

Remember to Switch the Lights Off When You Leave

At PointGuard we set a lot of stock in KPIs, given our focus on transparency and business case data for energy efficiency projects. Our analytics platform can measure just about any KPI related to your building's performance, but there are three KPIs that we value above all else. In our experience if you get these three things right then everything else, including return on investment, improves.

In the next few posts we'll discuss each of these KPIs and then take a look at how they tie together to create a multiplier effect.

In this article, we're starting with energy savings. As kids, we're taught to always turn the lights off behind us. But even the smartest of systems sometimes gets this wrong or mistakenly thinks they are getting it right when in fact things are going off course.

A fundamental principle of any building management system (BMS) should be to only run systems when you need them to run. But it's not unsurprising that in complex, complicated systems comprising hundreds of sensors, mistakes and disconnects can happen. And also, that your people – running between various properties – simply can't check everything all the time, or in time to minimize the impact.

In one instance a single sensor – one out of 400 – went faulty and flashed 888 degrees Fahrenheit. This knocked the average floor temperature of the building out of its pre-defined ideal zone. Instead of going to sleep overnight and during the weekend, the HVAC system continued working to restore the average temperature in the ten-story building. But because the sensor was faulty it would never be able to achieve this. To compound things, the central plant was also running 24/7 as well.

Not only was this a complete waste of energy – in this case estimated at \$40,000 a year -- it was also unnecessary wear and tear on the equipment, shortening its lifespan for no good reason. All for the sake of a \$150-dollar sensor!

This example highlights one of the shortcomings of raw, unanalyzed BMS data. Without providing context and trend data, when the facility team arrives on Monday morning everything looks at it should. And while the affected zone might have been a little chillier than ideal thanks to the over-zealous air hammer, it might not be enough to prompt any complaints. After all, it was the sensor that was faulty, not the environment. With facilities teams stretched, and property portfolios growing in size and complexity, relying on standard discovery could mean that issues like this could go unnoticed for months or even years, silently racking up direct and indirect costs.





To be sure, this is a relatively extreme example. But the point remains that companies need to use the powerful analytics tools offered by automated fault detection and diagnostics (AFDD) to unlock the insights in their BMS data to gain the context and insight to know exactly where to turn the wrench. Or to replace the faulty sensor. And to do it in time to minimize the impact. By doing so they will stand to save 30 cents per square foot every year on energy savings alone. This will pay for their AFDD investment within a few months, and ensure their building approaches its optimal high-performance status.



