ARCHITECTURAL & ENGINEERING

Digitally Driving Business Outcomes

Part 5: Innovating for Growth

A Five-Part Series

Cherry Bekaert

Your Guide Forward

The last two years of dramatic change driven by the global COVID-19 pandemic has placed a spotlight on key business outcomes and accelerated Digital Transformation in Architecture and Engineering (A&E) firms. Each of these outcomes, coupled with how people and processes can be empowered digitally through the application of technologies, will be explored in this five-part series for firms. The series aims to provide insights into the five critical business outcomes:

1. Understanding Your Customer;

2. Optimizing Your Business;

3. Protecting Your Digital Assets;

4. Enabling Your Workforce; and

5. Innovating for Growth.

Part 5: Innovating for Growth

Architecture and Engineering (A&E) firms around the world are operating in challenging markets. As A&E firms continue to face tighter margins, expanding competitors and greater demands, advancing digital initiatives, applying relevant technologies, and identifying new business models remain top strategic priorities. Firms are pressed to reinvent areas of their business practices to evolve and withstand the forces of disruptive change. How well a firm can innovate will be a key differentiator in its success.

Innovation at scale requires assessing people, processes, technology, and culture and devising a sustainable plan that is interwoven throughout each of these areas.

Everyone across the firm must understand that achieving a culture of sustained innovation excellence, requires each person – regardless of role or title – to own innovation as part of their job. Establishing a robust business strategy for growth means to measure innovation initiatives and activities and apply a reward system to ensure this is a highly regarded and committed value across the firm. Innovation opportunities should be aligned with the firm's strategy, objectives, and core competencies. Likewise, leadership must ensure that the right talent with the right skill set is focused on the right opportunities and the individuals involved understand the objectives and priorities. Additionally, everyone must embrace that innovation is not a static

process but an iterative ongoing process. Success does not mean that it is time to stop innovating and failure is not the finale, but a means to build upon the next initiative.
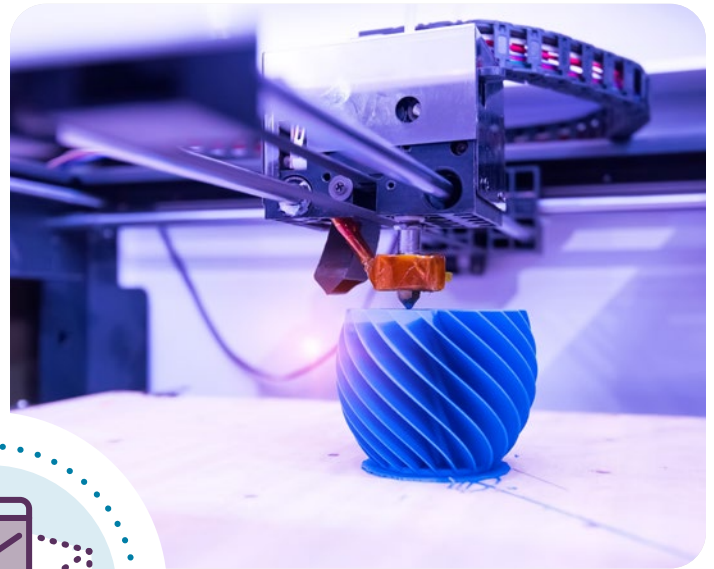
With the pandemic driving a more remote, work-from-anywhere environment, collaborative technologies are a necessity and should support all stages of a project from conceptual, schematic, development, construction document and final construction. Interactive design visualizations and extended reality (XR) technologies enhance firm workflows and provide firms and clients with a more immersive experience. These types of immersive online environments have a promising future in the industry as they transform the entire design and architecture process. Leveraging these technologies, design teams can prototype plans, spending virtual time in projects to trouble-shoot and test energy, safety, and performance. Both firm and clients can experience enhanced designs, identify means to reduce costs, and facilitate collaborative approvals and speed to build. Likewise, with much of the work done remotely, an iron-clad data and security strategy for the cloud will be paramount to protect intellectual property and client data.

Data collection and analysis will continue to be a significant asset to A&E firms. Digital Twin technology enables firms to leverage digital representations of structures and collect data and track and analyze performance. The utility of this technology and extracting and analyzing Internet of Things (IoT) data will provide valuable insights on how structures perform and create opportunities and new business models for firms. Many firms have defined new services offerings in the wake of COVID. For example, one firm developed new filters as a means for sanitization by combining a specially atomized fog and a three-stage HEPA (High Efficiency Particulate Air) air filtration system to address pandemic safety measures.

Investing in digital initiatives such as software automation like 3D modeling software will significantly enhance the design process and potentially ease material shortages and staffing shortages that we addressed in series 4 article "Enabling Your Workforce". Infusing automation into workflow processes and code-based designs will significantly reduce the amount of time architects and engineers spend manually evaluating projects allowing teams to focus on higher value tasks.
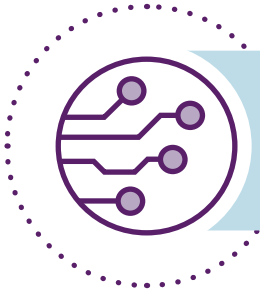
Adopting approaches to address climate change facilitates innovation and transformation, which builds upon strategies to ensure sustainable growth over the long-term. A&E firms are applying sustainability practices by using products like green steel and leveraging manufacturing processes such as carbon capture, utilization, and storage ("CCUS") to reduce environmental impacts.

Additionally, many firms are combining their creative talents, merging technology with requirements of their industry like building apps that quickly categorize chemical hazards and applying them to active projects to achieve compliance, which eliminates the need for manual classifications. While others are building risk assessment graphic tools such as an app that addresses climate change based on project location and classifies risk of failure to systems based on scale of hazardous event and presents adaptation and mitigation strategies.

Innovation has no finish line. Firms who invest in digital initiatives and technologies, commit to innovation as a strategic imperative in their practices and within their workforce, will continue to create a culture of excellence for the firm, their clients, and the communities they serve.

To learn more about how Cherry Bekaert can assist in your Digital Transformation visit us at **cbh.com/digital.**

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