



Interview by Peter Edwards, Global Cement Magazine

Realising potential from quarry to lorry

Cement producers around the world have been on a cost-cutting drive over the past decade due to the global economic conditions and overcapacity in many markets. Once all costs have been cut, what else can be done? Now the largest groups are looking more deeply at how their plants operate to understand, optimise and unify their assets globally, often across wide technological and cultural divides. To find out more, *Global Cement* recently spoke to Angus Maclean of management consulting firm Proudfoot about the company's Target Operating Model (TOM) tool for group-wide optimisation.

Global Cement (GC): What is a Target Operating Model (TOM)?

Angus Maclean (AM): Target Operating Models develop and ensure that behaviours, underpinned by processes and management tools, are optimised, from 'quarry-to-lorry' across a cement producer's business. TOMs go beyond simply optimising each cement plant at a local level. Instead they define *how* each plant should be optimised uniformly across a group.

The result for cement producers is an improved return on net assets and higher earnings before interest, tax, debt and amortisation derived from improvements across the industrial value stream at the right cost and within the right time-frame. Now that many producers have cut every possible cost that they can, a TOM allows producers to save money across all plant locations. It also makes plant managers' lives easier by simplifying their day-to-day operations. TOM now becomes the foundation for financial benefits, and with Proudfoot Transformation know-how, you can link behavioural transformation through people to real financial results tracked on a weekly basis.

GC: Which kinds of companies is it for?

AM: Proudfoot has developed TOMs specifically for large cement, ready-mix concrete and aggregate producers like Lafarge Holcim, HeidelbergCement, CRH, and regional groups like Secil and Vicat.

GC: Why have the TOMs been developed now?

AM: We developed TOMs to help the major groups keep up with the consolidation we have seen lately in the cement sector. Due to the various mergers, acquisitions and divestments, there are now several different ways of working within many of the large cement multinationals.

A multinational may have older plants that have strong personnel and working practices in the developed markets like North America or Europe. They may also have brand new plants in developing regions that might not have such strong technical personnel or may have less effective working practices. On top of this there is increasing pressure from shareholders to 'squeeze' assets. These situations make it tricky for the big players to optimise their operations on a global scale.

What a TOM does is develop an optimal way of working for each producer that can be applied around the world. We have, for example, recently helped design, develop and implement new ways of

Right: TOMs allow cement producers to optimise their operations globally from quarry-to-lorry (truck).





working for LafargeHolcim and for Secil. Each TOM is different but it has been arrived at by a similar collaborative process. As well as the financial benefits there are benefits for environmental performance and health and safety. TOMs also facilitate movement of personnel across a group's global operations. We also help businesses ready themselves for increased digitisation of business processes, often known as 'Industry 4.0.'

GC: How does the TOM process work?

AM: Generally it splits down into defining criteria for three different areas: Technical performance, business performance and people management.

The technical performance side takes in everything you can imagine in terms of how a plant should run and be optimised, right from the quarry, to the crushers, the mills, the kilns, the coolers and dispatch.

Business performance optimisation, often dominated by financial aspects, looks at everything that the business must do to streamline its non-technical working practices. For example, these large groups have very onerous financial reporting requirements in different jurisdictions around the world. A TOM asks and answers questions like, 'What is the most efficient way for our individual businesses to report to the rest of the group?'

Last but not least, the management of personnel is now a critical issue for global cement producers. The importance of optimising how people are managed, especially with respect to succession planning, cannot be overstated. I've seen some risky situations lately. In one case there were 90 people working in the cement plant and 33 were due to retire in the next two years. In another case there were 16 people in a quarry, with 15 retiring in the next 18 months! It doesn't matter how good the plant or group performs right now, since if it 'plans' like this, it won't be equipped for the future.

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Left: Succession planning is a big issue for cement producers in developed markets. TOMs can be used to help globalise a group's approach and plan more effectively for future demands.

Performance across these three pillars varies by company and country. We find that some groups and countries have poor financial performance but have great technical performance and people planning systems. Others have fantastic financial metrics but terrible technical performance. This might be the case in developing markets where producers are breaking their kit for a quick buck.

GC: How is a TOM designed?

AM: The team at Proudfoot works with in-house teams separately on the three main pillars: Technical performance, business performance and people management. On top of the pillars there are 10-12 topics that cover different aspects of each. Within those topics the cement producer will then identify 50-80 elements that it considers 'the best way' to achieve its stated aims for each topic. Each element looks at quite a specific area, for example: preventative maintenance, automation or the best way to blast, load and haul in the quarry.

For one of the major cement producers we worked remotely via video conference with ~150 operational, technical, commercial and supply chain staff. We designed 32 elements that stated, according to that group of people, how a cement plant should be run. Another firm wanted 72 elements!

These meetings involve a lot of discussion and diplomacy. However, by including staff from every part of the group and every region, our approach eliminates the perception that the decisions are being taken by the 'powers that be.' The team goes back to its different plants and says 'This is what we decided.' That helps the programme to gain acceptance from the wider workforce. The success of any TOM is the understanding by all employees of how the process works and what it is supposed to achieve. The implementation is key.

GC: How is a TOM implemented?

AM: The TOM allows the producer, along with us, to evaluate the plants that are performing well overall, as well as in each area. This kind of holistic approach is different to what we saw previously, when certain financial or performance aspects dominated many analyses. Each plant will be evaluated using a



Right: Financial aspects are an important aspect within TOMs, but are not the whole story.

maturity assessment checklist against the various elements. For each element the producer will rank its plants on a scale of '0-5,' 'not implemented' to 'excellent' or 'red, amber, green.' This shows how well each plant is performing.

Crucially, the checklist also shows the plant what must be done to reach the next level. The plant then works out its own performance improvement plan based on the requirements of the checklist. Many groups carry out fresh assessments every year. This eventually results in the standardisation of working practices across the group.

To help show plant managers how the TOM works, the producer will often set up regional examples. From those plants, its regional teams will then visit other plants to carry out the checklist process and advise the management.

Proudfoot can also show the group how the plants are performing on an *x-y-z* scatter plot, where each axis represents a different pillar. This is a great visual tool that quickly identifies outlying plants, both under-performers and best cases.

GC: How do TOMs help on the personnel side?

AM: They can help with many aspects, for example with succession planning. Previously we found that HR departments operated on a country-by-country basis in a lot of the big groups. Now they are becoming more global. How TOMs help is by properly defining the capabilities and competencies for people employed in a number of key roles within the plant. This could be plant manager, production manager, maintenance manager, quarry manager, and so on. It also defines the necessary abilities of others that may be suited to the different roles in the future. TOMs make it easier for groups to move people around between plants due to the reduction in 'culture-shock.'

GC: Does Proudfoot advise the best approach for the producer?

AM: Proudfoot does not advise its clients on the end goals or how to achieve them. The number of pillars, topics and elements is up to them. Some won't use all three pillars. Some will only use a few topics and elements in each pillar. There can be a lot of variation.

GC: Opinions play a reasonably significant role in defining a TOM. Does that mean that, however well-implemented it may be, a TOM could lead a group in the wrong destination?

AM: On the technical side this is unlikely. While each multinational has a variety of plants, there are only a few ways to run each type of plant optimally. There is therefore the most similarity between groups on the technical side. They are not likely to get this pillar wrong in the TOM.



There is more variety in performance and different choices made in business performance and people management. However, I would argue that the vast majority of TOMs lead to actually the largest improvement in these pillars, even if the TOMs are quite different from each other. The very act of making the approach uniform introduces efficiencies and it would certainly be hard for a TOM to make the group less efficient overall.

GC: In the case of a newly-acquired plant, would a group ever seek to reduce the emphasis of one of the three pillars?

AM: This has happened in some cases.

GC: Does that mean the plant becomes weaker in terms of that pillar because it moved group?

AM: Not necessarily. If a plant is very good at environmental performance, it may no longer need any investment on that side. Indeed it might have a very good local team that's actually costing the plant a lot in terms of salaries. The plant might also be making no money for the group.

In such circumstances, questions then arise that, on the face of it, appear paradoxical: *Does that plant really need to be that excellent?* Answer: Maybe not. Dig deeper and we get other questions: *Can we better use the plant team's knowledge over a larger number of plants?* In many cases the answer is 'Yes' - It could reap huge rewards globally. And of course, the investments that have been made at the excellent plant will continue to be used.

GC: It seems that a lot of the major players are now rolling out TOMs. Are regional players next?

AM: We are in the process of helping some of the smaller and regional players around the world. The focus is sometimes on fewer pillars at a time, perhaps with fewer elements, but TOMs can help such players to grow. Once they have a TOM, it provides a set of blueprints that can be used for new plants and acquisitions around the world.

GC: Many thanks for your time today Angus.

AM: You are very welcome indeed!

