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Evaluations and Technology Transfer

With the growing importance of Intellectual Property Rights (IPRs), evidenced by damage awards for infringement and annual royalty income reaching 10-digit figures, "leveraging" and "monetizing" IPRs have become buzzwords. A veritable cottage industry of web-based third-party service providers has sprung up in short order to "extract value" from IPRs. The big five accounting firms, and Arthur Anderson, in particular, seem to have initiated and spearheaded the "new wave" or, I would say, "new craze". To name but a few: Aurigin, Ascent Financial, Delphion, Epache, INTX, ipCapital Group, IP.com, IPNetwork.com, IP Vision, IP Value Management, Invention Machine, Licent Capital, M-Cann, PatEX, Pl-xTRRU, ThinkFire, Value Extraction, Yet2.com, etc.

Some of these outfits have generated a lot of hype and hoopla about producing "patents on demand" in "patent factories" and valuing a patent "in a matter of minutes".

The example of TRRU (Technology Risk/Reward Unit) Metrics, which "adapts the same Nobel Prize winning equation (The Black-Scholes Formula) used in determining the value of call options", because "a patent is a 'call option' on technology," is especially interesting and revealing. It is touted as providing "almost instant, market-driven calculation" of IP value. Ernst & Young is full of praise: "It used to take us weeks to provide a valuation estimate to a client. Now we can determine the value of a patent in *several minutes* and have the security of knowing that its results is based on actual market data." (Emphasis added.) According to a stunned eyewitness of a demonstration, a light-flashing computer spewed out a figure in a few minutes, indeed — and a figure in the millions, of course. And their software program is available for a "mere" $60,000. Is this snake-oil salesmanship or what?!

Speakers at the Winter Meeting of the Association of Corporate Patent Counsel (ACPC) in Phoenix, Arizona last January had this to say: These service providers are much too expensive for what they deliver, they haven't done much for companies using them, they are "solutions in search of needs," Aurigin already went belly-up and filed under Chapter 11 (which makes "Rembrandts in the Attic," published by Aurigin, of dubious relevance) and there are "other dead bodies" around. One speaker was "sheepish" (his term) about having had a role in Arthur Andersen's "Edison in the Boardroom."

Can patents, as advertising of these outfits would want one to believe, be produced "on demand" in "patent factories" and can their value be determined "in a matter of minutes?" Is the underlying premise correct that a patent is a patent is a patent and by

definition is a "Rembrandt in the Attic?" Does the patentee have the upper hand, by virtue of having a valuable patent, and hence can he/she charge what the traffic will bear? Is licensing, selling or donating patents the best way to extract value? Is licensing-out the "only game in town"? The answers to these questions are a resounding no for numerous reasons, which appear to be overlooked and ignored in this IP valuation and monetization hype and hoopla. We need to remind ourselves therefore of the fundamentals of patent and licensing law and practice.

1. First of all, there are many, what I call, *attrition factors* for patents, affecting their incidence, validity and value, such as:

- Creativity and inventiveness reaching the patentability level (in terms of novelty and unobviousness) are very rare qualities. Intellectual property cannot be treated as a "given." (Professor Jay Dratler).
- Many R&D scientists and engineers, like analytical chemists, work in areas less conducive to inventing.
- Patentable inventions are often overlooked because R&D staffs don't "think patents," being too preoccupied pursuing their R&D projects and believing that their developments or improvements are not patentable.
- Corporations and institutions are quite selective in choosing inventions for patent coverage if they are not within the corporate franchise and R&D plans and budgets, trade secret maintenance or defensive publications are preferred, and a shortage of patent practitioners and high PTO fees militate against extensive filings.
- Patentability is doubtful due to close prior art, statutory bars or other patent-defeating grounds.
- Inventorship and ownership problems can raise their ugly heads.
- Patent applications are often narrowed in scope, finally rejected by the PTO, or lost on appeals.
- Getting a patent and getting an enforceable patent are two different things — a patent is a slender reed, threatened with three dozens of invalidity grounds.
- "Only about 5% of a large patent portfolio" have commercial value (Emmett Murtha), i.e. the rest are mere paper patents, and hence hardly licensable for big money.
- The average effective life of a patent is "only about five years" (Emmett Murtha).
- Enforcing patents is a daunting and frustrating as well as an expensive and time-consuming task.
- For many patents, no or only limited coverage is obtained in foreign countries.
- Focusing on patents as measure of innovation or vehicles for technology transfer ignores the fact that they are often valueless or inadequate for commercializing viable products, absent associated, collateral know-how protected by trade secrets.

2. In corporate and institutional settings, and because patents do not "grow on trees," a more effective and reliable, promising and proven way or patent management practice to "harvest inventions" involves the following elements and step:

- A simple, easy Invention Disclosure system (policy, procedure and forms),
- Close rapport with inventors — "hand-holding,"
- A MBW practice (Management by Wandering Around Harvard Business Review),
- Periodic trips to R&D sites,
- Presentations on IPR topics to R&D personnel to create IP awareness,
- Distribution of IP bulletins to R&D personnel,
- Regular perusal of R&D's technical reports,
- Attendance at R&D meetings,
- Written procedures for cooperation between R&D and IP Departments,
- Placement of patent liaison people at R&D sites,
- A reasonable employment/ invention agreement with all R& D personnel,
- Review of invention disclosures in patent committee meetings,
- An inventor award or incentive system.

3. As regards the value of patents, there are many factors or considerations that play an important role in any valuation. Vastly different values may reside in broad, basic or pioneering patents versus narrow improvement or picture patents, that it is easy to design around. For competitive reasons, patent applications are filed very early after conception and reduction to practice and hence have little experimental support and cover technology in a mere embryonic stage. That is entirely different from a patent that covers a successful commercial product or process. This goes also for paper patents. Moreover, there is a significant difference in value between a patent that is strong and enforceable and a patent that is weak and of questionable enforceability. And of course values may vary widely from industry to industry. Also, in most patent transactions a package of patents (issued patents, pending applications, rights to apply for patents) is the merchandise, but the purchase price or royalty is not cumulative. Furthermore, a patent that has been upheld in court as valid, will significantly gain in value. And rare or non-existent in the advertisements and literature of the valuation and monetization service providers, are references to the indispensable exercise of due diligence in IP transactions which may take weeks or months and without which one may "buy a lawsuit" rather than an asset.

4. In a licensing context — and licensing out is what the value extraction and monetization mania is all about — the valuation or royalty-setting fundamentals can likewise not be ignored.

Contrary to common assumptions and misconceptions, it is not true that licensors can charge what the traffic will bear, licensors can recoup their R&D expenses, the cost of the development of a technology is a big factor, there are royalty standards within each industry to go by, etc. Indeed, there is a limit to what a licensor can charge and most often it is the licensee's economics, not the licensor's, that controls the royalty determination (Gordon Smith). And isn't there a 25/75% rule? And isn't licensee entitled to the lion's share because of the greater risk he/she carries, especially with less-than-fully developed technology? And above all, when it comes to royalties less is more and greed never pays off. In my corporate experience, several agreements

turned sour because the royalties were too high, the profitability was not there and the deals could not be sustained in the end. On several other occasions, agreements had to be renegotiated for lower royalties for the same reasons. In other words, they were not viable win/win license agreements to begin with.

Actually, the cost to licensor of the development of the technology is not a factor at all. The R&D costs of developing the technology are sunken expenses expended by the patentee/licensor whether or not it is licensed and, therefore, should not be considered in arriving at a suitable royalty. That is to say, the public's interest in buying a product is essentially unrelated to the cost of developing it (Tom Arnold, Martin Landis, Gordon Smith).

Anent royalty standards in industry and the figures often being bandied about as industry averages, John Romary called industry average royalty rates "folklore" and "suspect as a royalty-rate guide." He pointed out, for example, that "a 5% running royalty for a non-exclusive license helps very little in evaluating an exclusive license on different, but related technology and a 1.5% running royalty on technology that can be effectively designed around is equally unavailing in pegging the value of a pioneer patent critical to the competitor."

However, Romary allows as how such averages though expressed as ranges, may provide additional data points, and he lists for consumer products 1-2%, chemicals and electronics 1-5%, computers 3-5%, pharmaceuticals 4-15%, with an overall range of less than 0.05% to over 20%. He also states that these figures are based on the net sales price of a non-exclusive license and that a "20 to 50 per cent premium" and "as much as a 300 per cent premium ... in the pharmaceutical field" may be a reasonable average for an exclusive license.

Furthermore, we should not loose sight of Tom Arnold's "100 Factors Involved in Pricing the Technology License," tabulated and discussed in the "1988 Licensing Law Handbook." This is a handy checklist, even though not all factors play a role in a given technology license. He groups them under the rubrics of intrinsic quality, protection and threats of protection, values brought to the table by the licensee, IP portfolios and markets, competitive, risk, legal and regulatory considerations, and it is clear from his discussion that among the most important and weighty factors are a) the stage of development of the subject technology (embryonic, early stage and untested v. tested and commercial), b) the strength of the IPRs (solid v. weak, easy to design around *vel non*), and c) the degree of exclusivity (exclusive v. non-exclusive).

Even in patent infringement litigation, the courts are guided in the damages phase by many factors that would have been considered relevant by the parties in a "hypothetical license negotiation." Witness the 15 Georgia-Pacific and 17 Honeywell/Minolta factors.

And the fact that many other operative clauses in a technology license have economic weight, as for example, payment structures and schedules, most-favored-licensee

clauses, representations and warranties, etc. (according to Gordon Smith), needs to be kept in mind, so that royalty setting is not the first task in licensing negotiations but the last one, one to be tackled only after all the terms have fallen into place.

And would IP valuation and monetization gurus ever contemplate a royalty-free license that in my experience can also be much more beneficial and profitable in terms of goodwill and increased rate of purchasing of supplies and goods than exacting paltry royalties under a patent license?

5. As stated above, preachers of the gospel of value extraction and monetization focus on licensing IPRs for obvious reasons, overlooking however that much, much greater gains and profits can be achieved by protection of, and exclusivity for, a company's products and processes. Exploitation of IPRs through manufacturing and sales can be much more beneficial and profitable than licensing-out.

Market exclusivity under IP protection is by far the primary and most important objective for all but a few of the biggest corporations. Entrepreneurs, start-ups, small and middle-sized companies would not last very long absent IP protection and market exclusivity. That is to say, such companies are completely dependent on IPRs for their technologies for continued survival in the market place. Licensing their IPRs would set up competitors and this is a valid reason behind the general reluctance to license-out. And pharmaceutical and biotech companies need IPRs and market exclusivity to protect their enormous R&D investments. A recent survey in the UK revealed that 80% of pharmaceutical companies and 88% of technology companies think that protecting their products against competition is vital and this reinforced the fact that patent protection lies at the heart of the development of new drugs and technologies (Marks and Clerk Newsletter, No. 1, 2002). Undoubtedly this is likewise true elsewhere.

As is well known, licensing normally carries little risk but also little reward. Royalty income at prevailing rates amount to at best a small percentage of net sales of licensed product, while markups on products sold under IP protection and market exclusivity could be much much higher, by multiples, and may even reach a 1000% or more. And this is another reason for the innate reluctance to license-out IPRs. Interestingly, 97% of all patents are not licensed for this reason or because the technology they cover is not useful, feasible or marketable (Emmett Murtha).

6. The value extraction and monetization advocates can also be faulted for not factoring trade secrets into their calculations. Over 90% of all new technology is covered by trade secrets and over 80% of all license and technology transfer agreements cover proprietary know-how, i.e. trade secrets, or constitute hybrid agreements relating to patents and trade secrets.

As a practical matter, licenses under patents without access to associated, collateral know-how are often not enough to use patented technology, because patents rarely disclose the ultimate scaled-up commercial embodiments of products and processes.

According to Homer Blair, "in many cases, particularly in chemical technology, the know-how is the most important part of a technology transfer agreement."

And Robert Ebish advises: "Acquire not just the patents but the rights to the know-how. Access to experts and records, lab notebooks, and reports on pilot-scale operations, including data on markets and potential users of the technology are crucial." This is good advice because very few patents cover fully developed technology and hence are easily licensable. Moreover, according to Melvin Jager, "Trade secrets are a component of almost every technology license ... (and) can increase the value of a license ... up to 3 to 10 times the value of the deal if no trade secrets are involved."

Yet it is even harder to value trade secrets, since it is difficult, if not impossible, to know when or if such a trade secret will be destroyed.

In this context it should be bemoaned that there is an unfortunate and unhelpful misconception about the interface between patents and trade secrets. Many a talk has been given at LES and other programs about the choice of patents versus trade secrets. For example, the series of LES Technology Transfer Seminars deal, *inter alia*, with the question: "When should I apply for a patent versus trade secret protection?" But patent and trade secrets are not incompatible and mutually exclusive but actually highly complementary and mutually reinforcing; in fact, they dovetail and can be integrated for optimal protection of innovation. There is no need to choose between them; notwithstanding the best mode and enablement requirements.

Patents can protect significant product inventions and trade secrets can cover volumes of associated, collateral know-how that does not belong into a patent specification and /or was developed after filing and can serve as a fall back position. Witness the recent decision in *C&F Packing v. Pizza Hut*, where the C&F patents on a manufacturing process for pizza sausage toppings were held invalid on summary judgement on on-sale bar grounds but their trade secrets on this process were held enforceable after trial and Pizza Hut had to pay $10.9 million for misappropriation.

7. IBM's and TI's royalty stream in excess of $1 billion annually under their open licensing policies is frequently held up as an example of how successful licensing can be. IBM, as is well known, was forced into open licensing by a consent decree with the Justice Department. I submit however that these are special cases that don't apply to entrepreneurs, startups, middle-sized companies and the biotech, chemical and pharmaceutical industries that are rooted in the empirical sciences, where a "patent factory" approach with invention disclosure output "on demand" and subsequent constructive reduction to practice by filing is not possible. Months and years of experimental work may be required in these industries and often conception doesn't exist until reduction to practice is accomplished, both being then simultaneous.

The value extraction outfits complain, and thereby rationalize their existence, that "business decisions end up being made by patent attorneys who may not understand

the long-term commercial ramifications." However, what is really deplorable is that these outfits ignore the fundamentals of patent licensing law and practice.

P.S. For more detail on the interface between patents and trade secrets see my attached paper, entitled "Patents and Trade Secrets: A Happy Marriage."

Karl F. Jorda
David Rines Professor of Intellectual
Property & Industrial Innovation
Director, Kenneth J. Germeshausen Center
For the Law of Innovation & Entrepreneurship,
Franklin Pierce Law Center, Concord, NH

Patents and Trade Secrets: A Happy Marriage

Deep–seated misconceptions about the relationship between patents and trade secrets are very prevalent. Trade secrets are treated as the orphan in the IP family, or the black sheep in the IP barnyard. They are maligned as flying in the face of the patent system, the essence of which is disclosure of inventions to the public. Keeping inventions secret is, therefore, supposed to be reprehensible. One noted IP professor went even so far as to say, "Trade secrets are the cesspool of the patent system." And after I gave a talk on the patent and trade secret interface in a South American capital, the local Commissioner of Patents testily commented that it was preposterous to talk up the complementariness of patents and trade secrets, or even trade secrets ("Trade secrets don't need protection because they are secret").

Nothing could be further from the truth. Trade secrets are the "crown jewels" of corporations. "Forget patents, trademarks and copyrights...trade secrets could be your company's most important and valuable assets" (James Pooley). "Trade secrets are the IP of the new millennium and can no longer be treated as a stepchild," (Mark Halligan). Also patents are but the tips of icebergs in an ocean of trade secrets. Over 90% of all new technology is covered by trade secrets and over 80% of all license and technology transfer agreements cover proprietary know-how, i.e. trade secrets, or constitute hybrid agreements relating to patents and trade secrets. As a practical matter, licenses under patents without access to associated or collateral know-how are often not enough for commercial use of the patented technology. Bob Sherwood calls trade secrets the "work horse of technology transfer." The quiet role they play in IP protection is thus deceiving. It is interesting to note that Henry Perritt believes that "patent law was developed as a way of protecting trade secrets without requiring them to be kept secret and thereby discouraging wider use of useful information." That makes patents a supplement to trade secrets rather than the other way around.

Trade secrets are the first line defense: they come before patents, go with patents, and follow patents. Patents and trade secrets are not mutually exclusive but actually highly complementary and mutually reinforcing; in fact, they dovetail. In this context it should be kept in mind that our Supreme Court has recognized trade secrets as perfectly viable alternatives to patents (*Kewanee Oil v. Bicron* (1974) "the extension of trade secret protection to clearly patentable inventions does not conflict with the patent policy of disclosure" and further strengthened the bases for trade secret reliance in subsequent decisions (*Aronson v. Quick Point Pencil* (1979) and *Bonito Boats v. Thunder Craft Boats* (1989)). Interestingly, in his concurring opinion in the *Kewanee Oil* decision, Justice Marshall was "persuaded" that "Congress, in enacting the patent laws, intended merely to offer inventors a limited monopoly (*sic*) in exchange for disclosure of their inventions (rather than) to exert pressure on inventors to enter into this exchange by withdrawing any alternative possibility of legal protection for their inventions." Thus, it is clear that patents and trade secrets can not only coexist, but are in harmony rather than in conflict with each other. In fact, they are inextricably intertwined, because the bulk of R & D data and results for any commercially important innovation cannot and need not be included in a patent application but deserve, and require, protection.

In the past — and even today — if trade secret maintenance was contemplated at all, e.g. for manufacturing process technology, which can be secreted unlike gadgets or machinery, which upon sale can be reverse-engineered, the question always was phrased in the alternative. E.g., titles of articles discussing the matter read "Trade Secret vs. Patent Protection", "To patent or not to patent?" "Trade Secret or Patent?" "To Patent or to Padlock?", etc. Anent this choice, the respective advantages and disadvantages, e.g. in terms of duration and nature and scope of protection, are considered controlling. However, on scrutiny the perceived differences are not there. The patent life may be more or less than twenty years from filing and a garden-variety type of trade secret, far from being indefinite, may last but a few years. Nor is there a difference as regards the scope of protection with "everything under the sun made by man," (Supreme Court in *Diamond v. Chakrabarty*, (1980)) including business methods, being patentable. And while a patent does, and a trade secret does not, protect against independent discovery, a patent encourages and leads to efforts to design or invent around and a trade secret, properly guarded and secured, may withstand attempts to crack it.

I submit that it is not necessary and, in fact, shortsighted to choose one over the other. To me the question is not so much whether to patent or to padlock but rather what to patent and what to keep a trade secret and whether it is best to patent as well as to padlock, i.e. integrate patents and trade secrets for optimal synergistic protection of innovation.

It is true that patents and trade secrets are at polar extremes on the issue of disclosure. Information that is disclosed in a patent is no longer a trade secret. As pointed out above, however, patents and trade secrets are indeed complementary, especially under the following circumstances.

In the critical R& D stage and before any patent applications are filed and also before patents issue, trade secret law particularly "dovetails" with patent law (see *Bonito Boats*). Provided an invention has been fully described so as to enable a person skilled in the art to make and use it and the best mode for carrying out the invention has been disclosed, as is requisite in a patent application, all associated or collateral know-how not divulged can and should be retained as a trade secret. That the "enablement" and "best mode" requirements apply only to the knowledge of the inventor(s) at the time of filing and only to the claimed invention, should be kept in mind in this context. All the massive R& D data including data pertaining to better modes developed after filing, whether or not inventive, can and should also be maintained as trade secrets, to the extent the data are not disclosed in separate subsequent applications.

Because patent applications are filed early in the R&D stage to get the earliest possible filing or priority date and the patent claims tend to be narrow for distance from prior art, the specification normally describes in but a few pages only rudimentary lab experiments or prototypes and the best mode for commercial manufacture and use remains to be developed later, the enablement and best mode requirements are no impediments to maintaining the mountains of related know-how developed after filing as trade secrets.

Besides as shown by case law manufacturing process details are, even if available, not a part of the statutorily required best mode disclosure of a patent.

And especially with respect to complex technologies consisting of many patentable inventions and volumes of associated know-how, complementary patenting and secreting is tantamount to having the best of both worlds. In this regard GE's industrial diamond process technology, which is partially patented and partially under trade secret protection, comes to mind as an excellent illustration of the synergistic integration of patents and trade secrets to secure invulnerable exclusivity. Was GE's policy to rely on trade secrets in this manner or, for that matter, Coca Cola's decision to keep their formula secret rather than to patent it, which could have been done, damnable? Clearly not.

It is now well established that dual or multiple protection for intellectual property is not only possible but essential. Such protection exploits the IP overlap and provides a fall back position. Recent decisions such as, *C& F Packing v. IBP and Pizza Hut* and *Celeritas Technologies v. Rockwell International* demonstrate this. In the *Pizza Hut* case, for instance, Pizza Hut was made to pay $10.9 million to C& F for misappropriation of trade secrets. After many years of research C&F had developed a process for making and freezing a precooked sausage for pizza toppings which had the characteristics of freshly cooked sausage and surpassed other precooked products in price, appearance and taste. C& F had obtained a patent on the equipment to make the sausage and also one on the process itself. It continued to improve the process after submitting its patent applications and kept its new developments as trade secrets.

Pizza Hut agreed to buy C& F's precooked sausage on the condition that C&F divulge its process to several other Pizza Hut suppliers, ostensibly to assure that backup suppliers were available to Pizza Hut. In exchange, Pizza Hut promised to purchase a large amount of precooked sausage from C&F. C&F disclosed the process to several Pizza Hut suppliers, entering into confidentiality agreements with them. Subsequently, Pizza Hut's other suppliers learned how to duplicate C& F's results and at that time Pizza Hut told C& F that it would not purchase any more sausage from it without drastic price reductions.

IBP was one of Pizza Hut's largest suppliers of meat products other than sausage. Pizza Hut furnished IBP with a specification and formulation of the sausage toppings and IBP signed a confidentiality agreement with Pizza Hut concerning this information. IBP also hired a former supervisor in C& F's sausage plant as its own production superintendent but fired this employee five months later after it had implemented its sausage making process and Pizza Hut was buying the precooked sausage from IBP.

C&F then brought suit against IBP and Pizza Hut for patent infringement and misappropriation of trade secrets and the court found, 1) on summary judgment that the patents of C& F were invalid because the inventions had been on sale more than one year before the filing date and 2) after trial that C&F possessed valuable and enforceable trade secrets, which were indeed misappropriated.

What a great example of trades secrets serving as a fall back position where the patents fail to provide any protection! Indeed a patent is a slender reed in light of the existence of three dozens of invalidity reasons and many other potential patent attrition factors.

In view of the fact that patent and trade secret protection indeed dovetail in the ways described above, the best and most practical approach or policy for protection of any innovation would be the following: To file a patent application as early as possible covering all patentable aspects. Pending patent applications are preserved in secrecy during the pendency period. This is not necessarily a decision in favor of patenting, rather it serves to gain time and keep all options open. There is no need to make a decision as to which way to go until an application is allowed or is to be published or issued. If the decision is made at the outset to keep an innovation a trade secret, it may not be possible to ever patent it. One is stuck with the election. However, by filing an application it is possible later to decide later to keep the innovation a trade secret if for instance the application is not allowed or even if it is allowed, the decision can then be made in light of the then current circumstances to abandon the application and stay with trade secret protection. If the application is not allowed, the subject matter can naturally be kept a trade secret like any other proprietary know-how.

In conclusion, it bears reiteration that patents and trade secrets are viable alternative modes of protection in the intellectual property field. Hence, it is patents and (not "or") trade secrets. And, what's more, they can and should be relied upon at the same time and side by side to protect any given invention or innovation, because far from being irreconcilable, they in fact make for a happy marriage as equal partners. Thus a policy and practice of utilizing both routes for optimal protection is rational, practical and profitable.

Karl F. Jorda
David Rines Professor
of IP Law and Industrial Innovation

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