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IP Innovation In A Down Economy

Law360, New York (April 21, 2009) -- Economic downturns present a “catch-22” for companies that rely on continuous innovation to remain competitive.

Business experts point out the need to maintain, and even increase, investment in innovation in recessions to offer nontraditional value propositions and to ensure competitiveness upon recovery.

Economic downturns, however, urge cost-cutting and retrenchment and are hardly conducive to the risks associated with product innovation and the cost burdens of protecting them.

This article assumes there are significant economies to be realized in the business processes of innovation and patent protection and that patent professionals may analyze these opportunities and implement and recommend ways to make them more efficient.

Patent professionals may be particularly well-placed for such an effort because they have the ears and trust of management, middle managers, engineers, scientists and inventors.

Their knowledge of resources, such as patents, can also be useful tools for innovating new products, permitting them to contribute to the business of inventing and stimulating innovation.

The Patents-As-A-Business-Tool Sandbox

Innovating for strategic patent protection is different from innovating for the design of products and services and then patenting to protect the results.

Many patent professionals understand the idea of creating patent protection by using strategic patents and prophetic patents, which offer protection beyond the literal

inventive concept. It should not, however, be assumed that inventors understand this basic concept.

Inventors are often handicapped by the belief that an invention is too immature to protect and need to understand that patents derive their value from the claims, which define the scope of an invention.

Claims can be thought of as “fences” that circumscribe a technical area. The patent specification provides examples of the invention, but the examples do not have to have the same credentials (market viability, manufacturability, cost effectiveness, etc.) as that of a product design.

The “fence” of a claim can be drawn around unrefined (commercially unviable) examples and at the same time encircle commercially viable concepts that inventors have not yet worked out.

As long as one can make the reasonable argument that features in the claims would be key to a viable product or service (i.e., the fence will encircle the real as well as the fanciful), it is not premature to file a patent application.

Managers may not appreciate their inventors playing around with highly innovative ideas on company time, unless the goal of the intellectual exercise is for strategic patent protection.

To help inventors focus their creative efforts and define realistic targets and constraints, it may be useful for them to read books and articles written by authors like Clayton Christensen, Gary Hamel, W. Chan Kim and Renée Mauborgne, James Brian-Quinn, and James and David Matheson.

Cheap Innovation

To keep innovation cheap, one can: (1) use idle, normally unproductive, time to do refreshing creative work and research; or (2) do more with the same effort (multitask).

As for the former, patents can make for interesting reading. This might sound implausible, but here are examples of how this can be accomplished.

Reading Patents as a Refreshing Pastime

One of the challenges to any creative endeavor is finding a worthy (i.e., promising) focus for one’s efforts. Patent claims and design-around of existing patent claims can provide worthwhile targets.

A company designing a new product is often faced with the unwelcomed challenge of avoiding third-party patents. The challenge is typically addressed by identifying concessions or compromises in the design.

A frustrating example is when a new technology (e.g., wireless technology) inspires a gold rush of prophetic patents that are snapped up by competitors. A change in perspective, however, can change adversity to advantage.

Consider that the patent literature represents the state of the art, and contemporaneous patent claims, its bleeding edge (at least to some approximation).

Claims are carefully honed to define only that which is essential according to the current state of the art. The designing-around task amounts to breaking the latest convention.

Not only are patent claims supposed to identify the state of the art, they have all been written with a view to protecting some valuable market.

So, to some degree, depending upon the patent's inventor or sponsor, the patent's target inventions with commercial value are, therefore, worthy of attention.

Because the focus is on the claims, it may be unnecessary to wade through patent specifications. This can actually make for a stimulating and pleasant group activity.

It follows that when a client presents an offensive, prophetic patent (offensive only because the client does not own it), he or she should not feel dismayed.

The client should actually be glad that someone else got there first, because, as often as not, the first to take a swipe at a new, technical opportunity probably approached it too conventionally.

By applying a bit more creativity to the task of design-around, one can find better solutions that better defy convention and make better use of the nascent technology.

Another clever use of patents is what innovation consultant, Jack Hipple, calls "parallel universes."

This is a colorful reference to the idea that patents not only represent solutions to problems contemplated by their inventors, but also solutions to problems that the inventors never thought of.

Clients working on a problem in a particular technical or business area may find the same problem has been solved in a different technical or business area, though the overlap may be buried deeply in layers of dissimilar terminology.

Would it be unthinkable for a client working on a display for a helicopter to discover his problem has been "solved" by video game developers?

Patents contain solutions to problems, which, in their essence, are applicable to a variety of problems. They just need to be semantically abstracted until they encompass

the subject problem space. This is something patent search engines, such as Patent Café, or human searchers armed with a good thesaurus, can do.

Patent Café ranks documents, loosely speaking, more by their semantic distance from a query in the form of a (natural language) narrative description of the target technology than according to the words used.

So, if the narrative in the query describes a problem, the hits should contain not only the related art, but also art that solves the same problem in a different endeavor.

The idea that people solve the same problem over and over again is a well-accepted concept. It lies at the heart of the highly respected and structured innovation technique called “TRIZ” (a Russian acronym that translates roughly to Theory of Inventive Problem Solving).

The developer of TRIZ, Genrich Altshuller, reviewed about 40,000 patents, which he identified as being the cream of the crop in terms of the significance of the creative step involved.

He discovered that he could map all of the inventions to a reasonably small taxonomy of solution templates that, in the 60 years since, have proven to be remarkably general.

Doing More in Less Time

Now is a good time to learn structured innovation techniques, like TRIZ. Although innovation is highly touted, the techniques for institutionalizing creative processes seem to be well-kept secrets.

Though many of these techniques sound to outsiders like religions, the effective ones help to push the envelope further and/or speed up the normal innovation process.

Not only is it a good idea to push the design envelope in view of current economic realities, for example, figuring out how to migrate down-market to the new mid-market, but, in view of the higher obviousness standard that courts are applying to patents, stronger innovations can also lead to more solid patent protection for a client’s products.

There are also cost benefits to having more innovative inventions to protect. Namely, the patent applications will, at least potentially, be easier to prosecute.

This may seem like a Pollyanna approach to the heightened obviousness standard in the U.S., but consider that the purpose of the patent system is to “promote the progress of science and the useful arts”, as stated in Article 1, Section 8 of the Constitution.

When KSR Int’l Co. v. TeleFlex Inc., 550 U.S. 398 (2007) raised the standard for nonobviousness, many patent practitioners predicted that companies would throttle back on patent applications by applying a more stringent filter to invention disclosures.

The more productive response, and one, perhaps, more in keeping with the purpose behind the patent system, may be to invest more in innovation. Structured innovation techniques may be the key to getting more with the same investment.

Now may also be a good time for patent practitioners who are trying to help clients get more from their patent budgets to consider dissolving the boundaries between the invention disclosure and patent prosecution processes.

This can be done by shifting tasks to persons or groups who can do them most cheaply and who contribute the most value, as well as, to those who can extract the greatest value for non-prosecution purposes.

This is a complicated business area falling under the heading “intellectual asset management,” but there is always some room to improve the efficiency with which work is done between a client and his patent representative.

The suggestion here is to analyze, independently of the traditional roles, the elements of the work flow, and the potential benefits in terms of efficiency as well as external benefits such as: knowledge gained and leveraged; the use of competencies; and other factors.

Consider, for example, whether an inside engineer-generalist would do a good job of patent specification drafting if given a detailed outline worked out with an attorney? It may be useful to introduce a “coaching model” in which a dedicated liaison does just that.

The best techniques for refining the patent procurement process to achieve greater cost effectiveness are going to vary tremendously according to the specifics of a client’s situation. Here are some simple questions one can ask to determine what advantages may be obtained:

1) Are the steps in patent prosecution being done by the persons best able to do them and by those who are most cost-effective at doing them?

Are there any new processes that could compensate for diseconomies of shifting the work to lower cost personnel such as technical writers or internal engineers?

Might a dedicated patent liaison provide a vehicle for taking strategic knowledge of prior art, competitor patents and client patents, and using this knowledge to greater effect in the client’s internal business processes than if such work were restricted to an outside patent professional?

2) Does the knowledge gained in the various stages of patent procurement get put to use in all the places and ways where it could have value?

For example, the research and analysis of prior art, freedom to operate research, and analysis of client patent portfolios.

3) Can shifts in responsibility be compensated for by using patent portfolio and prior art data mining and analysis tools?

4) Are all competencies in the process being exploited to effect? For example, many experienced patent professionals can be valuable resources in the innovation process.

Because many patent professionals have experience with a wide variety of different kinds of technology and acquire knowledge of trends in various industries, they can tip off clients about avenues that may be worth investigating if outside their core technical competencies.

For example, a manufacturer of medical devices may not be aware, but could make use of, technology in the robotics area.

5) Can work be shifted incrementally by translating or reducing the information flows?

For example, I share summaries of new applications with clients in the form of directed graphs (tree diagrams, but where a leaf can stem from more than one branch).

This enables the technologists and business managers to review and comment on every detail of the content and claims of a patent without having to wade through all of the narrative and claims.

This is a way to drag much of the insight and skills of the client into the preparation process while only minimally adding to the work burden.

The above is far from comprehensive, but it does provide an indication of how much opportunity there is to make improvements in the patent procurement process and provides a few useful ideas about how patent professionals, and the people who manage them, can be innovative and do more inventing and patent procuring in an economy faced with an economic downturn.

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