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Harnessing Generative AI-Assisted Innovation: Comprehensive IP Protection Through Trade Secrets and Patents

By Barry J. Schindler, Lennie A. Bersh, and Laurin Buettner | September 30, 2024 | New Jersey Law Journal
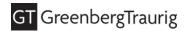
You are counsel for a company which just developed an innovative process incorporating a generative artificial intelligence (Gen AI) component. For example, Tech Company may have designed AI-powered personalized health assistant designed to provide real-time health monitoring and personalized health recommendations. The technology leverages Gen AI-driven interfaces to allow users in conversational form to use data from various sources, including wearable devices, electronic health records, and others. Tech Company has made significant investments in this Gen AI-driven technology and is seeking your counsel regarding how to best protect its interests. Specifically, Tech Company would like to know if the intellectual property (IP) of their AI technology would be better protected by a patent, trade secret, or perhaps a combination of both. What do you recommend? As discussed in the following article, utilizing a dual strategy of protection under patent and trade secret for Gen AI inventions could help companies strategically and holistically protect their Gen AI innovations while maximizing their competitive edge.

Understanding AI and Gen AI

AI refers to technology that is capable of performing tasks that typically require human intelligence. These tasks may include learning, reasoning, problem-solving, perception, and language understanding. AI systems can be found in various applications, such as virtual assistants, self-driving cars, and recommendation algorithms. Gen AI, a subset of AI, focuses on creating new content, whether it be text, images, or sounds, by learning from a vast dataset and identifying patterns to generate outputs that are novel and not explicitly programmed by humans. Gen AI is expected to fundamentally change how businesses operate, from increasing productivity to creating new business models. The AI market is projected to grow substantially, with an estimated annual growth rate of 37.3% from 2023 to 2030. (See "24 Top AI Statistics and Trends In 2024," Forbes Advisor, June 2024.) More and more companies are looking to Gen AI technologies to enhance efficiency, enable better decision-making, and foster innovation. Alongside this growth, IP protection is becoming increasingly crucial as Gen AI technologies advance and proliferate. However, deciding how to protect AI technology can be difficult as both patents and trade secrets have Gen AI-specific pros and cons. But first, what are patents and trade secrets?

Patents v. Trade Secrets

A patent is a legal right granted to an inventor that allows the inventor to exclude others from making, using, or selling their invention for a certain period, typically 20 years for utility patents. In exchange, the inventor must publicly disclose the details of the invention.

For Gen AI inventions, patents can provide broad protection by publicly disclosing a Gen AI-driven system such as the Gen AI-driven interface created by the hypothetical Tech Company above, preventing others from using or selling the Gen AI-driven system for a limited time, which is particularly important for foundational AI technologies. However, to receive a patent, the patent must claim patent-eligible subject matter under 35 U.S.C. Section 101, which prohibits patents on abstract ideas. Recently, courts have been applying the prohibition on abstract ideas more strictly to software-related inventions, including Gen AI–related inventions. Thus, the application of patent eligibility standards to these kinds of software-based inventions has proven unpredictable. Additionally, certain aspects of the underlying algorithms and methodologies of the Gen AI-driven system may, by their nature, be hidden from discovery outside of a disclosure due to back-end, internal use (e.g., training methodologies) or the black-box nature of many AI models (e.g., hidden layer weights and activation functions). Thus, the disclosure requirement of a patent could result in revealing valuable information to competitors without many opportunities to effectively police enforcement. Patent claims must be crafted in a way that infringement can be detected using publicly available materials, without needing to resort to inferential reasoning or expensive litigation processes.
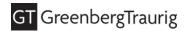
In contrast, a trade secret protects information that is not generally known or easily discoverable by others. This information must provide a holder with an economic value, must not be publicly known, and the holder must actively take reasonable measures to maintain its secrecy. Trade secrets are typically used to protect formulas, source code, raw data, practices, or compilations of information that are not generally known or easily ascertainable by others. Trade secrets are protected under both state and federal laws. Unlike patents, trade secrets do not require registration and can potentially last indefinitely, as long as the information remains confidential.

Trade secrets can provide a strategic advantage for AI inventions by keeping critical AI innovations, including the very types of advancements that would be difficult to enforce a patent against (as discussed above), out of the public domain, which is crucial in highly competitive AI markets where speed to market is essential. Additionally, because trade secrets can offer protection without expiration (as long as the secrecy is maintained), trade secrets may be advantageous for proprietary data sets or unique training methods that are difficult to reverse engineer. However, maintaining this secrecy can be challenging, especially with the rapid pace of AI development.

When it comes to enforcement, trade secret protection often relies on showing robust internal controls and legal measures to protect the secrecy of AI algorithms and data sets. To establish liability for trade secret misappropriation, the holder of the secret must demonstrate the defendant's misappropriation, usually by showing the defendant acquired confidential information by "improper means." Independent development is a commonly-asserted defense to trade secret misappropriation. By contrast, patents operate on a "strict liability" basis, which generally permits the patentee to sue an infringer without the need to demonstrate additional culpability. Independent development is not a defense to a claim for patent infringement. In either case, enforcement can be expensive and time-consuming, especially in the fast-evolving AI field. Additionally, if another obtains a patent on a company's trade secret (through proper means), then the trade secret is no longer exclusive to the company and the company could be prevented from expanding their production and marketing to other consumers.

Dual Strategy: Patents and Trade Secrets

Based on the above discussion about the advantages and disadvantages for both patents and trade secrets, an important strategic decision for any company is how to balance patents and trade secrets for protecting Gen AI inventions. When devising an intellectual property strategy using patents, trade secrets or other

forms of IP protection, it is essential to begin with the end in mind. Ultimately, all decisions about IP are business decisions that require an understanding of the business goals and financial outcomes that the organization aims to achieve. IP protection should be a strategic asset that aligns with and supports the achievement of those outcomes. This strategic alignment is particularly crucial in the fast-evolving field of Gen AI, where the right IP strategy can provide a significant market advantage and support innovation.

In some instances, a dual strategy that leverages both patents and trade secrets for protecting a Gen AI innovation can be highly effective. For example, patents may be used to protect the foundational principles and broad concepts of the Gen AI innovation that may be applicable across different fields or for different applications. Patent protection for the broader concepts enables companies to publicly stake their claim on a piece of the technological landscape while potentially sharing their innovations with the broader community. Concurrently, trade secrets may be used to protect the underlying specifics that allow the Gen AI to outperform its competition for a specific solution, such as the solution-specific training data, solution-specific weights within a neural network, solution-specific constants, solution-specific confidence levels, etc. These underlying specifics are often the result of substantial investment and are essential to the Gen AI's performance. Further, these underlying specifics are less likely to be reverse engineered, allowing for a stronger protection via trade secrets.

Further, this dual-track strategy may be complemented by requesting a prioritized or fast-track patent examination, such as the USPTO's Track One, with a non-publication request. Prioritized patent examination significantly accelerates the patent application process while a non-publication request keeps the patent application confidential until a patent is granted. Prioritized patent examination with non-publication is particularly advantageous for companies looking to quickly determine if the broader concepts of their Gen AI invention are patentable. If a patent is unlikely, the patent application may be withdrawn and the information within the patent application is never publicly disclosed, and thus maintaining its value as a trade secret.

In conclusion, both patents and trade secrets can play vital roles in protecting Gen AI. Patents can provide broad protection for the fundamental principles and applications of Gen AI inventions, encouraging innovation and dissemination of knowledge. Trade secrets can offer more focused protection for the proprietary know-how and fine details of Gen AI systems, ensuring that a company's hard-earned technical advantages remain exclusive. Companies operating in the Gen AI space must carefully consider their intellectual property strategy to maximize their protection while advancing the field of Gen AI.

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About the Authors:

Barry J. Schindler *and* **Lennie A. Bersh** *are shareholders in the New Jersey office of Greenberg Traurig. Barry Schindler is the co-chair of the firm's global patent prosecution group.* **Laurin T. Buettner** *is an associate in the New Jersey office of Greenberg Traurig. All are registered to practice before the USPTO.*