OVERVIEW OF

THE 2003 INTELLECTUAL PROPERTY OWNERS ASSOCIATION SURVEY ON
THE STRATEGIC MANAGEMENT OF INTELLECTUAL PROPERTY IN AMERICA’S CORPORATIONS

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Introduction

There is general agreement that the strategic management of Intellectual Property is a critical aspect of building and sustaining competitive advantage in today’s economic environment. A stream of recent books (see, for example, Klein, 1997; Rivette and Kline, 1999 and Berman, 2001) has offered to “unlock” the value of patent portfolios, and a number of new professional companies have emerged to assist companies in managing their IP more effectively. There seems to be a general consensus developing as to what constitutes “best practice” in the management of intellectual property – a sense that IP strategy should be intimate part of business strategy, that the IP function should be tightly integrated with the a broad range of operational areas, from manufacturing through to R&D, and that aggressive and strategic management of the IP portfolio can generate very real economic gains.

By and large, however, these prescriptions are based on anecdotes. Powerful and compelling anecdotes from extraordinarily well managed companies – but nevertheless anecdotes. We know too little about how IP is really being managed today – about its role in business strategy, about how value is being captured from IP assets, and about whether immediate operational concerns, for example with establishing “freedom to operate,” play an important role in shaping overall IP strategy. In an attempt to address some of these questions, an extensive survey questionnaire was sent out in the late summer of 2002 to the IPO member companies, as well as to a list of senior corporate IP managers maintained by Delphion Inc. This document is a first attempt to describe the results.

In all, 66 usable questionnaires were returned. The average company replying to the survey was quite large, with sales of just under $20billion, 50,000 employees, and a market value of $48billion, and quite active in IP, filing an average of 264 patents in 2001, and receiving licensing revenues of $91.5million.¹ The sample of responding companies is therefore clearly not a “typical” cross section of the economy as a whole, but their responses to the survey provide a fascinating window into the practices of large, technologically based manufacturing companies. In many ways the results are not at all what one might expect. They show significant differences of opinion, and highlight a number of the ways in which “best practice” – if there is such a thing – differs dramatically across companies. The full set of results from the questionnaire is set out in the accompanying report Survey Results from the 2003 IPO Survey on Strategic Management of Intellectual Property. It makes for great reading, and we would encourage all our readers to review this document in detail.

But there is a lot of material. The full report of results runs for 60 pages and includes over 190 separate tables, charts and individual questions. Here, in a few pages,

¹ Note that these averages conceal significant variation in the sample, and are skewed upwards by a small number of very large values: for example, almost 50% of companies in the sample filed less than 100 patents in 2001, and two-thirds of the reported values for 2001 licensing revenues were less than $20million.
we have summarized the results as they are relevant to three critically important questions:

- What is the role of the IP function within corporations today?
- Do companies today really act strategically in acquiring and exploiting their IP?
- What is the significance of “Freedom to Operate” in corporate IP practice?

Our goal is to throw new light on these important questions and, we hope, to stimulate debate. We look forward to your comments and questions.

1. What is the role of the IP function within corporations today?

How is the IP function structured? Is it integrated with other corporate functions such as marketing and sales? How are individuals motivated and rewarded for creating or managing IP?

There is no doubt that, for the majority of companies who responded to the survey, IP strategy is of critical concern. 64% agree that “IP strategy is a routine aspect of my company’s day to day business decisions.” Over 70% agree that “my company’s competitive advantage would quickly erode without patent protection,” and 56% believe that “without patents, my company would spend significantly less on R&D and technology development.” Fully 92% of survey respondents claim that their company’s competitive advantage is “built on proprietary technology”! But over 40% also agree with the suggestion that “many of our most important ideas cannot be effectively protected with patents” and 88% with the proposition that “the really important intellectual assets are the skills and knowledge of our people.” It is not completely surprising therefore to find that “best practice” in the management of IP, in the sense of aggressive and active use of IP and tight integration of the IP function with operational business activities, has not completely diffused across many of the companies who responded to the survey.

In the majority of responding companies IP policy appears to be determined relatively “deep” within the organization. Though 41% of responding companies have a “high-level policy group” dedicated to IP issues that meets regularly, 35% report that “top leadership is only rarely involved in IP issues,” and the senior person identified as being responsible for IP in the company is a member of the senior internal management committee in only 29% of cases. (This person, unless they were also identified as the General Counsel of the corporation, rarely sits on the company Board.)

The ways in which more routine management of IP is organized are quite diverse. Surprisingly – at least to us – only 51% of responding companies have a formal Patent Review Board or similar committee charged with making decisions about patenting of inventions. Interestingly, a smaller fraction (only 32%) report that they “make a concrete
decision as to whether patent, publish or hold as trade secret for every significant invention” but 63% use “specific hard-and-fast quantitative criteria to guide our patenting decisions” and only 14% say that “patenting decisions are often controversial.” Many organizations therefore appear to rely on processes other than a formal review board to make decisions about patenting, and these processes seem to be quite successful at reaching consensus on patenting decisions.

The degree to which different functional areas are involved in patenting decisions is quite diverse. Not surprisingly, the functional areas other than IP that are most frequently represented on Patent Review Boards are R&D and marketing. But senior executives are involved in these decisions in only 20% of the companies who have such a group, and – most significantly – there is very little participation by operating people. Explicitly cross-functional management of IP, at least in terms of formal reporting relationships, is quite rare. In 76% of the sample, none of the IP headcount reports directly to an operating unit. Fully three quarters of the survey respondents did not answer a question about whether IP attorneys or specialist IP staff are assigned to product development teams or to “similar line activities in operating business units,” and those that did unanimously report that this never occurs. Consistent with these limited assignments of IP personnel outside the IP function, senior non-legal executives “have significant input to pay and promotion decisions for IP attorneys and staff” in only 27% of companies.

These answers paint a picture of an IP function that, in a surprising number of companies, is not closely integrated with the rest of the business. While 86% of the survey respondents claim that “our IP strategy has been developed taking business strategy into account”, not all companies appear to operationalize this by involving a broad range of business functions in IP management. Only 32% report that a cross-functional IP group “normally controls” patent filing decisions. And while every company in the sample reports that, at the very least, R&D was “involved” in the decision as to whether a patent should be filed (Section F, question 11), and other business functions such as marketing and manufacturing also play some role in IP decision-making, large numbers of companies do not engage product managers or corporate business development people in IP decisions. Finance plays almost no role in IP decisions, which we, as academics, find very surprising given the level of scholarly interest in the use of modern financial techniques (such as real options analysis) to value intangible assets in terms of their impact on future business opportunities.

Consistent with limited cross-functional integration of IP management, many of the survey respondents seem to believe that IP is inadequately funded: 33% disagree with the statement that “the IP function in my company is adequately funded” and 70% say that “budget constraints” were their company’s “biggest challenge in managing IP.”

Moving on to more concrete IP management issues, the survey looked closely at monitoring and reward systems associated with managing IP. Here we found incentives for generating IP to be focused almost exclusively on patents. Overwhelmingly, IP groups appear to be evaluated by the number of patent applications filed (80% of the
sample report this as a measure) and on the number of patents granted (74%), although the “satisfaction of operating company managers” is also mentioned by 77% of the sample. For individual inventors, incentive schemes in most companies are sharply focused on the outcome of the patent process: only 46% formally recognize scientific and technical personnel for invention disclosures (typically with rewards with little financial value such as plaques, dinners, t-shirts etc.), and only 55% formally recognize initial patent filings, while 87% formally recognize patent grants (typically with $1,000 checks, a dinner, and a plaque.) At the $1000 order of magnitude, the size of these rewards may not seem trivial to corporate IP professionals, and 44% agree with the general statement that inventors were given “significant” monetary rewards for generating patents. (Notice that these payments are not far out of line with some estimates of the monetary value of an average patent.) Small numbers of respondents reported much larger incentive payments — in one case well in excess of $1million — but none report any payments to individuals based on sales of patented products or royalties from licensing. Another important way in which incentives are given to individuals, of course, is through promotion criteria, and more than 60% of responding companies report that they promote, at least in part, on an individual’s record of generating patents.

More than one survey respondent noted that “getting patents is part of the job” and it is far from clear whether the incentive payments reported here are too high or too low, from the perspective of boosting creation of IP. Incentive schemes with very large awards simply for obtaining patents would have very predictable undesirable results: more patents and worse patents, and a diversion of effort away from solving real technical problems and towards “paper” innovation. Our sense though is that academics will find the systems used by the majority of companies in the survey sample to be providing quite low-powered incentives for individual inventors, particularly in comparison to the royalty-sharing schemes found in university technology licensing.

To summarize, we find only limited evidence for extensive integration of IP management with other aspects of the organization, and significant diversity in the processes and structures used to develop and implement IP policy. Our interpretation of these results is that in nearly every company in the survey there is a movement towards tighter integration of IP with the business, but that this integration is very much a “work in progress.” In many companies, there appear to be opportunities for building tighter linkages between the IP function and operating activities, and for closer alignment of monitoring and rewards systems with business goals.

2. Do companies today really act strategically in obtaining and exploiting IP?

How important is IP as an element of overall corporate strategy? What is the role of trade secrets versus patents in establishing and defending a proprietary technology position? When and how are patents actively used as a strategic weapon? How significant is IP licensing as a way of realizing value from innovation?
IP is clearly viewed as being an integral part of the operating strategy of profitable and successful companies. 83% of companies believe that “the most profitable companies in our industry have built up significant IP assets” and more than 65% suggest that these profitable companies were liable to “aggressively assert their IP rights” and to “react aggressively to IP activity by competitors.” Nonetheless, relatively few survey respondents describe the IP strategy of their company in ways consistent with this behavior.

For example, from a competitive strategy viewpoint, we find it interesting that while almost all responding companies (86%) actively monitor competitors’ IP activity, fewer than 20% report that their company would respond aggressively to a competitive IP threat, for example by attempting to “fence in” the competitor with their own patents. For the majority of companies, reactions to a competitor filing patents even on innovations with major market or technological impact are confined to less immediately confrontational responses.

Indeed there are hints from the survey respondents that in some industries – or for some companies – IP is important primarily as a defensive tool. 56% believe that the most profitable companies in their industry “invest in IP mostly for defensive reasons.” 88% believe that “the really important intellectual assets are the skills and knowledge of our people” and 67% that “with enough money and the right people most patents can be invented around.” A remarkable 43% report that “many of our most important ideas cannot be effectively protected with patents.”

From a strategic perspective, IP is often thought to play a major role in shaping “spillovers” of knowledge across competing companies. For example, one important potential drawback of using patents is the necessary disclosure of technical information. Yet less than 25% of survey respondents agree that too much valuable information is given away to competitors in patent documents. And though many respondents rate secrecy and use of contractual agreements quite highly as means of controlling technology transfer, formal IP rights such as patents, copyrights, and trademarks were nonetheless the top-rated mechanism for controlling technology transfer for the majority of companies.

Licensing can be an important way to realize value from IP rights. For the companies in the sample that answered questions about licensing revenues received, the average amount reported was $91.5 million, while an average of $25.5 million was paid out in licensing fees. In line with the economic significance of licensing, 65% of responding companies think of their patent strategy as a success if it “generates licensing revenues.” However, 88% think it is a success if they “avoid being sued for patent infringement,” 89% if they “prevent competitors from copying our products,” and 91% if they “make it more expensive for competitors to be in business against us.” Such responses would suggest that licensing is important, but not central to IP strategy.

Notice that fully 35% of the responding companies appear not to think in terms of generating licensing revenues at all, a number given credibility by the fact that nearly
40% of responding companies have not calculated a monetary value for any of the patents in their portfolio, and by the fact that only 29% of companies use any type of analytical tool to evaluate the worth of their patent portfolio. 39% of companies measure the effectiveness of their IP group at least partially by royalties received, but this implies that in 61% of the companies royalties received does not enter at all into the evaluation of the group.

One interpretation of these results is that IP departments are too financially constrained to spend much time aggressively pursuing licensing opportunities. But only 24% of companies say that if more resources were devoted to IP in their company, exploring licensing opportunities would be their first priority. (In contrast, 27% say that they would instead use the extra resources to “get involved in the new product design process earlier” – another suggestion consistent with the idea that in many companies the IP function is not as closely connected to operating activities as it would like to be.) Interestingly, though, 74% of companies disagree with the idea that “additional licensing revenues could only be realized from our portfolio at the cost of significantly impairing our competitive advantage,” suggesting that many companies believe that there may be unclaimed “money on the table” from licensing.

When directly questioned about licensing, (Section J) our respondents gave some insight into the complexity of the phenomenon, and into the ways in which its role differs dramatically across companies. Only 32% of companies, for example, agree with the proposition that “in negotiating licenses, maximizing licensing revenues is our number one priority.” Consistent with this, an average of 26.8% of patent licensing activity “involves cross-licensing, alliance agreements, etc, in which there is no direct financial consideration.” IP counsel plays a significant role in 76% of companies in “decisions over whether a patent should be licensed” (implying, fascinatingly, that in 24% of companies they do not), but companies differ enormously in whom else they involve in licensing decisions (Section J, question 4).

On average, 17.6% of the patent portfolio is out-licensed, 8.4% in-licensed. On average, 12.2% of the trademark portfolio is out-licensed and 3% in-licensed. Interestingly, 25.4% of technology licensing does not involve any patents at all. Only 12% of companies report that they “initiate technology development in the expectation that returns will be realized solely through licensing revenue,” which, of course, implies that 88% of companies do not, and only 9% of patents are “held only for potential licensing.”

To summarize: IP is viewed with some ambivalence in terms of overall competitive strategy. Companies report that strong and actively defended IP positions are connected with the ability to get superior financial returns from investment in technology, yet in the majority of cases this recognition of the strategic value of IP does not carry through into a reported willingness to use IP forcefully or proactively to establish market position. For many companies patents may be most valuable as a defensive measure. And while licensing appears to be an important activity for many
companies, it is certainly far from being a dominant way of realizing value from IP, or even one that has (as yet) been fully exploited.

3. What is the significance of “freedom to operate” to corporate IP practice?

   What constitutes “freedom to operate? What different approaches do companies take to establish it?

   The role of patents (and other forms of IP) in establishing “freedom to operate” within an industry is an exciting topic. The survey results give us a number of intriguing insights into the ways in which corporate IP professionals are thinking about it.

   First, there is some evidence that, at least in some industries and for some companies, competitors’ IP limits businesses’ ability to compete effectively. 51% of survey respondents report that “some companies have dominated our industry by controlling key patents” and 54% that “some companies have dominated our industry by holding important technology as trade secrets.” Taking steps to establish freedom to operate was one of the most commonly reported responses to a competitor filing patents. Most dramatically, a stunning 98% of companies state that “maintaining freedom to operate in core technologies and businesses” is a key criterion in “thinking of our patent strategy as a success.” Given the importance attached to freedom to operate, it is perhaps not surprising that 35% of the patent portfolio is reported as being used for this purpose – a strikingly large number when compared to the 47% of the patent portfolio reported to be being used “to protect our current product line from imitation.”

   To the extent that competitors’ IP constrains freedom to operate, it appears to do so through its effect on shaping the pace and direction of technology development. 50% of responding companies agree that competitors’ patents play an important role in “decisions not to pursue otherwise promising technologies.” However only 25% agree that competitors’ patent portfolios “seriously constrain my company’s freedom to operate by foreclosing technology development in important areas,” only 18% with the idea that the same portfolios “slow down the technology development cycle,” and only 26% with the idea that they “block access to important markets.” Indeed, a majority of companies (67%) believe that “with enough money and the right people most patents can be invented around.”

   In another area where strategic use of patents can potentially sharply constrain activity, only 15% report that “patents are a major obstacle in establishing technology standards.” This is a startlingly low number given the attention that this issue has been receiving in recent anti-trust disputes. Perhaps it reflects the makeup of the sample, with relatively few companies active in the types of technologies where standard-setting plays a crucial role, such as software, IT, and telecommunications. It may also be the case that where the interaction between standard-setting and IP has been a serious issue, or might become one, industry participants have already succeeded in developing processes which minimize the problem.
Puzzlingly, therefore, while maintaining freedom to operate is a key goal of nearly every company’s IP strategy, constraints on freedom to operate would seem to be an issue for only the minority of the companies responding to our survey. One explanation for this apparent contradiction may be that most of these companies have succeeded in establishing adequate freedom to operate through effective IP strategy. The precise mechanisms used to do this are still unclear. For example, a surprisingly small fraction of companies appear to use the public domain as a strategic tool. Only 28% report that “in our industry, companies actively publish technical material with the aim of limiting competitors’ ability to obtain patents” and that “defensive publication is an important strategic tool for my company.” We also recognize that the wording of the survey focused largely on “horizontal” interaction between competitors over IP, and is likely therefore to underplay concerns about freedom to operate generated by “vertical” competition for control of technology from upstream industries and public sector research.

Clearly, important dimensions of “freedom to operate” still need to be distinguished. But as academics, we find the salience of the freedom to operate issue for corporate IP practice fascinating. Most economic analysis of patents, for example, focuses on their role as a mechanism for creating temporary market power, and the impact of this on incentives to invest in R&D. In contrast, IP strategy as a means of obtaining an affirmative right to practice a technology or pursue lines of research has received relatively little emphasis. Theoretical models often inform and shape the policy agenda, but tend to deal only with mathematically tractable concepts. We therefore see a pressing need for a formal definition of “freedom to operate” which adequately captures the reality of corporate IP practice.

Other Issues

This document only begins to explore the richness of the survey. In addition to the three key issues discussed above, the survey results raise many other fascinating questions. For example:

**Sectoral differences**

Answers to many of the survey questions vary significantly by industry sector. Though the limited sample size makes it difficult to answer these with precision, it is clear, for example, that responding companies in life sciences and chemicals view IP to be much more important to their businesses than those in other sectors. Companies in these sectors also report a wider, and more intense involvement in management of IP by business functions outside Legal and R&D, and more widespread and more high-powered incentives for inventors. Conversely, companies in services or ICT (information and communications technologies) were at the opposite end of the spectrum.

What constitutes best practice in managing IP, and how IP strategy links with business strategy, may well be a function of other aspects of the competitive environment.
and the nature of the technologies used by businesses in these sectors. We intend to explore these sectoral differences more deeply.

Policy Issues

Survey respondents were asked to offer an opinion on the impact on their company of recent patent legislation and court decisions, and to forecast the likely impact of some of the reforms that have occasionally been proposed. (Questions B.1 and B.2.)

Interestingly, respondents generally report a neutral impact of highly controversial changes such as the Festo decision, and the State Street decision and its associated surge in patenting of methods of doing business. Respondents generally report a positive (42%) or neutral (53%) effect of new rules on the publication of US patent applications, but were much more mixed in their evaluation of a “catch-all” question asked about the effect of “recent trends in CAFC decisions.” Given the makeup of the sample, the last of these results is quite surprising. The CAFC was formed for the purpose of improving the IP system, and enjoyed strong support from the corporate community. It is striking therefore that 34% of the survey respondents view the impact of its recent activities as “negative,” even though 20% report their company to have benefited.

As for various proposed reforms to the US patent system, survey respondents generally anticipate a beneficial effect of introducing a post-grant opposition system, extensive prior user rights, increased stringency in patent examination, and adoption of a first-to-file basis for priority. Again, these results may not be too surprising in light of the makeup of the sample, but they do suggest that some of the biggest users of the patent system may be less attached than we suspect to deep-seated principles in American patent law and practice, such as the first-to-invent concept of inventorship. We note though that significant numbers of respondents (as much as 1/5 of the sample in some instances) anticipate a negative impact of such changes, suggesting that any moves to institute these types of reforms are likely to be met with substantial opposition.
**Conclusion**

The initial findings from this project are provocative. They suggest that there may be very significant variation across companies in the ways in which IP is being managed – and that in many companies, so called “best practice” may not be the order of the day.

The $64,000 question, of course, is how much these differences matter: are companies in which IP is much more closely linked to operating management and to business strategy more successful than those that are not? Are companies in which the IP portfolio is aggressively managed for licensing revenue more successful than those in which it is not?

Further research and exploration of these (and many other subsidiary issues raised by the survey results) seems warranted, and we welcome the comments and input of practitioners in the corporate IP world.

**References**


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