USING DATA TO CHANGE BUSINESS MODELS

SMART INFRASTRUCTURE

WITH MICHAILA HANCOCK
Digital transformation is in its infancy in the UK construction sector. Much of the current debate is focused on the technologies rather than on the new business models that will actually change the way we do things. This round table debate, held at New Civil Engineer’s UK Transport Conference aimed to address this.

“We are taking a far more holistic approach and the emphasis is about putting the customer first,” said Bentley Systems vice president, rail business development Mike Coldrick. He started off the discussion talking about the industry as a whole. “Any investment that we make, in any project, it has to improve the customer experience, whether it be road or rail,” he said.

The move to outcomes
The cornerstone of a new business model is detection of value in terms of the outcomes to be achieved from investments in infrastructure.

Digital Railway’s group managing director David Waboso agreed that, with any outcome based project, it was vital to share problems early with the supply chain so it can help develop a solution.

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Since starting at Digital Railway, Waboso has initiated early contractor involvement and brought in the supply chain as partners.

“As a result of that, we have our first trial contract, which is an innovative, partially contractor funded, scheme. It is not just about the technology, it is about how you tool up to become an intelligent customer and build relationships with the supply chain, and make sure you do recognise the rapidly changing nature of the technology with long term support,” he said.

So is it possible to be innovative in the way the industry delivers more outcome-based projects within the current constraints?

“It’s not easy,” Waboso continued. “You have to challenge, you have to look at your rewards mechanism and managing that, and how the money flows. People try and get everything right straight away and it’s best to start small.

“We externalised our business case, and one seasoned contractor said that in 40 years they had never previously seen a client’s business case. When we did that it was no surprise to me that suppliers then said to us: ‘you know what, we can see your problem and we think we can solve that’. It is no more scientific than that. It’s a mind-set change”

Passive and active assets
“The way we deal with passive assets and active assets is very different, if we are thinking about digital,” said Mott MacDonald major projects portfolio director Chris Dulake.

“We are putting the same level of effort into both areas, but actually we should be concentrating on the active assets which have a shorter life cycle which can drive the performance of the whole system and improve the efficiency of what we can deliver.”

Dulake continued: “If it is a passive asset, then we are restoring asset knowledge and maybe we are over complicating that process.”

Crossrail head of technical information Malcolm Taylor agreed, but said there were many ways to look at financing, operation and maintaining an asset. “Working in the public sector you do see the totex (total expenditure) issue and the whole life cost geared around the asset.

“As you head towards reliability, risk-based maintenance, then you do need remote conditioning monitoring everywhere. Not only to operate and maintain, but also going digital in robotics and offsite construction.

“That entire move being outcome focused, where we do need to capture the whole picture of asset life, we don’t seem to do this so well in opex [operational expenditure] and capex [capital expenditure] world, but we do in totex.”

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“The building information modelling (BIM) agenda was introduced to the industry with capex in mind, and therefore a lot of data was created, and justified the business cases with capex efficiencies.”

Vernikos continued: “We don’t know what we know. We have a lot of data now and we need to organise it in a certain way.”

Mott McDonald’s Enzer agreed, and added that BIM had helped the industry recognise the importance of information.

“Information is at the heart of BIM and once people get their heads around the idea that information is important in design and construction, you can see it as the golden thread that joins everything up.

“I think a lot of people understand that in principle, but I don’t think the industry as a whole has got to a point of genuinely valuing information and treating data as a resource.

“We know in theory that value is attached to it, but we don’t value it.”

Embracing the future

“We have to embrace this technology change,” warned Waboso. “It’s not an option. We have to. Otherwise we will be left behind.

“The question is not ‘do we do it’ but ‘how do we do it’?”