

Intellectual Property and Offshoring - Ernest Nounou (*May 6, 2004*)
Risk to US Economic and Intellectual Property Leadership

Summary

- Intellectual Property rights are major corporate assets, the protection of which by US corporations has been sub-optimal, according to the Chairman of Lloyds of London.
- Historically, US corporate managements have not been successful stewards of their own Intellectual Property.
- The establishment of offshore research and development centers by leading US corporations exposes their intellectual property (and in the aggregate US intellectual property leadership) to erosion and loss.
- With Europe and Asia garnering increased shares of patent awards, US dominance in leading edge industries and education are increasingly under challenge. This challenge is exacerbated when research and development centers are established offshore.
- Policy makers and corporate stakeholders (management, directors, shareholders – especially institutional) cannot afford complacency re the risks to loss of US intellectual property.
- Effective solutions focus a spotlight on management policies, procedures, and the adoption of best practices for protecting intellectual property. Periodic statements on this in SEC filings would be ideal.

Overview

Lord Peter Levene, Chairman of Lloyd's of London stated on CNBC April 21, 2004 that US industry is not as prepared as Europe with plans in place for losses of intellectual property ("IP"). IP rights are major assets developed at considerable costs, and when stolen, expose corporations and shareholders to considerable losses.

Announcements by leading hi-tech and pharmaceutical companies Hewlett Packard ("HP"), Intel, Microsoft, IBM and Pfizer of their intentions to open research centers offshore, give Lord Levene's observations even greater urgency to focus on this subject. In fact Hewlett Packard's March 11, 2004 10Q Report warned:

"Further, the laws of certain countries do not protect our proprietary rights to the same extent as do the laws of the United States. Therefore, in certain jurisdictions we may be unable to protect our proprietary technology adequately against unauthorized third-party copying or use, which could adversely affect our competitive position."

Questions jump to mind:

- Are US corporations up to the task of protecting their IP rights?
- Can the US retaining leadership in critical industries such as hi-tech and pharmaceuticals, as R&D follows already offshored jobs?
- Is the growth of well-paying US corporate jobs affected by the movement of R & D offshore and by IP theft?
- What are the national security dimensions to the offshoring of R& D and IP theft?
- Are there practical solutions?

Lessons from History

Observations:

- It is crucial to distinguish between US corporate and national interests. In the globalized economy that most US corporations operate, this distinction is not due to anything sinister, but rather a natural and increasingly inevitable outcome. Ignoring this distinction is foolish. (For an example see "Dell a Great Company – Great for the US Economy?" at www.thethinktank.biz. See also Intel and China discussion below.)
- In addressing these issues let's acknowledge once and for all the false premise many "experts" offered that offshoring would be both limited in number and confined to lower-end work.
- Recent history has not been kind for the protection of IP.

Corporations as Stewards of Intellectual Property

An even greater risk than outright IP theft is management ignorance and sloth. Managements may not understand the nature or value of their IP, be too wedded to the status quo, fail to understand their industry's direction, and/or distracted by other considerations, Two spectacular examples involve IBM and Xerox, paradigms among the US corporate elite throughout the 1970s, and who defined the computer and copier industries.

IBM

By the late 1970s it was becoming clear that the great reign of mainframe computing (IBM's core strength) had peaked and was being challenged by emerging mini computing and the infant micro computing (PCs). IBM was luke-warm to micro computers for a number of reasons, notwithstanding the success of its original PC. It opted to license the PC's operating system -

MS-DOS - from a fledgling Seattle-based company named Microsoft, and concentrated on making the hardware. The rest, as they say, is history.

IBM permitted Microsoft to re-license MS-DOS to other companies, including makers of PC clones that undercut IBM's pricing. Moreover MS-DOS, and subsequently Windows became the industry standards for PCs and to this day form the underpinning of Microsoft's growth and market dominance. Microsoft has a market capitalization of \$280 billion and \$50 billion in free cash, while IBM's market capitalization is \$150 billion, relying on services for 1/3 of its business.

Paul Carroll, in his book "The Unmaking of IBM" characterized IBM management, "...like a music-publishing company run by deaf people."

Xerox

A charter member of the original 1960's "Nifty-Fifty" stocks to own, Xerox dominated copiers as IBM did the computer industry. "Xerox" became a verb synonymous with "to copy." It established the legendary Xerox PARC, its Palo Alto Research Center that developed technologies and inventions such as: the mouse, local area networks ("LANs"), object oriented programming, and graphical user interface ("GUI" – the technology allowing a user to point a cursor and click on a command).

Steve Jobs, co-founder and CEO of Apple has recounted that during development of the Macintosh in the late '70s, he heard of the great technology developed in the '60s and locked up in Xerox PARC labs. Initially denied access by the director of PARC and admonished that he would need Xerox board of directors' permission, Jobs proceeded to get it. When the director herself went to the board to protest showing "the crown jewels" she recounts being asked/told "What's the big deal, and what do these have to do with copiers?" Jobs, in a PBS program recounted his amazement at what he saw and forthrightly admitted copying and incorporating the ideas into the landmark Macintosh. He said that was how great ideas occurred in Silicon Valley, and the degree of greatness was proportional to the amount stolen.

Piracy, Foreign Domestic Considerations and "Well Done, Intel"

An April 11, 2004 segment on 60 Minutes "Rising AIDS Epidemic in India" reported a courageous effort by local clinics to treat this exploding problem. A key element of their success is a drug cocktail administered to patients and locally manufactured by Cipla, a local company. The cocktails are knockoffs of western drug cocktails which reduce annual cost per person from \$12,000 to \$300. When questioned, Dr. Yusuf Hamied, Cipla's founder and CEO proudly points out he has broken no laws in India. Without the local cocktails India's clinics would be unable to successfully address their AIDS epidemic.

In the late '90s Bill Gates complained to the Chinese government that pirated versions of Windows were readily available outside his hotel. Notwithstanding central government assurances, the problem has not gotten better. It isn't clear China has the means to enforce a piracy ban in various provinces and localities rushing towards modernity.

Clearly Dr Hamied and Cipla's knockoffs serve a greater good than the protection of IP and defensible. But absent health and safety considerations, IP piracy is unacceptable. Piracy is not limited to foreign countries, as the US war on downloaded music demonstrates. It will multiply as more IP is exposed offshore.

Intel, China and Wi-Fi Standards

China's policy for permitting access to its huge domestic market has required foreign companies to form domestic operations with local partners. Part of the social (and sometimes explicit) contract is technology transfer. Local companies have emerged, and using the transferred

technology, have competed successfully with its original provider. A well-known example of this is Erickson's sharing of cell phone technology with a local partner, and the Chinese government's licensing local companies to set up rival operations that have taken significant market share from Erickson.

China attempted this MO with Wi-Fi technology, insisting, under the guise of security, that all companies use a Chinese encryption standard. To accede to China's demand would expose a company's technology to local competitors, a great concern for Intel, whose Wi-Fi chips use its own encryption technology. Intel risked exclusion from the lucrative Chinese market by resisting this demand, and in late April the Chinese made concessions allowing foreign encryption standards – but for how long?

Intel is a technology titan, able to defend its position. A weaker company tempted by short-term considerations could easily make the opposite decision, compromising longer-term corporate and shareholder assets, as well as US technology leadership. This is a hazard all US corporations, directors, and shareholders must address!

US Economic Leadership – Not Assured

Conflicting views on offshoring abound; to attain some clarity it is useful to list some. The Administration, US Chamber of Commerce, Business Roundtable and members of the US business establishment routinely dismiss offshoring's threats by pointing out in birthright tones:

- The US is the leader in cutting-edge industries.
- The American worker is the most productive on the planet.
- US universities are the world's best.
- Offshoring is not new a new phenomenon, relatively small, and the US economy will come back stronger than ever – it always has.

Yet despite the productivity of American workers, US corporations continue to offshore operations to foreign subsidiaries in lower cost countries. Their denials notwithstanding, the logical conclusion is that US companies simply consider offshore cost differentials and availability of skilled workers a better deal. To remain competitive, they have to offshore, and as their competitors follow, US domestic alternatives disappear.

Although the US invented television, not a single set is now made in the US. Computers are heading in the same direction. Note that the internal components of virtually all "American" computers are made offshore, with few if any domestic alternatives. (See Dell laptop photo with components and country of origin labeled at <http://www.thethinktank.biz/articles/dell.shtml>)

As sophisticated software development moves offshore, will sufficient domestic expertise remain to test applications for sabotage?

Lack of sufficient US science graduates is a major impetus cited by Craig Barrett, Intel CEO and Carly Fiorina of HP for their companies establishing research centers in India, notwithstanding both companies' pedigrees in Silicon Valley, and proximity to Berkeley, Stanford, Livermore Labs and other great research centers. A skeptic can justifiably wonder about the shortages of qualified scientists they encountered in their hiring efforts.

The New York Times May 4, 2004 contained a page 1 article "US is Losing Its Dominance In The Sciences" by William Broad. It points out several areas for concern including:

- US share of total patents awarded has dropped as a percentage of total patents, while Europe and Asia's shares have risen.
- Both Europe and Asia are producing more Doctoral graduates in science and engineering than the US.

- Foreign applications for graduate studies in science and engineering at US universities have declined, in part as a reaction to more stringent US immigration policies.
- “Increasingly, the mothers and fathers of invention are not American.”

While US universities are not producing as many science and engineering graduates, the more reasonable conclusion is this is merely a cover for Intel and HP’s decisions. They are establishing offshore research centers primarily because it is a better deal offshore. Regardless, this is not a favorable trend, further exposing existing US IP to risk, and strengthening the likelihood the next business “big thing” will not be led by the US.

And tangible evidence forcefully contradicts Administration and US business establishment that well-paying higher value-added jobs will return, and US corporations will retain global leadership.

National Security Considerations

Offshoring R & D exposing US IP to a faster rate of piracy defies common sense. Globalization brings with it world-class competition, along with the dual threats of physical and cyber terrorism. Would building America’s Star Wars systems offshore to take advantage of lower costs make sense? What about offshoring software and hardware components on which these systems rely? What plans, if any, are in place to ensure the survival of domestic expertise to test foreign-sourced systems against Trojan-Horse sabotage?

Dependence on foreign energy is decried, even as the US depends increasingly on foreign manufactured goods and services. Does this dependency make sense for “The World’s Only Remaining Super Power?”

Conclusion

As European and Asian entities garner increased shares of patent awards, US dominance in leading edge industries and education will be increasingly under challenge. This challenge will grow faster as companies follow their already offshored operations with offshored R & D centers, further exposing IP to piracy and loss. Collectively, policy makers and corporate stakeholders (management, directors, shareholders – especially institutional) cannot afford complacency.

Effective solutions begin with recognition that while IP belongs to its owners, taken collectively they represent vital economic and national security interests. First steps include:

1. Periodic SEC filings should require management statements addressing procedures and policies in place to protect IP, especially for foreign operations, and for joint ventures involving the licensing or sharing of IP.
2. By institutional and individual shareholders shining a spotlight on IP preservation and protection, management and directors will be further motivated to eliminate complacency and sloth, encouraging the adoption of best practices.

To do less is foolhardy.

Ernie Nounou is a founder of www.thethinktank.biz. A Wharton graduate he is a Founding Partner of The Catalytic Group, Inc., a New York based Technology firm. Prior to that he was with the International Division of Manufacturers Hanover Trust (now JP Morgan Chase) and a member of the Board of Directors of UMB Bank and Trust in New York. He can be reached at ernie@catalyticgroup.com.