YARDI

Harnessing the Power of AI in Commercial Real Estate

The technology is already revolutionizing the industry. Here's how you can put it to work today—and what's coming tomorrow.

KEY ISSUES ADDRESSED IN THIS YARDI PAPER

- From B2C to B2B
- Common Apps
- On the Horizon

Just a few years ago, it was hard to grasp how dramatically artificial intelligence (AI) could reshape the way business is done. But two events changed that. One was OpenAI's release of ChatGPT in November 2022. The tool instantly provided business and the public with a practical glimpse of the supercomputing evolution and generative AI—the type that can create content in response to user prompts.

The other event occurred the following May, when Nvidia, a maker of the microchips that power generative AI, reported ballooning sales and profits beyond even Wall Street's high expectations, fueling a one-day, 28 percent surge in its share price.

Like companies in other industries, commercial real estate firms have already harnessed the technology to drive greater efficiencies and cost savings while freeing up staff to concentrate on more complex tasks that call for hands-on action. Up to now, this use of AI has typically been carried out by employing machine-learning robots to automate mundane and repetitious tasks, such as invoice processing, as well as large language models (LLMs) such as ChatGPT, or chatbots, in customer service settings.

But amid AI's foray into the mainstream, many companies are sharing how they are using the technology today and what it might mean for tomorrow, observed Kevin Yardi, vice president of Yardi Systems, which recently released the Yardi Virtuoso AI platform. Accompanying this revelation is a sense that AI promises to solve real problems in the commercial real estate industry, unlike blockchain or other once-heralded solutions, which were searching for nonexistent problems, he added.

The real estate industry generates a significant amount of data, and, according to Ernst & Young, AI has the potential to harness that information to provide asset managers with timely, accurate insights into portfolio performance; help accounting and finance departments generate reports and assess risk; and enhance the acquisition search and due diligence process—among other uses.

Still, businesses need to exercise caution in their adoption of AI. Much remains unknown about not only the technology's capacity to disrupt traditional business models but also the potential for security risks that could compromise proprietary data or other sensitive information. Capital flowing into the sector is certain to launch any number of AI vendors, as well, some of which may not be around in a year or two.

"Businesses are on a journey to discover the capabilities and possibilities of AI," Yardi said. "There are certainly use cases that we've been able to solve, and we anticipate many more in the future. But there may be just as many concerns and risks at this point, so a measured approach is advisable."

FROM B2C TO B2B

AI and its potential to optimize efficiency and savings may have charged into the mainstream over the past year, but it is hardly brand-new. AI has immersed itself into the lives of consumers through technologies such as Alexa, Google and Apple Maps, and advanced driver assistance systems such as adaptive cruise control and hands-free steering. To automate multiple tasks, these applications require significant computational power, whether it's keeping a car in the center of a lane or devising the fastest route during rush hour.

Leveraging AI to automate business functions represents a relatively new trend. This is evidenced by the $14.1 billion in funding that flowed into 86 AI startups during the first half of 2023 alone—more than five times the total for all of 2022, according to CB Insights, a technology researcher and consultancy. Meanwhile, of more than 360 AI companies tracked by CB Insights, 63 percent are in the early stages of funding.

Given the hype surrounding AI, companies may feel an urgency to adopt the technology before identifying where it best fits into the business. Avoiding a potentially costly, time-consuming error requires collaboration between the IT department and management to assess how automation compares to current processes. This includes evaluating in-house skill sets as well as possible partners and tools to provide management with the information needed to determine where AI will maximize value.

Resistance to technological change is a common phenomenon, noted Ed Nelimarkka, a vice president with Orlando Corp., an investor and developer. Communication is key in those instances, too.

"I always find, with a high level of consistency, that when we invest the time to make sure that people really understand their choices, people choose the best option," he said. "Likely that is going to be an automated solution. But people won't make that decision unless they fully understand it."

COMMON APPS

While the excitement surrounding AI has certainly raised its profile, the ballyhoo has largely focused on its promise and why companies should adopt it, rather than on detailing its uses. Here is a brief overview of the most accessible solutions.

CHATBOTS

A chatbot is any software solution that simulates conversation using natural language through text or voice interaction. ChatGPT, Llama 2 and Google Bard are examples of large language models (LLMs), which draw on vast amounts of data to predict the next word and answer a question or suggest a solution to a problem. Common uses for ChatGPT include writing emails, proofreading papers and other everyday tasks.

For their part, businesses are employing chatbots most often for customer service. In the multifamily sector, owners are using this type of AI to respond to resident questions and maintenance requests, as well as to provide prospects with information about properties. During a call to report a clogged sink, for example, a chatbot can take residents through steps to resolve the problem before issuing a maintenance request or connecting them with a team member, said Brian Sutherland, a Yardi vice president. Managers at office, retail and industrial properties can use ChatGPT in similar ways.

Yardi recently employed ChatGPT in its natural language processing solution to improve the accuracy of its responses to client questions. Yardi's chatbot now resolves 80 percent of client calls or inquiries that previously required the attention of a customer service representative. That frees up team members to tackle the requests and problems where solutions aren't readily available and more expertise is required, Sutherland noted.

WEB CONTENT SOLUTIONS

A widespread lack of website compliance with the Americans with Disabilities Act touched off a wave of federal legal challenges beginning in 2018, when lawsuits spiked 177 percent to 2,258 in one year, according to the law firm Seyfarth. In 2022, the number of lawsuits reached 3,255, and the litigation is not expected to slow down. By creating environments where website users can participate equally, multifamily operators can avoid this legal risk, foster seamless interaction with digital content and create a greater sense of belonging.

In recent years, emerging AI platforms in web development have begun to provide solutions to address ADA compliance issues, according to Equally AI, a developer of website accessibility software. Screen readers and natural language processing can analyze and interpret web content, providing auditory cues to assist users with visual impairments, for example, while conversational AI speech recognition capabilities allow users with mobility impairments to interact with websites through voice commands. AI-powered captions and transcriptions provide similar benefits to those with hearing problems. Other solutions include AI-driven interface enhancements such as adaptive design and intelligent navigation, which can adapt websites based on user preferences and behaviors.

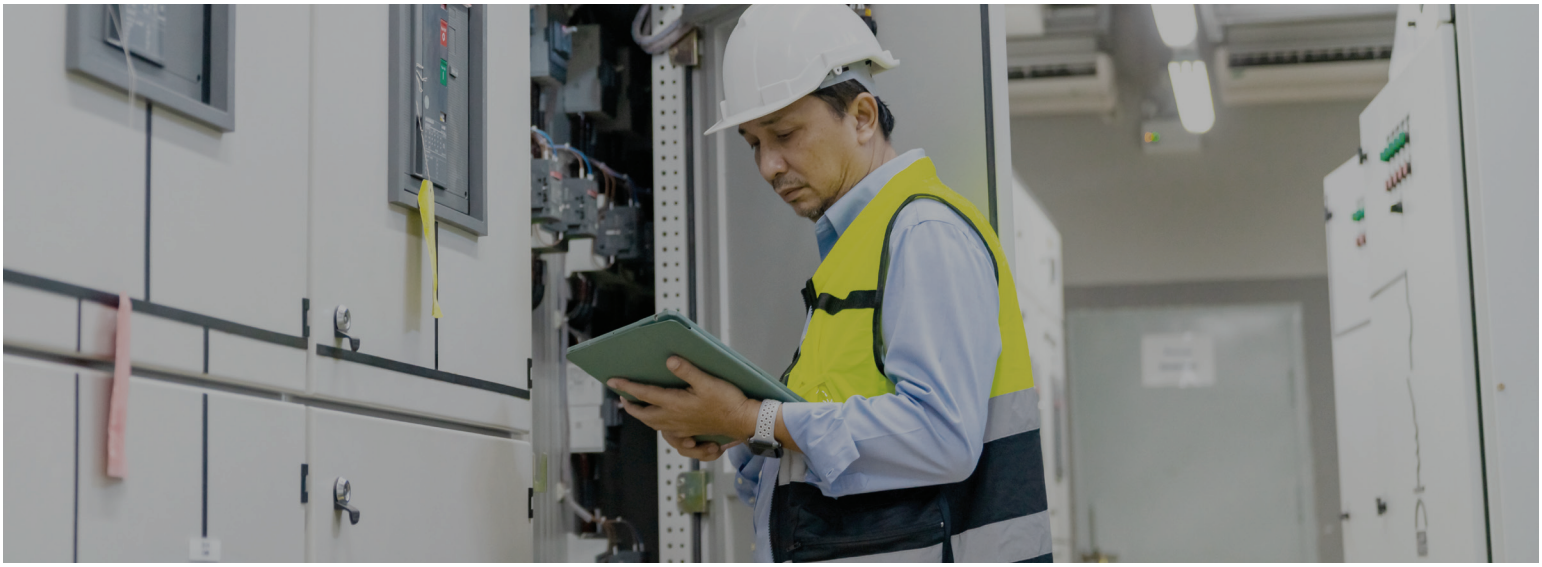
MACHINE LEARNING

A few years ago, Yardi employed a full-service invoice processing center for 60 million annual client invoices, where teams would manually scan, key and code invoices into client environments. This would then initiate the workflow for invoice approval.

But over the last three years, the company has migrated that activity to machine learning. Vendor names, invoice numbers and line-item details are now encoded into the accounting systems for fully automated processing. Employing machine learning to this tedious, time-consuming task has not only improved accuracy but produced cost savings, which Yardi is passing onto clients.

"These are very simple tasks, but the machines need a lot of data and experience to achieve a high level of accuracy," Sutherland said. "We certainly have that data at scale."

Similar endeavors Yardi is working on include a lease-extraction solution. That will pair machine learning with a chatbot that will identify, collect and organize lease expiration dates, rent step-ups, options and other pertinent information that is typically buried in dense contract verbiage, making it difficult to locate. The technology will then format the information in abstracts for easy retrieval by clients.



AI IN THE FIELD

AI has been proving its worth in back-office operations for a while now, but it can also be harnessed to create efficiencies in maintenance service calls and equipment monitoring. Multifamily property managers, for example, perform inspections and address a wide variety of maintenance problems, whether they affect an entire community—such as HVAC, plumbing and electricity—or a resident's refrigerator.

While the mechanics of these individual equipment categories adhere to some basic operating principles, differences among brands and features vary, sometimes even from one year to the next. That can make it difficult to track down the relevant manuals—whether on paper or via a mobile device—when identifying and assessing issues.

But generative AI tools are offering an alternative to the equipment manual. Technicians can describe a problem to a chatbot, which then suggests the likely cause and the corrective action. In instances where the technician does not have the replacement part on hand, the AI solution can immediately initiate an order and schedule a follow-up appointment. Similarly, AI technologies can help owners and managers avoid equipment breakdowns and maintain top performance by scheduling inspections and tune-ups and by providing technicians with updated templates on operational and code compliance guidelines.

Additionally, when digital sensors are monitoring equipment, AI can aggregate vast amounts of real-time operational data to measure performance, detect problems and anticipate maintenance needs. Such predictive analytics solutions can help property managers and owners automate work orders, alert technicians and issue resolution reports. The tools can also keep digital records of the history to assist in maintenance and decisions about whether to repair or replace equipment. The technology also enables property managers to track and optimize energy usage, negotiate contracts with utilities in deregulated states, and simplify environmental, social and governance (ESG) reporting.

Despite being a relative newcomer to the commercial real estate industry, AI has enormous potential to reshape it. Chatbots, machine learning, large language models and other AI technologies have already reached the point at which practitioners can envision evolution based on successful applications to date.

In their eyes, AI will quickly move beyond simply automating data-intensive manual tasks to become a new type of personal assistant. In this role, it will be able to crunch data about building permits, occupancy, the cost of capital, labor costs, rental rates and trends, comparable sales, demographics and other metrics. Having digested all those variables, AI tools will be able to advise landlords, investors and property managers on investment and development, rent pricing, concessions and capital improvements, to name some complex decisions.

Yet AI's effectiveness relies on analyzing and harnessing large quantities of data. And while aggregators of information have refined their methods over the last few years, the commercial real estate industry remains somewhat opaque. The information to enable all these solutions exists; the key is to assemble it in a structure that allows the industry to leverage it effectively.

As Yardi observed: "We have a lot of data at our fingertips, and our focus is to not only expose the right data, at the right time, and to the right people, but to do so with a prescriptive and meaningful suggestion of how to use it to drive better decision-making."

Contact us to discuss the Yardi solution that's right for you.

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