

THE COST OF THE PURSUIT:

The Impact of IPD and BIM

BY MARK BUCKSHON, CPSM



How does a firm control the cost of a pursuit?

When the rules of the game and traditional business practices are under attack from new technologies, how do you respond? When things go right, building information modeling (BIM) and integrated project delivery (IPD) go hand in hand to encourage collaboration, enhance design flexibility, reduce construction conflicts and change, and (best of all) allow owners to truly understand and manage their properties more effectively once construction is completed.

The “when-things-go-right” qualification is important, because this story is incomplete. More challenging, the impact of evolving technologies and practices is uneven on disciplines, markets, and projects. This means that both defining the problem and discovering the solution will seem to be incredibly complex unless you “get it.” If you start from near-scratch, you will face a challenging, steep, and expensive learning curve (however, probably not as severe as experienced by BIM/IPD pioneers just a few years ago.)

“I don’t think IPD would inherently increase pursuit costs,” said Craig Park, FSMPS, Assoc. AIA, principal consultant at The Sextant Group in Omaha, NE, and a past president of SMPS. “IPD is a tripartite designer, contractor, and owner contract, and more often, it is a legal negotiation.”

“BIM doesn’t increase pursuit costs but can increase the cost of doing business,” Park continued. “The learning curve is steep in architecture and engineering, but just having BIM in some ways has become the cost of entry to pursue work.”

Park’s observations are reflected by several others. Cam Munro, innovative construction manager with Clark Builders in Edmonton, Alberta (the business is 51 percent owned by Turner Construction Company), says the difference in pursuit costs for a BIM/IPD project from conventional construction “would be similar in accounting, and probably would be nothing more than that we are just trading dollars. We’re spending less time on PowerPoint presentations [and] binding pamphlets and spending more time on doing models that we do for pursuit,” he said. The direct pursuit costs come out in the wash.

But, if you look beyond the process of pursuing the work on a day-by-day basis—that is, if you are seeking to develop the capacity to even reach the stage of winning BIM/IPD projects and you don’t have any experience in the field—the cost of pursuit will, of course, be much higher, Munro observed.

The challenge, in part, is that the relative cost-benefits vary depending on your discipline. Munro said architects have the highest costs and the greatest cost-recovery challenges because of their practices’ traditional time/fee-based compensation model.

Architects need to invest in the technology and training and overcome the learning curve, and they don’t necessarily see immediate payback in project wins and billable hours, Munro advised. Contractors can see more immediate benefits—BIM allows for more efficient estimating, reducing drawing conflicts and speeding up the project planning and work cycle.

BIM software costs are declining, and the problems of integrating systems also are dropping, but the early adaptors still have a market leadership advantage and, undoubtedly, experience less stress in pursuing IPD/BIM projects because of their experience and expertise.

This is the case for Chamberlain Construction Services Ltd., an integrated architectural and contracting business with offices in Canada and Scottsdale, AZ. Company president Brian Chamberlain discovered the advantages of IPD earlier than most—25 years ago—in part because the company both designs and builds its own projects (but unlike a general contractor promoting a design-build service, Chamberlain is rooted in an architectural practice that successfully added construction capacities).

Chamberlain has discovered much of its business in the hospitality and hotel sector, with private ownership and fast-track construction requirements. IPD and BIM are natural fits in this environment, where contracts are negotiated, and Chamberlain can see projects through from beginning to end in house with long-repeat clients. Project architects, construction managers, and site superintendents collaborate effectively under one corporate roof.

However, Chamberlain says his practice still bids and wins public work, and responds to RFPs when they occur.

“There hasn’t been a lot of IPD RFPs out there, but in general, an RFP for an IPD project is more extensive than what we would call a standard-industry RFP,” he said. “To try and quantify that, on a [regular] RFP calling, your response might be from 15 to 40 pages. On an IPD response, your response might be in excess of 100 pages.”

To put this into direct dollars, Chamberlain says a normal RFP could “take us a week or two of time” and the “average cost for a normal RFP to put together might be between \$8,000 and \$10,000. On an IPD



The cost of pursuit, in this situation, is the cost of keeping apace or getting ahead of owners’ expectations and evolving industry practices. The actual dollar figures will depend on your strategic direction and implementation decisions.



Breaking into BIM/IPD: How Can You Manage the Process?

The decision to acquire the knowledge and technology to pursue collaborative projects with building information modeling (BIM) and integrated project delivery (IPD) needs to be made at the highest strategic level. The biggest cost of pursuit, of course, is gathering resources to develop your capacities to reach the stage where you are qualified and capable enough to even pursue the opportunities. These ideas, gathered from interviews and some of the resources listed on page 15, may help to make the process simpler.

Collaboration and BIM—developing your current relationships

The question of whether one BIM platform or another is “best” might be answered by looking at your current collaborative arrangements. Most industry professionals have worked with counterparts and owners collaboratively on successful projects, and these relationships are likely to be the best ones to help you set your course for enhanced relationships and more formal IPD projects. So, you could check with your counterparts and learn which platforms they are using, and why, and this may help you to narrow your search and go beyond specific software or service vendors. (If your best customer/owner prefers one BIM approach over another, you naturally might want to follow the owner’s lead.)

Gathering information

As I write this article, I’m attending a national specification writers convention where (not surprisingly) several sessions have been dedicated to BIM and IPD discussions as they relate to contract documentation, project, and risk management. You can learn more by attending relevant conferences and events, picking brains, and reading. You’ll also be able to communicate informally with non-competitive colleagues who may be able to share their experiences and insights with you.

Learning curve

Expect a challenging learning curve as you move forward. You won’t have much in the way of revenue, and you certainly won’t achieve much competitive advantage for current projects as you go through the learning process and your clients and colleagues cannot see a proven track record. You’ll need to build the costs into your budgets and have some patience; immediate payback is far less likely for architects than contractors, for example.

Starting small

Use a current, simple project with lots of lead time and flexibility (and ideally an understanding and co-operative client) to put things into operation. With the lessons you learn, you’ll be able to advance to more challenging initiatives.

Should you wait, or go now?

As the technology advances and integration issues are resolved, costs are declining. BIM technology previously could be afforded by only the largest practices and integrated design and construction businesses. Now, it is less expensive. The question is, is it better to wait until the technology is even less expensive and more reliable? This is an easier question to ask than answer, but there will come a point when you risk losing business to competitors who moved forward. By investing now, you may gain enough in expertise, time, and first-to-market credibility to offset the potential cost-savings by waiting.

RFP, you could quite easily double that—and that doesn’t count anyone’s time in the pre-RFP pursuit.”

But these somewhat-higher pursuit costs are not a big issue for Chamberlain and other architects, engineers, and contractors familiar with IPD/BIM. They apply the same best practices to manage pursuit costs as for conventional RFPs.

Chamberlain sets go/no-go rules based on whether his organization has relevant experience, knows the client, and has enough connections and references to make the project worth pursuing. If so, then the pursuit cost isn’t terribly meaningful.

The slightly higher pursuit costs are recovered in the win rate and contracting efficiencies, and the greatest savings (when things work properly) is at the ownership end, when the collaborative design and construction process through IPD results in buildings that meet owners’ needs and, remarked Munro, have all the data and “knowledge” to allow for effective ongoing maintenance and management.

However, the challenge for traditional industry practitioners is that “BIM and IPD are raising the bar to entry,” says Seattle-based consultant Ted Sive, FSMPS, who wrote a pioneering white paper for the SMPS Foundation in 2007, “BIM: A Marketing Primer and Call to Action” (available at <http://bit.ly/15gzTHY>).

“The barrier to entry is that the company has to have, in terms of internal resources, intellectual capital, and technological capability internally, a whole heck of a lot more than before,” Sive said. “Broadly, this issue is less about the pursuit of individual projects as to what it takes to have a strategic marketing and business development effort in an A/E/C company.”

As the recession hit, “bigger companies [started] competing aggressively for smaller projects, and that has just raised the ante for small to medium-sized firms—that has increased their costs,” Sive observed.

These costs and the potential competitive imbalance for practitioners who are late to



embrace BIM and IPD likely will increase in the near future. While most work is still bid and constructed conventionally, as owners discover the lifetime savings through BIM and start insisting on it in the project documentation, the pressure to apply the technology—and then to collaborate more effectively through IPD to exploit its advantages—will grow, and practices and businesses that aren't up to speed could be left behind.

“This is part of a bigger trend that, in general, I think owners are looking for more and higher quality of information and ideas in the marketing process,” Sive said. “Owner expectations—both conscious and unconscious—have increased, in terms of how much they expect A/E/Cs to understand not only the project at hand but the owner's underlying business or operation. We're going to continue to see this in proposals and interviews. Not only are we [the industry] always raising the bar in the quality of data and how it is presented but in the amount of professional thought, analysis, and design during the marketing phase. So, it's hard to say if the increase in marketing costs are due to IPD and BIM specifically or just this growing trend to more and higher quality data.”

So, if you are already working in the BIM/IPD space, you'll most likely find that the cost of pursuit is a non-issue. You'll simply adapt your go/no-go decisions to the RFQs that become available, or continue working with satisfied clients on a repeat sole-source basis.

“Yes, for most of our projects, the cost of pursuit is effectively zero, because we are maintaining our current relationships,” said Chamberlain.

If you aren't there yet, be prepared for some overhead costs and a learning curve, and gather all the information you can to stay ahead of the process. The cost of pursuit, in this situation, is the cost of keeping apace or getting ahead of owners' expectations and evolving industry practices. The actual dollar figures will depend on your strategic direction and implementation decisions. ■

About the Author



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BIM and IPD: Definitions and Resources

Integrated Project Delivery (IPD)

“A project delivery approach that integrates people, systems, business structures, and practices into a process that collaboratively harnesses the talents and insights of all participants to optimize project results, increase value to the owner, reduce waste, and maximize efficiency through all phases of design, fabrication, and construction.”

American Institute of Architects' definition, as reported in “Raising the Bar: Integrated Project Delivery” by John P. Martin, in PSMJ Resources Inc. (September 2009).

“There's a myth in this industry that design and construction are two separate processes, and they're not. They're totally intertwined and reliant one upon the other.”

Brian Chamberlain, president of Chamberlain Construction Services Ltd., an integrated architecture and contracting practice that has applied IPD for 25 years.

Building Information Modeling (BIM)

“BIM is a digital representation of physical and functional characteristics of a facility. As such, it serves as a shared knowledge resource for information about a facility forming a reliable basis for decisions during its lifecycle from inception onward.”

National Institute of Building Sciences, Washington, DC, in National Building Information Modeling Standard, Version 1, Part 1 (December 2007)

“BIM is a general term to describe all the information gathered and applied to a building model during design and construction. BIM uses virtual representations of the actual building materials used to build a building. By using this process, we are able to provide information that sometimes can be lost when the project is passed on from the designer to the production team and then onto the contractor.”

Jorge Calderon, principal of Kubick Architects and Associates, Inc., writing in the Professional Services Management Journal (June 2010).

Other resources

For an excellent overview of the challenges a firm faces in deciding to implement BIM and IPD, see *PSMJ's AEC Issue Brief: Resolving the BIM Dilemma*, by Jerry Guerra, www.psmj.com/documents/BIM.pdf.

