ISM

The Convergence of Facilities and the Internet of Things

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What is the current state of facilities management? Where is facilities management headed? How will it evolve in the near future? Who will lead and who will follow?

The Current State

With few notable exceptions, facilities management is a low-tech industry that has remained remarkably unchanged for the last 50 years. The workplace, however, has transformed radically in those same 50 years. Our facilities have transformed from hard wall offices and cube farms to office spaces that maximize flexibility and teaming. Our office technology has advanced from typewriters and mainframes to handhelds, tablets, laptops, and desktops that have the greater processing power than the first super computers. Our employees have gone from quiet lifers to transient workers who, on average, change jobs every 4.3 years. In that same time, facilities management has remained stagnant.

The Definition of Modern Facilities Management

People may argue that there have been many advances in facilities technology, but they are looking solely at facilities management as a series of systems required to maintain the spaces to house personnel and equipment when their focus should be on the Employee Experience (EX) and supporting the mission of the organization.

The Employee Experience (EX)

What is the Employee Experience? Denise Yohn, a brand expert and influential author, states in an article for Forbes that "EX is the sum of everything an employee experiences throughout his or her connection to the organization,". The employee experience includes "every employee interaction, from the first contact as a potential recruit to the last interaction after the end of employment." If a business creates a better employee experience, it gives employers a competitive advantage in attracting and retaining more talent Facilities play a great part in the Employee Experience.

A few examples of facilities items that affect the morale of the employee and their desire to stay or motivation to leave include parking availability, lighting in the office areas, extreme temperature variations, whether or not the office environment fosters collaboration or teaming, and the availability of conference rooms and scheduling tools for those areas. The time it takes to resolve facilities-related issues can play a role as well. We've all worked in or visited facilities that were depressing and demoralizing. We've also experienced those facilities where the energy and enthusiasm were palpable.

Talent

If you talk to companies, their greatest concern is the loss of talent. A good estimate is that human capital costs an organization $300 per square foot of space; a tremendous expense. The new generation of employees craves instant access to information and near-real-time resolution of issues – they are not content to wait. Every time an employee leaves, their experience and expertise are lost by their company and often won by direct competition. Replacement talent must be recruited and trained. That takes time and money and creates a skills gap. Wouldn't it be easier to focus on retention instead of replacement?
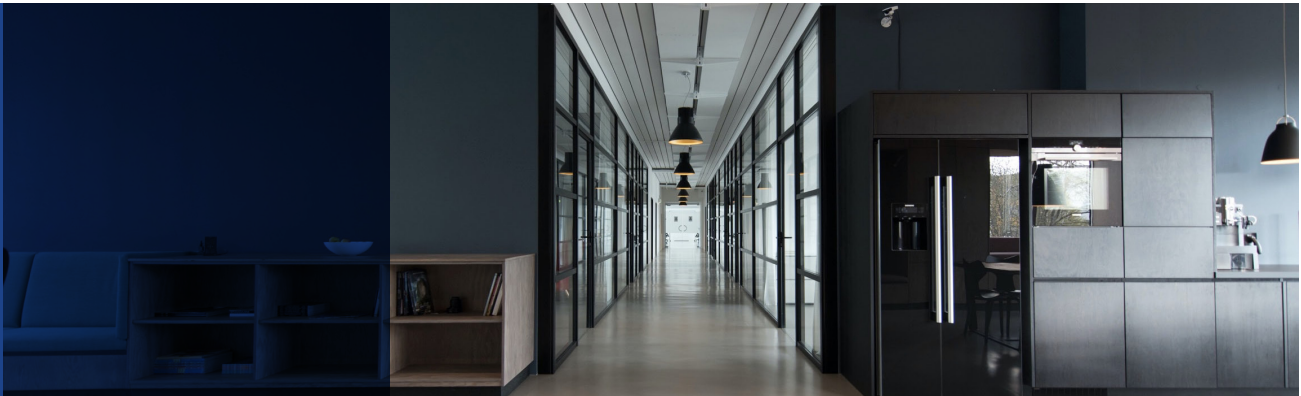
Facilities

Facilities have long been viewed as a necessary evil, and to a great extent, their place in the overall success or failure of an organization has been overlooked. Without power, space, and environmental controls, there is no mission. Take any of the three away and you cannot produce your product or service. Limit any of the three and it affects the ability to produce your product or service in a cost-effective manner.

Next to personnel, facilities are the greatest operating expense to an organization. While human capital costs approximately $300 per square foot, facilities cost approximately $30 per square foot. Human resources receive tremendous, seemingly persistent attention at the C-level when facilities seem to only receive C-level attention when there is an issue. The same holds true for budgets. Human resources budgets are always climbing as opposed to facilities budgets which are flat or declining. Why is that? Facilities managers do not have the same level of data to draw from. As a result, it is hard to defend requested budgets.

The Answer

How do we tackle all of these issues? How do we advance facilities management to where it needs to be? Data. More specifically, the Internet of Things (IoT) and *data analysis.*

The Internet of Things is defined by Webster's as the networking capability that allows information to be sent to and received from objects and devices (such as fixtures and kitchen appliances) using the Internet. More simply put, an IoT device is a ubiquitous term for anything with a Unique Item Identifier (UII) that can be connected to over the Internet or an intranet. The IoT thrives on data. Any device that can be connected can provide data. Facilities managers need data to make informed, defensible decisions and to operate facilities that aid in employee retention. This is the future of facilities management and the simplest way to achieve this is through the adoption of IoT devices. Facilities managers no longer have to work within established protocols on closed systems like BACnet, LON, or SCADA. They can deploy low-cost IoT sensors or simply attach to IoT-enabled facilities systems like chillers, air handlers, switchgear, and generators.

A simple array of IoT sensors in your office environment combined with an IWMS system with integrated Artificial Intelligence (AI) can tell you occupancy and utilization rates, traffic patterns for facilities maintenance, environmental conditions, and countless other data points that can be leveraged by facilities managers. A different series of IoT sensors in data centers, manufacturing areas, and back of house/support areas can provide you state of health on equipment, allow for predictive maintenance, and monitor environmental and life safety conditions.

IoT Evolution

Currently, IoT is very limited in scope within the facilities world. Companies are focusing the development of technology within their market sector or area of expertise. Lighting companies are focusing on IoT lighting products. HVAC manufacturers are focusing on IoT enabled HVAC products. There are a select few that are looking at IoT holistically and developing solutions to provide integrated facilities systems. With concept to appliance development cycles running at approximately 12 months, you can expect to see systems on the market within the next year. As these systems mature and begin to see adoption, facilities IoT will begin to evolve at a rapid pace.

Who Will Lead?

The leaders will be organizations that understand and embrace the idea that data and the interpretation of those data are the future of facilities management. They will operate more efficient facilities, be able to reduce their real estate footprints, and retain talent more successfully. The challenge will be in convincing facilities managers to embrace technology and finding solutions providers that know how to derive value from gathered data.

Paul Williams is the President and Founding Partner of ISM Services, Incorporated. ISM is headquartered in Pennsylvania and focuses on the implementation and maintenance of Facilities IT solutions. ISM is currently celebrating its 15th year in business.