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COMMERCIAL CONSTRUCTION TRENDS FOR 2020

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INTRODUCTION

Now that we're close to the fourth quarter of the year, the clear trends for 2020 have become evident. While COVID-19 was certainly a setback for nearly every business, those that were able to adapt and overcome will be stronger heading into the last quarter of the year. Being able to identify and plan for upcoming trends is an important strategic move for commercial construction companies to keep up with their competition. The top construction trends of 2020 include the popularity of design-build, implementing lean principles, modular construction, remote working, drones/unmanned aerial vehicles, and artificial intelligence. Let's take an in-depth look at the trends that are affecting the commercial construction industry this year.



POPULARITY OF DESIGN-BUILD

The traditional construction model was a disconnected assembly of architects, engineers, developers, commercial general contractors, sub-contractors, project managers and other participants. One strong trend for 2020 is the integration of these important roles and responsibilities to form a single entity to design and construct commercial buildings. The design-build model provides cost efficiencies, clearer schedules and transparent contractual remedies. Design-build projects are increasing by 18% per year and are expected to reach \$324 billion by 2023.

Design-build construction firms are able to provide several advantages over traditional methods improving internal metrics along with an overall better experience for clients. First and foremost, there is a single source for your project. With a "traditional" approach, owners have to select an architect, finalize the designs, have bids on the project, select a general contractor and act as a project manager (which they often have little experience doing). Design-Build firms integrate this entire process, providing a single contact, team collaboration and significant efficiencies. Increased and clear communication is another benefit of using design-build as all of the resources are in-house so it is easier to coordinate all of the moving pieces of a new development. Faster completion of projects are also a feature of design-build as the process is more seamlessly integrated to allow overlapping tasks from design to completion. Finally, owners can expect higher quality controls using a design-build firm as the material and construction specifications are similar and the architect, engineer, and general contractor are all from the same firm. Owners who work with a design-build firm for the first time will wonder why they ever built a structure in any other way.

IMPLEMENTING LEAN PRINCIPLES

While most often implemented in manufacturing, applying lean principles has becoming an up and coming trend for commercial construction in 2020. Firms who apply these principles typically see at least a 3 to 4% increase in productivity. Companies with inefficient processes can see even greater returns. With the economic turbulence experienced in the first half of the year, companies should look to become more efficient and productive to make up for their previous lost revenues. There are many facets to lean principles, but the



primary ones include waste eliminations, just-in-time deliveries and overlapping workflow tasks. Companies using these principles experience higher customer satisfaction, improved productivity and even safer job sites. Processes such as Six Sigma, Total Quality Management (TQM), Kaizen and other methods help improve the performance of companies. Instead of trying to learn all of the practices themselves, companies should opt for an outside consultant to identify areas of improvement, streamline operations and integrate lean principles. This process improvement investment is one that will pay off in the short-term and provide long lasting benefits for companies that want to improve their operations.

MODULAR CONSTRUCTION

With the rules of social distancing now becoming familiar and second nature to most people, people have become far more aware of how many people are around them and how close those people are. Where once people would easily stand shoulder to shoulder at a bar, now they have been taught to be cautious of who they allow to get within six feet of them. This change in public perception will change customer tolerance of seating in a dining area.

Customers will no longer tolerate tables that are too close together or dining areas that feel crowded. Dining rooms will need to be designed with limited seating in mind to accommodate public expectation. A customer that does not feel comfortable in the dining area due to overcrowding is unlikely to return.

REMOTE WORKING

With the COVID-19 pandemic, commercial construction companies (and others) were suddenly forced to operate in a new, virtual environment. Thankfully, most states and municipalities deemed construction an essential business, so projects were allowed to continue onsite. However, project managers, architects, developers and others had to adjust to the new reality of working remotely. Thankfully, technology has advanced to the point where it was easier than in the past to collaborate with disbursed teams working from home. Telecommuting or remote work has been common in technology companies, but was certainly a new development for the construction industry. Working remotely can actually increase productivity, reduce onsite visits and trim overhead expenses.

Companies that are not used to operating remotely, need to provide employees with the resources to succeed. These include:

- Device compatibility so all PCs, tablets and mobile devices work together.
- Cloud based or remote accessible Building Information Management and construction management software systems. These should be comprehensive systems that provide dashboards and reporting capabilities.
- Ticketing systems with clear workflows to document, record defects, assign tasks and assess performance.
- Document management with the ability to annotate, and compare plans.
- Push notifications to management and field workers to remind them of important appointments, tasks and milestones.
- Video conferencing applications like Zoom or Skype.

There will always be a need for oversight on the job site, but with successful implementation of remote work, construction companies can be much more efficient and streamline their operations. Companies that adopt these practices will be better prepared in case of a resurgence of COVID-19 in the fall or any other type of disaster that could potentially disrupt operations.

DRONES AND UNMANNED AERIAL VEHICLES (UAVS)

While casual observers think drones or UAVs are a play-thing for kids or only used for professional photography, think again. Drones are increasingly used on commercial construction sites for a wide variety of purposes. Over the next 10 years, Goldman Sachs predicts that the drone market can be worth \$100 billion. One of the primary uses of drones on a construction site is for surveying land. These useful tools help reduce the time and labor involved in creating accurate surveys and eliminate human errors too. Drones can be fitted with special lenses to detect certain types of vegetation for environmental impact studies or with thermal lenses to create long distance maps. Job sites with the potential for theft and vandalism can be protected by drones. With cameras and real-time video footage, they can be used to enhance surveillance and security while keeping employees safer as well. Drones can also be used for inspections, particularly in hazardous or inaccessible areas to ensure the work meets building codes and is done right.

ARTIFICIAL INTELLIGENCE (AI)

While it may seem the stuff of sci-fi, artificial intelligence is shaping every industry including commercial real estate. Remarkably, artificial intelligence in construction is growing at 34% per year and is expected to reach \$4.5 billion by 2026. The construction industry is one of the least digitized areas as it is typically slow to adapt newer technologies. However, those companies that are willing to use artificial intelligence can experience improved productivity, lower expenses and accelerated development processes.

So what exactly is artificial intelligence and how can it be applied to construction? AI is a broad term that encompasses reasoning, problem solving and the ability of computers to “learn” without direct programming. Virtual reality and augmented reality are easily identifiable instances of AI that can help architects and commercial contractors visualize how plans can come to life with 3D overlays and interactive environments. Artificial intelligence can also help engineers reroute existing plumbing and electrical systems for renovations or building expansions. AI can be used to mitigate risk, provide a more secure project site by providing scans for safety hazards, help reduce errors and optimize labor and resources.

Despite some apprehension of AI, computers will never replace human workers on the job site. Smaller and medium sized commercial construction firms are expected to be early adapters of artificial intelligence applications, thus experiencing faster growth than their competitors. When possible, firms should opt for cloud-based deployment of AI systems to help reduce costs, increase scalability and improve compliance & security measures.



CONCLUSION

While the construction industry is often slow to change and adapt innovations, it is important to identify the top trends that are occurring. Smaller firms that are able to integrate some of these ideas and resources are poised for significant growth compared to their competitors. Increased productivity, reduced errors, lower expenses and higher profits can all be experienced when construction companies implement new trends in the industry.

ABOUT CIVE

CIVE® is an upscale Design-Build firm, specializing in top-down build process driven by value engineering – from state-of-the-art design, leading-edge engineering, high-quality construction, and elite project management.

Our strengths lie in a rich mix of talent, experience and ingenuity. Our clients can depend on us to anticipate industry changes and plan for the future, while providing most practical and cost-effective solutions. CIVE® devotes customized, individual service to all its clients, whether large or small.

Specialties: Residential, commercial & industrial design, civil engineering, structural engineering, mechanical engineering, electrical engineering, construction management & project management.



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