



## The IP Team: Better decisions to build a stronger IP portfolio

In a recent article in MIT Sloan Management Review, Luda Kopeckikina, CEO of Noventra Corporation, pointed out that the “success of an enterprise is the sum of decisions made in the course of doing business.” This truism almost goes without saying, but in any endeavor, it is worth taking a moment to consider that success results from effective decisions. The challenge is multiplied in fields like intellectual property (IP) management, where decision making requires multidisciplinary and multi-factorial analysis. Among other things, good IP decisions require knowledge of science and technology, all the considerations that go into developing a product and successfully introducing it to a market, present and future legal and cultural environments in countries around the world, the minds of investors, competitors, and often potential acquirers, and the nature of the human beings who are the source of innovation.

Unfortunately, companies often make decisions about IP in an ad hoc manner. An invention is documented as an invention disclosure and bounced from person to person, usually as an email attachment. Each recipient makes a decision about the invention, based on parameters that he or she believes are important, and forwards the email to the next decision maker. The email chain grows longer and longer, and when some sort of cyber-consensus is reached, the invention disclosure is bounced to the patent counsel for preparation of a patent application. The process is repeated for each new invention with a different set of standards and a different set of decision makers, yielding a collection of patents that may or may not support the actual business objectives of the company.

The risks of an ineffective decision making process are significant. With respect to IP portfolio decisions, the risks are generally twofold: (1) protecting inventions that are not sufficiently important to warrant the expense, and (2) failing to protect important inventions that could have been protected. The first error, misdirected IP investment, often results in a global patent portfolio that is so expensive that it cannot be sustained. Funds needed for other purposes, e.g.,

research and development, are diverted to the legal expenses required to support the monster portfolio. Huge investments in foreign patents are lost and portfolio value simply evaporates when patents must be abandoned for lack of funds. The second error, under-investment, can lead to generic price competition and loss of profit margin or failure of the product altogether.

### Improving IP decisions

Like all decisions, decisions about IP are made in the context of a mental model. A mental model is an intellectual facsimile of the world in which we play out mental scenarios to ascertain the potential consequences of a variety of potential choices. We use our imaginations along with our rational abilities to assess what the future might hold for any of a number of potential scenarios, and we make our decisions in light of this assessment. Mental models can be complex or simple. Complex mental models account for many variables in playing out the results of various potential decisions. Simple mental models take into account only a few variables. Decisions about IP necessarily require complex mental models because they involve an interrelated set of legal, technical and business issues.

Companies can use the mental model concept to improve their IP decision-making process in several ways. First, companies can enrich their IP mental models to account for more of the complexities of the IP decision-making process. Second, companies can enhance the information that serves as the input to their mental models. Third, companies can systematize and streamline the analysis of input information and the assessment of options. The result of these improvements will be better decisions and the selection and development of a more powerful, and therefore more valuable, IP portfolio.

### Enriching the mental model

Simple mental models are adequate for many decisions about which the outcome is readily predictable (if I don't fill my car with gas, it won't run). However, complex mental models are required for making decisions with many variables, like decisions about IP. Companies can enrich their IP mental models by bringing together the right decision makers and by exposing tacit, ineffective mental models.

Decisions about IP generally require three kinds of analysis: business, technical and legal. Companies can improve their IP decisions by simply bringing the business, technical and legal decision makers together in the same room to create a composite, super-mental model. The composite mental model is much more complex than the sum of the individual

mental models. Each team member can challenge the assumptions of the other members, and together the team can consider a more diverse set of potential sources of risk.

Companies can also enrich their IP mental models by exposing and reevaluating tacit mental models that are inefficient or inaccurate. Tacit mental models are assumptions about which the participants are unaware or which go unchallenged, e.g., “business method patents are worthless.” One of my clients believed that natural proteins are not patentable. In fact they are patentable, but it took several years of repeating this point before she was able to let go of this erroneous mental model. Software programmers often resist learning about software patents because they believe them to be unjustified or even immoral. This bias often prevents them from learning how to use patents in a positive manner, e.g., to protect their companies from Microsoft while permitting use by individuals or academics. This attitude can also hinder software designers from investing the time it takes to understand the patents of their competitors

and protect themselves against possible infringement suits.

A working IP team should regularly challenge the tacit assumptions of its members to collectively build a highly accurate mental model. Moreover, the team should be a “learning team,” always continuing to grow and refine its collective mental model. New members should be included in team meetings well in advance of the departure of the members they are replacing in order to provide sufficient time for long-term members to pass on the refined mental model.

## Improving the inputs

Companies vary widely in the quality of information that goes into their IP decision-making process. Technical information, in particular, is often spread out in numerous lab notebooks, computer files, and other documents. Companies generally use invention disclosure documents to pull together the pertinent information, but inventors are rarely trained to draft invention disclosures. As a result, the quality of invention disclosures and the types of information they contain can vary with each inventor. Companies can improve the input to their IP decision making processes by training inventors or using technical writers to prepare high quality invention disclosures with a consistently formatted set of detailed business and technical content.

## Systematizing the analysis

When invention disclosures bounce from person-to-person, it is difficult to achieve a systematic analysis of their contents. Each decision maker analyzes the issues that he or she considers most important, then bounces the disclosure off to the next person. Bringing the decision-makers together and using a standardized invention disclosure format provides an opportunity to systematize the analysis of input information. Each invention can be scored based on parameters that make sense to the business purpose, such as novelty and enablement of the invention or probability of integrating the invention into a marketed product or relevance to products in the existing pipeline.

## Adding structure

After the input information is analyzed, and the members of the review team have internalized this information, they must assess options for next steps. Companies can streamline this step and increase the consistency of decisions by ensuring that the review process is based on a formalized IP

strategy. In the absence of an IP strategy, standards will tend vary for the review of any specific unit of IP, and decisions about IP will be inconsistent. Using a strategy enables the team to quickly categorize the IP based on the parameters set forth in the strategy. The strategy enhances the objectivity of the decision making process by ensuring that each invention is reviewed based on a consistent set of parameters.

## Conclusion

The mental models used by attorneys, managers and inventors to make IP decisions determine the quality of these decisions. By evaluating and enhancing these mental models, companies can ensure the development of a more strategically targeted portfolio of IP. Collaborative evaluation

stops the bouncing disclosure problem and creates a more complex, composite mental model that can be used to assess a greater variety of opportunities and risks associated with the decision. Supplying the collaborative review team with consistent invention disclosures and a process for analyzing invention disclosures improves the efficiency of the team and the quality of its analysis. By filtering each potential invention through a predetermined strategy, the team can ensure consistency of decisions and the development of an IP portfolio in which each unit of IP has a strategic reason for existing. Better IP decisions translate into reduced waste, in terms of time and money, minimized loss of valuable IP, and maximized valuation of the company's IP portfolio.

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