Near Time Reporting

Where we are now

The Construction Industry has a poor reputation when it comes to productivity and efficiency. Whilst other manufacturing industries have forged ahead with innovate methodologies and technologies to improve efficiency, the construction industry has lagged.

1998 saw the publication of Sir John Egan's Rethinking Construction report which found the whole industry was underachieving. The authors had the ambition to bring change and improvements from other industries into the construction industry. Some of the key takeaways from the report included setting targets, measuring progress, improving productivity. There were several headings under which they felt productivity could be improved, including:

- Standardisation
- Pre-fabrication
- Supply chain improvements
- Reducing waste.

In the 20 years since Rethinking construction there has been progress made against these targets. More and more companies use standardised Business Management systems across businesses and projects. The benefits of pre-fabrication are now being felt in more and more situations due to the quality that can be achieved and health and safety benefits. Construction companies are becoming more integrated with their supply chains through alliances, partnership, etc.

However, when it comes to productivity their remain issues. In recent years the construction press has had headlines such as:

"Does Construction have a 'productivity problem'? – Construction News – 2016

"Efficiency eludes the construction industry" – The Economist – 2017.

In 2017 the UK Government launched the "Transporting Infrastructure Performance", which had as one of its key issues Improving productivity in delivery.

In 2018 The Office of National Statistics figures show that productivity has hardly improved in the last 20 years, with output per worker increasing only by 1.4% and output per hour had increased 3.3%.

Figure 1: Productivity has changed little in the construction industry in the past 50 years

Output per hour worked and multi-factor productivity, construction industry and market sector, UK, 1970 to 2020
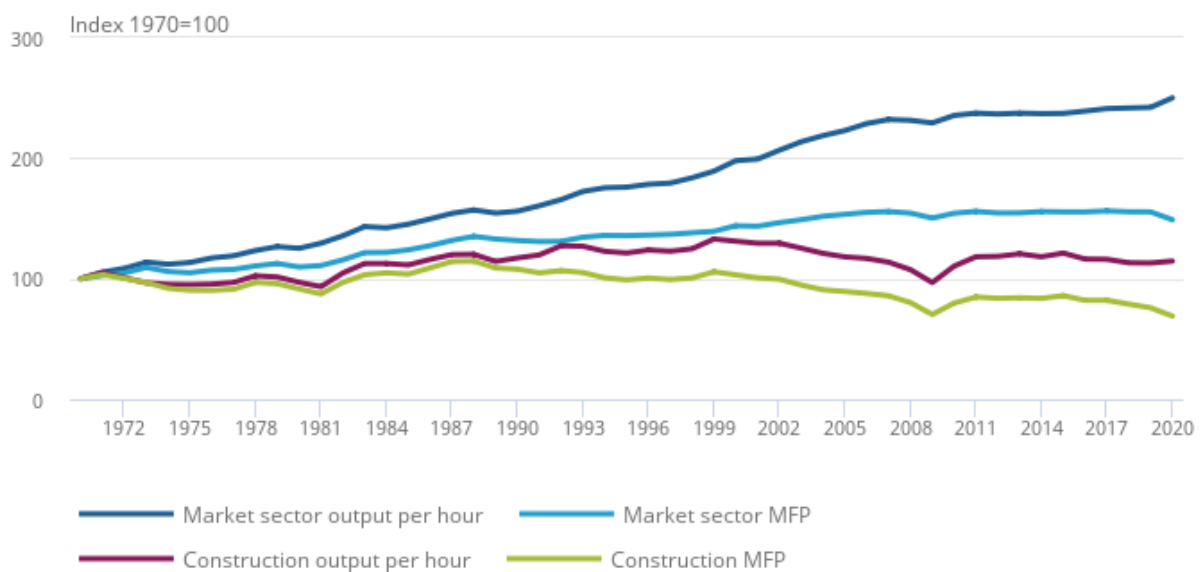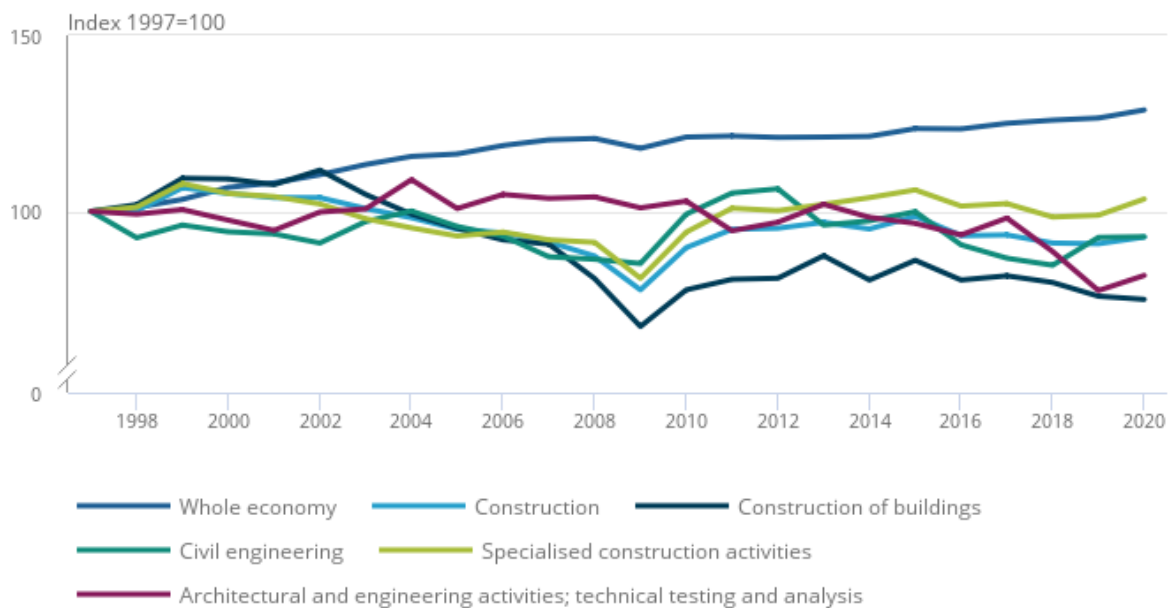

Source: Office for National Statistics – Labour productivity and multi-factor productivity

In 2021, The Office of National Statistics identified that, despite some small recent improvements, productivity had changed little in 50 years and lagged well behind the rest of the economy.

Figure 2: Productivity growth has been slow in construction industries compared with the whole economy

Output per hour worked, construction industry and sub-industries and whole economy, UK, 1997 to 2020, index 1997 = 100

What drives these ongoing issues? Through our experience the following are issues that influence productivity:

- There is a disconnect between the tender assumptions relating to resources and outputs and what the construction teams do.
- Squads and outputs are often based on the experience of supervisors, rather than being driven by achieving targets efficiently.
- Whilst significant effort is put into the long-term planning of projects, the short terms planning, whilst detailed, does not have sufficient resource and target information.
- Unnecessary or non-value generating tasks are undertaken to keep resources busy.
- Whilst productivity is monitored against the programme, the commercial implications are usually only measured monthly. This is frequently too late to be able to help identify and introduce meaningful change that will help to transform a failing task.

- Poor coding of resources reduces the accuracy of reporting and therefore its usefulness.
- Sources of information that could be used for more frequent reporting are often disparate, have different owners, are in different formats or on different platforms and require significant effort to collate.

Near Time Reporting has been developed to impact these issues that have been identified, improving the flow of information of tender pricing assumptions to the delivery teams, improving planning and the subsequent reporting of task progress and resource utilisation, providing timely productivity and commercial measures that allow task performance and resource utilisation to be monitored and allowing meaningful change to be implemented whilst it can still impact productivity of a task.

What is our purpose?

To provide the construction delivery team and commercial teams with information on the tender, reducing internally generated scope creep through improved planning and daily information on the tasks under their remit. The information provided by the system including:

- Tender tasks and pricing assumptions
- Tasks undertaken each day
- Resources used
- Production achieved
- Costs incurred
- Value earned
- Allowing problem tasks or under-utilised resources identified
- Monitoring subcontract resource utilisation and productivity

How do we do it?

Near Time Reporting is a web-based tool with mobile application elements. Using Lean Construction principles, we incorporate existing processes and procedures that are familiar to users but digitise them and incorporate them into a single platform to make them more efficient and effective. The system includes:

- Physical project structure with staff allocation
- Cost breakdown structures
- Resourced tender work breakdown structure
- Resourced 3-week lookahead programmes
- Resource histograms

- Electronic Allocation sheets
- Resource books
- KPI records
- As-built programmes and dashboards that show performance through a RAG status system

As all of this information is maintained on a single system then the amount of effort required to collate the information is massively diminished, time can instead be spent understanding the performance and resource utilisation and determining where improvements can be made.

What are the benefits?

Micro Benefits

Site team has better visibility of the performance of tasks under their remit

Focuses the look-ahead programme on value generating tasks identified in the tender reducing scope creep

Clearly passes information on the planned daily task, resource, outputs to the construction team to reduce the incidence of daily scope creep.

Reduces the effort in collating the site producing data, freeing up staff to monitor progress against the plan, to record issues affecting performance, what is driving the change and to more easily determine the cost of that change.

Identifies potential cost savings in resources through short term planning histograms, identifying underutilised resources and unplanned tasks.

Macro Benefits

Project Management team can get up to date information on the project as a whole

Management are able to see the overall picture but also have the ability to navigate down to the task detail.

Back-office efforts are reduced in collating data

Improved Commercial awareness of the delivery team

Big Data is generated by the system to feedback into planning, estimating and for use in claims.