expenses (assigning hours to projects which weren't actually spent working on those projects), but it also creates a false perception of the benefits of contract labor (defining productivity as the number of hours paid, instead of as the amount of work actually produced.) This is not meant to be a statement on the value, or lack thereof, of contract labor, but an admonition that basing CfQW calculations on accounting practices may be misleading.

Truth-based CfQW needs to include quality-related aspects of software development:

- Design and planning
- Peer review (if appropriate)
- Test case creation (different than User Acceptance Testing test cases)
- Traceability considerations
- Testing (Unit, System, Integration, Regression based on departmental and company standards)
- Documentation
- Participation in project-related meetings and collaborative efforts.

When any of these components are neglected for the sake of expediency, the perceived savings will almost always be lost to future quality-related costs, poor benefit attainment, and inadequate performance of the deliverables.

### What's next? Where do you begin?

PPE Truth #136

Being able to measure and manage your Capacity for Quality Work  
allows you to begin truly managing your project portfolio.

Don't be concerned that these ideas go against the way you've done things in the past, especially if the way you've done things hasn't been working.

If you don't know whether you're exceeding your Capacity for Quality Work, start by analyzing the results you're getting from your project endeavors. If your projects consistently result in quality levels below what you consider acceptable, or if too much time and energy is spent after implementation correcting quality issues, then you're exceeding your CfQW. And don't forget, all the time, money and energy spent correcting post-production issues diminishes time, money, and energy available for future projects.

Make sure you recognize the difference between quality-related issues and issues of cost or time. If you regularly produce good quality, but your projects take longer or cost more than you expected, you need to focus on your cost and schedule-related processes.

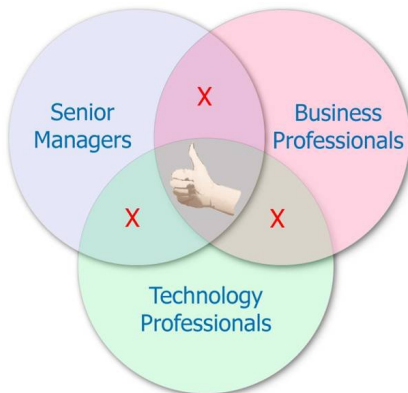
Once you understand your CfQW challenges and have taken steps to more realistically frame your expectations, you can start thinking about Project Portfolio Management or Project Portfolio Excellence as the next step on the path to greater success with your enterprise software and software-related projects.

When you're able to measure and manage CfQW, you gain true power to manage your project portfolio and to most effectively apply limited resources. Most companies today are faced with more requests for new project work than they have the capacity to fulfill. Knowing how much project work can be reasonably undertaken, while maintaining acceptable levels of quality, is an important determinant of project portfolio success.

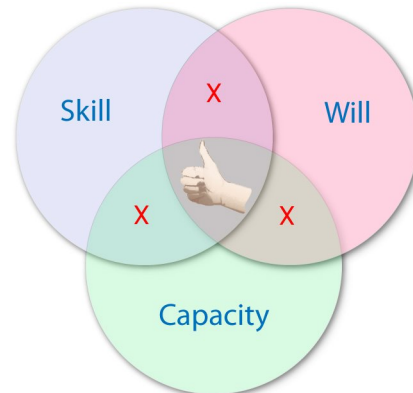
#### PPE Truth #1

The causes of project failure are easy to diagnose and simple to understand.

You can learn more about Project Portfolio Excellence, and Capacity for Quality Work by visiting: <http://www.projectportfolioexcellence.com>



The Project Triad



The Project Trinity