HOW TO MEASURE YOUR PROJECTS MORE EFFECTIVELY

ANDREAS BANG LEED GIVES FIVE TOP TIPS FOR GETTING MEASUREMENT RIGHT AND AVOIDING THE TRAPS THAT DERAIL MOST PROJECTS

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According to Oxford Global Projects' database of more than 20,000 projects, only 0.4% of projects meet all three criteria of delivering on budget, on time and with the promised benefits. Less than one in 200 projects meets its own targets. The other 99.6% fall short on at least one dimension. So why do the vast majority fall short? And why, despite decades of new standards, certifications and software solutions, do we see no meaningful improvement in project outcomes across the decades?

In researching our new book, *How to Measure Anything in Project Management* (which I co-authored with Douglas W Hubbard and Alexander Budzier), we found that inadequate measurement is at the heart of the problem – not too little measurement. Many organisations are drowning in KPIs and dashboards. The problem is the wrong measurement, applied in the wrong way.

Here are five practical tips for measuring projects more effectively:

1 Start with decisions not dashboards

Most project measurement is what we call 'discovery-driven'. You collect data because it seems useful, hoping it might inform a decision later, but no specific decision has been identified. Dashboards fill up with metrics we glance at without knowing what action they should trigger.

The alternative is 'decision-driven' measurement. Before measuring anything, ask: what decision could this change? If a metric would not alter any choice you might make, its information value is zero, no matter how impressive the chart looks.

One project leader on a UK defence project told us: "We

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measure this KPI because someone from the House of Lords once requested this information. To this day, all our projects measure this KPI." This is measurement for its own sake, not measurement that drives better outcomes.

Before adding any new metric, identify the specific decision it would inform. What would you do differently if the number were high versus low? If you cannot answer that question clearly, reconsider whether to measure it at all.

2 Beware the analysis placebo

In clinical drug trials, patients sometimes feel better simply because they believe they are being treated. This is the placebo effect. We have found something similar in project management: the 'analysis placebo'.

This is the feeling that some analytical method has improved your estimates and decisions, even when it has not. Research across multiple fields, from sports betting to clinical psychology to investment analysis, consistently shows that more information and more collaboration can increase confidence without improving actual accuracy.

It might seem that experience would guard against being fooled by an analysis placebo. As decision psychologist Paul Schoemaker put it: "Experience is inevitable. Learning is not." Learning requires not just experience, but experience with feedback. In projects, feedback is often delayed by years, outcomes are ambiguous, and signals are filtered through organisational politics. Under those conditions, confidence can increase without accuracy improving.

That new risk scoring method, that elaborate estimation template, that sophisticated dashboard – how do you know they actually work? The fact that your team feels more confident does not prove anything.

The only reliable test is to compare predicted outcomes with actual outcomes over many projects. If your organisation is not tracking this systematically, you may be spending considerable effort on methods that provide only the illusion of rigour.

3 Uncertainty is the reason to measure, not an obstacle to it

When someone says, 'We cannot measure that because there is too much uncertainty', they have got it backwards. We use probability because we lack perfect information, not in spite of it.

Consider this: if you are 90% confident in a forecast but have no idea whether you are actually right 90% of the time, your confidence is meaningless. Research consistently shows that most experts are overconfident. When they say they are 90% certain, they are often right only 40–50% of the time.

The good news is that this can be fixed. Calibration training, which involves practising probability estimates with feedback, dramatically improves accuracy. After a few hours of training, most people become statistically indistinguishable from perfectly calibrated estimators.

Instead of asking, 'What will this cost?', ask, 'What is the range where I am 90% confident the true cost will fall?' Then track your estimates over time. If your 90% ranges only contain the actual values 50% of the time, you are being overconfident and you need wider ranges.

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4 Measure what matters, not what is easy/familiar

A persistent problem in project decisions is what we call the 'measurement inversion'. Organisations consistently spend the most time measuring variables with the lowest value to decisions, while neglecting the high-value measurements.

In IT projects, teams spend more time measuring initial development costs than benefits, even though benefits typically have higher uncertainty and therefore higher information value. The single highest-value measurement, the overall chance of project cancellation, is rarely measured at all.

Here is why this happens: easy-to-measure or familiar things get measured. Development costs are tangible. User adoption rates, technology regret or the chance of scope creep are harder to pin down, so they get ignored. Yet uncertainty about them poses the greatest risk to decisions.

The evidence on risk matrices in particular is overwhelming. Yet they remain ubiquitous

List every measurement you currently make, then for each one, estimate: how uncertain is this? How much could it affect our key decisions? If something scores high on both counts, that is where measurement effort should be concentrated. If it scores low, you may be wasting resources.

5 Test your methods, including this advice

The most important measurement of all may be the meta-measurement: how well do your project management methods actually perform?

Our research found that factors related to using historical data in quantitative models correlated with reduced cost and schedule overruns. Popular certifications, standard methodologies and risk matrices showed no detectable benefit.

This should not be surprising. Decades of research across many fields consistently shows that evidence-based algorithms outperform human intuition. As decision psychologist Philip Tetlock concluded after tracking 82,000 forecasts over 20 years: "It is impossible to find any domain in which humans clearly outperformed crude extrapolation algorithms, less still sophisticated statistical ones."

Broadly speaking, methods that consistently outperform intuition share a few characteristics: they are explicit about uncertainty, grounded in empirical data and testable against reality. Reference class forecasting, Monte Carlo simulations anchored in historical data and calibrated expert judgment all fall into this category. Methods that rely on ordinal scoring, unaided intuition or deterministic estimates tend to underperform.

The evidence on risk matrices in particular is overwhelming. Multiple empirical studies conclude they reduce information, distort probabilities and perform poorly in decision contexts. Yet they remain ubiquitous.

Why does this pattern persist? Researchers call it 'algorithm aversion', a preference for human judgement even when one is shown evidence that structured methods perform better. The antidote is genuine scepticism, applied consistently to both quantitative methods and to the intuition we would otherwise rely on.

The path forward

Better measurement is not about measuring more. It is about smarter measuring. It means asking what decisions your metrics actually inform, testing whether your methods really work, acknowledging uncertainty honestly and directing measurement effort where it can make a genuine difference.

Remember: anything that matters to your project is measurable. If something seems impossible to quantify, the issue is usually that you have not defined what you mean by it clearly enough. Ask yourself: 'What would I observe if there were more of this?' The answer often reveals how to measure it. If a method really works, it should survive measurement.

Andreas Bang Leed is Head of Data Science at Oxford Global Projects and co-author of *How to Measure Anything in Project Management* (Wiley) with Douglas W Hubbard and Alexander Budzier. Listen to the APM Podcast's interview with Leed and Hubbard on Spotify or Apple Podcasts