BIM and Owners: Why do we care?
I love the AEC+OM industry!

“We shape our [habitats], and afterwards, our [habitats] shape us.”

Winston Churchill (1944)
So why do owners care about BIM?

**Efficacy**: efficiency and effectiveness

*Take Away*

Projects are grand, enterprise operations are what endures.

*If you own it, once you build it you have to make it work for a long time with limited resources.*
So why do owners care about BIM?

**Efficacy:** efficiency and effectiveness *across the life cycle*

*Take Away*

Projects are grand, enterprise operations are what endures.

*If you own it, once you build it you have to make it work for a long time with limited resources.*
Ability to impact project costs and functions

Cost ($) of Change relative to time

PD Pre-Design
SD Schematic Design
DD Design Development
CD Construction Docs.
Proc. Procurement
Const. Construction of building
Operations Operations of building

Take Away
A more holistic perspective of the life cycle
Efficacy Gains

Reduced effort (Efficiencies):
1. Repetitive Tasks Automated
2. Bad / Lack of information reduced
3. Trade coordination / updates sooner (increased collaboration)
4. Ability to provide better information to users, to support effective user/client input.

Reduced Waste = Cost Savings

Effective Information Provided Earlier and Quicker in the Design Process.
Data → Information → Decisions

Good Data → Good (Reliable) Information → Good (Useful) Decisions

Bad Data → Bad (Unreliable) Information → Bad (Poor) Decisions
Facility Life Cycle Management
Relative time involved at various stages

- Planning
- Execution (Design & Construction)
- Transition/Stand-up
- Operations (Over 10 known systems)
The Operational Gap Can Be Catastrophic

“Catching Up” with data encumbers the ability to properly maintain the capital investment!

- Incomplete information
- Delayed information transition to operational systems
The use and value (relevance) and use of data, graphical/visual changes throughout the life cycle

- Planning
- Execution (Design & Construction)
- Operations

Relative | Varies across owners

**Use / Relevance**

- Data
- Virtual Reality
- Virtual Reality (Potential?)
- Augmented Reality (Potential)
Industry Collaboration

Why it matters & how it helps?
Collaboration with Industry Partners for Facility Life Cycle Management

- Designers
- Builders
- Owner Stakeholders
- Transition Support Teams
- Operators
- Consultants
- Software Developers
- Developers

Defined Objectives

Owners

Developers

Builders

Designers

Consultants

Owner Stakeholders

Software Developers

Facility Operators
Industry collaboration that **does not** work:

- Focusing on differences
- Requiring identical processes
- Requiring identical nomenclature
- Ignoring the business case
- Allowing team members who do not contribute to the effort to remain
- Expecting the team to solve your individual (owner) organizational problems
- All talk and no definitive action or testing
- Fear of missteps
- Not keeping your leadership involved/informed
- COBie in a vacuum
Team Knowledge Base

Everyone in the lifecycle is bringing different elements to the table and varied degrees of knowledge about the life cycle.

The owner “owns” the life cycle.

<table>
<thead>
<tr>
<th>Entity</th>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner / Developer</td>
<td>Highest</td>
<td>Limited</td>
<td>Some</td>
<td>Highest</td>
</tr>
<tr>
<td>Designers (Arch. &amp; Eng.)</td>
<td>Some</td>
<td>Highest</td>
<td>Some</td>
<td>Limited</td>
</tr>
<tr>
<td>Builder (CM &amp; GC)</td>
<td>Limited</td>
<td>Some</td>
<td>Highest</td>
<td>Limited</td>
</tr>
<tr>
<td>Builder (Specialty Trades)</td>
<td>Limited</td>
<td>Some</td>
<td>Highest</td>
<td>Highest</td>
</tr>
</tbody>
</table>

Source: PSU Dissertation Healthcare Facility Acquisition Outcomes: The Relationship Of Delivery, Procurement And Contracting To Cost and Schedule Outcomes.
Industry collaboration that **does** work:

- Focusing on common objectives
- Respecting differing processes (there are different paths to make the journey)
- Acknowledge the business cases and the business incentives (how does everyone make money?)
- Finding a contribution for all participants
- Customizing concepts shared to your organization, then sharing successes and failures
- Find smaller efforts that a few involved parties can work on to achieve definitive outcomes
- Taking calculated risks / share the risk
- Keep selling the benefits to your leadership
- Be aware of tangible things the participants respective leaders want and make sure you are collectively delivering some of them
- A coordinated owner voice on issues carries more weight than independent/isolated owner voices.
Healthcare BIM Consortium

https://www.nibs.org/?page=bsa_healthcarebim

- **HBC Objective:** Automate space PFD (Program for Design) **validation** in design submittal. (Input Data Flow)

- **Result:** Through dialog, effort and testing various methods were identified to facilitate the process
  - **Software Vendors collaborate** with the team to help express what they could support and **updated their software to better support** the overall objective.
  - **Owners realized how best to provide** programs to allow designers to better use the programs (space and equipment) during design for real time assessment of compliance
SEPS and BIM

SEPS2BIM.org | SEPS (https://home.facilities.health.mil/space-equipment-planning-system-seps) | NIBS.org

Collaboration

Vision → Objectives

Update SEPS to bring more value for less effort ($$) to the user base, and support FLCM not just planning in a bubble.

Results

Broader Industry Benefits

Integration / Sharing of Data with Other FLCM Tools

Multiple Software Vendors integrating with the data directly in their tools to provide higher quality/value and save money.

VA U.S. Department of Veterans Affairs

MHS DoD Military Health System

SEPS 3.0 Web-based &

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The Owners Role

The owners critical role in moving BIM across the facility life cycle forward.
Facility Life Cycle Management
The entity who carries across the full life cycle is the owner.

- The owner brings the funding ($$) to the effort.
- The owner must come to the effort as an active member.
- The owner is the entity that is balancing the costs across the life cycle.
- The owner must articulate the objectives, lead the dialog on how it is achieved and enforce the requirements (measure and check) to achieve an enterprise solution.

The owner “owns” the life cycle.
Most owners have multiple systems that share (duplicate) data supporting various tasks. If the owner does not define the process flow and data needs it is unlikely the designer and builders will intuitively figure it out.

One data handover process of over 5 identified that need to occur.

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Keep in mind **efficacy** as we share ideas and collaborate to make the Facility Life Cycle successful!

Dr. Russell Manning | russmanning@psu.edu | 814.863.3301 | opp.psu.edu/intranet/bim

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