A Guide for Architects and Builders

Help Building Owners Get the BIM Data They Really Need

Ultimately, every player in a building project needs building information modeling data — but it must be right-sized for each unique contribution. AEC firms can offer clients a great service by helping them understand which portions of the BIM data will serve them best.

From the editors of

cadalyst

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Earn your clients' trust — and future business — when you educate them about which model information can best help them manage their facilities.

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by Maxim_Kazmin

For designers, builders, and constructors, building information modeling (BIM) increases clarity of vision: Modeling makes it easier to communicate design intent, to study performance, and to plan the physical coordination of tasks. This clarity is rooted in collaborative effort and shared purpose in bringing the building into existence.

The owner/operator/facilities management (FM) side of this equation, however, has very different needs. Generally speaking, these professionals are not BIM experts; they simply want a building and enough data to operate it. Requesting the full BIM data set might seem like a good idea, but in practice it becomes the FM equivalent of drinking from a fire hose. Facilities managers want space and assets from BIM data. Such information could be delivered in 2D drawings and a spreadsheet, but doing so would neglect the potential long-term advantages of model data. Here's an opportunity to serve your clients, instead of overwhelming them with a complete BIM data set that won't be used.

Owners want to deploy and operate their new asset for long-term value. To do this they need information to manage energy use, plan space utilization, and prepare for maintenance, remodeling, and eventual decommissioning. Elements of the model have exactly the data the owner needs. But you are the expert when it comes to which information can be pulled from a BIM data set. It is time to put that expertise to work, providing increased value to your client as a trusted advisor.

Step 1: Rethink Data Exchanges

One goal when moving to BIM is to make all construction data implicit, as in, "available as needed." Most construction data relationships are still explicit, as in, "Send it to me." This explicit nature then runs full-speed into a four-way intersection of behavior, standards, processes, and technology — the four drivers of AEC practice. The design/build side understands and deals with these four drivers in one way and the owner/FM side handles them another way. The two meet and exchange data as required by the project contract. Rethinking contractual data exchange is the first step in providing increased value.

To begin, take the time to help the building owner understand what is available in the model data. Ask specific questions about expectations, keeping the following questions in mind:

- Is the client aware they can leverage BIM data in their facilities management applications?
- Which data formats are required (e.g., COBie, XML, RVT, etc.)?
- Will the client run energy analysis or other simulations?
- How do the client's ongoing business issues impact the use of BIM data?
- Will mechanical and structural maintenance be managed from the BIM data?
- Will the client add to the database over time?
- If so, is there one person in charge of the data set?

Make sure you discuss not only how the data will be used immediately, but also five to thirty years from now. When planning for the long-term use of model data, the client may need more of your expertise than previously expected. Having this conversation before there is a deal in place reassures your clients that you understand their needs and that you will be available to help if issues come up.

FM professionals routinely need information to fulfill work orders, create space reports, and guide the ongoing use of the building — in other words, to help them manage actions to take.

Step 2: Keep the Data Relevant

When Xavier University in Ohio constructed four new buildings, it expanded its campus portfolio by 25%. The project included the intentional integration of BIM and space-management data. Because the combined data set served as empirical proof of physical and mechanical assets, the university administration raised its maintenance budget from $750,000 to $12 million. Maintenance needs that had been invisible from an accounting standpoint became clear because the information in the combined BIM/FM database was accessible.

FM professionals routinely need information to fulfill work orders, create space reports, and guide the ongoing use of the building — in other words, to help them manage actions to take. This differs greatly from how architects and contractors use BIM data, which is typically to keep records of and access details about materials, equipment, and mechanicals during design and construction. The biggest payoff comes when both sides can use the same model for separate purposes in an integrated, create-it-once fashion.

Discuss with your clients the need for keeping data relevant, visible, and up-to-date. How they choose to use the data you provide is as important as which data you provide.

Step 3: Right-Size Data Expectations

BIM used by the architect of record to monitor construction progress is of no value to the facilities manager. The same is true of the data behind all other design, engineering, and construction processes. If owners ask for all BIM documentation, it's likely they don't understand how creating a BIM data set relates to its ongoing use.

When the Denver International Airport (DIA) needed a unified approach to asset data, it already had 9 million CAD drawings — most of them out of date or irrelevant. What DIA wanted was a data-driven approach to predictive maintenance and an objective source of information for making future facilities decisions. Because of this, DIA mandated BIM for all future construction and made contractors responsible for collecting and validating data that would be used later for FM and operations. The BIM approach at DIA wasn't so much about knowing everything *possible,* but about knowing everything *necessary.*

Your clients may not realize the varying degrees of value inherent in model data. They may need help creating BIM guidelines, such as a BIM Execution Plan that spells out the nature of expected BIM deliverables from all project stakeholders. Offer your expertise in helping create such a plan; it may well become part of their asset-planning DNA going forward.

Do staff roles and responsibilities, skill sets, and expectations support your promise to be a long-term strategic advisor to clients?

For the Long Haul

Helping clients shape data expectations can lead to more billable work, but be careful not to take a short-term view. When you work with clients to establish expectations, you are in effect helping shape the vision that will guide their future asset planning. Make sure your organization's culture is ready for such a long-term relationship. Do staff roles and responsibilities, skill sets, and expectations support your promise to be a long-term strategic advisor to clients? Make sure you're ready to support your clients as they make the move.

The next wave of change regarding BIM data is already on the horizon. As the Internet of Things (IoT) affects consumers — not to mention the designers who create Internet-connected products — have you considered that many of those things will be installed in a building? Will you be ready to advise your clients on IoT-aware BIM? Or how that may translate into their facilities management systems and approach to data throughout a building lifecycle? Simply being able to discuss this subject will show prospective clients that you understand the value of actionable facilities data and can help them in ways they haven't yet considered. ◆

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