



Rethinking measurement: More than evaluating performance

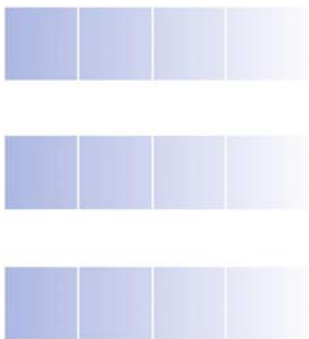
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Executive summary – Measurement is crucial for success, but it is an imperfect art, as practiced by most organizations. Too often, the focus is on accepted, technical measures, rather than on the specific needs of individuals involved and the desired outcomes. This becomes even more strained in the often fuzzy area of measuring innovation. Taking a closer look at the context required for effective measurement and challenging those involved in measurement to work toward learning and improvement can lead to measures that are more honest and more valuable to all.

In this Executive Technology Report, Peter Andrews interviews Dean Spitzer, who works in the IBM Almaden Services Research Group (IBM Research). He is currently leading a research program on "the socialization of measurement." He is the author of Transforming Performance Measurement: Rethinking the Way We Measure and Drive Organizational Success.

Peter Andrews "The socialization of measurement" is an interesting title for a program. Could you say a bit about it?

Dean Spitzer I believe that performance measurement has evolved into a purely technical area. Measurement and finance specialists tend to take ownership of measurement and most everyone else in the organization becomes a "passive consumer" of performance measurement. I believe that meaning from measurement comes through interactivity among people. In fact, when I talk about "measuring," I am talking about the complete "performance measurement cycle" (of which, collecting and analyzing data are only two of ten phases). The focus of my research is how to get people more involved in the performance measurement process. My research is really at the intersection of performance measurement, organizational learning and business transformation.





Unfortunately, most people are accustomed to "being measured," rather than measuring and using measurement. In addition, performance measurement tends to be used to monitor, inspect, report and justify, rather than as the basis for learning and improvement. Most people feel threatened by measurement and don't really want anything to do with it!

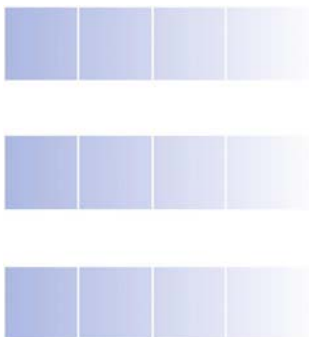
Peter Andrews This goes directly to something our audience is interested in, measuring innovators (both self-measurement and organizational measurement). Could you use this as an example to illustrate your approach?

Dean Spitzer Yes. Most innovators tend to view measurement as something irrelevant. They see management counting their outputs (such as projects, patents, papers and presentations) rather than using measurement to advance the climate for innovation or other "leading indicators" of innovation.

How many innovators have any role (or interest) in measuring innovation? It's typically done by specialists and by management. Most people see measurement as irrelevant to them. That's why I stress that the key quality of performance measurement must be relevance. Emphasis on monitoring and reporting causes the attitude toward performance measurement to be at best neutral, but most often it is negative. That is what leads to so much "gaming." This is a shame since measurement can be such a powerful force to focus people on doing the right things and to promote alignment and synergy. Organizations that measure poorly are full of waste. As I tell people, "slack" is good; waste is bad.

The role of innovators in measurement should be the same as any employee – to help select the right measures (those that are most relevant and useful, not necessarily most quantitative), use them, talk about them, improve them and (most of all) use the data to learn and improve – in this case, to foster innovation and create a more innovative climate

Peter Andrews Could you talk in detail about the process? Many people believe innovation is different.





Dean Spitzer Innovation is different as far as the specific measures are concerned, but not about the attitudes and process of measurement.

Let me explain. As I said, most organizations focus on the outputs and outcomes of innovation. These things can't be managed. An attempt to try to manipulate the outcomes (without understanding of the processes) is what Deming called "tampering."¹ I tell people to focus on the input and processes. These are what can be managed, and will lead to much better and more consistent results over time.

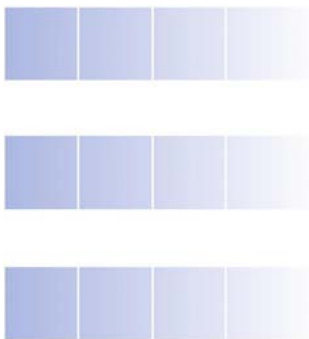
Most organizations are impatient. They think that they can set targets for outputs and that the process will improve by itself. I show organizations how to build "measurement frameworks," which show the hypothesized relationships between desired outcomes and the drivers (or leading indicators) of those outcomes. It is the drivers that should be the focus of management. We are all familiar with what happens when management defends results without adequate understanding of what produces those results.

That is why I recommend that organizations focus measurement on things like "climate for innovation" and "innovation processes." Of course, it is important to measure output and outcomes as well, but they will come when the inputs and processes improve, so long as they are causally related.

Developing the right measures and using measurement data must be iterative and highly interactive. Almost nobody realizes this.

Peter Andrews Could you talk about those and how you measure them?

Dean Spitzer Yes, for example, "climate of innovation" can be measured by such dimensions as "innovation leadership," "openness," "idea support," "communication," "relationships," "risk-taking," and "time use." There are a virtually unlimited number of innovation enablers that can be measured. Many clients ask me to give them the "magic metric," but I tell them that each measurement system must be developed for what the organization wants to accomplish, its existing climate and its current stages of maturity. In addition, the dialogue that occurs around what to measure is one of the best learning experiences teams and organizations can have.





Peter Andrews Right. We've seen that groups mean different things by "innovation," and that fits what you're saying.

Dean Spitzer Most leading indicators of innovation are qualitative in nature, and there are adequate ways of measuring anything, no matter how intangible.

Peter Andrews Could you talk about some questions the organization might ask to set things up? Some questions for the innovator to ask, as well? And maybe some typical problems or bad moves?

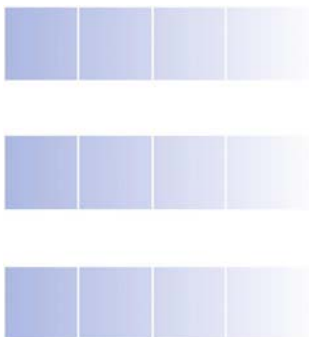
Dean Spitzer The first thing an organization needs to do is be clear about what is meant by "innovation" and what its objectives are relative to innovation. It is important to look at innovation (or anything else) as a continuous process of improvement.

Peter Andrews Could you elaborate?

Dean Spitzer The most successful organizations look at performance measurement as a critical enabling process. They do not engage in a stringent cadence. They realize that the right results will come from developing a good process. Impatient organizations are constantly inspecting the outcomes.

Peter Andrews Is there any evidence that patient organizations outperform impatient ones, that is, that measurements predict performance of, say, stock?

Dean Spitzer Many organizations undermine innovation by constantly trying to rush the outputs and outcomes (for example, products, patents and commercialization). It is like a farmer constantly digging up the seeds to see whether they are growing, rather than focusing on developing a good farming process, and trusting that process. With the right nurturing, the seeds will grow. In addition, innovation does not always occur on a 12-month calendar. Measurement systems must be suitable for what is being measured. Transactional sales need to be measured differently from complex sales, and product and service enhancements need to be measured differently from radical innovation.





The worst move for a company is to not put enough attention on the climate and context of innovation. That is why traditional performance measurement is so dangerous; it focuses on budgets and results. Furthermore, managing innovation using project management measures prematurely can turn the creativity into a rigid process.

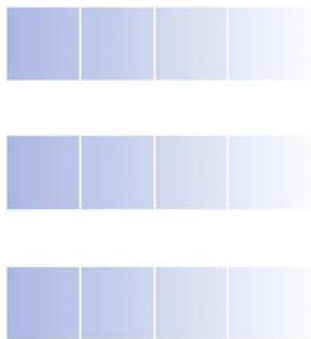
Peter Andrews I'm running into more people who say the bottom line is the only measure and short term is best. Is there evidence to the contrary?

Dean Spitzer Most of the research is contrary to that belief. Of course one needs balance. Eventually you have to look at whether the "seeds" are growing. But if the seeds are not growing, it is probably ignorance and poor farming that is causing it, not lack of inspection. Pressure just makes people sloppy and gets them to "play the game" and it is demoralizing. It undermines quality (and real innovation). We see it all the time, people will "make their numbers," but the quality is usually compromised. Or a potential long-term innovation is exploited prematurely. People are good at "meeting their numbers" regardless of the consequences.

If you ask me for an innovation in a month, I'll give it to you. But I might have been able to come up with one in a week. Or maybe the real innovation might take six months. That's why it is so important to have a good understanding of the process and to have in-process measures (that are used for learning and improvement, not to reward or threaten).

Peter Andrews Some people are concerned about the financial environment, laws like Sarbanes-Oxley (in the U.S., for financial disclosures), and worry about investor lawsuits to question any project that cannot project an ROI (return on investment). What is your advice to those people?

Dean Spitzer Companies, especially public companies, always need to be conscious of ROI. It is a matter of where and how the ROI is used. Projected ROI can force what we talked about previously – premature attempts at exploitation. However, having appropriate measures of profit potential are not bad and many organizations are using portfolio measurement (so that projects are measured appropriately within the context of the overall innovation portfolio and funding of innovation projects based on "stage-gate" measurements. They are also looking at risk-reward profiles and time-to-value measures. The point is that the best innovation companies are learning to measure (and manage) in the context of the changing business and regulatory climate without compromising their overall portfolio of innovation.





Peter Andrews OK. Let's return to the individual innovator: Questions to ask? Responsibility? Advice?

Dean Spitzer As a start, I recommend that an organization do an anonymous "climate for innovation" survey as a baseline. As Deming showed, "the system" is responsible for 85 percent or more of variance,² and this is true of innovation as well. Does the organization have the right climate, systems and processes in place? We don't want to measure individuals until there is a measurement system for innovation that can be trusted. That will also provide the basis for a non-threatening dialogue among innovators and with management. But, that's the problem: few organizations are accustomed to discussing measurement data. Without dialogue, there can be no learning, and data can't be converted into knowledge, insight and wisdom. This applies to all types and levels of measurement.

Peter Andrews Are such surveys standard, or do they need to be created for each instance?

Dean Spitzer There are standard surveys that can be adapted.

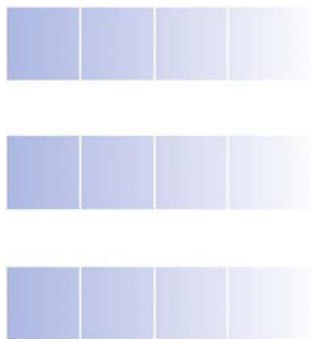
Peter Andrews Aha. How does an organization get these?

Dean Spitzer I talk about doing that in my book. I have a section in my book that discusses that very subject and provides an example, the Innovation Climate Questionnaire. But there are many in the literature.

But, remember, it isn't about measurement so much as how measurement is used and what is *done* with the measurement. That's the key message that I am trying to convey to organizations.

Peter Andrews Right.

Dean Spitzer As I said, most organizations use performance measurement to monitor, inspect, report, justify and to dispense rewards and punishments. This makes people become defensive and use the measurement data for self-serving purposes. No doubt, you also see that all the time. When measurement is used for learning and improvement, and when it is "socialized," the attitudes of people toward measurement change over time, and measurement becomes a powerful source of feedback.





Take for example, if an innovator is being measured by a performance appraisal system, what his or her reaction will be. Contrast that with measurement that is useful for innovators to adjust their own behavior. Self-assessments and team assessments can be very powerful, if there is an open and honest climate in which to consider the data and discuss it. Unfortunately, most often measurement is a "score" and we have to maximize our "score," even if it sub-optimizes the system, which it almost always does.

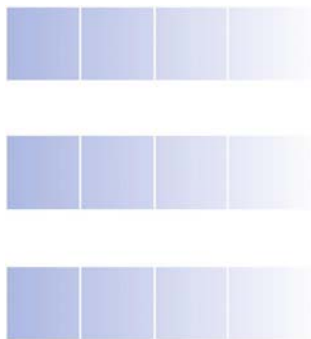
In my book, I talk about the importance of the "context of measurement" – this is the environment in which measurement is done. The most powerful positive enabler is a focus of performance measurement on *learning* and *improvement*. That doesn't mean that it can't be used to monitor or report (which are necessary), but there are leading, or in-process, indicators that are used primarily for learning, improvement and process management – not just counting results. It has been said that "not everything that is countable counts." The key is to measure what is most important to improve the organization. In the case of innovation, there must be a balance between monitoring results (the harvest) and the process (nurturing the seeds).

Sometimes to measure what is most important, and the intangibles that increasingly drive value creation, you have to use what I call "emergent measures."

Peter Andrews Could you share some here?

Dean Spitzer Yes, emergent measures are new measures that, although relevant, might not initially be highly valid or reliable. They can be used experimentally for learning and improvement. Examples are different measures of "climate for innovation," "innovativeness," "organizational trust," "talent," "culture" and "knowledge flow." These types of measures are going to be the most important leading indicators of organizations' success in the future.

It is a paradox that organizations that are charged with innovation are often among the least innovative with respect to measurement. Sure, there are measurement specialists in R&D organizations, but the same old deliverables and results tend to be measured. It is like they are too busy being innovative to worry about performance measurement, but in the process they become victims of their neglect.





Peter Andrews Can you provide a specific example of how this worked out for someone?

Dean Spitzer I have worked with several organizations that have adopted "emergent measures" that have really helped them improve. You can't do that with lagging measures.

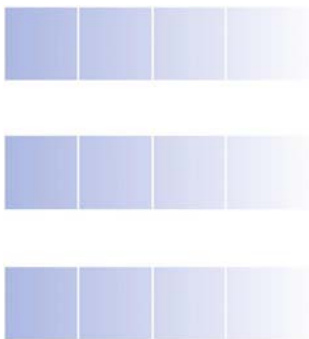
Climate for innovation has been used with several organizations to help them become more innovative. I am currently working with several efforts in IBM to improve our internal measurement.

Peter Andrews Do you have practical advice? Any tips?

Dean Spitzer As far as measuring innovation is concerned, the most important thing is to give the organization a vision for the importance of having a good way of *measuring* end-to-end innovation – not just the *products* of it. Then I tell organizations to map out their innovation process, including key inputs and outputs. Of course, the ultimate goal of the system must be well defined. Then, it is important to find ways of measuring each stage of the innovation process and any important input and outputs. Understanding must precede effective measurement; so it is vital that the organization at least begin to understand the innovation "value chain." Different measures are needed for each link in the innovation value chain (for example, ideation, project selection, product development and commercialization). For example, in the ideation stage, the emphasis should focus on measuring the climate for innovation, and the quantity and quality of ideas. Without the ability to measure these things (which are the drivers of innovation success), you can't manage them.

I also recommend that organizations start small, perhaps with an innovation team or project. Involve the innovators in selecting the measures and interpreting the data. Remove the pressure of getting results on these measures. As I said earlier, I am a strong believer in measurement frameworks that show the leading indicators of what we want to achieve.

Peter Andrews Any thoughts on working across organizations?





Dean Spitzer Yes, I talk a lot in my book about "cross-functional measures." I say that no matter how powerful the individual measures, the key is to get the overall system working well and continuously improving. So I have a lot to say about, and many examples of, measures that can transform the working relationships among functions.

But the biggest problem for innovation is where executive management or Finance demands quick payoffs. That is why organizations need a layered innovation process that can deliver results at different times (with different time horizons). But of course, until you understand the various innovation processes, you won't know the average time to market to expect (or be able to predict anything else).

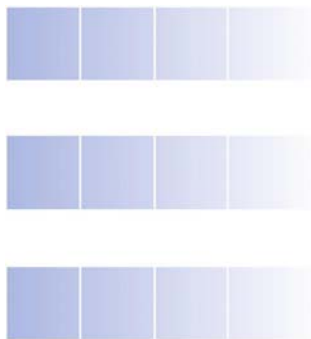
Peter Andrews Could you mention an example of a measure that can transform the working relationships among functions?

Dean Spitzer One of the most powerful cross-functional measures is cycle time. Not the lead time of any particular sub-process, but the cycle time of the end-to-end process. Reducing cycle time (if done with a focus on improvement) will improve everything else (including quality, hand-offs, waste reduction and the like).

That's why Lean and Lean Six Sigma are so popular these days. The problem is that they are being used too often in functions or sub-processes, rather than with an end-to-end process perspective.

Peter Andrews Is it possible to put measures in place and still have flexibility in your approaches to innovation?

Dean Spitzer Yes, of course. Measurement does not have to be constraining at all, although most often it is. That is why I resist using the term "metrics," which tends to imply that a measure is "cast in stone." Performance measures should be reviewed continually and changed when appropriate. "Metrics" almost never change. Flexibility is also one of the key emergent measures I talk about in the book. It is a matter of balancing a number of dimensions (but not too many). I recommend focusing on speed, quality and flexibility at the same time. Focusing on one will create imbalance.





Peter Andrews Thank you, Dean. Anything you'd like to add?

Dean Spitzer My book will be published by the American Management Association at the end of January. Its full title is *Transforming Performance Measurement: Rethinking the Way We Measure and Drive Organizational Success*. By the way, I believe this is the first book ever on "the socialization of measurement."

Technology to watch
Lean Sigma
Lean Six Sigma
Performance measurement
Reputation management

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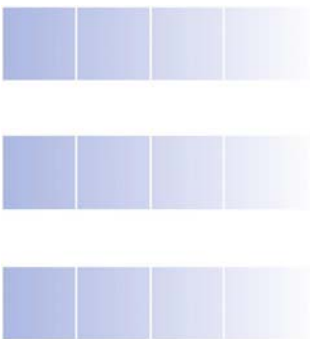
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Tools & Methods

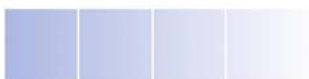
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About this publication

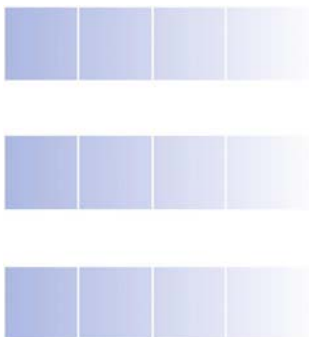
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Knowledge Management: Capturing a company's collective expertise wherever it resides – databases, on paper, in people's minds – and distributing it to where it can yield big payoffs

Pervasive Computing: Combining communications technologies and an array of computing devices (including PDAs, laptops, pagers and servers) to allow users continual access to the data, communications and information services

Realtime: "A sense of ultracompressed time and foreshortened horizons, [a result of technology] compressing to zero the time it takes to get and use information, to learn, to make decisions, to initiate action, to deploy resources, to innovate" (Regis McKenna, *Real Time*, Harvard Business School Publishing, 1997.)

Ease-of-Use: Using user-centric design to make the experience with IT intuitive, less painful and possibly fun





Deep Computing: Using unprecedented processing power, advanced software and sophisticated algorithms to solve problems and derive knowledge from vast amounts of data

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