

Managing Intellectual Property to Maximize Profit and Minimize Risk

Owning, Protecting and Managing Core Technology Assets

A potentially treacherous gap has emerged between the ability of Canada's high-technology sector to generate new ideas and products, and the skill of its smaller companies to protect the fruits of their creativity. Thus, many have recognized that the high-tech sector must improve its technology-management skills. Technology management, which often includes many different aspects of business planning, is a vast subject area and within this field falls the subject of "intellectual property management". This subject sits at the root of any new product development program, not just advanced technology.

Many writers have highlighted the importance of new-product development over the past decade. Studies by Dr. Robert Cooper found that the investment community believes "the most significant factor in the determination of the viability of a new technology investment over the long term [is] the innovativeness of the firm." Many other studies have shown that the development of new products - or "new-product innovation" - is essential for company growth. New products do not need to be pioneer inventions but usually arise in the form of an incremental improvement to an existing technology.

In most cases, new product bundles or improvements provide product advantage in a market place where the consumer would prefer the product with the "new" features over the older ones. Some new product innovation will produce marketplace advantage for many years whereas others will exhibit very short life cycles. It is often difficult at the outset to determine which innovations will have long term viability and which will not. However, even a new product innovation that last only for a short time may provide for significant market advantage. Intellectual property laws around the world provide a relatively consistent set of guidelines for inventors to establish clear title to their new product innovations.

In a recent Statistics Canada study of manufacturers involved in new-product development, John Baldwin asked if they were reporting sales from products brought to market over the preceding three years.

"Of those companies reporting sales from such new-product developments, only 25% said that they were using any form of intellectual property strategy in their business planning processes," Baldwin wrote. (Only 7 % specifically used patents). "Interestingly, this 25% accounted for over 50% of the employment attributed to the sample. Certainly this can be explained in part by the fact that the larger companies in the sample were the ones managing their intellectual property, and they too are the ones with the deeper pockets. Of the large firms in the sample, 80% said they were managing their intellectual property, [while] of the smaller firms [fewer] than 20% said they were in any way managing their intellectual property."

What is clear is that most large companies do manage their intellectual property as a core asset, and that if small and medium-sized enterprises wish one day to become large - and contribute to sustained job creation and economic growth - then they, too, must at some point learn how to manage their new products properly.

In order to understand the results when companies become well versed in protecting their new-product developments, it's useful to look abroad at countries that have enjoyed huge success in controlling technologies internationally. Japan is certainly one such country. When the number of patent filings by Canadian inventors in Canada and Japanese inventors in Japan are compared statistically, some wide gaps are evident. Canadian inventors file about 2,700 patent applications in Canada annually (1995 statistics), while Japanese inventors file more than 335,000 patent applications annually. When the population difference is accounted for, this translates into 28 times more patent filings in Japan per capita than we see in Canada. This factor must contribute to the ability of the Japanese to dominate technology industries worldwide. In a country like Canada where we have deep roots as a branch-plant economy and where the lion's share of our corporate activity derives from small and medium-sized companies, it seems likely that the country as a whole would benefit greatly from an increase in the use of intellectual-property systems.

Recommendations:

1. Conduct an intellectual-property audit of the company, to identify and "inventory" IP assets, assess if they are being used to maximum advantage and review any potential for creating more IP. Also analyze existing IP practices, including records management, confidentiality practices, and contracts administration.
2. Do not undervalue the spectrum of intellectual capital assets: know-how, trade secrets, patents and trademarks can add up to a valuable whole. The most valuable possession may be a respected trademark that can be a potent barrier to market entry and distribution channels for competitors. Discern the important difference between a product life-cycle and the technology embedded in the product. The two are not really the same. Although the product may be obsolete within a year, the patented technology might be viable for many years.
3. Determine guidelines and objectives of the IP for the company in view of long-term direction of technology development. Identify areas of unacceptable risk and devise strategies and tactics for shedding that risk to contractors. Software and technology licenses can be written to shift liability to the purchaser.
4. In IP planning, analyze strengths and weaknesses - decide which technologies to develop, whether leadership in these technologies is important or affordable, and when to license-in needed technology. If the future direction of the firm makes some IP assets unnecessary, license or sell what is not being used.
5. Use a consultant to analyze weaknesses in your patent portfolio and suggest strategies for dealing with marketplace position. For instance, you may wish to invent and patent incremental innovations around your competitor's core technology to force him to license to you.
6. It pays to adopt a product-driven attitude towards invention in your company. Encourage your engineers to file patents as an essential part of new-product development and make them do patent-infringement searches as a pre-design step.

7. Be proactive in mapping competitors' patent positions in the market and leapfrogging ahead to where they are going. For example, change clients' perceptions of their problems in order to design better software solutions. But first be vigilant in researching competitors patents and trademarks.
8. Encourage a strategy of inventing around competitors' patents, such as eliminating elements by consolidating or changing functions. Don't add parts, but focus on restructuring function. For example, substitute a new low-price component that does the job of two old parts. Insert an IC chip to computerize a manual system, or reinvent a process or service by including communications devices or software.
9. New materials and user-friendly design can pump life into a tired product line. An aesthetic innovation can be protected cheaply by industrial design registration (Known as design patents in the USA or Japan).
10. Finally, develop an IP plan and implement it. The plan must include:
 - Procedures for security of confidential client data and trade-secret maintenance by confidentiality programs and proper personnel contract management. Don't forget the exit interview.
 - A budget for patent costs according to an analysis of new-product development needs. Annual roll over provisions are appropriate within this budget since most firms do not invent the "home run invention" each year but when they do the cost of international patenting is high.
 - Marketing plan reviews of trademark and copyright portfolio.
 - IP training programs in the firm so that all layers of management know how and when to communicate on related issues.

In summary, placing a priority on a company's intellectual property position is excellent risk management strategy, and a necessary part of business planning.

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References : "Winning at New Products" by Dr. Robert G.Cooper, 1986