T he concept of artificial intelligence is not new but has acquired widespread notoriety with the launch of Open AI's ChatGPT in November 2022. What exactly is ChatGPT, and what can it do for the appraisal process?

Interest in artificial beings endowed with intelligence has spawned a cottage industry of sci-fi movies, dating as far back as the pioneering silent film "Metropolis" nearly 100 years ago. More recently, applied research after World War II gave birth to the idea that machines might be able to simulate the process of formal reasoning, although development of artificial intelligence (AI) had peaks and valleys over the ensuing years. By the 21st century, AI was widely used in fairly specific applications — search engines, targeted advertising, virtual assistants, language translation, facial recognition and self-driving cars, for example.

ChatGPT is a user-friendly generative AI model that was trained from massive amounts of information harvested online, using algorithms to generate output, including text, calculations and computer code (GPT is an acronym for generative pre-trained transformer). Because generative AI is used specifically to generate content, it differs from other forms of artificial intelligence used for more specific purposes. The Swiss bank UBS indicates that ChatGPT is the fastest-growing app of all time, reaching 100 million active users only two months after its introduction, notwithstanding that its database only includes information through 2021, a notable drawback. Other prominent AI applications that have burst on the scene include image generation from user prompts using DALL-E and Midjourney, Google Bard (a competitor to ChatGPT) and Microsoft's Bing Chat integrating AI into its Bing search engine. While ChatGPT is the best-known generative AI platform, there are a number of free and paid AI chatbots, many used by businesses for customer service and related functions.

# ARTIFICIAL
# INTELLIGENCE
## Can ChatGPT improve the appraisal process?

BY MICHAEL V. SANDERS, MAI, SRA

The possibilities of artificial intelligence generally, and generative AI models like ChatGPT, are obvious. At a minimum, appraisers might use such models to generate marketing materials or blog content, activities that are not really part of the appraisal process. Automated valuation models (AVMs) have been around for a number of years, and while they are typically based on hedonic modeling and/or a repeat sales index, there is increasing integration of artificial intelligence to improve the accuracy of results. These models, however, are typically used by mortgage lenders, Wall Street firms and the general public (Zillow, Redfin and Trulia), rather than by real estate appraisers.

So, can appraisers reasonably rely on ChatGPT or similar AI models to actually help with the appraisal process or report writing? Consider the following potential applications.

*Describing the location or market area of the subject property*

*Researching pertinent information (demographics, price trends, zoning, permit history, etc.)*

*Generating a property description based on information provided*

*Summarizing information contained in a legal complaint*

*Describing appraisal methods and techniques used (or not used)*

*Doing mathematical calculations based on provided inputs*

*Describing why a particular attribute will positively or negatively impact property value*

*Literature research*

ChatGPT does a surprisingly competent job with some of these tasks. Acknowledging that the database information is current only through 2021, it can write a description of any identified geographic location and generate a cogent description of the subject property, assuming the user inputs all the relevant information. Without additional instruction, however, the descriptions tend towards being promotional, the type of embellished description a broker or agent might write for a listing, rather than something more technical that would be appropriate for an appraisal report. In general, the more information provided by the user, the better the output.

Researching actual information works in some instances (for example, requesting a description of California SB 9 relating to single-family zoning) but not in others (requesting specific zoning or permit records for a property), since ChatGPT does not have real-time access to the Internet.

When presented with a lengthy excerpt from a legal complaint setting forth the factual allegations, ChatGPT can summarize the information as concisely as requested, although inputs that are too lengthy generate a non-response. The chatbot will accurately describe appraisal methods and why some attributes will positively or negatively impact value. For example, ChatGPT accurately described such valuation techniques as the sales comparison approach and multiple regression and could elucidate why location under an airport flight path negatively affects residential property values.

With respect to the latter, a request for the results of published studies documenting the impact of airport noise generated a cogent response but without specific source material. A follow-up requesting information on specific studies cited several



Hi!
How can I help you.

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published articles, though not specific to the general response and clearly not as robust as what might be generated with a custom online search.

Providing actual data and requesting calculation of various metrics was successful, even asking to identify outliers and recalculate without them. It is even possible to present the adjusted prices of several hypothetical sale properties and ask ChatGPT to come up with an estimate of market value. The result, not surprisingly, was an average of the adjusted sale prices, though in fairness, some queries generated a response that it would be advisable to consult with a professional real estate appraiser.

Inferential learning models have clearly arrived, with a general consensus that they can usually save time and can often improve the performance of those with substandard skills. While the results obtained are in many instances satisfactory, that isn't uniformly the case. For example, I wanted to identify a specific ordinance in the City of Los Angeles that prohibits use of rent-controlled apartments as short-term rentals; multiple requests for the number of the relevant ordinance generated multiple incorrect responses, although ChatGPT did at least apologize for the errors. The possibility of obtaining incorrect answers from the platform is apparently well-known. Integration of Bing into ChatGPT is available for paid users, since they both run on the same language model, likely improving accuracy to some degree.

For those with concerns about copyright infringement, copyright is an intellectual property protection for original works of authorship, which historically have always been created by human beings. While content generated by AI systems is not a product of the human mind (and thus not subject to copyright), it is important to recognize that AI content may include third-party intellectual property — text or images copied from other sources; use of such material without permission, even though generated by an AI model, may constitute copyright infringement.

The larger question for consideration is whether appraisers and other professionals should use generative AI models to do their work. Appraisers are required to produce credible opinions and conclusions based on market support. The inability to specifically source supporting data from a black-box model can be problematic, which might reasonably diminish the credibility of opinions and conclusions from the perspective of the client and could prove fatal if rendering critical testimony in a legal proceeding. If appraisers come to rely on artificial intelligence to perform most of their work, an argument could be made to simply eliminate the appraiser and have the client generate their own AI content. Technological unemployment is often cited as one of the major risks of artificial intelligence, similar to the disruption caused by the Industrial Revolution as artisans were replaced by mass production.

Appraisers would be wise to approach ChatGPT and similar AI models with caution. Professionals in a variety of fields recognize that recent advances in artificial intelligence may be transformative in a way that represents an existential threat to their livelihoods. In the end, a competent appraiser offers significant expertise; this expertise can be enhanced but certainly not replaced by technology. ✪

*Michael V. Sanders, MAI, SRA, is principal of Coastline Realty Advisors, based in Southern California. His practice specializes in real estate damage economics, consulting and litigation support. He has authored articles published in Right of Way Magazine, The Appraisal Journal, Valuation and other appraisal and legal publications.*