

## Liability and BIM

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### SUMMARY

Building information modeling (BIM) offers project managers and firm owners the potential to increase efficiency and create new opportunities. However, many practitioners are reluctant to change to a BIM platform because they have unanswered questions and concerns about using a new technology. With any new technology, there is a period of adjustment and learning. This article identifies specific issues that project managers and firm owners should be aware of when they use BIM as a project tool.

### THE ADOPTION OF A NEW TOOL

Despite the many different opinions about BIM and its potential, the consensus is that it represents a fundamental (some say revolutionary) change in the way a building project design is prepared and implemented.

The literature about BIM, like all new technologies, is a convoluted continuum of hype at one end, truth at the other end, and sober reality somewhere in the middle. In a business environment as laden with risk as the construction industry, disputes invariably arise. Our legal system depends upon the early adopters of new technology to frame issues on a dispute-by-dispute basis in order to produce precedents that can guide those who follow. Unfortunately, there are no such reported decisions related to BIM. Consequently, at this point, more questions have arisen than answers.

Many have suggested that our legal system and common construction-industry business practices are significant impediments to full implementation of BIM as a collaborative tool that would allow all participants to reap its benefits.

Full implementation of all of the functions available in a BIM system presents a substantial set of legal issues. Understanding the areas where BIM may stretch the legal concepts generally applied to architectural design work will help create the mindfulness necessary to deal with those issues proactively.

### OWNERSHIP AND CONTROL ISSUES

In a society that honors the maxims “knowledge is power” and “possession is nine-tenths of the law,” it should come as no surprise that many BIM-related issues stem from concerns about ownership of the model and use of the information that the model contains and generates. A corollary tension arises by virtue of the fundamentally collaborative nature of BIM, layered over traditional, less-collaborative project delivery systems. BIM potentially lacks established protocols for determining responsibility when something goes wrong with a product into which all participants have contributed data.

In a design professional versus contractor scenario, it may seem like a quick answer to say the architect will always want to control the model. That control may also make the architect the first line of attack if problems arise with the model, the drawings, and the information they generate.

Initial concerns involve the potential difficulty in tracking the genesis of a problem after it arises, especially when the relevant data may have been entered into the model days, weeks, months, or years before the problem manifests. For example, when an issue involves the size of a structural element of a project, it may be difficult to determine after the fact which party was responsible for the error, especially if multiple persons or firms had the ability to enter or change data during the process.

Some owners have contractually obligated the architect to treat the model as a deliverable. The impetus for this is twofold: (1) the owner’s visceral desire to get what they believe they are paying for and to know more about the design as it progresses, and (2) the use of the model in management and operation of the facility during its life cycle.

In fact, the latter use is touted as one of the major benefits of using BIM to design a project and operate the resulting facility. This, of course, raises more concerns regarding a design professional relinquishing possession and control of an instrument that could serve as a basis for future liability.

## STANDARD OF CARE QUESTIONS

There is a concern that general use of BIM will alter both the standard of care and historical protections afforded to design professionals by the doctrine of privity. Until recently in some jurisdictions, the doctrine of privity of contract shielded architects and engineers from negligence claims by parties with whom the architect did not have a contract.

Recent case law has relaxed the privity requirement to a limited degree. Many jurisdictions now allow claims without privity when it is clear that a contractor reasonably relied upon information that the design professional misrepresented in a context in which the contractor clearly *would* be relying upon that information. Got that?

With the use of a BIM-generated model, it appears logical that the promise of BIM can be realized only in a context where reliance upon the information is not only anticipated but expected. This would appear to be potentially problematic in that one of the requirements of this type of claim—reasonable reliance—may appear to be presumed in a BIM environment.

## LICENSURE MATTERS

States, which regulate the professional practices of architecture and engineering, require that each project that an architecture or engineering project be under the responsible charge of a licensed architect or engineer. Additionally, they require that the seal of such individuals appear on all drawings, specifications, and other design documents issued by the firm for such projects.

Although these requirements are easily understood and followed in the two-dimensional world where the design documents are issued only in paper form, they become potentially problematic in a three-dimensional world where all participants may have access to the BIM model.

How is compliance guaranteed if unlicensed persons enter data into the model, which could possibly then be incorporated without a subsequent review by the professional in responsible charge? If the model contains the input of multiple parties, is it even fair to view any one person as being “in responsible charge”? Who will keep track of (and be responsible for) adjustments that the software may make automatically? (Such questions are heightened in light of software license agreements’ disclaimers of liability for just this type of situation even as the result of an error in, or problem with, the program.)

## COPYRIGHT PROTECTION

The Architectural Works Copyright Protection Act allows for registration and protection of a building design and the associated architectural drawings. Assuming creation of a model through the collaborative efforts of many project participants, there is a question—assuming that material generated by the model is subject to copyright protection—as to who will be deemed to own the information in the model and therefore be eligible for copyright protection.

## CONTRACTUAL PROTECTION

Theoretically, many of the risks associated with BIM use can be eliminated, limited, or managed by the use of BIM-specific contractual provisions. As with other risks, this requires identification and contemplation of the risk, crafting appropriate language to deal with it, discussion and negotiation, and ultimately agreement on specific terms.

Some have suggested, however, that aggressive use of disclaimers and nonreliance clauses will diminish or eliminate the benefits of BIM that may accrue to all parties. In recognition of this potential, “Alliance Models” have attempted to structure contractual arrangements among all participants in a way that purports to fairly balance and share both risks and benefits. Whether this type of model can be adapted to normal three-party arrangements that can become adversarial remains to be seen.

## INSURANCE

Risk management theory dictates that one should insure those risks that cannot be borne by the practice or controlled through contractual protections. BIM is relatively new with respect to the legal and contractual issues affecting parties in a construction project. Insurance carriers have not yet developed policy language that identifies the insurable or noninsurable aspects of BIM.

The use of BIM to provide professional services should not theoretically raise any coverage issues, although there may be concerns to the extent that model-generated information could be interpreted as input into construction means and methods. Some have suggested that the insurance industry will develop a BIM-specific policy or endorsement to allow design firms to realize the benefits of BIM while at the same time not generating any coverage issues.

## MANAGING THE RISKS

The two major unresolved issues related to BIM may be risk allocation and compensation. BIM's benefits and track record thus suggest the operative question is not *whether* to implement it but, rather, *how* it should be implemented.

First, recognize BIM for the paradigm shift that it represents, including the attendant risks, as discussed above. Second, adapt the risk management techniques associated with traditional project delivery methods, focusing on contractual protection, appropriate levels of insurance coverage, and adoption of a BIM-specific set of project management best practices. Adequate staffing, appropriate training, and implementation of BIM-centric quality control will help protect architects as more advances are made with this new technology.

### About the Contributor

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## RESOURCES

### More Best Practices

The following AIA Best Practices provide additional information related to this topic:

- 10.04.05 Building Information Modeling: Potential Legal Exposures
- 10.04.02 Getting Started with Building Information Modeling
- 10.03.01 Managing Challenges of Electronic Documents

### For More Information on This Topic

See also "Virtual Design and Construction: New Opportunities for Leadership" by James R. Bedrick, AIA, *The Architect's Handbook of Professional Practice, Update 2006*, page 33.



See also the 14th edition of the *Handbook*, which can be ordered from the AIA Bookstore by calling 800-242-3837 (option 4) or by email at [bookstore@aia.org](mailto:bookstore@aia.org).



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### Key Terms

- Practice
- Information management
- Project management automation
- Building information modeling