

Dr. Eugen von Keller, President, Asia-Pacific
Jian Wei, Principal, Shanghai
Hubertus Drinkuth, Senior Project Manager, Shanghai

Study

Intellectual Property Protection in China:

Playing Weiqi, the Game of Enclosures

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About Weiqi, the Game of Enclosures

Originating in China thousands of years ago, the board game *Weiqi* is today better known by its Japanese name, *Go*. Legend has it the game was first created by an ancient Chinese Emperor hoping to school his dim-witted son in strategic thinking. During the Tang Dynasty (618 to 907), *Weiqi* became, with music, painting and calligraphy, a highly respected skill such that accomplished players were awarded high-level government posts. Even centuries later, the Jesuit missionary Matteo Ricci, the first European granted residence in Imperial China, observed:

He who is experienced in this game is, though he did not distinguish himself in any other matter, respected and invited by all.

Control of territory is the ultimate objective in *Weiqi*. Players alternately place stones (white or black) on the intersection points of the board grid. Once placed, stones cannot be moved again but are captured when surrounded by enemy stones. As in chess, skilled *Weiqi* players employ a veritable arsenal of offensive and defensive gambits. *Weiqi* or *Go* (or *Baduk*, in Korean) is played worldwide but has immense popularity in East Asia. Here, educators, parents and business leaders tout the analytical skills developed by a game of endless variation and infinite complexity.¹

Roland Berger Strategy Consultants and the China Nexus Series

Established over thirty years ago in Germany, Roland Berger Strategy Consultants has earned global significance far beyond its European origins. With 29 offices in 20 countries across Europe, Asia, North and South America, our consultants represent 40 nationalities cooperating in cross-national teams on global assignments. Distinct among leading consultancies in China, Roland Berger has deep engagement experience with both multinational and domestic corporate clients.

The China Nexus series of reports analyzes important areas of strategic overlap between global business issues and domestic Chinese developments. Recent topics include the *China Beer Industry* and *Overseas Expansion of Chinese MNCs*.

¹ Sources include: Singapore Weiqi Association; China Weiqi Association; *Go! More than a Game*, by Peter Shotwell; Tuttle Publishing, Boston, 2003.



Executive Summary

Part I. Introduction. Like It or Not, Playing the IP Protection Game

This report analyzes industrial IP violations and protections in China, focusing on engineered products rather than the entire gamut of goods subject to piracy. Counterfeiting is an extremely serious issue to both MNCs and top tier domestic Chinese firms alike. On a broader scale, it is an equally serious issue to the global supply chain of a large and growing number of industries and, thereby, to end users worldwide.

The report is based on our own consulting experience as well as a customized survey designed and administered by Roland Berger to further inform the analysis.

“There will always be counterfeiters if there’s a market for them.”

Survey participant

Part II. The Nature of China's IP Game: Characteristics and Consequences

Violation as the Norm. No industry is immune, yet some industries are more afflicted than others — automotive parts, for example. A survey conducted by the Commercial Times found that 56% of vehicle users in China had found counterfeit components in their vehicles.

China’s Central Government is working diligently to remedy the traditional lack of regard for commercial property protection of all kinds. In recent years, for example, the Government has modernized trademark, patent and copyright laws in line with international standards. Yet lackluster enforcement by local officials in many areas has largely nullified these advances.

No industry is immune; some are more afflicted than others

A Typology of Counterfeit Goods.

The Complete Knock-off. In this type of piracy, local manufacturers replicate an established product, foreign or local in origin, with the intention of fooling customers into believing the knock-off is (with apologies to Coke) *the real thing*. Yet the \$3 Nike sneakers and \$10 Louis Vuitton bags reveal their fakery in their absurdly low pricing.

Executive Summary continued

The Partial Rip-off. Even upscale Chinese retailers in major cities shelve “partial rip-off” goods emulating the name, packaging and features of well-known brands at a significant discount to the authentic good’s price. Example: *Danan* yogurt rather than the famous *Danone* (*Dannon*) brand, replete with identical packaging.

Subtle pick-offs constitute the greatest danger to manufacturers and end-users

The Subtle Pick-off. Subtle pick-offs tend to occur at the high end of counterfeit sophistication, constituting perhaps the greatest danger to established manufacturers and end-users alike. In subtle pick-offs, valuable design elements or production features, rather than whole products, are usurped and utilized, often under a competing local brand name.

Part III. Surviving, If Not Winning, the China IP Game

Roland Berger conducted a survey to find out what is, and what is not, being employed by MNCs in China, testing, in the process, our hypothesis that more proactive, multifaceted defense strategies are sorely needed.

Finding #1. A majority of MNCs recognize the importance of IP protection and have formulated protective policies.

Finding #2. Most commonly, legal professionals or committees are placed in charge of IP protection; in only a few cases does responsibility rest with top management.

Creating viable defenses involves the entire organization

Creating viable defenses will involve the entire organization, rather than selected units. It is our view that top management should be in charge of protection procedures, delegating tactical responsibility in umbrella-like fashion throughout the organization chart.

Finding #3. Most firms fear external rather than internal threats.

The danger in the *subtle pick-off* of valuable IP to a joint venture or business partner is seen as quite high. Less worrisome to high-end manufacturers is the total rip-off scenario, where an employee walks out with blueprints in his pocket and opens a competing factory across the street.

Executive Summary continued

Finding #4. Manufacturing MNCs view process protection as the most effective means of IP protection.

MNCs in China recognize that manufacturing process mechanisms are often more effective than product, human resource and legal remedies. Currently, high employee turnover limits the effectiveness of HR remedies, while legal remedies lack a culture of compliance as well as consistent enforcement.

“The government is trying to crack down, but counterfeiters are becoming smarter.”

Survey participant

Finding #5. Some effective mechanisms are not commonly used; some commonly used methods are not highly effective.

In the final analysis, MNCs have to adopt more sophisticated protection strategies, despite their relative difficulty, simply because the cost of lost sales, brand equity dilution and potential liability is potentially debilitating.

Part IV. Surviving, If Not Winning, the China IP Game

To minimize IP risks in China, MNCs need to shift from ad hoc and piecemeal actions to proactive, comprehensive processes. Doing so requires a more insightful understanding of the company’s intrinsic vulnerabilities.

While an effective IP defense must be company specific, Roland Berger has developed a general approach on how to analyze threats and develop an IP methodology that is cost-effective and risk reducing. We view this as an ongoing imperative called *The IP Audit & Protection Process*.

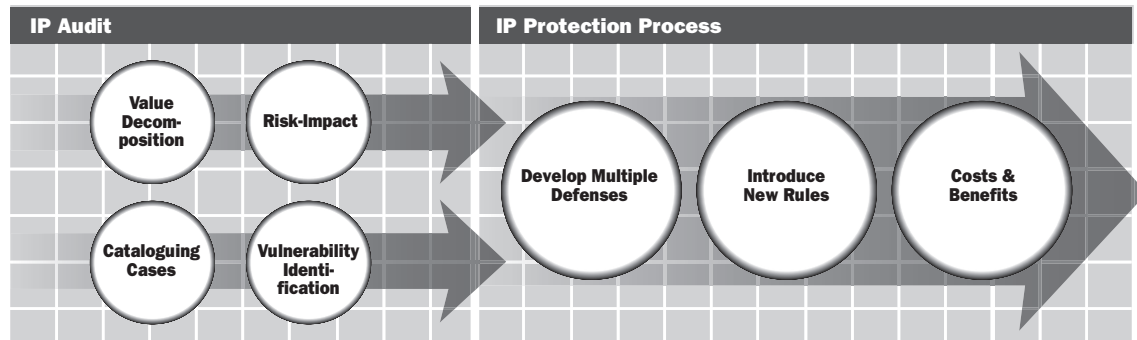
MNCs must shift from ad hoc actions to comprehensive processes

The IP Audit consists of four interlocking components:

- > Value Decomposition
- > Cataloguing Cases & Failed Defenses
- > Risk Impact Analysis
- > Vulnerability Identification

Executive Summary continued

The IP Audit & Protection Process



The Protection Process consists of three components:

1. Developing multiple defense ideas for the core IP assets
2. Introducing new rules onto the IP playing field
3. Calculating costs and benefits

The result is a comprehensive yet practicable approach for the evaluation and ongoing protection of core IP assets in this most challenging of market contexts.

**There is no conclusive victory
in the IP game**

Total Victory in the IP Game? For those seeking that definitive checkmate in the IP Game, let us be perfectly candid: there is no such move, and there will be no such move. Nevertheless, there is hope for progress. More than 80% of respondents expect the protection of IP in China will improve in the medium to long term.

Meantime, both MNC and branded Chinese companies alike would be well advised not place their complete faith in any single remedy. Companies who invest in sophisticated, ongoing protection processes stand to gain substantially through *avoiding* serious and sizable losses.

Part I. Introduction.

Like It or Not, Playing the IP Protection Game

Precision Industries is one of the world's leading manufacturers of machine tool components. Like many manufacturing firms, the company's decision, in the early 1990s, to create manufacturing capacity in China was driven in large part by competitive pressures. Their two closest competitors had done so, lowering prices on competing products and gaining market share at Precision's expense.

First, copycat goods came from the JV partner

Initially, Precision, like many multinational companies (MNCs) operating in China at the time, pursued a joint-venture (JV) strategy. But within two years of commencing production, the company learned that several individuals within the JV partner had begun marketing copycat goods based on Precision design. Precision thus terminated the JV relationship, commenced legal action and restructured their China operations as a WOFE (wholly owned foreign enterprise). Meanwhile, however, a flood of counterfeit tool components had hit the world market, driving down price and quality while producing some serious malfunctions in end use.

The Precision WOFE upgraded to components of more sophisticated, value-added design, a tactic that staved off further piracy problems for a time. Then, one of the key employees of Precision's WOFE abruptly left the firm only to reappear weeks later as head of a domestic Chinese firm, *Precise Industries*, producing near identical goods incorporating protected design elements. Knowing that legal remedies could take years to take effect, Precision initiated legal action against *Precise Industries* while casting about unsuccessfully for other short-term remedies and responses.

Then a full-bodied competitor arose from ex-WOFE employees

Not a real firm, but rather a fictional composite, Precision Industries, like hundreds of other multinational firms in China, has been drawn by necessity into the China IP (Intellectual Property) game. Like the game of enclosures, Weiqi, IP players attempt to construct adequate defenses around valuable IP assets. Yet, as the game progresses, expanding into new territory, the opposition eventually penetrates any stagnant defense. That is why the next placement of stones, the next move in the IP Game, is never the ultimate move. And that is why experience indicates that broader, multifaceted process-based strategies are necessary to play and survive the China IP game.

As in Weiqi, IP players attempt to defend valuable assets

Counterfeiting is an extremely serious issue for both MNCs and top tier domestic Chinese firms. Yet, on a broader scale, it is an equally serious issue to the global supply chain in a large and growing number of industries and, ultimately, to consumers worldwide. Our intent is not to trivialize the piracy issue by analogy to Weiqi. Rather, it is to illustrate the game-like complexity of the issue, and the ways in which MNCs can better protect their IP portfolios.

This report focuses on industrial IP violations involving engineered products rather than the entire gamut of goods subject to counterfeiting. While of similar consequence to the violated party, the copying of a CD or DVD, in our view, is qualitatively different from the creation of an auto part or machine tool. Media counterfeiting can be accomplished by a single individual with minimal investment. Thus, it is even more difficult (some would say impossible) to control, both short and long term, without a major transformation of the Chinese business environment.

Pirating CDs is distinctly different than auto parts or machine tools

By contrast, industrial piracy involves a higher degree of training, knowledge, investment and management skills from the violators themselves. In fact, China's industrial counterfeiters have shown a high degree of legal acuity as well, preemptively filing patents and trademarks in China ahead of MNCs new to the market.²

² "The New Chinese Counterfeit Game; Pirates file patents to beat the system." *International Herald Tribune*; November 15, 2004.

Many consider China to be the capital of the consumer goods piracy empire. In fact, there are countless centers and outposts throughout the global economy. The same is true of industrial piracy.

Yet, owing to enormous and still growing production capacity, the ramifications of China's own IP game reverberate far and wide. Industrial counterfeiting within China is thus, by itself, an important strategic business issue worthy of thorough research and careful analysis.

This research report is based in part on our own consulting experience as well as a customized survey designed and administered by Roland Berger to further inform the analysis. It is beyond the scope of the report to discuss the cultural factors operative in Chinese piracy.³ Likewise, we cannot recount here the historical and ongoing friction between central, provincial and local governments in China, which figure greatly into the central government's difficulty in alleviating piracy.

Instead, our viewpoint is more pragmatically focused on the plight of industrial MNCs in the piracy free-for-all; the severity and manner of violations affecting these MNCs; what is currently being done to forestall further violations; and, most importantly, what more can and must be done.

A strategic issue worthy of careful analysis

³ An excellent overview of legal and cultural factors is *To Steal a Book Is an Elegant Offense*, by Steven Alford, Stanford University Press, 1995.

Part II. The Nature of China's IP Game: Characteristics & Consequences

Violation as the Norm

Academic, press, and conference room discussions of industrial piracy in China often assume a problem that is discrete, identifiable, and therefore, manageable. In fact, piracy of one kind or another is infused throughout the Chinese economy, such that, in our view, it will likely get worse before it begins to get better.

No industry is immune, yet some industries are more afflicted than others — automotive parts, for example. A survey conducted by the *Commercial Times* found that 56% of vehicle users in China had found counterfeit components in their vehicles. Likewise, Brandchannel.com has estimated that most batteries produced in China, which account for 50% of global production, are fake versions of established brand names.

By now, it is well known that piracy rates of up to 90% affect the music and software industries in China, where not more than 5% of the installed *Microsoft Office* packages are legal copies. (Only Vietnam is worse.) Not as well known, yet more disturbing, is that counterfeiting affects up to 30% of pharmaceuticals made in China. As a result, somewhere in China there is a death attributed to counterfeit prescription or OTC medicines virtually every day.

**Not the first major economy to profit
from IP violations**

Historically speaking, China is by no means the first major economy to have substantially engaged in and profited from blatant IP violations. Consider the origins of the U.S. textile industry in the early 1800s, when British textiles dominated the global market. A disgruntled British apprentice turned machinist, Samuel Slater, memorized the intricate workings of sophisticated British machinery before booking passage to the United States. Within months he had reverse engineered this equipment. A few years later, the U.S. textile industry rivaled Britain's in sophistication and market share.⁴

⁴ As recounted in *The Business of America*, by John Steele Gordon, Walker Books, 2001.

In recent decades, the counterfeit plague has spread throughout Asia, a predictable pattern of endemic violation in poorer economies gradually diminishing with higher levels of prosperity and global integration. Japan, for example, was considered a piracy hotspot in the 1950s and '60s, before its manufacturing methods surpassed even those of its mentors. Korea, Taiwan and Hong Kong followed a similar path beginning in the 1960s, achieving higher product quality along with increased IP compliance in the 1970s and '80s, just as Thailand, India, China and the former Eastern Bloc came onto the radar screen of concern.

Japan, Korea and Taiwan were once considered IP piracy hotspots

Chinese officials frequently claim that China is different from other countries. In the case of industrial piracy, this may well be the case:

- > First of all, the sheer size of China, and its growing integration with the global supply chain, means China's IP problem is indeed the world's problem as well.
- > Second, because of pronounced economic disparities between coastal and interior regions, it will be many years, if not decades, before China en masse reaches the middle income point at which counterfeiting began to decline in Japan, Korea, Taiwan and Hong Kong.
- > Third, China's commercial legal tradition has been, by Western standards, decidedly weaker than that of many of its Asian neighbors. As one prominent legal scholar put it: "Virtually all known examples of efforts by the state to provide protection for what we now term intellectual property in China prior to the twentieth century seem to have been directed overwhelmingly toward sustaining imperial power."⁵

Today, however, it is China's Central Government that is working diligently to remedy the traditional lack of regard for commercial property protection of all kinds.

⁵ William P. Alford, *To Steal a Book Is an Elegant Offense*.

In recent years, for example, the Government has modernized trademark, patent and copyright laws in line with international standards. Yet lackluster enforcement by local officials has largely nullified these advances. Nor can one realistically expect local government enforcement to improve in the short term since, in many cases, local officials benefit, directly or indirectly, from illegal production and sales.

The Central Government has modernized IP law in line with international standards

A Typology of Counterfeit Goods

It is equally important for MNC executives and employees to understand the varieties of counterfeit production at work in China as it is to appreciate the enormity and longevity of the problem. At the same time, it is also imperative to recognize the levels of sophistication in many of these counterfeit operations. That is, blatant counterfeiters today could evolve into tomorrow's legitimized competition.

In our view, there are three main types of industrial piracy:

The Complete Knock-off. In this type of piracy, local manufacturers replicate an established product, foreign or local in origin, with the intention of fooling customers into believing the knock-off is (with apologies to Coke) *the real thing*. Retail products such as \$3 Nike sneakers or \$10 Louis Vuitton bags reveal their fakery in their own absurd pricing. In more sophisticated cases of industrial knock-offs (engine parts, electrical components, machine tools), price differentials of 10 or 20% are not as revealing.

In the late 1990s, for example, *Slant/Fin*, a manufacturer of heating equipment, accused a former Chinese partner of manufacturing counterfeit boilers using Slant/Fin's name, patents and trademarks.

Many knock-offs reveal their own fakery via absurdly low pricing

As the *Economist* magazine puts it, "Where once counterfeits were cheap and shoddy imitations of the real thing, today their packaging and contents often render them indistinguishable from the genuine article."⁶

⁶ The *Economist* magazine, July 17, 2003.

The Partial Rip-off. Even upscale Chinese retailers in major cities shelve “partial rip-off” goods emulating the name, packaging and features of well-known brands at a significant discount to the authentic good’s price.

- > *Hongda* vehicles, for example, closely resemble their *Honda* prototypes.
- > *Danan* yogurt in China has almost indistinguishable branding and packaging from that of the major European yogurt brand *Danone* (in North America, *Dannon*).

There are numerous lesser-known examples in the industrial world as well. Most of these partial rip-offs are not difficult to detect by those with industry knowledge, suggesting consumer education may have some long-term impact. In the short term, however, not only market share but brand equity is eroded by ripped-off goods commonly confused with the higher-quality original product.

The Subtle Pick-off. Subtle pick-offs occur at the high end of counterfeit sophistication, constituting perhaps the greatest danger to established manufacturers. In subtle pick-offs, valuable design elements or production features, rather than whole products, are usurped and utilized under a competing brand name. As such, subtle pick-offs can be more difficult to detect, litigate and defend against than other forms of counterfeiting. For example:

- > *General Motors* has investigated whether a Chinese joint venture partner has given or sold manufacturing designs to another company in which it had financial interests.
- > Several Chinese manufacturers of DVD players were ordered by domestic courts to pay royalties to name brand DVD manufacturers *Philips*, *Sony* and *Pioneer* for DVD formats used in their cheaper players.
- > *Analog Devices* discovered that counterfeit chips from China, containing the company’s IP design elements, impeded the performance and sales of electricity meters sold in India.

“Often consumers don’t know they are buying counterfeits.”

Survey participant

Colorful Markets, Black and Gray

Another important distinction in the effort to understand and protect against industrial piracy is that of the markets where these counterfeit goods are transacted.

Black markets generally purvey knock-off retail goods in a public place and, theoretically at least, are easily shut down, given the political will. Every major city in China has several well-known black market streets lined with stalls selling blatantly ripped-off clothing, media, toys and cosmetics.

Industrial gray markets, however, are far more difficult to detect and control. The gray market for automotive parts, for example, is not limited to a finite number of identifiable locations but extends worldwide and includes complete, partial and subtly pirated goods, pressing legitimate manufacturers to drastically lower costs to stay competitive.

Gray market goods are not uncommon on the shelves of used or discount automotive stores in Europe and North America, since their substandard quality is largely undetectable until in use. Other global gray markets exist in electronics, batteries, and the precision components of most major manufacturing varieties.

Industrial gray markets are more difficult to detect and control

Truth & Consequences

Beyond the direct sales-related costs of industrial piracy, there are the still larger indirect costs of substandard pirated goods infiltrating the global supply line of major manufacturing industries. This, in combination with the general trend toward outsourced production, raises the costs of quality control both company and industry wide. In addition, industrial piracy can have legal spillover effects far outside the China market.

The Swiss biotech firm, *Serono*, for example, was successfully sued by two American customers who ingested a fake version of its popular body-building drug, *Serostim*. The U.S. court agreed with the claimants that the company should have taken more effective anti-piracy measures, establishing a precedent of serious concern to global manufacturers across a wide range of industries and products.

The most serious costs to industrial piracy should be counted in injuries and fatalities rather than revenues lost or settlements incurred. The Counterfeit Inspection Bureau, a working group of the International Chamber of Commerce, believes the November 2001 crash of an American Airlines flight over New York may have been caused by the failure of counterfeit parts.

Airline crashes, of course, are closely investigated; the far more numerous car, bus and truck crashes are not. While hard evidence is lacking, it is safe to assume that an alarming number of truck, automotive and motorcycle crashes have also been caused by fraudulent parts of substandard quality.

**The most serious costs
should be counted in fatalities
rather than revenues lost**

Part III. Playing the China IP Game: Current MNC Practices

Most press accounts and summary statistics of the IP game in China view only one half of the board: the actions of companies accused of IP violations.

Equally if not more interesting from a strategic viewpoint are the actions taken by companies to prevent piracy, which, judging from the growth of counterfeit goods, have so far been of limited effectiveness.

Roland Berger thus conducted a survey to find out what *is*, and what is *not*, being employed, testing, in the process, our hypothesis that more proactive, multifaceted defense strategies are sorely needed.

While our survey protects the identities of individual respondents, we can reveal that our participants represent some of the largest, best established multinational industrial operations in China, including wholly owned and majority owned enterprises. Represented industries include automotive, sanitary products, chemicals, telecommunications equipment, semiconductors, batteries and construction machinery.

Survey participants include some of the largest, best established MNCs in China

Finding #1. A majority of MNCs recognize the importance of IP protection & have formulated protective policies.

Encouragingly, perhaps, two-thirds of the firms recognize the importance of IP protection, while an even larger percentage claimed to have such programs or policies in place. Those firms that recognize high IP importance enumerate four ways in which the issue impacts their businesses:

- > price pressures
- > business losses through non-realized sales or license income
- > additional costs through lower economies of scale and institution of protection measures
- > liability risks arising from the possibility of selling or exporting counterfeit parts

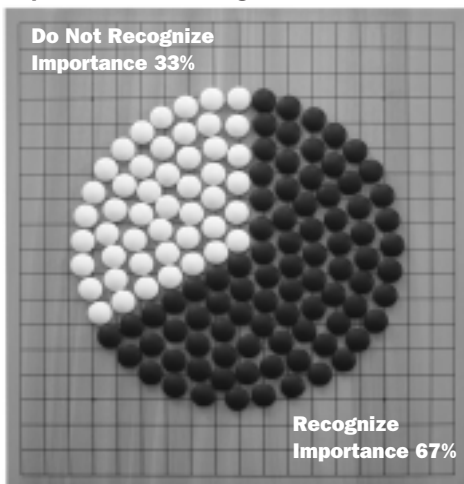
These worries are most pronounced in the automotive parts and machinery industries, while operative to a lesser degree in the fine mechanical and hi-tech industries.

“We need to find a balance between the low cost of producing versus protecting our intellectual property.”

Survey Participant

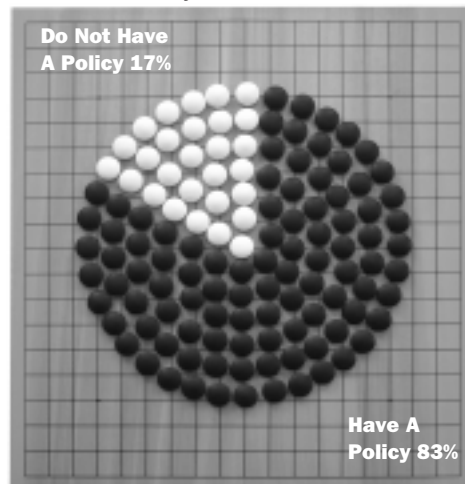
Finding 1A

Importance of IP Among MNCs



Finding 1B

MNCs & IP Policy



Finding #2. Most commonly, legal professionals or committees are placed in charge of IP protection; in only a few cases does responsibility rest with top management.

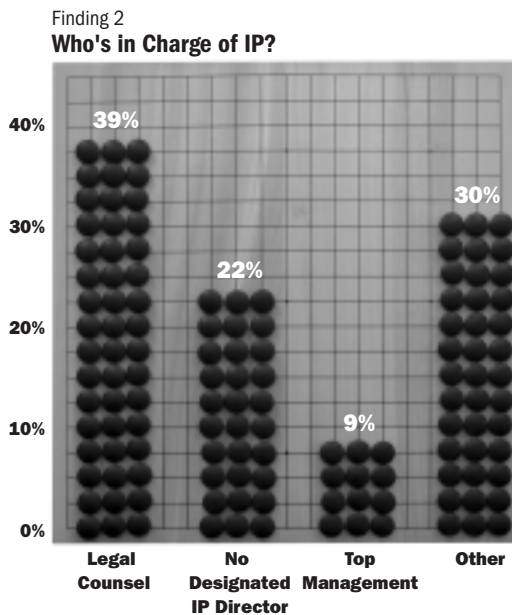
Most MNCs in our survey set have placed a legal department, in-house counsel or retained counsel in charge of IP protection. This is in line with practice in many other markets, perhaps mirroring global corporate policy. But just as legal remedies are less effective in a legal system with toothless enforcement, so, too, in our view, is total management of IP protection in China by a Legal Department. This is not to trivialize the essential role that legal advisors and procedures must play in the IP game. It is simply to underline the fact that legal remedies are often insufficient in the China context, a condition not likely to change in the near future.

More surprising, yet still more significant, is that top China management taking responsibility for IP protection is the exception, rather than the rule. As noted, counterfeit production is clearly a major issue affecting MNCs in China. And creating viable defenses will involve the entire organization, rather than selected units. Therefore, it is our view that top management must take charge of protection procedures, delegating tactical responsibility in umbrella-like fashion throughout the organization chart.

Legal remedies are often insufficient in the China context

“No one in China knows our entire know-how process.”

Survey participant



Finding #3. Most firms fear external rather than internal threats.

We asked whether MNCs felt more vulnerable to internal IP attacks by their own employees or partners, or to external copying by other firms who thoroughly disassemble and redesign the product with most of its technical specifications.

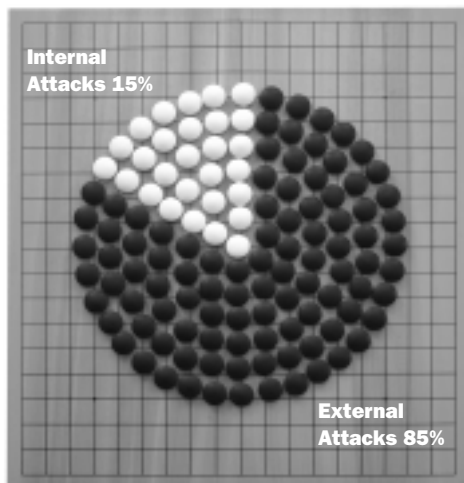
Chinese “entrepreneurs” have always been extremely skilled in the art of reverse engineering. A manager for *Cartier* watches put it this way: “They are not only producing very good quality, they even have more models than we do.”

The majority of our respondents felt that they were more vulnerable to outsiders’ attacks. Yet the danger of a *subtle pick-off* of valuable IP by a joint venture or business partner is also seen as very high.

Subtle pick-off of valuable IP is deemed highly dangerous

Less worrisome is the *total rip-off* prospect of an employee walking out with blueprints in his pocket and opening a competing factory across the street. As noted, many, though not all, industrial products are too complex and costly to replicate in perfect detail. Yet therein lies the great danger that industrial counterfeiting poses to industry supply lines and end users.

Finding 3

Fear of External vs. Internal Counterfeit Attacks

Finding #4. MNCs generally view process protection methods as more effective than product, human resource or legal protection methods. (See table, pages 24-25)

Part and parcel of the inquiry into what MNCs in China are doing to protect industrial knowledge is the effectiveness of these measures. On a macro level, it is obvious that the volume and severity of piracy is on the increase; therefore protection measures in the aggregate are not sufficiently effective.

How do MNC managers and executives view the specific efficacy of the protection mechanisms they themselves employ? In asking this question, we broke the possibilities into four main protection areas.

I) Product Protection Mechanisms focus on the physical product, making it difficult for counterfeit producers to replicate the product or for purchasers of the counterfeit good to achieve full functionality. Production protections may involve technological obstacles within the product itself, advanced logos (such as holograms or microchips) that more easily identify authentic versus counterfeit goods, or service and maintenance protections, such as electronics hardware that requires authorized downloads before usage.

II) Process Protection Mechanisms center not on the product itself but on the methods of manufacturing. Process protections can be relationship-directed, as in working with clients on customized designs or developing integrated relationship with suppliers. Or they may involve knowledge management tactics, such as compartmentalizing the entire production process or keeping an important production step out of China facilities entirely.

III) Human Resource Mechanisms focus not on the *what* and but the *who* of the China production capability. If employees are sufficiently compensated and retained for the longer term, so the thinking goes, the violation rate may be reduced. One such tactical example would be rewarding long-term employees with housing stipends or allowances.

“We worry about outsourcing and IP, but are too busy to address the concerns.”

Survey participant

“It is hard to enforce non-disclosure when people change jobs so often.”

Survey participant

IV) Legal Protections include the conventional battery of patents and trademarks, but also more stringent non-disclosure agreements signed by key personnel. In the China market, furthermore, legal protections may also include working more closely with law enforcement and customs authorities.

The following table (pages 24-25) defines in greater detail both these general protection categories, as well as the primary mechanisms within each category. The prevalence of usage and the perceived effectiveness of these categories, derived from survey results, are also provided. Based on these results, MNCs in China recognize that process mechanisms are generally more effective than product, human resource and legal remedies.

On the HR front, for example, job turnover in China has been steadily increasing in recent years, with erratic but generally upward trends in executive and manufacturing wage rates. High turnover limits the consistency of HR remedies. Likewise, in the legal realm, the Central Government has made impressive progress in codifying IP protection. But in many cases successful prosecutions end in small fines rather than punitive awards.⁷

As a result, MNCs should make greater and more varied use of process mechanisms over time. This will be an interesting trend to observe over the coming years if IP violations continue to proliferate without an increase in product, legal and HR remedy effectiveness.

High turnover limits the effectiveness of HR mechanisms, while successful legal prosecutions may result in small fines, not punitive awards

⁷ IHT; November 15, 2004.

Valeo: Implementing Team Defense

Valeo, the European automotive supplier with more than 10 billion euro annual turnover, provides an example of a thoroughly designed, well-executed IP strategy. Active in China since 1995, Valeo has not only built a manufacturing capacity to supply the growing number of large OEMs in China, but has expanded supply lines emanating from China to customers worldwide.

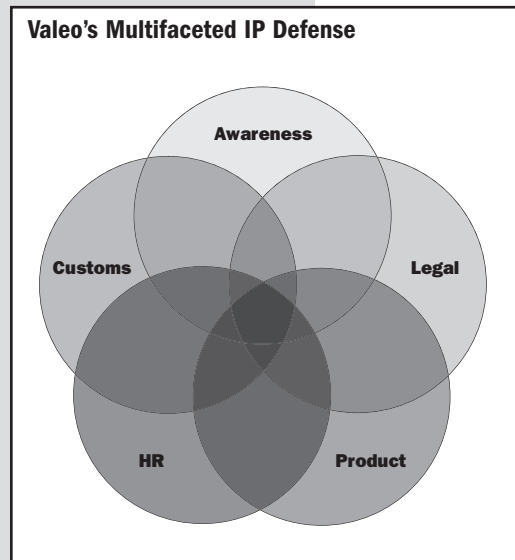
Regarding IP protection, Valeo has developed and implemented an effective combination of legal safeguards, proactive defense measures and product protection instruments. Unlike many MNCs in our survey, intellectual property protection has top management awareness and is an integral part of Valeo's production policy in China. Reports on counterfeit cases and the effectiveness of counterfeit measures are produced and reviewed regularly.

Employees and suppliers are bound to confidentiality agreements that increase the awareness of risks from internal leaks. On the product front, Valeo relies, increasingly, on packaging holograms to make it costly and difficult to produce fake packaging. Completing the protective loop, Valeo makes customers aware of these special methods to identify fake goods.

A hotline has also been established to encourage reports on counterfeit activities. Valeo is actively pursuing these cases together with the local police authorities and tax offices. Successes on this front are publicized to further raise awareness among counterfeiters that Valeo is serious about IP protection.

Valeo is nurturing close cooperation with partners in the distribution chain, as well as customs officers. In fact, the company helps train Chinese customs officers to differentiate fake products from the real Valeo. In difficult cases, customs will seize and hold questionable merchandise for three days, until Valeo employees can make a final determination.

Altogether these measures have made the company substantially less vulnerable in China. Yet counterfeit products are still found on the market bearing the Valeo brand. This serves to confirm our Roland Berger viewpoint that IP protection in China is an ongoing process, not a project; and one where partial victory may be as good as it gets.



Finding 4

IP Protection Categories & Mechanisms with Survey Results on Usage & Effectiveness

Mechanism Type	Mechanism	Definition	Survey Result: Usage	Survey Result: Effectiveness
			(1-low to 10-high)	
Product Protection	Blackbox	A design-based protection not visible to the potential imitator; the product is designed so that if opened for “re-engineering” it becomes dysfunctional. Black box protections can be difficult and costly to design.	1.0	8.0
	Technological innovation	Staying one step ahead of the counterfeiter through continuous innovation; but this, too, has its costs and challenges.	2.7	6.5
	Marketing reputation	Superior products are more difficult to replicate and undercut.	6.7	5.7
	Service/maintenance	Products that are only operational if professionally serviced, such as electronics hardware that requires authorized downloads before usage.	2.0	3.0
	Special logos	Commonly used to stay ahead of money counterfeiters, special product logos can be designed and produced that are both difficult and expensive to copy. The next phase will be implanted microchips that track products along the whole supply chain.	3.3	2.4
Process Protection	Unique component	Purposefully exclude vital parts or designs from China processes.	7.4	6.8
	Purposefully keep new technology out of China	A manufacturer may choose not to sell important parts in the aftermarket, where they can be reverse engineered, concentrating instead on the OEM market, where they are wholly installed.	1.3	8.0
	Knowledge decentralization	Compartmentalizing the production process such as in multi-source outsourcing methods.	5.4	5.4
	Economies of scale	Choosing a product for China production that has high fixed but low variable costs.	2.0	9.0
	Client collaboration	Customizing product design according to unique client specifications, for one example.	1.3	6.0

Mechanism Type	Mechanism	Definition	Survey Result: Usage	Survey Result: Effectiveness
			(1-low to 10-high)	
Process Protection continued	Reengineer process like Chinese co.	Fighting piracy with pseudo-piracy by producing uniquely inexpensive products for and within the China market, making it difficult for counterfeiters to undercut international pricing. Works best for commodity rather than branded products.	2.7	5.0
Distribution Process	Relationship development	Closer, better integrated relationships with suppliers, distributors and customs police as a preventative measure; that is, cutting off potential counterfeit competition along supply and distribution lines.	1.4	4.5
	Client segmentation	Selectively choosing clients who choose quality over price; working with partners and clients with reputations to protect.	2.0	7.0
Human Resource Protection Mechanisms	Retention compensation	Providing housing purchase on 7 years of service or pension funds with deferred accumulation over time.	3.6	5.8
	Selective hiring	Deliberately hiring only non-locals for top technical positions.	1.0	3.0
Legal Mechanisms	Conventional legal tools	Patents and trademarks.	9.4	4.6
	Join government committees	For example, the Quality Brands Protection Committee.	1.3	4.5
	Build customer awareness	Hold forums; publish articles; establish hot lines.	1.0	7.0
	Non-disclosure	Legal device implemented through HR department.	7.1	2.4

Finding #5. Some effective mechanisms are not commonly used; some commonly used methods are not highly effective.

Interestingly, despite the stated effectiveness of certain mechanisms (such as keeping aspects of the production process secret), these were in fact among the least commonly used defenses. Conversely, those mechanisms viewed to be among the least effective (such as non-disclosure agreements) were among the most commonly used.

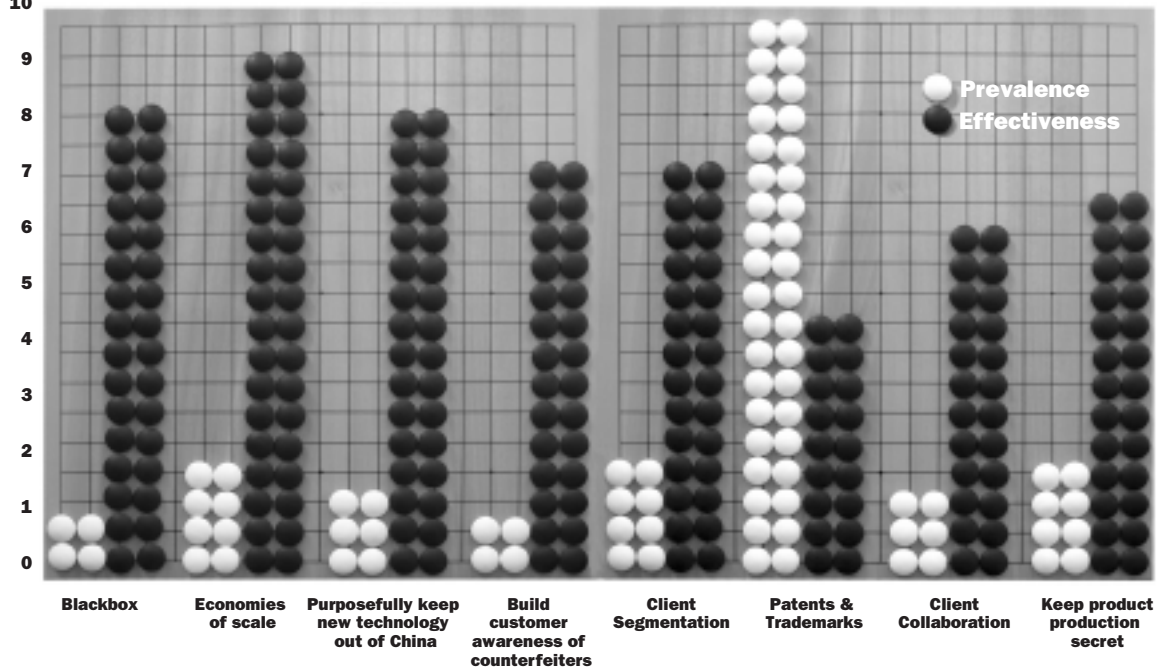
Of course, there is a relative difficulty factor here that helps explain these seeming anomalies. But, in the final analysis, MNCs have to adopt more sophisticated protection strategies despite relative difficulty simply because the costs of lost sales, brand equity dilution and potential liability are potentially devastating.

The IP game is also a function of MNC *ineffectiveness* in managing IP defenses

We now have a better sense of how the IP game is played in China, and by whom. Rather than a simplistic case of rapacious pirates attacking helpless MNC ships at sea, the IP game is a function of both the relative effectiveness of domestic industrial counterfeiters, and the *relative ineffectiveness* of MNCs in managing the defense of their own products. In the final section, we outline, in general terms, methods by which MNCs can be significantly more successful in this regard.

Will these measures terminate IP violations in China? Unfortunately, they will not. Will they be more effective than current practices? Our experience indicates that they clearly will be.

Finding 5
IP Mechanism Prevalence vs. Effectiveness



Part IV. Surviving, If Not Conquering, the China IP Game

To minimize IP risks in China, MNCs need to shift from ad hoc and piecemeal action to proactive, comprehensive processes. Doing so requires both a more insightful understanding of the company's intrinsic vulnerabilities and risks as well as top management's commitment to use all available instruments in a coherent and systematic way. While an actual IP defense must be client specific, Roland Berger China has developed a general approach on how to analyze threats and develop an IP methodology that is cost effective and risk reducing. We view this as an ongoing process, called The IP Audit & Protection Process.

More proactive, multifaceted defense strategies are needed

The IP Audit: Revealing vulnerabilities.

Largely lacking from MNC strategies at present is a comprehensive analysis of IP vulnerabilities in the Chinese market. Just as accounting audits can reveal financial weaknesses and risks, the IP Audit reveals where an MNC is most vulnerable to various forms of industrial counterfeiting. The audit consists of four interlocking components:

- > Value Decomposition
- > Cataloguing Cases & Defenses
- > Risk Impact Analysis
- > Vulnerability Identification

I) Value Decomposition: All parts are not created equal.

Defining and quantifying the value of each part and process in terms of its significance for the end product and profitability is an important analytical exercise in and of itself. In terms of IP protection, it is crucial to determine how much of the total product value is bound to the original design versus the specific production process versus a customer-specific adaptation.

To protect IP, quantify where the highest value lies

The underlying hypothesis is that only parts and processes with the highest value contribution to the end product deserve protection. Not surprisingly, non-core components or processes of low complexity (and thus thin margins) are generally more difficult to protect, and thus candidates for outsourcing — even in the China context.

II) Cataloguing Cases & Failed Defenses.

With a detailed sense of where unique product value is situated, it is also important to better understand where and how counterfeiters have successfully stolen value from other brands, products and processes.

Granted, there is an increasing sophistication among counterfeiters with regard to engineered products. And no two cases are exactly alike. But a more detailed understanding of how, for example, counterfeiters reverse-engineered the Japanese motorcycle industry is an important lesson for any branded manufacturer in the China market. What defenses were erected in these cases? How frequently were these defenses re-analyzed and supplemented?

How and why Japanese motorcycle manufacturers failed to defend their IP is an important case study for all manufacturers.

III) Risk-Impact Analysis: Laws of unintended consequences.

What volume of sales is lost to counterfeiters because customers cannot distinguish the fake from the real thing? Such analyses are necessary and valuable, yet relatively straightforward compared to the complex scenarios that can arise from counterfeit activity.

For example: What is the likelihood that a lesser quality counterfeit car lamp exported to the U.S. will trigger liability when accident-related injuries and damages are attributed to its malfunction? What is the expected amount of monetary damages if this liability is adjudicated?

Sales lost can be minor compared to longer-lasting impacts

Risk-Impact analysis is analogous to the actuarial calculations an insurance company undertakes to determine the risk premium of a new contract. Particularly in the China context, the result of such a calculation can be revealing and surprising. In many cases, for example, losses from non-realized sales may be relatively minor compared to wider, longer-lasting impacts stemming from liability or brand equity dilution.

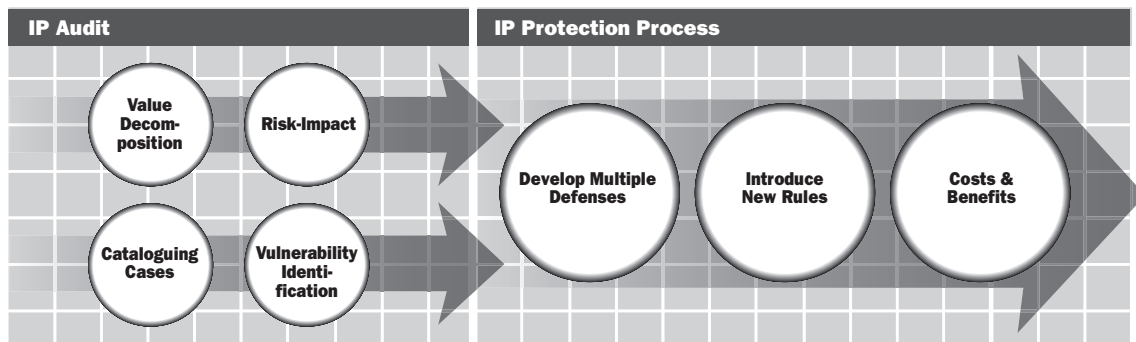
IV) Vulnerability Identification: Put yourself in counterfeit shoes.

How would a potential counterfeiter easily and profitably strike your business? Where would he get the necessary technological knowledge? How would he organize production and distribution? What kind of legal action would he most (and least) fear? Where are his biggest risks and rewards?

To determine the most vulnerable points in the defense line, we adopt the perspective of the potential counterfeiter, building a business model from that perspective before we negate it. *Know thy enemy* is an axiom that has been around since the dawn of military warfare. In the IP Audit, we would rephrase the saying as *know thyself from the enemy's viewpoint*.

Adopt the counterfeiter's perspective, build a business model, then negate it

The IP Audit & Protection Process



Designing a Strategic IP Protection Process

Combining the results of these four modules will give MNCs a precise sense of their core intellectual property that should be protected at all costs. The second aspect of defining a strategic defense process consists of three components: first, developing multiple defense ideas for the core IP assets; second, introducing new rules onto the IP playing field; and, third, calculating costs and benefits.

Multiple Lines of Defense. In business, as in Weiqi, one can never protect everything at all costs. Therefore MNCs in China must focus on their most valuable IP assets, building double or triple defense lines even while ignoring vulnerabilities elsewhere. Why protect internal watch mechanics, for example, if it's the brand, design and certificate that the full-price customer pays for? In fact, some global watchmakers are already giving away their internal mechanical designs to the market.

Likewise, for a global manufacturer of bicycles, the greatest China value chain bulge may lie in the efficient distribution of the product worldwide, rather than production itself. Distribution is one of the more difficult capabilities to create in China, not one easily replicated by counterfeiters on a nationwide let alone global basis. As a result, erecting a defensive wall of stones at the point of distribution, rather than production, could prove a winning gambit.

New Rules of the Game. Once core IP assets are defined, MNCs need to develop multiple mechanisms to make it more difficult, costly, risky and less attractive for counterfeiters to try their luck. While not all mechanisms need to be deployed at once, the preparatory knowledge must be in place to change tactics in the IP game, just as when cornered in the game of Weiqi.

Redefining rules for the China version of the game helps determine which mechanisms will be most successful. For example, the deliberate introduction of processes requiring a huge amount of fixed investment may work better in a China context than elsewhere. At a certain size of investment, scale becomes an issue which may only be solved through exports. Yet exports of finished products can be problematic for counterfeit producers.

A Weiqi stratagem on the art of defense: let the plum tree die to save the peach

Defenses in distribution, rather than production, could be a winning gambit

Calculating costs and benefits. Having developed a variety of potential countermeasures, it is then essential to determine the cost-benefit calculus for each of them. Yet, in many cases, implementation of effective IP protection in China is self-financing.

That is, within the IP game, an ounce of prevention can be worth many pounds of cure. This again suggests the importance of a centralized, top-down viewpoint on IP protection and associated budgeting. No single department may fully calculate the company-wide benefits of a multi-faceted long-term approach; top management can and should make such calculations.

More than 80% of MNCs expect long-term IP improvement

Total Victory in the IP Game?

In many types of competitions there is the one brilliant move or countermove that captures or stymies the opponent and wins the game. In sports, there is the final tie-breaking goal or run or touchdown; in legal trials, there is the smoking gun of evidence upon which the prosecution is based.

In Weiqi, however, many more games end in attrition or stalemate than in a final decisive move. So it is in business, too. Commercial competition may change focus or direction or players, yet it never truly reaches a conclusive endpoint.

For those seeking that brilliant countermove, that definitive checkmate in the IP game, let us be perfectly candid: there is *no* such move, and there will never be such a move. The China IP game, alas, is here to stay.

While total victory is unattainable, there is still hope for progress. Few of our respondents are optimistic regarding dramatic near-term improvements, but more than 80% expect the protection of IP in China to improve in the medium to long term.

Perhaps the most promising drivers for further improvement of legal enforcement of IP will be top tier Chinese companies themselves. With the increased sophistication of their own products, these influential companies will have a vested interest to defend their IP, in part by lobbying for heightened enforcement capabilities.

Meantime, however, both MNC and branded Chinese companies alike would be well advised not to place their complete faith in any single remedy, legal or otherwise. Companies that invest in more sophisticated, ongoing protections stand to gain substantially through *avoiding* highly injurious losses.

The occasional game of Weiqi will help as well. One Mongol Emperor described the military benefits of Weiqi tutelage this way:

The methods of organization and preparation all recall the logic followed in preparing military orders according to divisions, brigades, battalions and companies. After having studied all these things and absorbed their contents, one's attention will remain vigilant even in times of peace.⁸

**Top tier Chinese companies
will help lobby for heightened
legal enforcement**

⁸ As quoted in *Go! More than A Game*, by Peter Shotwell, page 138.