

Project Levers and Gauges

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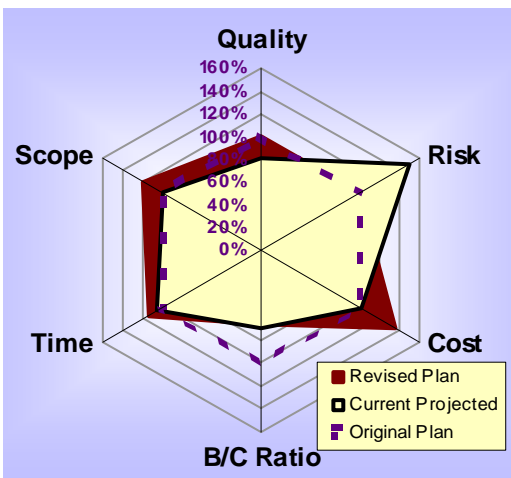
Abstract

Governments and Enterprises alike are trying 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 ProjectExperts 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 (graphic below).

The factors consist of seven "Vital Sign" measurements, all but one of which are related to the project knowledge areas: Time, Cost, Scope, Quality, Risk, application of the right Human Resources or Talent, plus the Cost/Benefit Ratio (or Return on Investment).



We include Cost/ Benefit Ratio in the prioritization because while it can be difficult to evaluate, it is a superior success measure for many projects.

In our ProjectExperts' project Initiation processes, stakeholders prioritize the Vital Signs to achieve rank-ordered priority of the top three. 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 above). The result: Every-one is managing to the same success criteria. For more information on this prioritization process, see: <http://www.projectexperts.com/articles/1vitalsigns.htm>.

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 to assure you meet those targets.
2. Intelligently managing the *other* key project Vital Signs to achieve the desired Time and Cost outcomes.

The problem: too many of today's Project Managers use only the first approach, while the second approach is far more effective.

To help audiences of all experience levels to better understand the difference between the two approaches, for many years we have used a number of different 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 years ago we began using the 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? How full you feel. Interestingly, for most of us, the 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 one must master the appropriate use of each.



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 findings 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 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 to avoid scalding, that depends on another Gauge, that of sensing water pressure. That is a very important Gauge! This is Project Risk Management applied!

ment 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 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 would have to include earnings growth and profit, together with more subjective factors, such as how well the company communicates with its stakeholders.

This is sounding more and more like a series of close parallels to project work.

Manage Levers and Monitor Gauges

By now, you have probably figured out which of the key project Vital Signs are Levers and which are Gauges. Cost and Time are Gauges. They are often in the top three priorities in most projects, but you cannot get optimum results just by controlling them. Instead, you must manage the Levers (most of the other factors), and then monitor the Gauges to verify that your efforts are working.

Here are just a few of the many tactics our clients use to manage the Levers so they get the desired readings with their Gauges.

Tactic 1: Measure Scope Early, Manage it Constantly

Example: Scope is a key Lever. If Scope increases, and all else is constant, what happens to 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 a key competences of effective project managers.

Tactic 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: Based on Barry Boehm’s 2000 work¹ the difference on an Information Technology project between one team with Very High Business Analysis and Application Experience, compared to another team with Very Low Experience is about three times the cost!

That 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? Here is the proven path to Better, Faster, Cheaper.

Tactic 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 approaches.



Tactic 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 20 years, asking “what is your Mean Time Between Interruptions”, and have seen many organiza-

tions 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 thought so.

Why We Focus On Trying 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 reasons why so many of us do so.



Why many focus merely on the Gauges:

- ◆ It's easier
- ◆ That is all the folks upstairs seem to be interested in
- ◆ It does not require as much skill or competence
- ◆ That's all some of us have ever learned

If you still 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

With credit to our friend Dr. Lewis Ireland, who coined the above heading, 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.

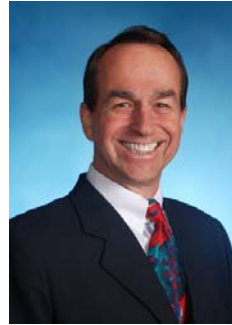


Specifically, Competent Project Managers understand:

- ◆ 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.
- ◆ 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. 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 to optimize. But this article describes one differentiating competence that separates great Project Managers and teams from those that are not. That competence is whether you understand that to manage, rather than merely control, you must manage the Levers, and monitor the Gauges.

About the Author



STACY A. GOFF, IPMA-D, PMP, the PM Per4mance™ Coach, is President of ProjectExperts®, a USA-based Project Management methods, tools, consulting, and training company.

A Project Management practitioner since 1970 and consultant and professional speaker since 1982, he works Worldwide to improve Enterprise or project team productivity, quality, competence and cost-effectiveness.

Mr. Goff is a long-time member of the Project Management Institute, is co-founder of *asapm*®, the American Society for the Advancement of Project Management, and is the USA Representative to IPMA, the International Project Management Association.

We offer a 1-hour presentation on this topic, suitable for conferences, Enterprise internal use, or for society meetings. Contact us at www.projectexperts.com.

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