

Impact of COVID-19 on construction

This special issue (SI) of the JEDT is a collection of 19 articles that showcase the impact of COVID-19 on construction. In the first article of the SI, [Simpeh and Amoah \(2021\)](#) show that established firms have incorporated aspects of COVID-19 guidelines into their site health and safety practices in South Africa. The qualitative results indicate that most contractors included policies related to site access, handling of COVID-19 cases, induction, screening and social distancing. But only a few among the study cohort have guidelines in place to ensure compliance to the new normal on the worksite as it affects sanitisation, sick leave, wearing of personal protective equipment (PPEs), audit and risk assessment and lunchtime rules. In neighbouring Zimbabwe, factor analysis helped surface aspects that significantly affected H&S on project sites in the pandemic period ([Chigara and Moyo, 2021](#)). The highlighted factors are change and innovation, monitoring and enforcement, production, access to information and health services, on-site facilities and welfare, risk assessment and mitigation, job security and funding, project cost and COVID-19 risk perceptions. These factors should help contractors formulate context-specific interventions that benefit field workers in developing or developed countries. The third article of the SI takes the reader from the South African perspective to West Africa. In the article, the barriers to implementing pandemic-related H&S regulations on construction sites in Ghana were outlined. The significant obstacles observed by [Simpeh et al. \(2021\)](#) include the cost of implementing COVID-19 H&S measures, which is made worse by the lack of compliance and ignorance. The authors also observe the dynamics of superstition, lack of PPE supply and theft of COVID-19 materials in the study.

Although relatively common in the construction management lexicon, words such as adaptation, resilience and flexibility increased with the advent of COVID-19. With the goodbye to business-as-usual on construction sites, [Jones et al. \(2021\)](#) present lessons for improving safety and worker effectiveness in the new normal in the UK. Using data from interviews that explored work experiences on-site during the pandemic, [Jones et al. \(2021\)](#) contend that improved planning and work sequencing have made sites COVID-secure, apart from the notion that better worker effectiveness and housekeeping were observed. Securing the life of people in construction (PiC) today cannot be effectively implemented without due consideration for technology. The following article in the SI thus presents real-time health telemonitoring using Internet of Things systems ([Mahmood and Rafaa, 2021](#)). Risk management concerning H&S is never more critical on-site than now. In the following article, [Kukoyi et al. \(2021\)](#) observe from a study conducted in Nigeria that some PiC had misconceptions about COVID, misused COVID-19 PPE, and lacked adequate information about the virus. These qualitative results suggest that risk assessment and control may be marginalised. In effect, lack of proper knowledge may perpetuate the lack of situation awareness on-site to the detriment of workers and the general public. Such instances have to be addressed.

The following article addresses COVID-19 protocol implementation. [Olukolajo et al. \(2021\)](#) expedited a survey at the end of the imposed lockdown following Nigeria's upsurge of the COVID-19 pandemic. The survey's outcome shows that preventive measures on sites were mainly PPEs, good etiquette/manners (social relations), and contact precautions. However, it is notable that the PiC involved in the study has a worrying disposition towards the preventive measures despite recognising the implications of noncompliance to protocols.



Another concept that has gained higher popularity came into the picture in the following article of the SI. The idea is “vaccine”. [Osunsanmi et al. \(2021\)](#) used quantitative data and structural equation modelling to advocate for Construction 4.0 tools and vaccines to evolve the resilience of the construction supply chain. Resilience, which is about changing coping mechanisms in a complex system, is the main feature of Safety II. In the following article of the SI, one can see that contractors have evolved coping mechanisms in the pandemic era to keep their sites and businesses alive. They are using restricted site access, support for bubbling of office and site staff, enhanced hygiene and social distancing, contract risk identification and mitigation, self-isolation measures and heightened construction site H&S to cope with current realities ([Salami et al., 2021](#)).

Given that the world was unprepared for the pandemic, it is not surprising that the reaction of contractors to it from the business perspective mirrors what is done in other industries. For example, [Aigbavboa et al. \(2021\)](#) show that construction firms implemented a complete travel ban that halted business operations on sites and offices in a bid to curb the spread of the virus in South Africa in 2020. The near paralysis disrupted project delivery and increased fears of job losses among PiC. Although contractors at every level of the supply chain were affected by the pandemic, there is a reason to fear the survival of small firms in the industry. Such a concern is outlined by [Oladimeji \(2021\)](#), who examined the influence of the pandemic on the viability of local construction firms in Nigeria. The study flagged the factors that lower the viability of small firms in Nigeria. These factors may find expressions in similar developing countries. For example, in Ghana, [Agyekum et al. \(2021\)](#) discovered that contractors encountered decreased work rates, delays in payments and increased materials costs arising from border closure. These issues may bankrupt small firms without savings for rainy days.

The following article in this issue shows that the impact of COVID-19 on construction in Africa is not so different from the experience in the Middle East. In the article, [Rehman et al. \(2021\)](#) observe that the United Arab Emirates (UAE) industry faced schedule delays, disrupted cashflows, delayed permits, late approvals and inspections, travel restrictions, serious H&S concerns, material and equipment shortages. Similar to reports from Africa, these challenges hindered the realisation of expected project performance. [Olatunde et al. \(2021\)](#) flagged the plight of small contractors in the COVID era again. They noted that indigenous contractors encountered time overrun, profit loss, and disputes, exposing them to financial ruin. [Tea et al. \(2021\)](#) presents ways in which collaboration can be enhanced despite the need for social distancing in their article. The authors used immersive virtual reality applications to map out innovative ways to remove design errors.

The use of technology does not come cheap to contractors facing financial problems. From East to West, the articles in the SI show that uncommon issues occurred in varying degrees. A study that relies on data collected from five continents affirms that overhead cost reduction, remote working environment, focus on H&S, improved productivity and sustainability goals were priorities for firms ([Ogunnusi et al., 2021](#)). The same study also highlights the negative impact of COVID in the form of low business turnover, delayed payment and production, apart from home and job losses. The situation also surfaces a paradox.

On the one hand, there are job losses. On the other hand, there is a shortage of skills among a specific category of artisans in Scotland ([Lawani et al., 2021](#)). In keeping with other sectors within the built environment, [Alhusban et al. \(2012\)](#) show how the COVID-19 pandemic would affect the future of architecture and urban design in the East and the West. Although they mooted potential innovations, the article did not shy away from the dynamics of the disciplines’ “lockdown” situations. The final article of the SI returns the

reader to the impact of COVID on construction, particularly in the UAE. In the UAE, King *et al.* (2021) report that reduced productivity, low foreign direct investment (FDI), decreasing orders for work, and disruption to supply chains were particularly evident. More importantly, reduced FDI in the construction industry and the related shortfall in work demand significantly impact small-medium enterprises than large enterprises.

Thus, from administrative practices to technologies, from Africa to Europe, from the Middle East to Asia, the articles in this JEDT SI have demonstrated how the pandemic impacts the business and project of construction management. However, the overwhelming negative impact should not cast a shadow on innovation potentials. These articles are published ahead of print on the Emerald homepage. The ahead of print options allows the community faster access to new content. The information shared in these articles is relevant to both academia and industry. Most of the themes addressed the need to pay closer attention to workplace well-being, health and safety in construction. The authors' calls also have implications for managing the business of construction.

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Further reading

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