How to Achieve Breakthrough Project Portfolio Performance

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ABSTRACT

In spite of decades of attempts to improve the performance of project portfolios, survey after survey reports persistently poor results in all project-centric industries across the globe. While some project/task-level methods such as Agile have helped in some cases, the portfolio-level throughput of reliable project completions remains stubbornly low.

This persistent pattern of low reliability suggests that there are systemic root causes that common practice has yet to address. By testing this hypothesis using a variety of emerging techniques in multiple applied real-world situations, the author concludes that a few root causes can be identified and addressed, resulting in dramatic improvements in the reliable throughput of project completions.

This paper presents an harmonious mix of proven techniques from multiple leading methods—including Critical Chain, Agile, and Lean—integrated in an innovative way to boost performance by 2X or better. This approach provides leaders in project-centric organizations with a much higher-powered framework for unifying project teams and stakeholders at all levels, for enhancing the flow of productive work, and for aggregating risk for much higher portfolio reliability.

INTRODUCTION

If one examines the most prevalent approaches to improving project portfolio performance—whether based on the Project Management Institute’s Project Management Body of Knowledge (PMI PMBOK), the CMMI Institute’s Capability Maturity Model Integration (CMMI), or other industry-leading approaches, a consistent theme becomes apparent. Roughly speaking, this theme can be characterized as “if you fix the inputs, outcomes will improve accordingly.” While good inputs are necessary, they apparently are not sufficient—many studies have
concluded that project success rates typically fall in the 50-60% range, with Agile and similar methods achieving somewhat higher success at 70-80% for certain types of projects, using relaxed definitions of success. In the 2014 PMI study, “Pulse of the Profession: The High Cost of Low Performance,” fixing one or more of six critical inputs (such as providing ongoing PM training), resulted in modest improvement, to the 60-70% range.

DEFINING HIGH PERFORMANCE

This paper defines high performance as the reliable maximization of return on investment (ROI) for a portfolio of projects. The definition of “project portfolio” is any logical grouping of projects executed by a common resource pool. The definition of “resource pool,” in turn, is the collection of project resources (labor or capital) applied for the purpose of executing one or more projects in the portfolio.

Using these definitions, there are three components of high performance:

1) Selecting projects with the highest-ROI potential.
2) Maximizing the portfolio’s throughput of project completions, given a pre-determined level of resources.
3) Optimizing the portfolio’s reliability—in other words, maximizing the success rate of project completions within affordability constraints, and for projects that continue to represent the highest-ROI potential.

Done well, these three components will deliver the maximum benefit for a given level of cost—all that would remain is the measurement of benefits in a consistent, reliable manner, to ensure that maximum benefit is achieved.

PROJECT SELECTION

Based on anecdotal evidence, common practice for project selection is heavy on political maneuvering, with ROI estimates inflated in order to obtain project approval. And even in environments that use a consistent and disciplined approach to ROI estimation, the benefits delivered after project completion are rarely measured consistently, as key stakeholders often have strong incentives to declare success, regardless of whether the original ROI estimate is achieved.

In the few environments this author has seen in which both ROI estimation and benefits measurement are performed in a consistent and disciplined manner, project portfolio ROI still falls well short of estimates. When root causes were examined, a clear pattern emerged—a persistent contributor to low-performing ROI was that the
expert staff members necessary to achieve the envisioned ROI were rarely available once the project was complete. In other words, highly constrained staff members were already too busy with their regular workloads to help maximize the value of the project outcome, or were pulled into other projects, or had left the organization by the time the project was finally completed.

As a result, Fortezza Consulting innovated a project-selection process that takes into account these downstream staff-member constraints, using a capacity-planning “constraint unit” factor to adjust ROI. If a project candidate offers a high ROI, but is heavily dependent on staff members who are likely to be highly constrained, then its “Effective ROI” is adjusted downward accordingly. Similarly, if another project candidate offers a more modest ROI, but is not heavily dependent on highly constrained staff members, then its **Effective ROI** would appear relatively attractive.

**PORTFOLIO THROUGHPUT**

Surprisingly few project portfolio management (PPM) methodologies even mention the importance of maximizing the number of project completions for a given resource level. And while two emerging approaches (Agile and Lean/Kanban) emphasize improving speed at the task level—which *might* improve portfolio throughput—there is little emphasis on methods designed specifically to improve the flow of project completions. The only PPM construct designed with this in mind is Critical Chain Project Management (CCPM).

**Throughput Maximization Techniques**

CCPM calls for the staggering of project starts in a way that avoids overloading resources, and in a way that encourages “relay race” behavior for all assigned tasks. In addition to staggering, CCPM calls for focused, single-task execution, such that each task can be worked to completion as quickly as possible. Finally, CCPM calls for the aggregation of task-level risk to the project level, freeing task owners from concerns over the variability of task-level execution, and allowing them to focus simply on delivering as quickly as possible.

These three CCPM throughput-maximization techniques—**Project Staggering, Single Tasking, and Risk Aggregation**—have been proven to deliver throughput improvements of 2X or higher. Interestingly, Agile shares some single-tasking characteristics, as well as some risk aggregation characteristics, and when Agile/Scrum teams are highly disciplined in both, they have demonstrated improvements of 30-80%.
In addition, this author sees many other techniques that can help improve throughput, depending on the type of project and other specific circumstances. For example, in software-development projects, using Lean techniques to shrink the process footprint before the processes are software-enabled has demonstrated effectiveness in shrinking the software footprint, leading in turn to faster project execution—often twice as fast, even when factoring in the upfront investment in process improvement. Similarly, other techniques from Lean and the Theory of Constraints have demonstrated effectiveness in maximizing the flow of task-level completions, especially in environments characterized by highly granular task execution (such as software development, aircraft maintenance, and many more). While such techniques are not the focus of this paper, it is important to understand that proven throughput-maximization techniques exist, and that project portfolio executives and teams have many good options.

PORTFOLIO RELIABILITY

Just as Single Tasking and Risk Aggregation improve portfolio throughput, they also have shown dramatic reductions in variability, making execution more predictable and reliable. And once the risk of task-level execution is aggregated to the project level, it becomes much easier to manage project-level buffers to protect the project from failure. While project-level buffering isn’t new, and is used by all major project-management methodologies, most stop short of using Buffer Management as a disciplined reliability enhancing technique. Notable exceptions are CCPM and Agile (though Agile refers to buffer management as “the task backlog,” which is tantamount to scope buffering). Such disciplined Buffer Management approaches have demonstrated project-level reliability improvements of 50% or more.

Once disciplined Buffer Management is in place, it becomes possible to manage project-level buffers as portfolio reliability assets. As Murphy’s Law strikes some projects harder than others, those projects will find themselves in a more precarious situation than the rest of the portfolio, and will consume their project-level buffers faster as a result. If such excessive buffer consumption persists, those projects would fail. However, given that other projects will likely have more buffer than the need, portfolio managers now have the option to reallocate resources from healthier projects to those in dire straits. This Buffer Balancing technique, which originates from CCPM, has demonstrated portfolio reliability improvements of 20-40%.

One limitation of Buffer Management and Buffer Balancing approaches is that they have traditionally defaulted to a single buffer type. CCPM defaults to schedule buffers, on the logic that falling behind schedule usually causes budget overruns,
which in turn causes pressure to trim scope. Agile defaults to scope buffers, on the logic that project stakeholders usually want more scope if possible to get it at no additional cost, and thus will have their expectations exceeded. In this author’s experience, PMs will seek out protection from failure wherever they can, and will gladly accept schedule buffers, scope buffers, and budget buffers whenever possible, under the logic that more protection is better than less. Such **Buffer Type Flexibility** is an innovation of Fortezza Consulting, and is currently being tested in environments to see what additional reliability benefits may accrue to project portfolios. In addition to reliability benefits, Buffer Type Flexibility offers project portfolios a hybrid mix of Agile and Traditional project-level execution methods, rather than forcing a single method. As long as disciplined Buffer Management and Buffer Balancing are adhered to, Buffer Type Flexibility allows harmonious integration of multiple methods.

**REFERENCES**


