

1 Why Measure Anything?

From all sectors of the construction industry, from the client's professional representatives through the consultants and construction contractors to the specialist suppliers (sub-contractors), I am constantly being asked why the traditional design and construction process needs to be radically changed and improved. Equally constantly, my concern about the current and historic high levels of unnecessary costs are disbelieved, with the typical reaction being the one I received in early 2003 from the Chief Executive of a major specialist supplier.

Case history – Industry awards submissions

I had voiced concern after a construction industry awards assessment meeting about the consequences of the inefficient utilisation of labour and the fact that not one of the candidates had made mention of any improvement in their effective utilisation of labour and materials, or had made mention of the benefit of measuring their performance. A Chief Executive from a specialist supplier firm that was also on the judges panel said that the attitude of the candidates was entirely reasonable since efficiency levels were universally high across the industry.

He went on to insist that in the case of his own firm, his operatives were achieving (and had always been achieving)

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near maximum efficiency levels on all the sites on which they were involved. When I queried how he could be sure of his efficiency levels, his response was that there was never anyone in the yard therefore every one of his operatives must be effectively and efficiently utilised on the various sites all of the time.

We then had a lengthy discussion about the value of accurate and objective measurement of on-site performance and the very real and tangible commercial benefit that would automatically come from using the result of accurate performance measurement to drive out unnecessary costs and thus to drive up profits and drive down prices.

He vehemently insisted that the cost of such performance measurement could never be offset against cost savings because it was self-evident to him, as the Chief Executive, that efficiency levels in his firm could not be significantly improved.

Chief Executives and senior managers of construction contractors and specialist suppliers have echoed his views time and time again across the industry. They have also been echoed by some of the senior officials within the Department of Trade and Industry and by many in key positions in major industry bodies. The notable exceptions have been the National Audit Office (their report *Modernising Construction* (see Further reading) makes their position on the primary importance of measuring performance very clear) and the Confederation of Construction Clients in their *Charter Handbook* (see Further reading). Rethinking Construction has also recognised the critical importance of performance measurement and has made its position clear in various publications. All three organisations insist that the start of any improvement process must be the objective measurement of current performance.

As a senior representative of the DTI said ***'If you don't know how well you are doing, how do you know you are doing well?'***

Unfortunately, the vast majority of industry firms appear not to be picking up this message about the importance of measuring current performance and I have yet to come across a firm that is regularly measuring its effective utilisation of labour and materials. I suspect the reason why very few seem to be paying attention to the message is that it is never directly linked with a message about the high levels of inefficiency and waste in the utilisation of labour and materials, and the concomitant high levels of unnecessary costs caused by the inefficiency and waste. Since no-one spells out the very considerable magnitude of the unnecessary costs that the investment in performance measurement would eradicate, it is not surprising that very few firms can see the point of performance measurement.

I rarely hear a senior industry figure from a key organisation, such as Rethinking Construction or the DTI, lay on the line in blunt and unambiguous terms the truth about current and historic low levels of effectiveness in the utilisation of labour and materials and then spell out the high levels of unnecessary costs that are directly caused by the ineffective utilisation of labour and materials. In fact, the concept of unnecessary costs and their cause seems to be totally beyond the understanding of the industry, even though it is well understood in other sectors where the primary driver of improvement in every successful firm is the continuous search for unnecessary costs in the utilisation of labour and materials down through the supply chain.

In other sectors, competitive success and higher profits come from all those in the supply chain collaborating to constantly measure their performance in the utilisation of labour and materials and then working together to devise ways of eliminating the causes of inefficiency so that unnecessary costs are continuously driven down.

So why should it be necessary to change the construction industry's attitude to performance measurement? Why should firms divert scarce money and resources away from traditional activities and invest in measuring their effective

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utilisation of labour and materials? Why should Chief Executives risk the adverse competitive consequences that would almost certainly flow from being honest about their current performance levels? Why should Rethinking Construction and the DTI embarrass the industry by focusing strongly on the high levels of unnecessary costs caused by the ineffective utilisation of labour and materials? Why should Rethinking Construction and the DTI insist that firms could only start to deliver real improvements if they are honest about their current levels of unnecessary costs and use performance measurement to reveal the truth? More specifically, why do I believe that performance measurement is an absolute imperative if improvement is to deliver any real, tangible and durable benefits to both the industry and its end-user customers?

The simple answer is that the only way that prices to the end user can be seriously reduced, the only way that the industry's profit margins can be seriously raised, the only way that the out-turn cost can always be held within the end user's initial budget, is by the elimination of the unnecessary costs that are caused by the ineffective utilisation of labour and materials. These unnecessary costs can only be eliminated if performance measurement is used to locate the true causes of the ineffective utilisation of labour and materials. Without performance measurement pointing the way, any claimed improvement process is merely tinkering with the edges and is unlikely to deliver any real and lasting benefits.

The investment in performance measurement will be rapidly repaid by the reduction in unnecessary costs that will come from the efficiency gains in utilisation of labour and materials in the supply chain firms. Objective performance measurement is the only way of locating the precise causes of the ineffective utilisation of labour and materials and unless the precise causes are exposed they cannot be eliminated. Evidence from the two Building Down Barriers pilot projects and from projects that have used the Building Research Establishment CALIBRE system, is that performance

measurement will more than pay for itself within a single construction project.

The reason for the rapid payback is that the current low levels of effective utilisation of labour and materials make it easy to find big efficiency gains once performance measurement has revealed the truth about what is really happening on site. If your current level of effectiveness in the utilisation of labour and materials is around the 30% to 40% mark, it is comparatively easy to drive it up to the 50% to 60% mark if the design and construction firms in the supply chain work together in close collaboration to attack the causes of inefficiency revealed by performance measurement. It will obviously get a lot harder as efficiency levels near 100%, but the industry has a long way to go before that becomes a problem.

There is a major barrier to the realisation of the efficiency gains that ought to flow from the truth revealed by performance measurement. They will be impossible to realise if the design and construction supply chain team remain fragmented because there will be no way that the team could collaborate closely enough to eliminate the cross-firm causes of inefficiency.

The entire design and construction supply chain team *must* work together before any real progress can be made in the effective utilisation of labour and materials. The specialist supplier alone cannot reduce the disruption and reworking caused by errors and deficiencies in the drawings. This can only be done if the specialist supplier works in close collaboration with the design consultants within the mutually supportive and trusting relationship created by a long-term, stable, strategic supply chain partnering arrangement. Similarly, the specialist supplier alone cannot reduce the disruption and reworking caused by poor pre-planning of construction activities. This can only be done if the specialist supplier works in close collaboration with the construction contractor within the mutually supportive and trusting relationship created by a long-term, stable, strategic supply chain partnering arrangement.

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These long-term, stable, strategic partnering relationships between the members of the design and construction supply chain are not beyond the wit of construction industry firms. *But* they do require people to set aside their traditional ways of thinking and working, they do require people to think laterally about different ways of working together, and they do require people to realise that such partnering relationships can be made to work at a strategic level that over-arches individual projects. They also require people to realise that strategic supply chain partnering can be made to work without the need for a client to insist within the contract that such relationships must be in place before the contract can be signed.

None of these things are rocket science, all are relatively easy to achieve and all have been done for many years in other sectors where best practice advice and benchmarks are readily available.

Performance measurement is not just an optional bolt-on to the improvement process that can be included if funds permit. Performance measurement is the essential first stage to any improvement process that is intended to deliver real, long-lasting and tangible benefits in the form of significantly lower prices to the end user and significantly higher profit margins to industry firms, whilst enhancing the whole-life quality of the constructed product. Without performance measurement revealing the truth about how well it is doing, a firm will never be motivated to attack unnecessary costs. If a firm doesn't know how well it is doing, how can it decide what aspects of its performance are in most need of improvement?

The introduction of performance measurement enables Chief Executives to fully understand what is really happening at site level and to fully understand what is really hindering their effective utilisation of labour and materials. Performance measurement stops Chief Executives basing their improvement strategy on false assumptions about their effective utilisation of labour and materials. Performance

measurement enables the improvement process to deliver real and measurable efficiency gains and ensures that the gains can be captured and converted into lower prices and higher profits.

Performance measurement provides Chief Executives and senior managers with accurate and undeniable evidence from sites that enables them to target and resolve the true causes of disruption and reworking that operatives have to face on every project time after time after time. Performance measurement puts an end to endless, fruitless and subjective arguments between site personnel and senior managers, and between the various members of the design and construction supply chain, about the magnitude and the causes of disruption and reworking on site.

Performance measurement provides incontrovertible evidence of the disruption and reworking on site that forces Chief Executives and senior managers to listen to their site operatives and to seek their advice. It empowers site operatives to use their very considerable knowledge and experience to find better and more collaborative ways of enabling the design and construction supply chain team to work together to solve the causes of disruption and reworking.

Performance measurement is the only effective way of exposing the true magnitude and extent of disruption and reworking on site and of exposing the real damage it causes to the morale of the operatives and the friction it generates between the various members of the design and construction team. This incontrovertible evidence gives every firm in the design and construction supply chain a clear, unambiguous and common goal to aim for in their improvement process. All can see the magnitude of the unnecessary costs caused by disruption and reworking and all can see the direct financial benefit that would accrue to their firm if they worked collaboratively to solve the problems that caused the disruption and reworking. Performance measurement also gives them a tool by which they can objectively validate their rate of improvement.

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Because performance measurement exposes the magnitude and the extent of disruption and reworking on site, along with the damage it causes to the morale of the operatives and the friction it generates between the various members of the design and construction team, it provides ample motivation to persuade reluctant Chief Executives to divert scarce money and resources into the elimination of the ineffective utilisation of labour and materials.

Performance measurement puts an end to the industry's constant delusions about its true levels of effectiveness. It makes it impossible for senior managers and Chief Executives to claim their firm is achieving labour effectiveness levels of 85% or more when it is only achieving effectiveness levels of 20–30%. Because performance measurement exposes the magnitude and the extent of disruption and reworking on site and targets the improvement process on the causes, it ensures that the design and construction supply chain delivers vastly better whole-life value to the end-user client.

In fact, performance measurement is the only way that vastly better whole-life value can be delivered to the end-user client by the design and construction team.

Finally, performance measurement is the only way by which those who insist their firm is achieving near maximum effectiveness levels can provide the evidence to prove the reality of their claim to others, such as end-user clients seeking better value. No matter how fervently the firm believes performance measurement to be a total waste of time and money because their performance in the effective utilisation of labour and materials is already excellent, the only way they can prove their excellence to prospective end-user clients is to use performance measurement to provide the hard, objective and independent evidence. As the man from the DTI said ***'If you don't know how well you are doing, how do you know you are doing well?'***

Since the elimination of unnecessary costs ought to be the primary goal of improvement processes, and since perform-

ance measurement is the only way that the causes of unnecessary costs can be exposed, the following chapters of this book are essential reading for everyone in every firm in the construction industry.

A key player from one of the Building Down Barriers pilot projects recently reminded me of the reason why I came to believe performance measurement is so important to an end-user client. Apparently his pilot project team had submitted their detailed proposal and method statements for their pilot project for the third time and had yet again explained at length what their firm had done over recent years to improve its performance and how this would impact on the pilot project. At this point my normally endless patience ran out and I apparently lost my temper in a big way and stormed at them ***'Don't keep telling me what you have f***ing done, show me the f***ing evidence to prove you've done it'***.

It was then that the pilot project team realised that there was no evidence available to back up their claims because none of the firms in the supply-side design and construction team had ever measured their performance. All they could offer the end-user client was their unsupported, subjective assumptions that their improvement programme had delivered better performance.

Case history – M4I presentation

When I was reminded of my unfortunate outburst I immediately recalled a similar experience when I was a Movement for Innovation (M4I) Board member.

I had attended a meeting in the north-west of England at which M4I demonstration projects were presenting the improvements they had achieved through the application of Egan principles (those described in the first Egan report *Rethinking Construction*). Also in attendance with me was a change expert from the manufacturing industry and towards the end of the presentations he nudged me in the ribs and asked me what was missing from the presentations.

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When I queried what he meant he said that none of the presentations had mentioned numbers when describing their demonstration project improvements. As a consequence it was his belief that they were all lying about their improvements. He said if a firm truly believed in, and truly understood, the commercial benefit of improvement, it would have measured its performance before and after the claimed improvement and would proudly have announced the resulting figures.

Since none of the firms involved in the demonstration projects had backed up their claims of improved performance with the before and after figures, he was convinced that the claimed improvements were fictitious. In short, because they were unwilling or unable to show us figures to prove the degree of improvement we should ignore their claims and assume they were merely ‘talking the talk’ and using the buzzwords they thought we wanted to hear, not ‘walking the talk’ and presenting us with hard evidence to back up their claims.

Finally, we ought to bear in mind the message from Brian Wilson MP, the UK Minister for Construction, in his Foreword to the *Accelerating Change* report:

‘Clients need a construction industry that is efficient. An industry that works in a ‘joined up’ manner, where integrated teams move from project to project, learning as they go, driving out waste and embracing a culture of continuous improvement.’