

PERFORMANCE MEASUREMENT



# WHY SHOULD WE MEASURE?

## 1. Focus of the Paper

This is the first of a planned series of papers. This paper is for infrastructure industry and capital programme decision makers. It focuses on the need for a consistent capital delivery performance, where clients, programmes and projects can benefit by aligning performance requirements through the deep supply chain across different assets. Our second paper will focus on how to deliver performance measurement, strategically, at programme and project level – a guide to determine performance improvement through measurement.

The UK public sector drives performance through NISTA (National Infrastructure Services Transformation Authority (NISTA, previously the Infrastructure & Projects Authority). NISTA utilises a capital model to set funding and outcome requirements. Private sector organisations determine KPI performance at programme and project level. This paper supports the strategy of setting outcomes, KPI's and the performance measurement to deliver performance improvement.

Often capital projects are considered in isolation to the main operations of businesses. Wider aspects of asset performance through capital models (as defined in the Value Toolkit) together with whole lifecycle strategies impact organisational performance. Measurements of Health, Safety and Carbon are often examples of both business and project level KPI's.

This paper is a product of the Constructing Excellence Performance Measurement Group's work around performance metrics, Key Performance Indicators (KPIs), analysis of the body of evidence around performance and research into effective performance measurement and its benefits. We will explore the importance and purpose of measuring performance, what we mean by performance measurement, the challenges to this and how to maximise potential and achieve success.

## 2. Why is Performance Measurement Important?

Performance in the construction industry refers to the effectiveness and efficiency with which construction projects are executed and completed. It is intrinsically linked to Productivity which employs measurements of output to define benefit outcomes. We measure outputs and outcomes from programme and project lifecycles, seeking to know the actions and activities that have impacted construction performance.

Performance measurement is crucial because our built environment significantly impacts its occupants on personal, societal, and global levels. When discussing performance in the construction industry, we are demanding accountability in both the design and build phases, as well as in the operational use of the asset. Specifying performance through contractual arrangements necessitates measuring both the process and the product to determine the benefits. In short, performance measurement is about setting expectations and successfully delivering on them; anything less is merely a dress rehearsal.

Accountability brings competence, reliability, and sincerity—key components of trust. Additionally, by committing to KPIs, the construction industry is responsive to the values of occupants and inhabitants whose lives it influences. Trust in the construction industry has been faltering for several decades. The Egan Report, officially titled "Rethinking Construction," published in 1998 and commissioned by the UK government, aimed to address inefficiencies and low productivity within the industry. It advocated for radical changes inspired by practices in

manufacturing and other industries, emphasizing zero defects, timely delivery, and continuous innovation to benefit clients. The report set ambitious targets across capital cost reduction, construction time, and defects, while also focusing on safety, predictability, productivity, and effectiveness.

These value-based metrics have been further endorsed by the Construction Playbook and The Value Toolkit, utilising the 4 capital model through the developed Value Toolkit. Despite these initiatives, UK construction productivity has largely remained static since the 1990s, typically reporting only a 5% improvement over this period.

Peter Drucker famously said, “If you can't measure it, you can't manage it.” This brings us back to the importance of measuring performance against KPIs rather than just metrics. While related, they are not the same:

Metrics	KPIs
General measurements used to track and assess the status of specific processes, which can be quantitative or qualitative indicators.	Specific metrics directly tied to strategic objectives and goals, used to measure performance against key targets. They are more focused and critical for decision-making.

In essence, all KPIs are metrics, but not all metrics are KPIs. KPIs are the more important indicators of how well an organization is achieving its key objectives. For example, Time, Cost, and Quality can be considered both metrics and KPIs, depending on the context:

Metrics	KPIs
As general measurements, Time, Cost, and Quality track the performance of various aspects of a project, such as the duration of tasks (Time), expenses incurred (Cost), and adherence to standards (Quality).	When these metrics are directly tied to strategic objectives, they become KPIs. For instance, if a project's success is measured by completing tasks within a specific timeframe (Time), staying within budget (Cost), and meeting quality standards (Quality), then these metrics are considered KPIs.

Elevating metrics to KPIs is essential for achieving key goals and holds specific value in doing so. The Procurement Act 2023 mandates the setting and publication of KPIs to enhance transparency, accountability, and performance monitoring in public procurement. For contracts of £5m or over, contracting authorities must identify at least three KPIs in the contract details notice, which are then used to assess suppliers' performance throughout the contract lifecycle, with results published.

By publishing KPIs, contracting authorities make performance data accessible to the public, helping to rebuild trust in the construction process and allowing stakeholders to monitor contract performance. Regular assessment and publication of KPI performance will hold suppliers accountable for their commitments, leading to improved service delivery and adherence to contract terms. The Act also introduces new grounds for excluding suppliers based on poor performance, emphasizing the importance of setting and monitoring KPIs.

Without measurement, we cannot achieve consistent shared learning or best practices. Without both, the construction industry remains static, performance, productivity, and effectiveness fall, innovation dwindles, and the net impact is felt by those who inhabit and occupy the built environment.

### 3. The Purpose of Performance Measurement

Performance measurement provides a range of benefits for clients and their delivery partners. It enables:

- Monitoring of performance and progress
- Understanding the capability of the delivery system
- Data-driven decision-making.
- Problem quantifications.
- Establishing the shortfalls and identifying areas for improvement.
- A short feedback loop to minimise problems escalating
- Quantification of improvements.
- Driving continuous in-flight improvement with live data.
- Transparency of performance
- Visibility of data for all

### 4. Maximising Potential and Addressing Challenges

To maximise the potential of performance measurement in construction we recommend the following key considerations to ensure a successful performance strategy across projects and programmes.

Principles	Solutions
<b>Begin with the end in mind</b>	<p>Measure the expected construction deliverables and set them as KPIs, specifying how each will be measured and ensuring consistency in the format where possible:</p> <ul style="list-style-type: none"> <li>– Zero accidents (measured live)</li> <li>– Delivered at the lowest cost (Not at the expense of the required outcome).</li> <li>– To specification (measured live)</li> <li>– Delivered in the shortest time (not monitored live)</li> <li>– Environmental waste impact (measured live)</li> <li>– Sustainability (measured during use)</li> <li>– Social value (measured live and during use)</li> <li>– Profitability</li> <li>– Cashflow</li> <li>– Client satisfaction (measured during use)</li> <li>– Defect-free (measured live)</li> </ul>
<b>Avoid ambiguity</b>	<p>Ensure metrics and KPIs are universally understood to avoid misinterpretation. Clearly define consistent Key Performance Indicators (distinct from all further performance measures).</p>

<b>Avoid unintended consequences</b>	Improving what leads to sub-optimisation (non-bottleneck improvement) or has a counterproductive impact on <ul style="list-style-type: none"> <li>– Efficiency</li> <li>– Utilisation</li> <li>– Waste</li> </ul>
<b>Maximise impact</b>	Focus on the activities and metrics that bring widest benefit. Start with the one that has the most significant and widest impact measures
<b>Be efficient</b>	<ul style="list-style-type: none"> <li>– Implement the shortest feedback loops with live measurements</li> <li>– Utilise advanced technology and AI for efficient measurement and analysis.</li> <li>– Strive for data transparency at all project stages.</li> </ul>

Effective performance measurement is not without its challenges. From lack of buy-in to the collection of data, to inconsistencies in data quality through inaccurate data there are challenges. Ways of addressing the challenges include:

- Define problems to determine the quality of the solution/outcome/benefits.
- Involve the right people at the right time to determine the best solution. The Value Toolkit can help.
- Demonstrate the impact of data collection on project delivery by ensuring fast analysis and feedback.
- Demonstrate how performance measurement is delivering performance improvement and utilise collective knowledge to implement long-term solutions.
- Create a culture of openness and psychological safety

## 5. Tips for Achieving Success

For performance measurement to be effective, there needs to be not just the collection of data, but analysis and insight passed forwards into the next program of works. What matters to one body will not be the same another.

- **Identify the target audience:** Government, Procurement framework, Industry or Client
- **Promote the Benefits:** Explain how data analysis is used and share results to gain insight and make targeted improvements. Not all outcomes will be positive and may require lessons learned to be distributed. Where there are good news stories, use data generated in diagrams and charts to promote clear insight. Consider the right forum to share this across the wider industry.
- **Recognise the need for standardisation:** Not everyone shares the same KPIs, identification of common data and unique data is essential.
- **Simplicity:** Ensure measures validation is simple/proportionate/applicable, focusing on specific key measures and raw data rather than calculated results.
- **Benchmarking:** Measuring performance has little meaning if not benchmarked against KPIs or industry standards.
- **Pragmatism:** Take a pragmatic view if there is a risk of bias or use AI to generate consistency

- **Consistency:** Develop and evolve data metrics to cover industry advancement, monitor current usage of data to ensure old measures are archived, but do also value consistency. Carefully consider new variables or new procedures to ensure comparison over time and trends can be identified and maintain validity.
- **Timing:** Plan presentation of live results in a timely manner to allow insights to influence works. Ascertain key stages at the outcome with recognised project or programme milestones.

## 6. Summary

This paper emphasises the importance of consistent capital delivery performance across the UK infrastructure and construction industry. It highlights how performance measurement impacts productivity and endorses recommendations from industry reports and initiatives. The paper clarifies the difference between KPIs and metrics, stressing the importance of KPIs for achieving strategic objectives and how performance measurement affects the built environment and its occupants on personal, societal, and global levels.

Strategies for maximizing potential include setting clear KPIs, measuring expected deliverables, avoiding ambiguity, and ensuring universally understood metrics. Defining problems to determine the quality of solutions and outcomes is crucial. Standardisation and access to benchmarking data across the industry are necessary to make performance measurement meaningful and relevant.

Involving the right people and understanding the target audience responsible for using the analysis and insights to make targeted improvements is key. Organisations can use performance insights from analysis and apply this knowledge to future projects, leveraging advances in digital and data techniques to track benefits and share learnings quickly and effectively. Above all, performance measurement plays a crucial part in fostering a culture of continuous improvement by promoting behaviours demonstrating accountability, competence, reliability, and sincerity, all essential for building trust within the construction industry.

## 7. Call to Action

- Establish a simple set of performance metrics via a common framework to be used across sectors and construction programmes.
- Create a repository where these metrics can be collected, collated, and analysed for yearly insights.
- Develop a sector-based repository for individual KPI sharing to build a library of impactful value-based strategic measures

## 1. Contributors

With special thanks to the following members of the Performance Measurement Group.

- Simon Cross, KPMG (Chair)
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## 2. About Constructing Excellence

Constructing Excellence is a membership organisation that drives a better construction sector. Our thought leading members from the entire supply chain – clients, industry and users – share a vision to deliver a better built environment through innovation and collaboration. Our members set our agenda and are the driving force behind our movement, they use our groups and forums to explore key issues impacting the industry right now and to drive change across the industry.

## 3. About the Constructing Excellence Performance Measurement Group

The Performance Measurement group brings together Constructing Excellence members, from a range of backgrounds, to delve into issues around performance and explore how to increase the use and efficiency of performance measurement practices. The group aims to create a hub of excellence enabling members to share best practice, exploit the opportunities of digitalisation and build on our KPI capability.

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