

Digitalisation is critical for the construction industry

The construction industry has to embrace technology to remain relevant, because it will ensure better delivery of projects on time and within budget, it will realise a higher return on investment for stakeholders, and will empower workforces with advanced skills.



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Digital transformation is a persistent and gradual change which is not always noticed and the risk is that businesses don't respond and are left uncompetitive and irrelevant as the market evolves.

"If you look at the impact of technological change over the last 50 years, its impact is at least as big as the impact of the Covid disruption, which is the single biggest shock to the global economy that we've seen over the last 50 years," Professor Brian Armstrong, digitalisation expert from Wits Business School, said at a conference hosted by Rib CCS.

Not keeping up with the changes can affect a company's profit margins. Productivity growth in the construction industry globally has stagnated over the last 20 years. The challenges that come with this are mainly cost and schedule overruns, which can drastically affect profit margins. "With technology, almost every phase of the life cycle, from design and development, to construction and handover, can be significantly improved," he said.

Another essential point is leadership's attitude to technological change. In a survey by MIT Sloan Management School of hundreds of firms around the world in different sectors, digital leaders outperform laggards by 13% on revenue, by 50% on

profit, and by almost 20% in market value. So there is compelling evidence that digital transformation has real financial return on investment for all stakeholders.

Different skills are becoming relevant for the digital age, but the most important one is using technology to do the traditional job more effectively. South Africa's workforce lacks the basic digital literacy, but these skills can be taught. Upskilling also means that employees can participate and be productive members of a digitally transformed organisation.

Regarding tools and technology, the place to start is with building information modelling (BIM). Firstly, it's the foundation to transform decision-making and risk management, so across a project's lifespan, the ability to change decreases as it progresses. "Integrated BIM allows us to shift changes to earlier in the project lifecycle. And you can imagine the transformative impact of this on the ability to reduce cost and risk, and improve on time delivery," Armstrong said..

Embracing technology is essential, but where do companies start?

Companies need to first ask why they want to embark on the journey. Each company has a different level of digital maturity, so the 'why' must be determined first. Secondly, it must be seen as a business initiative and not an IT initiative, and thirdly, it needs to be a systemic change, rather than peripheral.

"I believe it's a cultural shift. People are being forced to unlearn old habits and adopt new ones. You need to show people the value in changing. Knowledge sharing gives people a sense of empowerment. When they feel the change will be a threat to them or it won't work, they see past the emotive reasoning and actually listen to their concerns and make them a reality in their own minds. This will be more successful in the long term, said Alfred Agyei, IT project manager at Stefanutti Stocks.

BIM is needed to transform the industry. "We're introducing MTWO, which is an integrated 5D BIM technology platform built on a cloud-based environment. When you overlay this with artificial intelligence, machine learning and business intelligence to get greater insight into the portfolio of projects within a business, you're going to see real dynamic change in an organisation and in the industry.

"We've identified what we believe are the five key drivers of successful change. These are: Senior management must be involved (pillar one); Planning the journey is key (pillar two); Reinforcing change with personalised training (pillar three); Adopting change at the enterprise level (pillar four); and Making the process inclusive (pillar five). However, if we were to suggest just one course of action, it would be that businesses need to think about transformation at an enterprise level, not on a project level," Andrew Skudder, CEO of RIB CCS, said.

This means not buying technology to do a specific job, for example, project document management. This will get businesses to a certain level of transformation, but it won't get them to an enterprise level of transformation where they can really leverage best practice in their core business activities like estimating and project control across their organisation, standardise the way they do things, and centralise data so that it's accessible to more people.

The consensus seems to be that digital transformation is not only essential, but must happen systemically at enterprise level, and the technology to adopt is BIM. This will result in businesses realising a higher return on investment, streamlined processes and upskilling of staff, which ultimately leads to the much-needed transformation of the construction industry as a whole.