

Software Piracy in Developing Nations

A Mounting Problem and Proposed Solutions

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History of Software Piracy in Developing Nations

The exploitation of one man's wealth by another has been a common thread throughout history. One of the first waves of exploitation came about when Europe set out to colonize Asia, Africa, and the New World. In setting up their colonies abroad, Europeans were able to exploit the labor and natural resources of the land they occupied. In more recent years, however, a reverse form of piracy has begun to occur. Now countries such as China and India that were once victims of colonialism are reaching into the heart of the American and European economies and stealing their most precious assets— intellectual property.

The violation of intellectual property abroad came to the forefront of world politics towards the end of the 1980s. The advent of the technological revolution and the ability easily steal both software and media content created a wave of piracy that had not been witnessed throughout the previous decades of innovation. In addition, it was during these years that the idea of a “global economy” began to evolve and it became clear to the United States that protection of its IP wealth would be necessary to maintain competitiveness abroad. During the Cold War, which did not truly end until the breakup of the Soviet Union in 1991, the protection of US intellectual property through economic diplomacy was hampered by the need to create and maintain military alliances. Once this was no longer a concern, “trade consequently moved up the ladder of U.S. national priorities.”¹ The US defined a new set of strategies to combat piracy at all levels in an attempt to eliminate the “unfair trade” practices of its partners.

¹ Callan, Benedicte. 1998. *Pirates on the High Seas*. Council on Foreign Relations, Inc..

Within Latin America, the US had reasonable success in ensuring the protection of its intellectual property. During the 1980s many developing countries were faced with economic crisis due to turmoil within the banking and oil industries. These developing nations turned to the US to spark growth through investments into their economies. With these capital and technological investments however, the US demanded reforms to local nation's IP laws and regulations. In 1988 the US put into practice the Trade and Competitiveness Act, which put forth the policy that nations that violated IP standards could be subject to economic sanctions. Within Latin America, which was heavily reliant on US trade, such demands by the US for reform were mostly successful.

Another major policy implementation came around with the Trade-Related Intellectual Property Rights Agreements (TRIPs) which put forth IP regulations for all member countries of the World Trade Organization (WTO). When this major policy implementation occurred in 1986, many developing countries opposed the increased regulations over the previous regulations of the World Intellectual Property Organization. Eventually however, these countries came to endorse the agreement as preferable to the alternative of the "aggressive unilateralism of American IP diplomacy."²

Although the TRIPs agreement has been met with much success, the problems of IP piracy continue to abound. Moving out of the 1980s and into the 1990s and the new millennium, new reforms have been necessary to combat piracy. The country that has been a chief historical violator of IP law and continues to pose the most problems is China. China, which did not become a member of the WTO until 2001, has been less

² Callan, Benedicte. 1998. *Pirates on the High Seas*. Council on Foreign Relations, Inc..

reticent to both adopt and more importantly enforce IP regulations set forth by TRIPs and the unilateral actions of the US. Due to China's absence from the WTO and in fact the reliance of other countries on its inexpensive labor and production facilities, the demands made by the US for reform have had much less effective than in other regions such as South America. An example of how rampant China's piracy has been in regards to the software industry was illustrated with the launch of Windows 95. According to Benedicte Callan, "[pirated] copies of... Windows 95 were on the streets of... Beijing before they hit the streets of New York."³ India is also a mounting threat, with its up and coming technological education system. On the other hand, the US has been less concerned with the policies of less developed countries within Africa and elsewhere because of their low impact in the global marketplace. These countries lack the infrastructure to absorb and pirate the software that the US produces.

Innovation in technology has spurred greater volumes of piracy within China and other countries. The ability of digital technology to be easily distributed at a low cost is also its achilles heal. In regards to the launch of Windows 95, underground factories in China could easily replicate thousands of CDs containing the intellectual property of Microsoft. In addition, not only do Chinese factories steal and replicate software within their own country, they distribute the pirated CDs to neighboring countries, disrupting the ability of the US to compete in those regions as well. In recent years, the expansion of peer-to-peer (P2P) technology and other advanced file sharing systems have made the process of software theft even easier. "At a basic level, P2P systems create an environment in which the content of one computer on the network is, in effect, content accessible to all

³ Callan, Benedicte. 1998. *Pirates on the High Seas*. Council on Foreign Relations, Inc..

computers on the network.”⁴ In doing so, users can now share digital property within one another at a rate that was once unimaginable.

Although the issue of intellectual property violation around P2P networks has been made the most visible by networks such as Napster that share primarily music content, the effect of this new method of piracy has had large scale implications for the software industry as well. In 1993 the United States Trade Representative (USTR) reported that “U.S. entrepreneurs lose up to \$60 billion annually from infringement of their intellectual property, and some estimates of American losses to piracy run as high as \$200 billion annually.”⁵ Current studies have estimated that the losses due to piracy are even more staggering, most likely brought on by the increasing ease to share and distribute pirated products. The most recent study conducted by the International Data Corporation (IDC) on behalf of the Business Software Alliance states that, “If the rate of global software piracy could be cut only 10 percent over the next four years, taking it from 35 percent of total software sales to 25 percent, \$400 billion in economic growth and \$67 billion in tax revenues would be generated worldwide.”⁶ Specifically within China it is has been found by the IDC that for every legitimate software product used, there are nine bootlegged software packages.⁷

Within China specifically it was estimated by a 2004 study of the IDC that Chinese piracy accounted for a loss of sales of \$3.82 billion for the software industry.⁷ However,

⁴ Matsuura, Jeffrey H. 2003. *Managing Intellectual Assets in the Digital Age*. Artech House.

⁵ Callan, Benedicte. 1998. *Pirates on the High Seas*. Council on Foreign Relations, Inc..

⁶ <<http://www.line56.com/articles/default.asp?ArticleID=7167>>

⁷ Business Software Alliance, “First Annual BSA and IDC Global Software Piracy Study” (Washington, DC, July 2004), 3, <http://www.bsa.org/globalstudy>

in addition to these direct losses created by piracy within China, the indirect cost of competitive advantage for Chinese firms is not taken into account. The ability of Chinese firms to adopt the latest and greatest cutting edge technology and not incur a cost to their business gives them a significant competitive advantage over other firms in countries where IP regulations are more strictly enforced. Ted Fishman, an expert in this area, writes in his book *China INC*, “piracy helps create and strengthen Chinese competitors who may never have shown up in the first place unless they had great business tools to steal.”⁸ This is perhaps where the most significant cost to US industry will come from in the upcoming years.

In addition to the obvious cost advantage gained by implementing pirated software packages, Andrew Mertha, a political scientist at Washington University in St. Louis, claims that the social culture and importance of social networks within China encourages piracy. A misunderstanding of the moral ramifications of the practice make it seem more like a smart business move than an act of petty theft. For example, Martha states, “If you have two people who are charged with buying software for a business, one of whom decides he is going to play by the legal rules and pay hundreds of dollars for a copy of Window or Office, and another one who goes out and buys essentially the same thing for a couple of bucks, the first guy is going to be seen by the others in his network as a schmuck, and the second guy will gain credit for making the right decision. No one is going to trust the first guy to be smart about anything after that.”⁸ This not only provides a clear indication of the social mindset within China, it also demonstrates how lax the

⁸ Fishman, Ted C. 2005. *China INC*. Scribner.

regulations for piracy are. Currently there is no enforced economic consequence within China for the stealing of software and thus any logical person will choose the cheapest cost alternative.

Current Trends in International Intellectual Property Law: What Governments and Companies are Doing Today to Prevent Software Piracy

China and India are both considered leaders in the percent of pirated software in use (China at 92% and India at 73%)⁹, and they are both considered as serious threats to the industry because of their sheer sizes. As both nations continue to ramp up their educational systems and the number of software programmers continues to increase, this threat will only increase. Both countries have had existing intellectual property laws for several decades, but neither seems capable or willing to enforce them. India had shown some incompetence in a quick enforcement of intellectual property rights (IPR) while China had not been obligated to because it had not been a member of the World Trade Organization (WTO) until 2001. In this section, we will examine the IPR laws in both countries in order to understand their effect on the current situation, and how this situation reflects a very high piracy rate. In addition, we will examine the current measures used to both monitor the progress of IPR laws and discourage piracy in China and India.

In theory, intellectual property rights have been acknowledged and protected in China since 1979. China has acceded to the major international conventions on protection of

⁹ http://www.nationmaster.com/graph-T/cr_i_sof_pir_rat

IPRs. Domestically, protection of intellectual property law has also been established by government legislation, administrative regulations, and decrees in the areas of trademark, copyright and patent. This has led to the creation of a comprehensive legal framework to protect both local and foreign intellectual property. Nevertheless, violation of intellectual property is still common, due to weak law enforcement. Mainland China's record is still poor and has attracted criticism from foreign investors and their governments, especially the United States.¹⁰

China has patterned its IPR laws on international treaties: the Berne Convention and the World Trade Organization's 1995 Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement. The Berne Convention for the Protection of Literary and Artistic Works (Berne Convention) requires signatories to provide protection, under law, for works of foreign nationals that is at least equal to the standard guaranteed to national citizens. In signing the Berne Convention in 1992, China pledged to develop more stringent intellectual property protections and to assure foreign intellectual property rights holders' equal treatment under those laws.

In January 1992, China and the US signed a Memorandum of Understanding (MOU) on key intellectual property matters. Both countries understood that the IPR issue would be revisited and that it was still concern to the United States. The US reserved the right to impose trade sanctions if it deemed that China, or any other country, was not adequately protecting or deliberately failing to protect IPR. In 1995, facing the prospect of more court decisions that were solid in judgment but lacking adequate penalties, US Trade

¹⁰ http://en.wikipedia.org/wiki/Intellectual_property_in_the_People%27s_Republic_of_China

Representative threatened 100% tariffs on US\$1.08 billion of Chinese exports to the US. The penalties were in retaliation for the US\$1.1 billion in sales that U.S. companies claim to lose to Chinese piracy annually. In response, the Chinese government in 1994 enacted stronger IPR enforcement laws and raided pirating factories as a display of its intentions to improve intellectual property rights in China.¹¹

The Chinese government has made some progress in acknowledging and accepting the fact that software piracy is a big problem. The Chinese government is the single largest purchaser of IT goods and services and its decision to start purchasing legal software is an excellent gesture towards discouraging software piracy. In an even greater show of faith, the city governments of Shanghai, Beijing, Guangzhou, and Zhejiang decided to legalize software within government agencies.¹²

India, on the other hand, has had adequate IPR protection laws according to WTO. Furthermore, India has been an active participant in international IPR treaties and considers itself a responsible member of WTO. The 1970 Indian Patents Act has undergone several amendments to allow it to address concerns with IPR and meet international requirements. The most recent changes were passed by the Indian parliament for a 2005 The Patents (Amendment) Ordinance. The key addition to this amendment is the extension of invention protection to include the creation itself rather than only the method/process of creation. This will allow existing software (the creation) to be protected and to give rights to the creating entity. All this however, is only on paper.

¹¹ <http://www.fas.harvard.edu/~asiactr/haq/199903/9903a010.htm>

¹² USITO Comments on China's Compliance with WTO Accession Commitments

According to the US Trade Representative (USTR) report, India needs many improvements, such as, national treatment for the use of trademarks owned by foreign proprietors, statutory protection of service marks, and clarification of the conditions that justify the cancellation of a mark due to non-use. India's criminal IPR enforcement regime remains weak in multiple areas, including border protection against counterfeit and pirated goods, police action against pirates, following up raids by obtaining convictions for copyright and trademark infringement, courts reaching dispositions and imposing deterrent sentences, and delays in court dispositions.¹³

In an attempt to curb piracy, the US software companies have changed the aggressive approach of hard handed litigation to trying to show that piracy affects both Chinese and Indian companies as well as the countries' economies. A recent independent study conducted by International Data Corporation (IDC) and sponsored by the Business Software Alliance (BSA) elaborates the potential gains from a small improvement in enforcement of anti-piracy laws. For China, the study shows that only a 10 percent drop in piracy rate to 80% would have a big effect on the overall Chinese economy. The benefits include the creation of 1.8 million more IT jobs, and an increase in local industry revenues by more than \$67 billion, which would generate an additional \$6.5 billion in tax revenue to help China's government pay for necessary public benefits and services.¹⁴ Similarly, the IDC study shows that India's benefits could include creation of 115,000 new IT jobs and pump \$5.9 billion into its economy, an increase of local industry revenues by more than \$5 billion and generation of \$386 million in additional tax

¹³ http://www.ustr.gov/assets/Document_Library/Reports_Publications/2005/2005_Special_301/asset_upload_file519_7649.pdf

¹⁴ <http://www.bsa.org/idcstudy/pdfs/China.pdf>

revenues.¹⁵ India's economy greatly benefits from the information technology and the software industry already and stands the best chance to gain more from stricter anti-piracy laws. Small companies could gain new clients from outsourcing export to foreign companies. In turn, the Indian government would gain more revenues from taxes to finance its social and economic plans.

Another approach in eradicating software piracy is the real threat of sanction from the US government to any country that lax proper enforcement of IPR. The USTR issues an annual review of adequacy and effectiveness of IPR protection in 90 countries. In its 2005 report, both India and China are designated as "priority watch list" countries. This list contains countries that have shown weaknesses in protection and enforcement of IPR. One of the consequences of failing to remedy these problems could result in economic sanctions from the US. Currently, Ukraine is the only country under US sanctions for inadequate IPR protection; Ukraine is the top country in pirated software at over 92%.¹⁶

Implications of the Current Situation and Recommendations for the Future

It goes without saying that the current intellectual property situation in developing nations is inadequate. With 92% of all software in China pirated, how can one possibly assert that the labor and genius of inventors is being protected? Still, the laws exist in many ways as they should on paper, and the problem lies in enforcement. With seemingly larger issues of violence, racism, poverty, and hunger facing these nations however, how

¹⁵ <http://www.bsa.org/idcstudy/pdfs/India.pdf>

¹⁶ http://www.ustr.gov/assets/Document_Library/Reports_Publications/2005/2005_Special_301/asset_upload_file519_7649.pdf

can intellectual property reform hope to make it on the agenda? Even if willing, the governments of most developing nations simply lack the resources to guarantee sufficient IPRs.

Furthermore, it is difficult to create a public sentiment that wishes to protect intellectual property rights. A Slate Magazine article written by Henry Blogdet notes that most buyers are “sick of feeling gouged [and] nothing less than thrilled to help rip companies off.”¹⁷ Most consumers only see large American corporations as profit hungry machines, and fail to understand the impact of software piracy. This, Blogdet goes on to argue, is largely because Chinese citizens and governments do not have much intellectual property to protect, and thus have no incentive to see the other side. “The U.S. didn't get really tough on intellectual-property rights, people note, until we had intellectual property to lose, and the common wisdom is that the same will hold true for China.” As much as 90 percent of the software in China is pirated and there isn't much reason for this to change, concludes Blogdet, because “the government and people have so much to gain from the status quo.”

The issues in China and India simply foreshadows a trend that will occur in other nations as they continue to develop. At its heart, software piracy stems from the personal and commercial demand for the world's best tools, and is allowed because there is no means to enforce intellectual property rights for such an easily replicable medium. As access to technology becomes more wide spread among the Asian and African content, so will the rate at which software is pirated. This raises a serious concern for the software industry,

¹⁷ <http://www.line56.com/articles/default.asp?ArticleID=7167>

because while other sectors of the economy move to a global scale it will increasingly lag behind. It is pertinent that novel action is taken to prevent piracy, before it hits this global scale on a more economically significant level.

The IDC makes the following list of recommendations to countries that wish to further protect intellectual property rights¹⁸: Update national copyright laws to implement World Intellectual Property Organization (WIPO) obligations; create strong enforcement mechanisms, as required by the World Trade Organization, including tough anti-piracy laws; dedicate real government resources to the problem, including national IP enforcement units, cross-border cooperation, and more training for local officers; improve public education and awareness. Again however, while these recommendations make sense in theory, the reality of the situation makes them unrealistic and naïve. Each one of these suggestions requires funds that are simply unavailable, and can not be readily gathered by an apathetic public.

Thus, whether or not it's fair, the situation places the responsibility on the US government and US companies to protect their own intellectual property. The government needs to create an economic incentive for developing nations to enforce property rights. While economic sanctioning will most likely only contribute to the problem (again, because countries already lack funds to regulate intellectual property despite laws), restructuring the trade balance to make intellectual property a more pertinent issue is a definite option. Governments of developing countries could receive

¹⁸ <http://www.line56.com/articles/default.asp?ArticleID=7167>

reductions in taxes associated with other aspects of the trade economy for proving their interest and success in enforcing intellectual property laws.

American companies need to contribute as well. First, just as new technology has helped to spread software piracy, it can also be used to prevent it. While much advancement in software security has been made in the academic sphere, many corporations are slow to adopt it. Using new technologies such as public key encryption and Web 2.0, it is possible to make security locks passive vs. active devices without violating the privacy of the user. This means that software functionality can be disabled unless the user proves their right to use it periodically, through a system that does not involve irritating the user perpetually or sending unique identifying information. Companies can also help change the attitudes of a disinterested public by using good practices to take away piracy justifications. In *China INC.*, Ted Fisherman notes that “people who practice piracy justify it because Microsoft has stolen so many other ideas in the past.... People in China listened to the court proceedings against Microsoft in stealing Netscape... and likened it to the actions taken by pirates in their country.”¹⁹ By maintaining good practices and using the increasing foothold in developing nations through outsourcing to promote these efforts, American corporations can slowly work to win over the masses.

Finally, many victories for the intellectual property battle can be won by promoting the open source movement. In the United States, commercial software is preferred to open source software because the long-term support and maintenance costs of using open source software are higher. There are no outside consultants that support open source

¹⁹ Fishman, Ted C. 2005. *China INC.* Scribner.

software, and using it requires corporations to staff extremely knowledgeable IT personnel in house. In developing nations however, labor is much cheaper. Thus it is in many cases more frugal to use open source software than packaged software, making it a very viable option. Thus, much of the software intellectual property issue could be resolved by promoting the benefits of open source software more, and ensuring the public is educated as to its advantages.

Whatever steps are to be taken must be taken fast. Fisherman predicts that “as China grows into a great power, the wealth transferred into the country by stealing intellectual property will propel it forward.”²⁰ This trend will also spread to other nations, and the culmination of this effect will be the breakdown of the commercial software industry as we know it. Furthermore, there is an added advantage of attacking the problem in African nations now rather than later simply because it is always easier to solve a problem before it gets too large to handle (such as in China and India). While finance experts are busily assessing profits based on population and industry growth, the important part that intellectual property will play is being continually undervalued. Implementing enduring intellectual property laws will take time and patients, and will be a prerequisite for any large scale economic gains in these foreign markets. Because the United States and other developing nations have the most at stake, this burden must fall largely on them. While we would like to believe that each nation is responsible for the actions of its own people and that other nations never have a part to play, we must remember to look at history in the big picture. We have been interwoven in the histories of developing nations in the

²⁰ Fishman, Ted C. 2005. *China INC*. Scribner.

past, and “in countries that still bitterly remember the humiliation of colonization, turning the tables by pilfering the property of foreigners will not cause much remorse.”²¹

²¹ Fishman, Ted C. 2005. *China INC*. Scribner.