

Outsourcing R&D Challenges Part 2: Intellectual Property

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In the fall of 2025, we published [an article on outsourcing R&D](#) that explores a question that has recently been deliberated at Foresight: How does the outsourcing of research and development (R&D) by large companies in Canada, such as those in the resource extraction sector, affect the sustained success of their businesses?

Canadian resource companies, particularly the forestry and mining sectors, have outsourced innovation over the past decade, shifting from having in-house teams for R&D to utilizing an external innovation model in response to the high costs and inherent risks associated with R&D. While this model offers a degree of flexibility and cost management, and allows access to specialized expertise, it also introduces risks.

The Outsourcing R&D Part 1 article examines this in greater detail. But a parallel impact of Canadian companies outsourcing R&D is a decrease in ownership of intellectual property (IP) and, perhaps equally important, a lack of exposure to valuable trade secret knowledge.

IP Impacts on Business

Low IP ownership can introduce numerous challenges for businesses. For one, it can limit opportunities for exclusivity or licensing in a technology field, thereby reducing revenue and profitability. This exclusivity, in the business context, is often referred to as freedom-to-operate (FTO) and can provide a significant competitive advantage for businesses that own valuable IP, including the ability to expand into new markets.

"Having fewer patents per owner than the world average indicates a limited freedom to operate and a more complex path to commercialization for Canadian organizations." – Conference Board of Canada, 2025

Another challenge stemming from low IP ownership is an inability to attract investment. IP is one of the most important assets of a business in a knowledge-based economy. A robust IP portfolio that protects the business's core technologies will boost investor confidence and expand investment opportunities.

Owning IP signals an innovation culture and strengthens long-term business prospects and sustainability. IP is no longer merely a defensive asset used to protect against competitors—it is a source of value creation that can be monetized through strategic licensing and new business models.

Alongside low IP ownership, outsourcing R&D can also be detrimental to a business's trade-secret knowledge. While R&D often has a focused purpose, it is by conducting the R&D that a wealth of trade-secret information becomes known. However, unless properly governed by the terms and conditions of the relevant legal contracts, outsourcing R&D may result in these trade secrets being lost. For example, without carefully drafted contractual terms, a company that outsources R&D may not have access to the valuable trade secrets generated by its R&D activities.

Furthermore, outsourcing R&D may require the company to disclose some of its trade secrets to the service provider. Without the thoughtful contractual terms, the outsourced R&D may become a leak through which valuable trade secrets can be lost.

If outsourcing R&D results in less ownership of the IP generated from innovation and loss of access to valuable trade-secret information, does this have a compounding effect on a company's ability to adopt technology? This article explores the relationship between R&D practices at Canadian resource companies, technology adoption, IP ownership, trade-secret knowledge, and national productivity.

IP Ownership and Productivity in Canada

Canada's labour productivity is lagging compared to other high-income countries and has [declined in productivity growth](#) since 2000.

There are many contributing factors to this trend, one of which is R&D investment intensity—a driver of innovation capacity. Canada's R&D investment intensity is low, particularly by businesses. The [OECD notes](#) that low business R&D activity "points to challenges in translating basic research into large-scale commercial applications," meaning there are barriers in Canada to commercializing innovation.

When looking at Canada’s innovation performance holistically, we rank [17th globally](#) as of 2025. However, upon closer examination, Canada consistently ranks stronger in innovation inputs than outputs, indicating that we struggle to translate our ideas and research into commercial activities—**this is the innovation paradox.**

A key cause of this [paradox](#), and thus, our productivity performance, is a gap in Canadian IP ownership. In 2016, a study found that [58% of patent grants](#) to Canadian inventors were assigned to companies domiciled in other countries. When IP is owned by foreign companies, high-value jobs, wealth creation, and increased output per worker (i.e., productivity) are created elsewhere, diminishing the economic benefits reaped from knowledge, innovation, and technology generated in Canada.

Simply put, **Canada is investing in creating knowledge but fails to secure the necessary rights to realize the economic benefits of commercializing and applying that knowledge.**

These statistics cannot be relied on in isolation. For example, many large international companies have offices in Canada, which means that Canadian individuals who invent on behalf of their employers would be captured by this statistic as a “Canadian inventor,” but the transfer of rights to their international employer is merely a reflection of their employment situation, as the “high-value job” is filled by a Canadian individual.

Furthermore, ownership of a patent application does not necessarily mean that economic benefits are lost in Canada, as intercompany licenses are often in place that allow the Canadian entity to practice the invented technology, and such licenses are often kept private within the corporate family of a large international company.

In this context, it is understood that the reasons Canadian companies appear to come up short are complex, but could point to a systemic issue in which protecting IP and commercialization have not been prioritized or well understood to date.

Though the federal [IP Strategy](#), along with other key initiatives like the [Innovation Asset Collective \(IAC\)](#), are now creating discourse and actionable plans to improve these issues nationwide, historically, our economy has been based on natural resources rather than the intangible assets of today’s knowledge-based economy.

We have not yet adapted our policy, business, and academic ecosystems to align. This means low levels of IP literacy, minimal IP commercialization support and infrastructure, and the pull of

the United States market have resulted in a commercial ecosystem with low IP ownership, poor productivity performance, and—consequently—a stagnating standard of living.

This is noteworthy because—most critically—low IP ownership can create challenges for companies and lead to a lack of FTO, which is often a key factor in a company's ability to scale. IAC's VP of IP strategy, Erin Pisko, [noted](#) that large Canadian firms often overlook the risks associated with not having FTO to their detriment.

Having FTO requires a thorough understanding of the IP risks in a given market, a strategic path to enter that market, and knowledge of how market positions are influenced by IP ownership. Without it, international companies with better positions are more likely to profit from or acquire Canadian-made IP.

Impacts on Technology Adoption

How does the low rate of IP ownership impede the adoption of innovation, including technologies, by Canadian resource companies?

Unfortunately, it tends to be a situation of circular cause and effect. An initially weak position on IP ownership limits a company's ability to protect proprietary innovations, making it less likely to invest substantial capital in developing and deploying new technologies.

This makes it more likely that the company will outsource R&D or simply buy necessary technology from others, leading full circle to a weak position on IP ownership. If resource companies can't secure the rewards from their innovation, they'll be less willing to take on the risk and cost of R&D.

In essence, **low IP ownership creates a competitive disadvantage.** Canadian resource companies may become net technology consumers, buying technology or paying for licenses, and essentially, perceiving technology investment as an expense. In this scenario, the companies lack the requisite trade-secret knowledge to grow into technology developers and exporters who own and leverage their own IP as an asset to gain market share.

This evolving landscape makes the Canadian model of relying on external innovation even more complex.

IP Ownership in an Outsourced Model

When a resource company outsources its R&D, it often hires a consultant to manage the entire project, such as evaluating and integrating innovative technology into operations. When a technology venture is also involved, the situation shifts from a direct venture-to-resource company partnership to a complex, three-party structure. The outsourced consulting firms may use contracts that stipulate ownership of all foreground IP created during the project, or they may require a broad license to reuse the innovation with other clients globally.

The technology venture is often brought in by the consultant as a subcontractor with little negotiating power over the IP terms. They are often pressured to sign away foreground IP rights or grant the consultant a non-exclusive license to their background IP (i.e., the existing technology) to secure project revenue. The consultant then captures the IP's long-term value.

Therefore, the outsourcing of R&D by Canadian resource companies complicates and often undermines the goal of Canadian technology ventures owning and commercializing their IP. It creates an environment that prioritizes short-term cost savings rather than one that could promote long-term domestic scaling of technology ventures.

Outsourced R&D is, as previously noted, often driven by cost-cutting and short-term goals, in which **IP is treated as a line-item cost to be acquired, not an asset to be leveraged**. Thus, the opportunity for the resource company to become a long-term partner that pilots and validates a venture's core technology becomes unlikely, and a key commercialization opportunity for Canadian innovation is lost.

What are the Potential Solutions?

While R&D practices at Canadian resource companies are not the sole cause of the adoption gap or the innovation paradox in Canada, it appears that an entanglement of economic impacts is occurring, stemming from the underprioritization of IP ownership by Canadian companies. This is impacting technology adoption and national productivity.

In our previous article, we mentioned that larger Canadian companies could support startups by forming strategic partnerships and acquiring a stake to mitigate the challenges associated with outsourcing in-house R&D—similar to the model used by mining companies to acquire mineral exploration projects. When extending this to IP, the arrangement is advantageous for both parties: the venture retains its background IP (the core technology), while the resource company

gains a [non-exclusive license](#) to that core tech and ownership of any foreground IP generated through process improvements.

This enables the venture to scale while providing the resource company with FTO and the competitive advantage that comes with it. Having a very clear contract and set of terms also helps avoid a stalemate in which both parties are firm in their desire to own the IP, which can become a barrier to deal closure. If a third party is involved, these terms of IP ownership could also be incorporated into that contract.

How Can Foresight Help?

Foresight works with industry, innovators, and government to facilitate productive innovation ecosystems. We are a non-profit and values-driven organization, so our work supports our purpose, not our bottom line. We aim to support Canadian companies in achieving a competitive advantage, improving productivity and profitability, while adopting sustainable solutions. We do this through:

- **Targeted innovator and industry partnerships:** Leveraging Canada's innovation ecosystem and our extensive network of over 250 Executives in Residence (EIRs), Foresight simplifies and de-risks solution sourcing for industry buyers through our [Adoption Services](#). We also help industry leaders understand and manage the risks of adopting new technologies to maximize the benefits.
- **Knowledge sharing:** As part of our adoption services and sector work, Foresight facilitates [Working Groups](#) that convene key partners, including industry leaders, innovators, and Indigenous communities, to address common sector challenges.
- **Tailored research:** Foresight offers [Custom Research Services](#) to provide our public and private sector partners with unparalleled insights into cleantech, helping them overcome barriers to adopting new technologies. We are proud to offer a range of services, including innovation scouting, market and strategic analysis, feasibility studies, business case development, and more.