Facilities Investments are Risk-based Investments

Finance and Facilities Leadership Workshop
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Don Guckert, University of Iowa
So if facilities investments are risk-based investments…

…who’s defining the institutional risk tolerance?
Creating a Shared Context for Value-Based Collaboration & Decision Making

BY DONALD J. GLICKERT, APPA FELLOW, AND JERI RIPLEY KING

How do you succinctly communicate the breadth, complexity, and forward-thinking approaches that are necessary for facilities management organizations to operate in today’s complex and ever-changing environment? Recently, we were asked to do just that here at the University of Iowa Department of Facilities Management. The management team developed a “physical asset management” presentation that would be used to help internal audiences understand institutional services.

We were inspired to describe our range of services and offer our version of our operational core, maintenance services, grounds care, utilities production and distribution, energy management, space management, project management, master planning, and other services. Designating our audience, we crafted a forward support services such as communications, security, information technology, human resources, safety, and the other “life support services” critical to the effective operation of a facilities management organization.

The natural tendency in our business, as with most businesses, is to describe our work in a narrow context often bounded by the organization charts, marching orders, and refer to our work by. However, this approach would not really capture the

Creating a Shared Context for Value-Based Collaboration & Decision Making APPA Facilities Manager July/August 2012
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By Donald J. Gluckert, APPA Fellow, and Jeri Ripley King

How do you successfully communicate the breadth, complexity, and forward thinking approaches that are necessary for facilities management organizations to operate in today’s complex and ever-changing environment? Recently, we were asked to do just that here at the University of Iowa Department of Facilities Management. The assignment was to develop the “physical asset management” portion of a short presentation that would be used to help internal audiences understand institutional services.

We were required to describe our range of services and offer envisioning of our controlled core, maintenance services, grounds core, utilities, production and distribution, energy management, space management, project management, master planning, and other areas. Diagnosing our audience, we sought to focus support services such as communications, accounting, information technology, human resources, safety, and the other “life support services” critical to the effective operation of a facilities management organization.

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Main Types of Business Risks

- Compliance Risk
- Operational Risk
- Financial Risk
- Reputational Risk
- Strategic Risk
Facilities Related Risks

Ensuring Continuity of Operations  Preparing for Catastrophic Events
Protecting Physical Assets  Managing Fire & Life Safety Systems
Protecting Research Assets  Managing Building Security Systems
Protecting Personal Assets  Maintaining IT Operations
Managing Indoor Air Quality  Completing Construction On Time
Ensuring Safe Drinking Water  Managing Claims & Disputes
Ensuring Healthy Environments  Mitigating Future Operating Costs
Complying with Gov’t Regulations  Managing Energy Performance
Complying with Building Codes  Ensuring Personal Safety
Understanding Facilities Risks

• Capital Project Management
• Building Operations & Maintenance
• Utilities Procurement, Production & Distribution
Capital Project Delivery
High Risk Industry

- Code violations
- Delayed project completion
- Business continuity interruption and interferences
- Safety of workers and the public
- Public procurement requirements
- Weather and unforeseen conditions
- Claims and disputes
- Courts, arbitration and legal variability
A principal responsibility of an owner’s project manager is to manage the decisions that guide design and construction efforts. (i.e. Manage the “connection points” of the institution)
## Competing Goals

<table>
<thead>
<tr>
<th>Project Manager wants...</th>
<th>Operating Manager wants...</th>
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<tbody>
<tr>
<td>Lower Project Cost</td>
<td>Lower Operating Cost</td>
</tr>
<tr>
<td>Delivered in Budget</td>
<td>Change Order Customized</td>
</tr>
<tr>
<td>Shortest Delivery Time</td>
<td>Long Term Performance</td>
</tr>
<tr>
<td>High Quality</td>
<td>Perfection</td>
</tr>
<tr>
<td>Clear &amp; Complete Documents</td>
<td>Clear &amp; Complete Standards</td>
</tr>
<tr>
<td>Program Driven Design</td>
<td>Functional Driven Design</td>
</tr>
</tbody>
</table>
Misalignment of goals creates risk

- How are the goals prioritized?
- Who determines that priority?
- How are results measured?
Aligning the Decision Framework

What is the guiding framework for decision-making?

- First Cost?
- Total Cost of Ownership?
- Stewardship?
Project Manager as Budget Officer

Project managers essentially perform as budget officers. They determine through their management of project decisions how much future funding will be committed by the institution for operations and renewal.
**Investment or Expense?**

Short-changing project management staffing will squeeze out the stakeholder engagement.

Under-skilling and staffing exposes an owner to unmanaged industry-inherent risks.

Understaffing project management efforts may increase financial exposure and cost owners many times over each year.
Building Operations & Maintenance
How do you evaluate and prioritize your facilities investments?
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• Building Systems Reliability
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• Energy Performance
How do you evaluate and prioritize your facilities investments?

• Building Systems Reliability
• Energy Performance
• Fire & Life Safety
How do you evaluate and prioritize your facilities investments?

- Building Systems Reliability
- Energy Performance
- Fire & Life Safety
- Access & Security
Competition Among Risk Investments

How do you evaluate and prioritize your facilities investments?

• Building Systems Reliability
• Energy Performance
• Fire & Life Safety
• Access & Security
• Facilities Asset Renewal
Campus Age Drives Overall Risk Profile

Built pre-1951
- Durable construction
- Older but lasts longer

Post War
Built 1951 - 1975
- Lower quality
- Needs more repairs & renovation

Modern
1975 - 1990
- Quick flash construction
- Low quality components

Built post-1991
- Technically complex
- Higher quality
- More expensive to maintain or repair
Growing Challenge

Total Sightlines Database Need 1950-2035
Utilities Procurement, Production & Distribution
Redundancy

Robustness

Reliability
Firm Capacity

Power
Steam
Chilled Water
Firm capacity is defined as having enough capacity to withstand losing the largest production unit in the system.
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Firm Capacity

Winter steam demand vs outdoor temp 16-17

Steam to Campus (Kph)

Outside Air Temperature (°F)
Available Capacity at 75% Humidity

Total Campus Chilled Water Production (Tons)

Outdoor Air Temperature

Chilled Water Plant Capacity 75% RH
Campus Demand
Building Load Curve

Chilled Water Plant
Capacity 75% RH

Linear (Chilled water tons vs temps 2014)

Linear (Chilled water tons vs temps 2013)

Linear (Chilled water tons vs temps 2012)
Loop vs. Radial Distribution Systems
Energy Diversity
Thank You