Incorporating AI responsibly into buildings - by Akram Khalis

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It’s impossible to imagine the living, working and playing spaces of tomorrow without considering artificial intelligence (AI). After all, the rapidly democratizing technology has made itself at home in nearly every place we find humans today. AI is, among other technologies, responsible for the acceleration of smart-building renos and new builds.

As they experience the benefits of AI in everyday life, it’s natural for the real estate owners, property managers, building regulators and occupants alike to become curious about its potential to enhance our physical spaces. Use cases range from benevolent — such as prescriptive models that recommend small energy-use tweaks for big sustainability impact, to the indulgent-like recognition devices that autonomously match the temperature and tone of a room to a single person’s preferences as they enter the space.

Regardless of the particular use cases building owners and operators are shopping for, they need to be aware of the potential downsides to AI so they can ask the right questions of its purveyors. How responsibly early developers and adopters of AI behave will have a direct impact on the technology’s ability to gain traction, improve experiences, and ultimately, make a positive difference in the world.

What follows is a small collection of emerging best practices to help real estate professionals navigate the fast-evolving AI landscape.

1. Establish clear goals. Depending on what you are attempting to accomplish, the most powerful AI platform on the market may not be appropriate. It may be too costly or too energy inefficient for the outcomes it can generate. Machine learning (ML) could be a good enough answer to the problem you’re trying to solve. ML is a subset of AI, like natural language processing (NLP) or deep learning (DL). Make sure you understand the technology, it’s limitations and its full capabilities so you are not buying more than you need.

2. Buy for today, but not at the expense of tomorrow. The beauty of smart buildings is their agility, made possible by low-voltage, highly configurable infrastructures. As just one example, future-oriented engineers and architects are integrating digital ceilings into both new and renovated projects. Power-over-ethernet (PoE) cables routing energy and data throughout the building readily accept new devices, platforms and solutions — AI and beyond — as they become democratized. So, while it’s important not to over buy, it’s also critical to procure technology that can expand with the demands of occupants, forces of the economy or mandates from regulators.

3. Maintain a human in the loop. AI-based solutions are famous for their ability to make extremely well-informed decisions — and take action on those decisions — in real-time. Enabling a machine to decide on its own when to turn off the lights, reset the security system or set new HVAC triggers could have catastrophic consequences. The safest way to take advantage of an algorithm’s insights is to force it to ask permission from a human before acting. This is known as a human-in-the-loop configuration, and it’s essential in the smart-building space where decisions can be life-or-death.

Smart buildings are composed of autonomous spaces that cater to the end user, whether that's a hotel guest, a corporate facility manager or a property owner. They enable comfortable, sustainable, energy efficient environments that transform experiences for numerous stakeholders. AI is not necessary to achieve the automation smart buildings are known for. A wide array of alternative technologies make it possible to create responsive, personalized and exciting spaces.

That said, AI is only just getting started. Its potential to change the world of real estate is limitless (just ask ChatGPT). Keep the above best practices in mind as you research the solutions that are best for your buildings. And if you're ever in the neighborhood and want to interact with in-market and emerging smart building technology, stop by our Manhattan Innovation Lab. Our machines (and our humans) would be happy to host you.

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