

Taking ownership of your spaces

- Daniel Biagi



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Introduction

The biggest shift in real estate usage history is occurring. As a business leader, I've recognized and made that call myself for Voyansi. In 2020, like many other companies, we realized a new way of working was here to stay, and capitalized on the opportunity of our employees working remotely to renovate and consolidate office spaces.



Daniel Biagi
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We know that real estate owners and operators are already facing challenging times. To stay competitive, you need to flex with changes quickly. This means being adaptable to changing business climates (COVID is only the most recent case in point), on top of understanding and managing operational costs, renovations, and additions to your business.

But most importantly, you need to understand the true cost of your space.

All property classes are being impacted by this huge wave of space reutilization. Look around at the transformative nature of new ways to shop, work, and live. In less than a year, the restaurant and retail industries have very different customer bases. Analyst firms such as Deloitte are projecting this change to have a bigger financial impact globally than the industrial revolution. Management of this upcoming shift is critical in order to stay competitive.

Distributed real estate portfolios only pose an additional challenge:

How do you balance the variance of local requirements, vendors, and other stakeholders while comparing apples to apples?

There is a reason having a simplified and powerful set of tools to access data is essential. One of the reasons we founded Voyansi was to make BIM easy and Accessible for All!

BIM, Blood, & Brand

We all know how large companies have been leveraging BIM to build larger projects more efficiently, and in less time. Still, asset owners rely on different consultants (Architects and Engineers) to drive this process. Each consultant uses their own standard creating project specific information (plans, schedules, models, etc.).

First, I'm going to go out on a limb with an analogy. **Your company's Brand is your Lifeblood.** That is apparent for large companies with many locations. Your brand includes your logos, spatial standards for your locations, colors, and user experience, etc. vary. The connection with BIM, your Brand, and Blood is very clear. BIM is more than just a 3D model. The I stands for Information. This information is also part of your business's lifeblood, and by extension, your brand. It could include unified company standards to manage spatial needs (such as social distancing measures), local material, utility, & labor rates, safety standards, and more.

According to KPMG, 79% of the BIM and digital twin innovation occurs at the design and construction stages. However, only 22% of this is carried out by the asset owners! This makes it difficult for owners to leverage the data/information generated due to lack of consistency. Each project looks different from the other. Sorting, analyzing, reporting on inconsistent data is difficult and time consuming, sometimes even impossible. According to Mckenzie's "[Next Normal in Construction](#)", the average information professional spends 4.88 hours per day searching for info and answering emails.

I know that there is not a single "Silver Bullet" that will solve this issue. I also know that most articles I read about BIM are centered around a construction, architecture, or engineering focus. I know that BIM is changing the world for owners and operators of built space as well, so in this article am concentrating on discussing BIM in regard to long term operation of built space by owners and operators.





OWNING IT FROM THE START

Before writing this article, I reached out to a few people in the AEC space to talk about strategic BIM planning. For me, it's a catharsis to talk about BIM. However, anecdotally, about 75% of space owners are reluctant to engage in strategic planning sessions and my colleagues in the software and data world echoed this.

The reason for this hesitation is anxiety. Anxiety about the difficulty getting started. Anxiety about being able to show return on investment. Anxiety to deliver projects that are on the books. It doesn't seem like a big issue, but this anxiety snowballs.

Enough doom and gloom. Here's the happy picture: **Imagine a world where the data created during construction or renovation better lived on, in other ERP systems.** You know that someone spent the time to model out your facilities. Those models have valuable information in them that often never accessed once your project is complete.

Think about a world where this information is the same for every single project. Your unified building standards create visual consistency with your spaces and reinforce your company's brand. This data goes beyond just visual consistency. Imagine the ability to tie BIM data to your company's sustainability or safety initiatives. Think of how useful it would be if your entire portfolio of buildings was digitally managed. You could use this information to tell which spaces perform better than others, and truly understand the full cost of repairs and maintenance.

This is precisely why now is the moment to begin, to own your BIM process from the start. BIM is your company's lifeblood, and if visions of unified and accessible data don't quash your anxiety, maybe understanding how best to get started will. It's as simple as talking! Seriously, implementing BIM is that easy.

Even if you lack in house BIM expertise, it's possible to get started now. Similar to other data or IT initiatives, I suggest starting by creating a BIM Strategy. Workshops are your best first step.

Strategy workshops map processes, and outline the systems and data flow you are already using. It's important to keep the end in mind, so this is the stage to determine how you will define success, which ties to the goals of your initiative. Depending on your goals, the execution may look different, but ultimately the BIM Uses are defined and a schedule of work is laid out in your BIM Execution Plan.

The result: control. You as the asset owner are able to take control of the process by communicating to consultants of each project, your standards to be followed, templates to be used, etc. **It really is that simple.**



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The logo for Voyansi features a stylized, white, cursive-like symbol above the word "voyansi" in a clean, lowercase, sans-serif font.

A close-up photograph of a person's hands drawing on a large sheet of white paper on a dark wooden drafting table. The person is wearing a red and blue plaid shirt. A roll of paper is unrolled on the table, and various drafting tools like pencils and a ruler are visible. The scene is brightly lit, suggesting a professional workspace.

BIM OWNERSHIP 101

Implementing BIM sounds challenging, scary even. Maybe it's on your radar, but the budget is not yet approved and you are still planning. There is a vast unknown ocean you are about to dive into, what kind of monsters lie in wait? Rework, lost productivity, expense, or additional effort are all lurking out there in the depth.

First, don't panic. Last I checked, most cities won't let you start digging or pouring concrete until you've done some planning and filed plans about what you are going to do. Mistakes and rework will still happen. I won't lie and say that there are any clear voyages in life, but it's common sense that good strategic planning will lead to less rework and frustration during project implementation. Implementing BIM is no different. Starting with your approved plan, then executing is your way to ensure there's a successful plan in place.

Making the business case

If we take a trip back in time a few years (or more than a few), you'd walk into many architecture, or construction firms to be greeted by large rooms of drafting tables with employees laboriously creating plans. Imagine if you walked into any leading firm today and saw the same site? You'd probably hope that it's some type of historic corporate display.

Why then use a software ecosystem a full generation out of date? The AEC industry has made this transition countless times. First there was paper, then drafting, then computers. Now many AEC firms are using BIM.

If you're reading this you're probably in agreement that it's time to make the change at your company, but maybe you aren't in the AEC industry, so the benefits and historical examples of industry transition are less applicable to you. Creating a business case to show that this is the right move, and essential to the continued existence of your business is necessary. Maybe I can help you create yours by sharing what I typically hear?

When I speak to our customers about their hesitation to move from CAD to BIM, I hear the same variation of the fact that it's just difficult:

- It's difficult to implement new tools, and train our team on them while continuing our project work.
- BIM is confusing, there are too many new tools and workflows to understand.
- It's expensive. Expensive to upgrade software, expensive to train our employees, and expensive to involve consultant help.
- The benefits and all the advantages just aren't worth it to us.

A few years back, I might have agreed with any of these. Many of the benefits of BIM were accessible by point solutions that had to be operated with specialist knowledge, were expensive to purchase, and difficult to integrate. If you haven't taken a test drive in the latest version of Revit, I'd highly recommend you take a look.

Each version of Revit that Autodesk releases incorporates new features and functionality, and Revit 2021 is no different. This version for the first time ever features a Generative Design tool that you can use to explore a variety of layout options all generated by the computer with a single click. Even with this advanced functionality, implementation of Revit is easier than ever and accessible for organizations of all sizes.

But, what does the implementation process look like for you?




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CONTENT FIRST

Personal feelings aside for the state of social media today, I realize there is some truth in the importance of creating content for exposure. No, I'm not suggesting you go purchase a pair of black skinny jeans, a go-pro, and quit your job to travel.

Rather, I'm talking about exposing your data. It's the first step to implementing BIM.

First, what do I mean by Content? Content is a very wide word, and can have a variety of meanings. Inspirational sunset photos are nice, but in this case I'm referring to a 3D representation of a building component. This goes beyond just the drawing to include data related to its material, id, manufacturer, cost, color, behavior, fire rating, etc. In the AEC world, content refers specifically to Revit families, AutoCAD blocks, Parts, etc.

So where does the exposure come in? Data attached to the component models typically comes set with default data standards. You can also customize your content to match your data structure. Content exposes your standards internally.

Imagine the possibilities if your BIM data structure aligns with other datasets? I was having lunch last week with a colleague who works in the safety world, while we were talking about a hazardous building waste remediation project. His response: you know, I wish I could tie some of that information into our safety management tool.

This has me thinking, you could include datasets from your colleagues working in ERP, PLM, GRC, or any other 3 letter acronym given the right data structure. Having the right data in your content allows other users to create Bill of Materials, Construction Schedules, Operate Building Management Systems, leverage Facility Management systems, etc.

So why should you become a content creator?

Most property owners have let go of the control or oversight of the content used to create their buildings! Architecture and Engineering firms typically use generic content. This means when your projects are delivered, they may not have a consistent BIM data structure depending on who you worked with.

This non-consistent data creates problems when integrating different applications, generating portfolio management dashboards, or integrating with other data sets. Taking control over your content leads to more consistency and consumable data. By creating data rich content with future needs in mind, your team of architects and engineers can create project models consistent with your company's overall needs.

What are you waiting for? Start creating, it's step 1!





MY PROBLEM WITH PAPER

I'm looking at a pile of paperwork on my desk this morning. I know that buried in that stack is a financial document I need to review later. I know who sent it, when it came in, and vaguely what it looks like. I'm still dreading having to physically sort through the mess to find the one piece I want. Sorry Michael Scott, but if I had one wish in life, it might be to eliminate all the paperwork.

While the above example is from my personal life, I know for a fact that most companies still operate with document based workflows. This means: paper files, scanned files, natively digital files (word, excel, DWG, RVT, etc). As an organization, one of the reasons we recently rebuilt our data infrastructure is that these workflows are very time consuming and most of that time is spent on non-productive activities (searching for information). According to the International Data Corporation and McKinsey, non productive time is concentrated on these activities:

- **28% in email**
- **19% in searching and gathering documents**
- **14% in communication and collaboration**
- **The average worker only spends 39% of their day performing their role specific task.**

Today, in order to stay competitive you are required to make decisions quickly in a constantly changing and evolving environment. The problem with trying to move fast is that drawings, models, and spreadsheets are a prerequisite for any stakeholder to understand their spaces in a comprehensive way.

Solving the document based workflow issue presents an opportunity to improve productivity by at least 25%. Some areas that are good places to start are:

- Procurement optimization
- Team efficiencies
- Operational improvement
- Construction management
- Data not only needs to be accessible within short time frames.
Data needs to be organized in a way that can be sorted, analyzed and presented to stakeholders.

As explained in the book Database Systems by Carlos Coronel and Steve Morris:
"Better-managed data and improved access make it possible to generate better quality information, on which better decisions are based. Data quality is a comprehensive approach to promoting the accuracy, validity and timeliness of the data."

So, I'll leave you with that. I have a problem with paper.





DATABASES?

Your data is important, but what is your strategy for storage, access, and reporting? Think for a minute about how to store anything. Clothes, spices, bills. It doesn't really matter what we are talking about. In a way, it doesn't even matter what system do you actually use for this storage. You could throw all your laundry in a pile, and if you can find the shirt you need quickly, it works. But what if you throw others into the equation? While I may be able to find my shirts in the morning easily, my wife insists that this is not a system that works for her.

I can't really argue with that. With more than one person storing clothing in the same closet, your strategy for our laundry workflow needs to be aligned, or it creates internal conflict. I don't know about you, but I dislike conflict, especially over laundry, so I hang my shirts up where I'm asked.

Your data is similar. Even if you and your colleagues can easily find what you need, what happens when someone else comes on board? What if you are collaborating with other companies or teams on the same project? You may or may not talk to them every day. And that's where the bottleneck occurs. Once again, you're spending lots of time searching for and sharing information.

It's not just the paper that's an issue. Thinking about a solid strategy for how your newly digitized assets are stored is essential before you can start leveraging it to uncover actionable insights for your organization.

The possibility: Data Driven Design

Once your data is organized, the possibilities start to be unleashed, starting with the ability to leverage Data Drive Design principles during the plan and design stages of new projects. The data driven design process consists of generating semi-automated designs by giving certain constraints to your systems. The system uses those constraints to design new facilities following previous design logic stored centrally. An optimal design is achieved through iterations. Adjustments are then made to the design which retrofits the data repository.

As stated in the Article from Shane Ketterman "[Data-driven Design and Generative Design – An Overview](#)", there are 3 parts to the data driven process:

1. **Discovery:** Define the problem and collect information from a data repository
2. **Design:** Develop the solution through iterations
3. **Validation:** provide feedback to the data repository through iterations

To illustrate with an example, think of an office developer with hundreds of locations saved as BIM models in a centralized data repository. Data driven design is started by telling the system that a new office space with capacity for 100 employees, new building, 5 levels, and other constraints needs to be developed.

The system collects data from the repository to create such a design based on previously designed offices such as: number of desks per floor, distance between desks, private offices per employees, square footage per employee or per desk, number of bathrooms per level and per employee, fire escapes, etc. The system iterates until it finds the most efficient design.





THE HOLY GRAIL

Unified Dashboards

By leveraging the power of data driven design, your team will not only come to optimal spatial layouts today, but improve your design process for the future at the same time. Once finalized designs are manually adjusted, the feedback is sent to the repository for future design generation.

As an owner or operator of space, you know the design of your stores, or retail locations your business and are related to the core of their activities. The benefits to owners and operators by using the data driven design process are multiple. Among them:

- Owners retain control of design as part of their core business
- Designs are quickly developed and time is cut significantly
- Continual design improvement and the ability to track what works well and what does not over time
- Safely control consistency among designs

Which leads me to the question I always hear after describing the bright future we stand in front of: what will I get for this effort?

The Holy Grail, unified dashboards. It's what we are all searching for. Live data that can be parsed and analyzed easily in real time. Without realizing it, the process I've outlined will give you the ability to start tying other systems and tools to your BIM data through automations, integrations, or dedicated platforms if you want to be fancy.

Conclusion

As stated initially the challenges to owners are many. New tools and processes are within your reach. Leveraging those tools will allow you as an owner or operator to transform your challenges into opportunities for process improvement.

Deloitte's "[Digital disruption in commercial real estate](#)" states that organizations that embrace agility within innovative work environments will have a competitive advantage.

BIM is a data generation process that effectively managed from the beginning provides the answers to many of the decision making questions you and other space owners will be faced with. Taking control over the main features of the process will not decrease the BIM associated costs but also will produce accuracy and consistency over your data.

Design and built space data are fundamental to business development, adaptability and ultimately success. Your Brand is your Blood. BIM is the tool you leverage to build consistency across your organization's spaces.

BIM <> Blood <> Brand





TAKE OWNERSHIP OF YOUR SPACES

Over the last several months, I've been writing about taking ownership of your spaces. Starting with your internal standards and content, and culminating in the Holy Grail of unified dashboards. I wanted to take a minute to pull all of my thoughts together when it struck me:

Would you open up your wallet, and hand your credit cards, ID, and personal information to someone you've never met before?

Probably not. You may be amenable to giving someone some input, or leeway on a particular part of your finances. Maybe you turn to a tax consultant for advice, or a financial planner for retirement. Ultimately, it's still your wallet.


So I'll ask you, why do you let outsiders have this amount of control over your space and data standards? I hear the same answers pretty often:

It's expensive or requires custom software we don't have
It's complicated, and difficult to get started
We have not had problems yet
I don't know where to begin.

One of the reasons I co-founded Voyansi was to make BIM easy and accessible to all. If you are wondering where to begin, just read my paper on Taking Ownership of Your Spaces.

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