

Project Levers and Gauges

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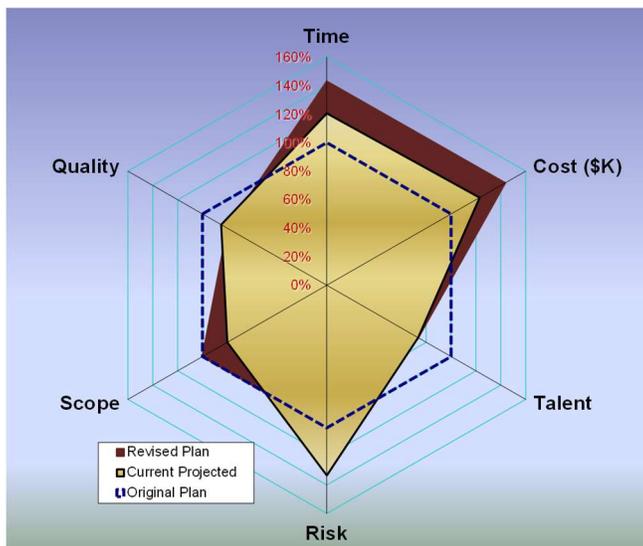
Abstract

Governments and Enterprises alike continue to try to do more with less. As a result, Faster and Cheaper are increasingly attractive themes. But these themes can result in poor project performance if you have no agreement about your priorities. It is even worse if you have few Project Managers with the competence needed to achieve the results.

This article points out the flaws of mistakenly attempting to control project *Gauges*, and identifies the benefits of more effectively managing the project *Levers*, so project teams and organizations achieve their targets.

Prioritizing the Key Project Factors

In our consulting practice, the first step we use in coaching the kick-off of large, complex and important projects is to prioritize the project's key dashboard factors. The factors consist of six "Vital Sign" measurements, related to project knowledge areas: Time, Cost, Scope, Quality, Risk, and *the right* Human Resources, or Talent. See these key areas below.



In our process, we engage stakeholders, including Sponsors/Steering Committees, Subject Area Experts, Managers, other team members, and also those who will be affected by the project's results. Teams rank-order the priority of their top three factors.

Then, during the project, we manage the project to optimize those three factors, while monitoring the status of all of them, typically using a project dashboard (as in the graphic at left). The result: Everyone is managing to the same success criteria.

Managing Faster and Cheaper

Given agreement about which Vital Signs are most important (and Time and Cost are often among them), we observe two different approaches Project Managers and their Managers use in managing them:

1. Attempting to control Time and Cost—mere gauges—to assure you meet those targets.
2. Managing key project levers—leading indicators—to achieve the desired Time and Cost outcomes.

The problem: too many of today's Project Managers use only the first approach, managing gauges. The second approach, focusing first on Talent and Scope—the levers of success—then, monitoring the gauges—is far more effective.

To help audiences of all experience levels to better understand the difference between the two approaches, for many years we use a few analogies. Those analogies include leading indicators vs. trailing indicators, front window vs. rear-view mirror monitoring, or managing inputs versus controlling outputs. The analogies are crystal clear for the majority of audiences, but not for all.

Introducing Levers and Gauges

Several decades ago, we began using this concept of Levers and Gauges as an additional way to illustrate the difference between the two approaches. Rather than giving you a dictionary definition of Lever and of Gauge, let us instead begin by providing some (non-project) examples.

Example 1. *Setting: Dinner.* The Levers are your fork and knife. What is the Gauge? Perhaps, how full you feel. Interestingly, for most of us, our Gauge has about a half-hour lag (except for chocolate, which *never* registers on our Gauges).

Note that in this example, there are two Levers, and you must master the appropriate use of each. Note that *appropriate* varies with the continent.



Question 1: Is the Gauge important? **Definitely!** In fact, because of the lag in response, we need ways to determine the trend toward fullness if we are to be successful managing to it. Just-in-time reporting leads to over-eating!

Question 2: Can you avoid over-fullness by merely controlling the Gauge? **No!** You must manage your use of the Levers properly to do so. Already we can see useful comparisons to the project environment!

Example 2. *Setting: The Shower.*



The Gauge is the hot/cold sensation when you test it with your hand. Other parts of your body may have different calibration for what temperature is “right”. This means that you adjust the readings of the Gauge, leaving a bit of tolerance for your safety.

What is the Lever? It is the faucet handle or handles. Note that single-Lever handles are easier to adjust. But they are sometimes harder to figure out (a trade-off between ease-of-use and ease-of-learning).



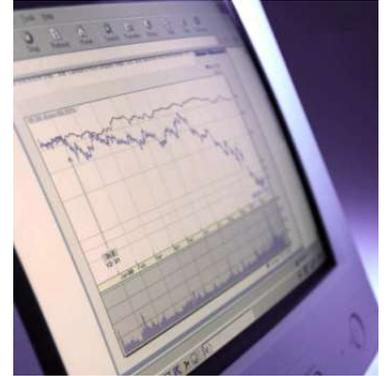
Question 1: Again, is the Gauge important? **Absolutely so!** So much so, that we instinctively back away from the shower flow if we sense a change in the water pressure—a survival skill in avoiding scald or chill. This sense depends on another Gauge, monitoring changes in

water pressure. That is a very important Gauge! This is Project Risk Management applied!

Question 2: Does everyone have the same “ideal temperature”, or do people’s individual preferences vary? This is starting to sound very much like project work, but with softer measurements.

Example 3. *Setting: The Stock Market.*

A little closer to the project world, now that the preceding examples help show the crucial interaction between Levers and Gauges, let’s try this one. In the stock market, an important Gauge is a stock’s Share Price. Can you change performance by acting on the Gauge? Despite the efforts of some day-traders and commodity traders, only with very short-term success.



Question: What are the Levers? In this case, they might include earnings growth and profit, together with more subjective factors, such as how well the company communicates with its stakeholders. This is sounding like close parallels to project work. Although here, you have no control over the levers!

Manage Levers and Monitor Gauges

As we mentioned earlier, all the vital signs are important, but Cost and Time are merely Gauges. They are important, and are often among the top three priorities in most projects. But as the above examples illustrate, **you cannot get optimum results just by controlling them.** Instead, you must manage the Levers (e.g.: Scope and Talent), and then monitor the Gauges to verify that your efforts are working.

Here are a few of the key actions high-performing project managers use to manage the Levers so they get the desired readings with their Gauges.

Action 1: Measure Scope Early, Manage it Constantly

Example: Scope is a key Lever. If Scope increases, and all else is constant, what happens to project Time and Cost?



Clearly, Cost goes up, and Time does as well if you cannot productively add more resources.

Thus, managing Scope as a Lever directly affects the project Time and Cost. Of course, this suggests that you have a way to measure Scope. How do you prove the project is larger, and by how much? Most disciplines have measurement points and methods for managing Scope, but the measures differ radically—as do expectations about how much change is too much. Scope measurement and management are key competences of the most effective project managers.

Action 2: Improve Team Member Performance.



Skilled Human Resources are an important Lever. Put the right people with the right skills, availability and experience on your highest-priority projects.

Example: Barry Boehm's work¹ showed the difference on an Information Technology project between a team with one or more members having *Very High* Business Analysis and Application Experience, and another team with *Very Low* Experience. The performance difference: About three times the cost!

That excess cost does not even reflect the quality problems of the *Very Low* Experience team's results. Thus delivering the same Scope can cost three times as much, just based on this set of skillset Levers. And what do you think happens to Time? To Quality? **This** is the proven path to Better, Faster, Cheaper.

Action 3: Eliminate Unnecessary Constraints.

Boehm also identified an *unrealistically tight deadline* as increasing Cost by 40%, just by itself. What do you think that does to Time? Does it impact Quality? So much for controlling a project through its Gauges rather than by managing the Levers!



This is like trying to make a dog happy by shaking it by its tail!

Yet setting unrealistically tight deadlines is a too-typical practice in less-competent project organizations. This does not mean those organizations have bad managers—it merely means they have not yet learned more effective project-oriented approaches.

Action 4: Eliminate Interruptions and Other Work Commitments.

Example: Stretched-thin organizations (especially those trying to “do more with less”) **sub-optimize project performance** when the project worker's interruption rate goes beyond a certain level. We've polled project groups for over 30 years, asking “what is your *Mean Time Between Interruptions*,” and have heard many responses where the typical range is 8-15 minutes.



The result: **the work may cost twice what it needed to.** Want proof? If you attempt to complete a 20 hour assignment during the week, how much time would it take you if you came in on a weekend? For many of us who are subject to interruptions, it may take just 8-12 hours when we perform the work on a weekend.

We suggest that you evaluate your own work pattern here, because your interruptions may also be your greatest cause of defects if you are doing deep-thought work. Do you do any deep-thought work? We think **you try to**. The result: Lower quality!

Why Many People Try to Control the Gauges

There are many different reasons why most Project Managers (and Executives) focus on trying to control the Project Gauges (rather than managing the Levers). Here is a short list of some of the reasons why they try to do so.



Why so many focus merely on the Gauges:

- ◆ It seems easier;
- ◆ They are all your manager is interested in;
- ◆ They do not require as much skill or competence;
- ◆ That's all some of us ever learned.
- ◆ They are what that certification tested for.

If you insist on managing by Gauges, you should at least consider including Benefit/Cost Ratio or Return on Investment in your initial prioritization process, your in-project dashboard, and post-project evaluation processes. You will find that it is a Super-Factor, because it reflects a post-project aggregate measure (Gauge) of the right Scope, at the right level of Quality, delivered in the right Time at the right Cost.

Over time, paying close attention to managing the right Levers reaps greater return, and helps drive organizations to increased levels of project success. This is so crucial that we always suggest that our clients who use a Balanced Scorecard should use some type of Return on Investment measure on their projects.

Keep Your Hand on the Levers and Your Eye on the Gauges

Today's most effective Project Managers (and their Managers) understand the interaction between the project Levers and Gauges, **and they manage those interactions.**



This shows yet another difference between rote knowledge and demonstrated competence.

Specifically, competent Project Managers demonstrate the understanding that:

- ◆ The project Levers control or influence the readings of the Gauges.
- ◆ There can be great latency between action on a project Lever and the result on the Gauges.
- ◆ Managing Levers is pro-active; attempting to manage by Gauges alone is purely reactive; the former technique is the domain of the more effective Project Manager.
- ◆ By the time a Gauge 'goes red,' it is too late to correct it. This is like driving a car by looking only out the rear view mirror.
- ◆ Gentle nudging of the Levers (with attention to the results on the Gauges) tends to work better than massive changes in them; yet all too frequently we see too many projects with massive changes in momentum.
- ◆ For smart Project Managers: It is actually easier to manage a project by its Levers than to attempt to control it by its Gauges.
- ◆ Involving the team in managing Levers improves communication. Merely controlling Gauges reduces it.

The Gauges of a project are very important; especially for organizations that prioritize them in their top three project Vital Signs. But this article describes one differentiating competence that separates great Project Managers and teams from those that are not, yet. That competence is whether you understand that to manage, *rather than merely control*, you must manage the Levers, and monitor the Gauges.

About This Article

Originally written in 2005, this article has been republished on websites and journals in the USA and many other nations. They are also often translated, with our permission. While the content is common-sense, the insights are still rarely demonstrated by many project managers, and their managers.

This article is also the basis for many presentations around the World, for appropriate audiences, since its original publishing in 2005.

About the Author



STACY A. GOFF, *the PM Performance Coach*, has coached and inspired tens of thousands of project and program managers, and hundreds of organizations, on five continents, for over forty years. A Project Management practitioner since 1970 and consultant since 1982, he has also been a strong contributor to professional organizations such as IPMA® and PMI® since 1983.

He is a co-founder and past-president of IPMA-USA, and 2011-2014 Vice President of Marketing & Events for IPMA, the International Project Management Association. In September, 2015, he was named an IPMA Honorary Fellow.

Goff's interest in project competence and performance began with establishing a PM Competency Center for a nuclear power plant in the early 1980s. It continued with international engagements during the 1980s and 90s as he helped organizations assess and improve their project and program performance.

Today, he coaches, speaks and performs keynote speeches at major project-related events. And, he continues to pursue his interest in individual, project team, organization, and national and international PM performance.

Stacy brings a results-oriented approach to Project Management coaching, consulting, and training. His insight for the needed PM Competences, and his delivery of effective training translate to improved project performance. In his working life, he combines his Project experience with sensitivity for the interpersonal skills areas—the human aspects of projects.

In his papers, presentations, workshops or in consulting, he combines his project experience with strategic linkage for all projects and programs. His insights and experience have provided competitive advantage for his clients for over 40 years. His business result: measurably increased **PM Performance**.

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Notes

Footnote 1: Boehm, Barry W. et. al. **Software Estimation With COCOMO II**. Prentice-Hall, 2000. Although his book focused on Information Technology projects, the concepts in the book (and indeed, many of the factors) are transferable to most other disciplines as well.

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