Measuring Mud with Micrometers – the Fine Art of IT Metrics
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Setting the gauges on organizational and project metrics seems to be a delicate art. Some folks set them by management fiat. Other cultures set them by past history and organizational capability. Still others set them by what's referred to as "Kentucky Windage" (also known as "best guess"). The problem is that even if the requisite metrics for performance are pre-ordained, the evaluation of future outcomes against those metrics is daunting, if not impossible.

Think of the range of values that are applied to modern projects. Return on Investment (ROI) evaluates the anticipated performance of the project in terms of its deliverables against the investment required to make those deliverables happen. But even within something that sounds that mathematically precise, there are variables. How is ROI being calculated? What formula is being applied? What constitutes a return? When and how are the returns evaluated? And what constitutes an investment? Are all costs investments? What about capital costs? Are all resources part of the investment package? And that's just one metric!

The range of metrics applied in business cases is legion. Return on Sales. Return on Assets. Economic Value Added. Net Present Value. Internal Rate of Return. Revenue. Sales. Savings. Customer Goodwill. Customer Satisfaction. The list goes on and on and on and on. And for each one, we need to ask the questions of how the metrics are being applied and what the implications of their application may be.

In the 1800's a man named Josiah Stamp was tasked with the census of India. No small feat. In a letter he crafted home, he wrote: "The government here (in India) is keen on amassing statistics. They take them; they multiple them by the nth root. They load them into spreadsheets and tables. But the original numbers still come from the night watchman who puts down what he darn well pleases."

That's at the heart of our challenge with metrics. Who *is* the night watchman? Who is making the determinations on what metrics will be applied, how they will be applied, and how the data will be gathered and processed? Those are not inconsequential questions.

In a recent classroom experience, I asked how many participants had Return on Investment as the metric by which their projects would ultimately be evaluated. More than half raised their hands in the affirmative. Then I asked how many knew how the math would be calculated. None of the same hands were raised. The challenge? For some of the managers, the question was one of data sources. They didn't know where the data would come from. For others, it was the formula. In any case, they didn't know how the numbers would be derived and what the implications of the numbers were.

The last question was perhaps the most telling. I asked them if the most significant project to which that were currently assigned was evaluated using that metric. Most said yes. I then asked, "How many of you had your project barely slide over the threshold, getting just high enough numbers to squeeze into the organizational portfolio?" Virtually all acknowledged that I had described their projects.

This was no bizarre coincidence. It was a function of the nature of organizational politics and the nature of many of the metrics we choose to use in valuing projects. It is, perhaps, a signal, as well, that organizations need to grow a collective spine and apply metrics more uniformly and honestly. To get there, however, is a journey, rather than a single step.

The Journey to Better Metrics

The journey to better metrics involves, at a minimum, three steps:

- Clarity of approach
- Consistency of data sources
- Honesty in the qualitative elements

Clarity

One would think that the approach to metrics would be no more complex than simply selecting a formula from the *Generally Accepted Accounting Principles (GAAP),* the guiding light for the U.S. accounting profession. Pick a principle that works. Apply it. The reality is that even within accounting texts, there are variations on how fundamental performance metrics are calculated and how they are developed. Within project management, organizations that apply earned value metrics know the wrestling match of determining processes for establishing work accomplished.

Victory in this regard is only achieved when organizations find the means to establish consistent protocols for not only processing the information but for the nature of projects to which the information will be applied. Up until the millennium, the U.S. Postal Service had a document in circulation (*Publication 191*) that outlined the processes Postal would apply in determine the viability of projects under consideration. What made this document special was that it applied ROI to new efforts, but used different formulae for different types of projects. That was actually a very healthy approach! They acknowledged that theirs was not a one-size-fits-all environment, but clearly dictated when, where, and how each of the different approaches would be applied. It ensured that the formulae would actually be applied, without the contention that the formulae were somehow skewed against (or in favor of) a particular type of effort.

Consistency

The "night watchman" was Josiah Stamp's self-perceived undoing. But on all organizational evaluations, there are "night watchmen" who take it upon themselves to modify or massage data to serve their interpretation of the organization's best interests. True efficacy in metrics can only occur when the data are from sources that can be trusted, and where the data from one project have similar meaning to the data from another.

Thus, as part of the business cases for our efforts, we need to capture and catalog the original sources of the data and apprise the evaluators of any aspects of the data collection process that could have skewed or undermined the data. Also, the integrity of the sources needs to be independently validated from time to time. Even good data goes stale over time.

Honesty

Since most projects are not purely dollars and cents, it becomes important to evaluate them in the context of qualitative values. Customer goodwill, customer satisfaction, employee retention and other considerations may have a financial impact, but they are not something that is readily valued in pure numeric terms. As such, organizations need to construct models and evaluation criteria that factor in these considerations honestly, rather than trying to ascribe monetary values where none may ever truly exist. Any such weighting for evaluations needs to be open and above-board, so that it can be assessed for its accuracy and propriety in any comprehensive, organization-wide evaluation.

Where do we go from here?

Can all of the ills of muddy metrics be resolved in a single stroke? Only if the organization is truly steeled at the highest levels to accomplish the goal of transparency in implementing such practices, and *only* if there is a common understanding of which metrics the organization will value, how they will measure them and why. Until that lofty threshold is reached, getting to a truly metrics-driven environment is a slow, determined, step-by-step process with the occasional misstep along the way.

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