BIZCOMMUNITY

The potential for a digitised built environment sector

By Mondli Cele

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Before Covid-19 relegated most of society to the confines of their homes, the fourth industrial revolution (4IR) sought to bring digital transformation to the masses beyond online classes and work-from-home. Across businesses, digital transformation became the new buzz phrase, describing the potential of technology to completely rebuild entire industries.

Mondli Cele, CEO and founder of Yakha African Architecture

The impacts of digital transformation have even extended to the built environment industry, encompassing construction and architecture, which has historically been characterised as a structurally difficult business that hinders attempts at reform. Despite this, in early 2020, President Cyril Ramaphosa heralded the construction of South Africa's first 5G-ready smart city, ushering in a new vision for the country's built environment. Getting there, however, calls on transformation of a different kind; one that starts with a collection of innovative tools and advancements for South Africa's current built environment sector.

Transformation hesitancy

While most other industries have undergone tremendous changes over the past few decades, reaping the benefits of process and product innovations, the sector's hesitation to embrace the latest technological opportunities and its resultant labour productivity has left it stagnant. Internationally, tech startups in this arena have contributed to improved processes of collaboration between suppliers and contractors, simplicity in recruitment, and sufficient knowledge transfer. However, the field still remains largely untapped, especially in Africa where, just a few months ago, we launched Yakha as a direct response to the need for digitalisation in the built environment sector.

In a billion-rand industry, technology provides vast potential for improved productivity and efficiency to help drive the sector forward. One way of doing this is through the harmonisation of technical specifications and the introduction of platforms to break down barriers to trade. This is where tech startups for the built environment shine, especially as the world moves from an era of information technology to one of data technology. At Yakha, for example, we encourage data exchange, benchmarking and best-practice knowledge sharing, whether via partnerships or amongst individual companies, and are constantly using data to further help consumer-to-business interactions. Through this process, data – including big data – helps manufacturers and suppliers improve communication through the material supply chain to predict demand, potentially eliminating inventory.

Committed, collaborative effort needed

The benefits to industry are extensive, too, from ease of procurement and increased collaboration to reduced overheads and boosting economic development. Capturing this potential will require a committed and collaborative effort by the industry, but will also – and perhaps, more crucially – rely on the government to create a fertile environment for the digitalisation of the sector beyond plans for the development of smart cities. As regulator, incubator and, often, a key project owner, the government could establish a centrally funded infrastructure research support platform, joint industry and academic funds, tax incentives, and schemes for contested research and development. This type of system would allow for actively managed and coordinated public sector demand, thereby driving industry change.

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On the technical side, one-third of construction costs are currently attributed to building materials. Therefore, the industry could increase the development and implementation of standardised, modularised and prefabricated components, which will in turn increase productivity, lower costs and maintenance fees for end users, as well as provide improved systems for interface and technical issues, and more scope for recycling. Semi-automated and automated equipment also offer greater potential thanks to shorter delivery times, higher quality, increased accuracy with fewer workmanship errors, and improved safety for labourers. And, leaning in to the president's proposed plans for smart cities, digitalisation will contribute to the interconnection of people, machines and data to further optimise the operation and management of construction projects and properties.

The development and deployment of digital technologies and processes is key to the transformation of the built environment sector. And it starts with innovation aimed at enabling functionalities that facilitates users at every phase of the value chain.

ABOUT THE AUTHOR

Mondli Cele is the CEO of [[https://yakha.co/ Yakha AfriCAN Architecture]], an online platform aimed at simplifying the procurement process of African architecture, construction and furniture products through an e-commerce B2B marketplace designed for the industry.