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EXECUTIVE SUMMARY

Unlocking the Full Value of BIM

Jad Chalhoub, Technology Solutions Implementation Lead, Rosendin
Fred Meeske, Vice President, Rosendin

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KEY TAKEAWAYS

- Siloed information is a major problem in construction.
- BIM enables contractors to share information across silos for improved efficiency.
- Rosendin uses BIM to share information with building owners and facilities managers.
- Contractors need to begin using BIM before it becomes a marketplace requirement.

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Unlocking the Full Value of BIM

OVERVIEW

Since its inception more than two decades ago, the focus of building information modeling (BIM) solutions has shifted from tools that generate information-rich representations to 3D geometrical replicas. While contractors still see increased efficiencies and cost reductions using BIM in this way, it is not unlocking the tool's full value.

BIM can play a much larger role, both by hosting information within the model, as well as by sharing this information out with other organizations, both within the company and outside of it. Sharing information across traditional silos further enhances communication, increasing efficiencies and reducing costs even more.

CONTEXT

Jad Chalhoub and Fred Meeske discussed how Rosendin has unlocked the full value of BIM by sharing information across silos within and outside of the business.

KEY TAKEAWAYS

Siloed information is a major problem in construction.

Across the construction industry and even within individual organizations, information typically lives in silos. These silos often serve to protect intellectual property (IP), but at the same time, they hamper information sharing, which can lead to process inefficiencies and cost overruns.

> The problem with construction in general is that information often lives in silos that are very tightly kept.
>
> *Jad Chalhoub, Technology Solutions Implementation Lead, Rosendin*

A single organization, such as an electrical subcontractor, has multiple silos. Information about a project's design, estimating, modeling, purchasing, project management, and the field is tightly kept within the confines of each silo, even though the information is all related to the same project.

Figure 1: Example of silos within a single organization, such as an electrical subcontractor

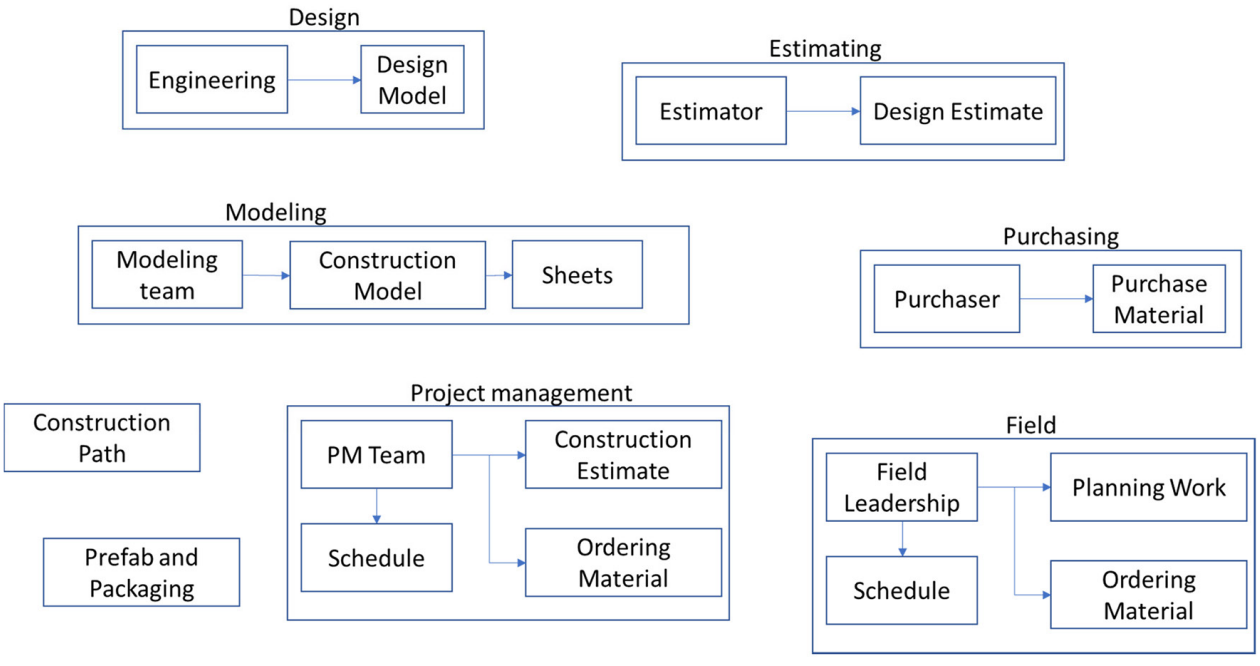

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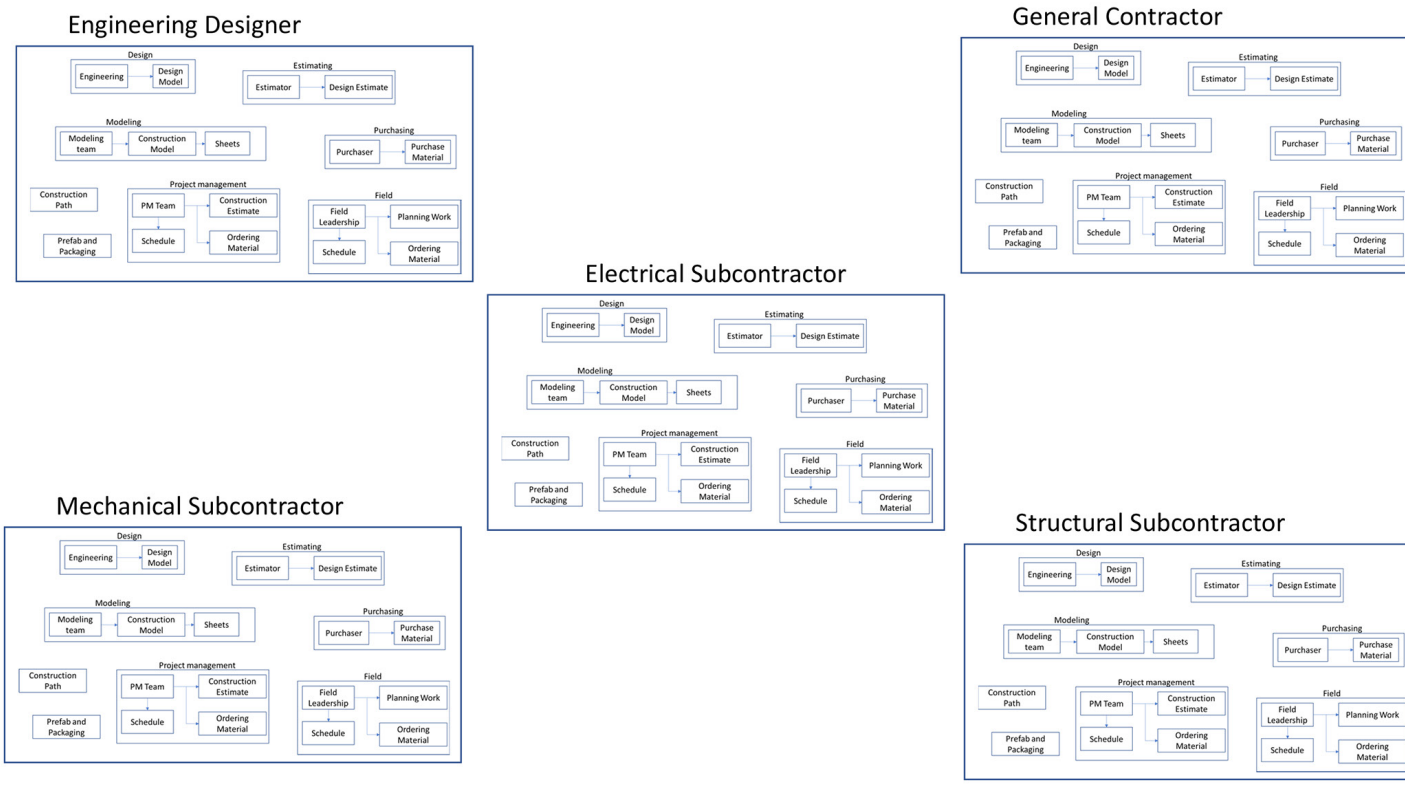
Figure 2: Multiple subcontractors on a project act as separate silos where information is tightly held



Projects typically have multiple subcontractors, each with their own siloed organizations, making it difficult to share pertinent information across the project.

BIM enables contractors to share information across silos for improved efficiency.

BIM is typically used to coordinate work, including clash detection, scheduling, and planning on-site resources, ultimately improving construction efficiencies and decreasing costs. The full value of BIM is unlocked when it is used as a conductor to share information across silos, further increasing efficiency and reducing costs.

Rosendin created a centralized process and platform—what they call their project information database—that allows the different teams within an organization to exchange information when needed in a variety of file formats. This is creating internal efficiencies, such as using the information from a single purchase order across multiple silos, rather than re-entering the information each time. The information exchange is also done in a way that doesn't create a risk that the organization will lose its internal IP.

> What's going to be industry-changing about this concept is that it's going to start providing real value to the owners, to the real individuals that are paying for all these services we're providing.
>
> *Fred Meeske, Vice President, Rosendin*

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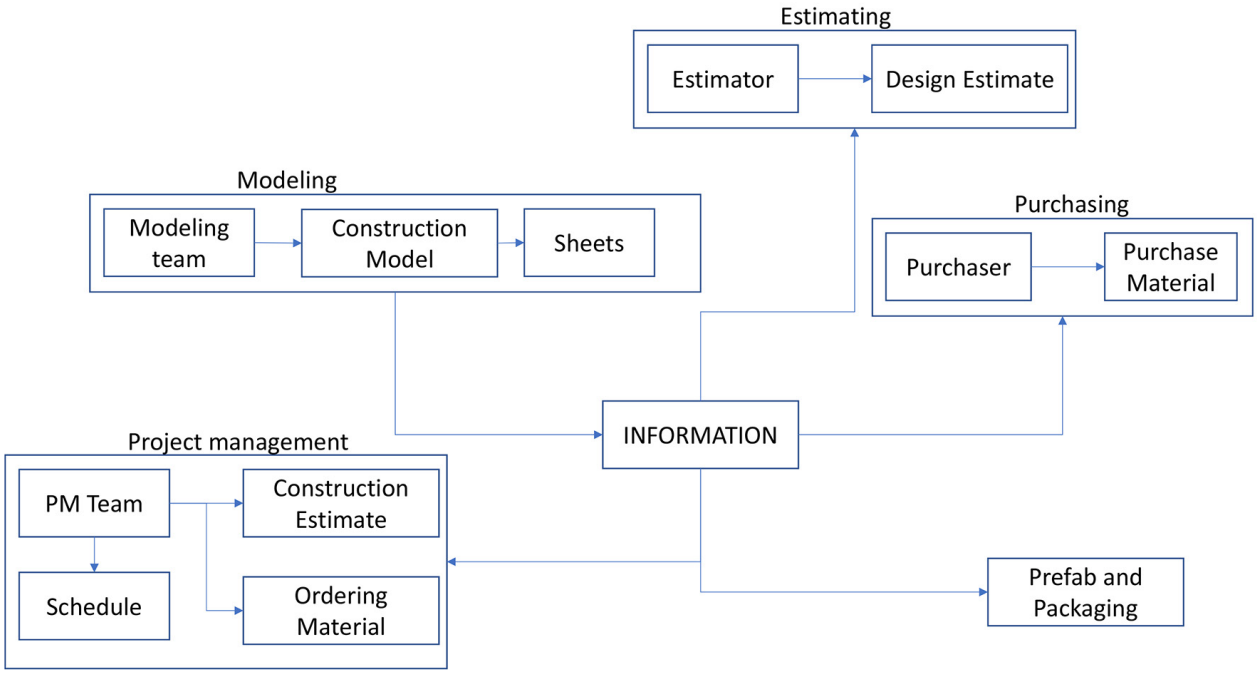
Figure 3: BIM enables the sharing of information across silos



Example: Using information from estimating during modeling

The modeling team is using estimated information from BIM while modeling conduit. When the conduit is laid out in modeling, it is 1,000 feet, but the estimate was only at 500 feet. The modeling team immediately knows that this layout is above plan, so that they can stop, evaluate where they are, and using information provided by BIM, make a decision on how to best move forward with the project.

Rosendin uses BIM to share information with building owners and facilities managers.

Building owners, facilities managers, engineers in the field, and others outside the construction industry are unlikely to have access to BIM software for building diagrams and information. Recognizing this as a challenge for their clients, Rosendin uses the implementation of its BIM software to push information out in a way the information can be accessed by post-construction users.

Rather than dumping all of the information on these users, they are sharing just that information that is most likely to be of use, for example, operations and maintenance manuals, training manuals, costing information, and diagrams with information related to components used within the building.

Rosendin is currently testing a cloud-based solution that allows the facilities managers, building owners, and others to interact with the information on their own. This would allow the clients to take ownership of the information, pushing it outside Rosendin's chain of custody.

Contractors need to begin using BIM before it becomes a marketplace requirement.

BIM usage is growing, especially as contractors recognize that the software can lower the costs of projects by reducing the number of clashes, turns, and rework. Contractors not yet using BIM need to start implementing the software so that they aren't behind competitors who are driving it to become a must-have solution in the marketplace.

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Organizations, especially those that have been hesitant to spend the money on BIM, should begin using the solution in a focused way, such as starting off with just coordination, or just updating information about equipment already in the field. As contractors see the efficiencies BIM offers, they are more likely to adopt it for more projects throughout the business.

Contractors need to recognize that a variety of factors, including region, industry type, project types, and project size, can contribute to the value proposition of BIM for individual projects. While many projects will experience a significant return on investment with BIM, some will not; that should not deter these organizations from using the solution.

BIOGRAPHIES

Jad Chalhoub
Technology Solutions Implementation Lead, Rosendin

Jad Chalhoub, PhD, is the BIM Technology Solutions Implementation Lead at Rosendin. His work focuses on identifying relevant emerging technologies, establishing their potential values and ROI, and implementing them throughout Rosendin.

Fred Meeske
Vice President, Rosendin

Fred Meeske is the Vice President of BIM Technologies at Rosendin. He is responsible for the implementation of modeling and coordination best practices, supporting the companywide BIM and coordination initiatives, and working with other Rosendin leadership to insure successful technology development, training, and implementation throughout the company.