

## BIM may change project delivery landscape

The construction industry has changed dramatically over the past several decades. Projects are increasingly larger and more complex, and there is significantly more competition – both domestic and foreign.

The industry has, for the most part, reacted well to these challenges through education and greater emphasis on quality control, safety, cost and schedule management, and relationships.

However, in the complex world of construction, there is always potential for disputes.

At one point, the time, cost and energy of such disputes posed a threat to the industry. Addressing this threat was important, and the industry responded positively in a number of ways. It emphasized quality control; alternative dispute resolution, such as partnering; and different project delivery systems, such as design-build. These responses helped reduce the number of disputes on projects. But there is still work to be done.

Building information modeling (BIM) may well be the next step in developing a project delivery system that results in more successful projects. BIM is, of course, technology-driven. The National Institute of Building Science, which is drafting a national BIM standard, says of BIM:

“A Building Information Model, or BIM, utilizes cutting edge digital technology to establish a computable representation of all the physical and functional characteristics of a facility and its related project/life-cycle information, and is intended to be a repository of information for the facility owner/operator to use and maintain throughout the life-cycle of a facility.”

But BIM is even more. As construction lawyer Patrick J. O’Connor writes in “Productivity and Innovation in the Construction Industry: The Case for Building Information Modeling,” “BIM is more in the nature of a single, consistent



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Richard E. Alexander

project database into which construction participants place information.”

BIM is, in many respects, a natural progression from CAD to object-oriented design to 3-D or even 4-D and 5-D (scheduling and cost) project design and delivery. However, it may well be much, much more than simply the latest in a continuing series of technological developments that are available to construction projects.

There are many advantages to BIM. They include clash detection, early determination of constructability issues, more efficient prefabrication, easier visualization of design alterations, earlier recognition of scheduling issues, a simpler submittal process, more accurate pricing information and a vehicle for close project collaboration.

BIM necessarily benefits all parties on a construction project. For example, it has been estimated that 16 percent of the time spent on the construction project delivery process is wasted by project participants either looking for or re-creating project information. With all parties working off a simple BIM

project model, such wasteful activities would be dramatically reduced.

BIM, at this point, is used generally in the steel fabrication industry on large projects and has led to more collaboration. It is likely that the same collaboration that resulted from the use of BIM in the steel fabrication industry will manifest itself generally on other projects as BIM is used more commonly.

The use of BIM requires cooperation and communication, blurs the traditional lines of responsibility and, in the end, may well lead to more successful projects for all project participants. In this way, BIM is much more than the latest technology. It is, more likely, a groundbreaking departure from the traditional project delivery system.

Howard W. Ashcroft says in “Building Information Modeling, a Framework for Collaboration” that BIM “is more than a technology. Although it can be used without collaboration, such use only scratches the surface of what BIM can achieve. Because the Model (or models) is a central information resource, it leads naturally to intensive communication and interdependence.”

BIM fosters a more cooperative, collaborative approach to the entire construction project.

Whether the use of BIM continues and expands and results in such change in the construction landscape remains to be seen. The early signs are that it may well.

*Richard Alexander is a member of the Construction & Design practice group at the Stoel Rives law firm. He can be reached at 503-294-9387 or [realexander@stoel.com](mailto:realexander@stoel.com).*