

Business outcomes for data-driven facilities

How to Implement an Outcomes-Based Strategy:

Aligning your building automation system (BAS) with your organization's business objectives

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As a facility manager, you know your building automation system (BAS) is one of your greatest assets in managing a facility's comfort and efficiency. You work closely with your service provider to ensure your facilities' systems are properly running and your equipment is well-maintained and reliable. But there is a more strategic purpose for building automation, and perspectives are shifting away from viewing a BAS and your facilities' systems simply as costs. Progressive facility managers have adopted the mindset that their BAS can enhance revenue, too. They ask themselves, "How can I help my business? How can I help my company?" They know they still have to maintain costs, but also know their BAS doesn't just control costs. They know their systems need to support an organization's business goals.

This new mindset is based on using a BAS to do more than connect your equipment and automate controls. Your BAS can also provide valuable insights into how your building performs and what your systems need to improve that performance. With the right services and technicians, a BAS can be used to analyze how your systems – lighting, security, heating, cooling – work together and how much energy those systems consume. This information can help you – as a facilities expert – make strategic improvements with your service provider that will ultimately lower utility bills, improve satisfaction rates and shrink your carbon footprint, without sacrificing tenant and occupant comfort and productivity. Using your building automation system to its utmost will help you meet fiscal, operational and sustainability goals that matter most to your organization's leadership.

This paper will explore how to look at building automation and services using a business-centric approach, leveraging data and analytics to direct service technicians to optimize your operations. Essentially, we will examine how you can do more using some of the equipment and technology you already have.

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Shifting Perspectives

Regardless of the industry, facility managers are asked to do more with less. But, if you can tie a facility service improvement to a specific business impact, then dollars are more likely to be directed to your budget. This helps you shift away from appearing as an operating cost and toward a reputation for adding business performance value. This value could take the form of employee retention, improved tenant satisfaction or a cost avoidance tactic.

How do you change perceptions of facility management from responding to problems to a key component of supporting your organizations business goals? By asking yourself five important questions, you can begin having conversations with your team and your management to change the way everyone thinks about your BAS without major investments of time and money.

1. Which business goals can the facilities team affect?

To use your BAS to the fullest, you need to let business performance metrics drive your strategy. A proactive, outcome-driven strategy helps you link your goals to the business objectives of your company or institution. The six most common business goals your team can affect are:

- Reduce operating costs
- Increase energy efficiency
- Meet corporate sustainability targets
- Improve occupant comfort and safety
- Improve equipment reliability and useful life
- Achieve compliance mandates

There will be some overlapping and conflicting goals. You need to evaluate the importance of these goals in order to prioritize them. Is it critical to save energy, is comfort more important, or is it a balance between the two? Are there key areas in a building which are higher priority than others? For example, a desired business performance outcome at a hospital might be to ensure “optimal environment of care.” This includes patient comfort as well as environment quality, safety and security. Hospitals also have critical areas such as labs that have special environmental control needs. In addition, keeping patients comfortable can be linked to a business goal of retaining doctors.

2. Which goals are easiest to achieve and offer a high return on investment?

In the beginning, you want to focus on the “low-hanging fruit” that will give you early successes. This helps reposition your BAS in the eyes of business leadership so you have more time to complete the more time-consuming goals. Rather than just opting for routine services, you can select services that matter most to the business outcomes you are targeting, which may include preventative maintenance, alarm monitoring or indoor environmental analysis. The result is progress toward a business goal. For example, a business goal of reduced occupant complaints links to the temperature-control within their rooms. Those kinds of connections are becoming more and more important.

3. How are you currently measuring the success of your goals?

As with any strategy, determining key performance indicators (KPIs) at the outset will help you measure how successfully you are meeting your goals. Your team can decide on KPIs that measure specific outcomes relating to safety, security and comfort. For example, a hospital

could focus on reducing the number of patient complaints and environmental alarms, while increasing airflow and temperature to satisfactory levels.

It's important to be sure that whatever you are doing from a systems perspective also supports business goals. For instance, you should perform preventative maintenance (procedures) for the purpose of system reliability or comfort. You then have a link from your highest-ranking business goals, to your KPIs, to the services you are providing.

4. What technology changes or investments are necessary to ensure the plan is successful?

Whether you are in real estate, healthcare, higher education or a critical environment, your facilities are becoming increasingly more complex to manage. Integrating systems from building to building makes the most sense, but you need to protect existing capital investments. You also need the ability to collect data so you know where to make local or enterprise-wide improvements.

To meet all of these needs, you need to begin investing in an open BAS if you haven't done so. Only an open system offers the flexibility to easily integrate multiple buildings and multiple systems, likely working with your existing equipment.

Take, for example, your HVAC system. An open system will help extract data about when and how your HVAC system runs day-to-day. That information is then analyzed to help determine your system's set points. The BAS will maintain your set points, meaning equipment only runs when it should. Your HVAC system is then automated to efficiently operate during the day to keep employees comfortable or environments preserved.

5. Do we have in-house expertise to meet these goals, or do we need to bring in outside experts?

To achieve greater results, you will need technicians who can help actually make the improvements without disrupting day-to-day facility operations or your facility's environment. And, as your projects shift from "keep the lights on" to "drive a business outcome," you will want to work with a sophisticated service provider who can collect data, analyze results, and calibrate controls to optimize your systems. This is particularly helpful as you aim to take a more proactive approach to lowering operating costs and demonstrating distinct business value, such as improved energy efficiency and lower energy costs, to your organization's leadership.

When employing outside experts or service providers, it's important to have transparency about their services. You need to have goals for your providers and they, in turn, need to tie performance to these goals and KPIs.

The value of a proven, outcomes-driven focus to service can be summed up in what is referred to as the "3 Ds" concept: Define, Deliver and Demonstrate:

- Define: Define your service program. Make sure it aligns with your KPIs and goals.
- Deliver: Make sure the services that are being performed are aligned to the goals and are being delivered the way they should be.
- Demonstrate: Monitor and measure performance to demonstrate that value is being delivered.



Taking the First Steps: Discovery and Benchmarking

With this proactive, outcomes-driven strategy in mind, you can take the initial steps necessary to optimize your BAS. Your strategy gives you the roadmap for evaluation and assessment -- before you share your ideas for affecting business objectives, you will want to learn more about your system's and facility's capabilities. These steps will lead you through a discovery phase that will help you assess your existing equipment and network capabilities, and benchmark current performance.

Assess your equipment and network capabilities

Before you establish a baseline and get a feel for your performance through benchmarking, you need to look at your equipment and network capabilities. Do you have the capability to get data from all your systems in all locations? Look at values in the system, and make sure that it can handle diagnostic activities. Do your BAS network and field panel have the bandwidth to handle the amount of traffic necessary to collect system data? Working closely with your service provider will help you assess where your infrastructure stands and where initial improvement may be needed.

Benchmark current performance

Taking a close look at your building performance with your key performance indicators in mind will give you a focused and in-depth benchmark where you need it most. Your KPIs are now your most valued metrics and will deliver the most impact. As such, benchmarking will focus on those metrics specifically, rather than spending resources focusing on every available metric associated with your BAS. Potential metrics could include occupant calls, energy usage, point status and alarms.



The better your strategy and planning, the more specific your priorities will be. When an evaluation of those priorities is done, you will have more insight and control when it comes time to implement the program. If costs begin to change, you'll know where your focus should be.

Summary

Having a proven, outcomes-driven strategy helps you reposition your BAS in the eyes of your top management. It is based on leveraging the data your systems collect and aligning that to your organization's business goals. Today, systems are able to collect and trend large amounts of information about your operations. The key is to proactively take the information and develop a strategy and KPIs that are linked to the business charter and show a direct correlation between your activities and business benefits. Without this correlation, management may see these new ideas as nothing but additional expenses. Our goal is to reduce expenses. A proven, outcomes-based strategy helps move you out of the expense-only category; instead, you'll be seen as supporting the larger business goals.

The Five Steps of Data-Driven Facilities

Open systems are critical to data collection. Every meter, every control, and every gauge has data to share and to collect. As IP connections improve, and you tap into the flexibility and promise of your building automation system, you may begin to collect large amounts of data. Your BAS needs to be able to collect and sort the data for it to have an impact on your service team. This is the time to review your current system and evaluate needs for the future. While you can most likely pull data from the system you currently have, new applications are available to ensure you are continually optimizing your facility through comprehensive data management. This defines the benefits of a data-driven facility. Ideal applications typically follow a five-step process:

1. **Connect:** A truly open BAS will be able to connect systems, equipment and sensing devices to extract high-quality data
2. **Collect:** Data will be collected from multiple systems and sources into a single repository through cloud technology
3. **Analyze:** Sophisticated software applications, in conjunction with trained service personnel, will analyze and organize data into detailed, pre-defined, actionable reports
4. **Optimize:** The analysis and reports will guide your service technicians to enhance systems and operations
5. **Communicate:** System enhancements, results, and future status are reported to various users and stakeholders for continuous optimization

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