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Patents or Trade Secrets? What Boards and CEOs Should Know in the Age of AI

What companies should consider when choosing between patents and trade secrets for AI innovation.

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Quick Summary

Generative AI is changing how companies protect intellectual property, making trade secrets increasingly relevant alongside patent and copyright protection. Patents can protect against reverse engineering and independent development but require public disclosure, can take years to obtain, and present eligibility and inventorship questions for AI-related innovations. Trade secrets can protect qualifying software code, datasets, processes, and technical know-how without examination or disclosure but require reasonable measures to preserve secrecy and do not prevent lawful reverse engineering or independent development. Boards and senior executives should tailor protection to each innovation — and potentially its individual product components — based on patentability, secrecy, reverse engineering and independent development risks, technology life cycle, and investment required for protection.

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Historically, patents were strongly considered to protect software innovations. But the rise of generative artificial intelligence (AI) is now pushing companies to consider whether their most valuable advances would be better kept secret.

Generative AI has triggered uncertainty around the extent to which AI-assisted innovations qualify for patent protection. Further, the lengthy patent process and disclosure requirements are more acute challenges in the era of generative AI, as technologies evolve faster and competitive value increasingly resides in proprietary datasets and workflows. While trade secrets avoid these challenges, they carry their own set of risks, chief among them that once a secret is lost, it is lost forever.

Medtech offers one example of how this calculus is changing. Historically, the industry leaned heavily on

patents because physical devices such as stents could be reverse engineered. But as innovation shifts toward AI-driven technologies, including machine learning (ML) systems used to diagnose medical conditions, trade secret protection is becoming more relevant.

For boards and senior executives navigating the rapidly changing world of generative AI, understanding the trade-offs between patent and trade secret protection is critical. Here, we break down some basics that companies should be aware of when developing their intellectual property (IP) strategies.

What qualifies for patent protection?

A patent gives its owner the right to prevent others from using a protected invention for a limited period. To qualify for patent protection, an invention must satisfy several requirements, some of which can present challenges for software and AI-related inventions.

For example, a company generally cannot patent an abstract idea by itself. The patent must describe an “inventive concept” that adds something meaningful beyond the abstract idea. Recent Federal Circuit decisions are helping clarify how that standard applies to AI and ML inventions. Stronger patent claims, for instance, tend to explain how a particular technological improvement achieves a result, rather than simply what result is desired.

Still, important questions remain unresolved, including when the use of ML is considered abstract and whether an invention must improve the underlying ML technology itself to qualify for patent protection.

AI-assisted inventions also raise thorny questions about whether they can satisfy the inventorship requirements for patent protection. In *Thaler v. Vidal*, the Federal Circuit held that an AI system cannot itself be named as the sole inventor. However, uncertainty remains about the degree of human contribution necessary.

What qualifies for trade secret protection?

Trade secret protection sidesteps the eligibility and inventorship questions that can complicate patent protection for AI-assisted innovations.

There is substantial overlap between information a company considers confidential and information that may qualify as a trade secret. The key is whether the information derives competitive value from its secrecy *and* whether the company takes reasonable efforts to preserve that secrecy.

A broad range of information can potentially qualify for trade secret protection, including software code, datasets, formulas, manufacturing processes, and technical know-how.

The defining feature of trade secret protection — secrecy — is also one of its main vulnerabilities. Once a secret becomes public, the competitive advantage created by secrecy is impossible to restore. A company may be able to pursue damages or other remedies against a competitor that improperly acquires a trade secret, but litigation cannot make public information secret again. There is no returning the toothpaste once it has left the tube.

Cybersecurity incidents and leaks that jeopardize trade secrets are becoming bigger challenges in the age of

AI, in which so-called “dark code” can be generated and modified so rapidly that companies may struggle to fully understand, document, and safeguard the information they seek to protect.

How does obtaining patent protection differ from obtaining trade secret protection?

A company seeking patent protection may begin by filing a provisional patent application, which generally gives it 12 months to file a nonprovisional application and decide whether to pursue patent protection in foreign jurisdictions.

The nonprovisional application is then examined by the U.S. Patent and Trademark Office, which typically involves substantive review of whether the invention satisfies the requirements for patentability. Patent applications also become public during the examination process. Once the patent is issued, the company maintains exclusive rights until expiration.

Public disclosure is part of the patent bargain: The inventor teaches the public how to make and use the invention in exchange for a limited period of exclusivity. The application process, however, can take years. For rapidly evolving AI technology, the innovation may change substantially, or lose much of its competitive value, before a patent is granted.

Trade secret protection operates differently. It does not depend on filing an application, waiting for examination, or publicly disclosing the innovation. A company can begin protecting qualifying information immediately by taking reasonable measures to preserve its secrecy. For AI innovations, those measures might include confidentiality agreements, appropriate open-source licenses, and strong cybersecurity protections.

How do rights provided by patents and trade secrets differ?

Nature of the Right

A patent gives its owner the right to prevent others from making, using, or selling the patented invention, including in cases when a competitor reverse engineers or independently develops the invention.

Trade secrets protect against misappropriation, which is the improper acquisition, use, or disclosure of protected information. A company may be able to seek remedies such as monetary damages, unjust enrichment claims, and reasonable royalties for unauthorized use.

Trade secret protection does not prevent competitors from discovering the same information through lawful reverse engineering or independent development.

Duration

Patent rights last for a limited term (typically 20 years from the earliest filing date of the patent). Trade secret protection can continue indefinitely, so long as the information remains secret.

How does copyright protection fit into the picture?

Copyright protects original creative expression fixed in a tangible medium. For AI-related innovations, that

protection may extend to source code and user interface designs. Copyright protection arises when a qualifying work is created, although timely registration is generally necessary to bring an infringement action.

Copyright protection requires human authorship. Material generated entirely by an AI system is not copyrightable when an AI tool, rather than a person, supplies the creative expression. For works combining human- and AI-generated material, protection extends only to human-authored elements.

What should boards and senior executives consider when weighing patents against trade secrets?

- **Can the innovation realistically be kept secret, or can it be reverse engineered?** If competitors can readily discover the innovation by examining or reverse engineering a product, trade secret protection may have limited value.
- **How likely is independent development?** If a competitor develops the same technology on its own, it may use it despite the trade secret. A patent holder, by contrast, may block that use.
- **What is the likelihood of obtaining patent protection?** Companies should consider the likelihood that the innovation will satisfy the requirements for patent protection, including the eligibility and inventorship requirements.
- **How quickly is the technology evolving?** Companies should consider whether the innovation is likely to retain its value long enough to justify the time required to pursue patent protection.
- **How much does the company want to invest up front in protection?** Obtaining and maintaining patent protection can require significant investment, particularly when a company seeks protection across multiple jurisdictions.

In the rapidly evolving world of generative AI, there is no single playbook for protecting innovations. The right strategy may vary not only across a company's IP portfolio but across the components of a single product, calling for a tailored mix of patents, trade secrets, and copyrights.

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