SOFTWARE COPYRIGHT AND PIRACY IN CHINA

A Dissertation

by

JIA LU

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2009

Major Subject: Communication

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Approved by:

Chair of Committee,	Antonio C. La Pastina
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	Sarah Gatson
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ABSTRACT

Software Copyright and Piracy in China. (August 2009)

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Chair of Advisory Committee: Dr. Antonio C. La Pastina

This study is to explore how Chinese software users perceive the issues of software copyright and piracy. Tianya Community, the largest online public forum in China, was selected as a site to study users' online communication about software copyright and piracy. Data were collected over five discussion boards in which software copyright and piracy were discussed extensively to retrieve 561 posting threads with 6,150 messages ranging from March 1, 1999 to June 30, 2007. Lindlof and Taylor's (2002) qualitative communication research methods were used to locate and analyze the recurring dominant themes within the online discussion by Chinese Internet users.

The study revealed two opposing discourses existing in software users' perceptions, which represent globalization and anti-globalization processes surrounding software copyright and piracy. Mittleman and Chin's (2005) theoretical framework was adopted to interpret material and spiritual tensions between human/material factors, such as software owners, software users, China, and foreign developed countries. Meanwhile, the actor-network theory was applied to map out the roles of non-human/non-material factors, such as new technology, patriotism, and Chinese culture, which function to

moderate the existing confrontations between globalization and anti-globalization by preventing software users from totally falling down into either direction of supporting or opposing software piracy.

As a result, both forces of conformity and resistance were found to coexist within software users' perceptions and fragment their identities. To deal with fragmented identities, Chinese software users generally adopted a flexible, discriminative position composed by a series of distinctions, between offline purchasing of pirated discs and software download, between enterprise users and individual users, between foreign and local software companies, between freeware/open-source software and copyright/pirated software, between software companies and independent software developers, and between conceptual recognition and behavioral practice. Meanwhile, traditional resistance movements of Polanyi's (1957) counter-movements and Gramsci's (1971) counter-hegemony were reduced from collective contestations with openly declared call for resistance to Scott's (1990) notion of infra-politics that was communicated among software users and expressed in their everyday practice of piracy use but not in public and government discourse.

DEDICATION

This dissertation is dedicated to my grandparents, my parents, my wife, and my beloved home country.

ACKNOWLEDGEMENTS

Here I desire to mention several people who have played important roles in my life in the past four years. The first is Dr. Ian Weber. It is Ian who brought me to College Station and taught me how to do research and write papers. It is Ian who helped me get papers published. Without Ian, my life would have been totally different.

The second is Dr. Antonio La Pastina. It is Antonio who helped me out of a serious predicament. It is Antonio who helped me finish this dissertation and helped me with my job search. Without Antonio, I could not imagine how and when to get my Ph.D. degree.

The third is Ying Chang, my wife. It is Ying who helped me through those difficult days, tolerated my bad temper, and cheered me up. Ying is the only one in this world, who is willing to sacrifice everything for me. Although I might not often mention her, I never ever forget her.

In addition, I would like to thank Dr. Patrick Burkart and Dr. Sarah Gatson for their guidance and support through the course of this research.

For the people above, I give you all my best wishes!

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CHAPTER I

INTRODUCTION

> But despite that universal popularity, the American creators and copyright owners and performers realize virtually no revenue from the sales of their property and their creativity. They are literally robbed everyday almost everywhere and seemingly most of the governments in their foreign territories condone the thefts and really just don't give a damn.
> ------Stanley M. Gortikov, President of the Recording Industry Association of America (International piracy involving intellectual property, 1986a, p. 54)

> I think as we have all learned the hard way, they [Chinese government] regard rhetoric as cheap and, frankly, not at all persuasive. I think they will be persuaded only by a clear determination to see reform or else to bring about retaliation in order to compel it. That is not the way we like to do business. It is unfortunately apparently the only way that we're going to secure their attention and cooperation [in copyright protection].
> -------Senator Pete Wilson (International piracy involving intellectual property, 1986b, p. 50)

> The Chinese government has always been firm in protecting intellectual property rights and attained significant achievements in this respect.....IPR protection is a natural option for building an innovative country. It also serves China's goal for overall development. Therefore, the Chinese government will continue its efforts to protect IPR and combat copyright piracy.
> ---------Lipu Tian, Director of the State Intellectual Property Office of China (US urged to withdraw WTO copyright complaint, 2007, para. 2)

> To steal a book is an elegant offense.
> -----Kong Yiji[1] (Alford, 1995, p. 1)

> He that shares is to be rewarded; he that does not, condemned.
> ------A famous Chinese proverb

For more than a decade, the voices above, like ghosts, always whisper around the ears of Chinese software users. For more than a decade, Chinese software users always ask of themselves, "To pirate, or not to pirate, that is the question." Indeed, it is a question

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This dissertation follows the style of *Journal of Communication*.

not only for software users but also for anyone who is interested in the issues of software copyright and piracy. To answer this question, it is important to understand how individual software users in China perceive the issues relating to software copyright and piracy, because software users' perceptions direct their decision-making in piracy use and give meanings to their piracy behavior (Liang & Yan, 2005).

Hence, this study will examine how Chinese software users perceive the issues of software copyright and piracy. The study of Chinese software users' perceptions will provide significant insights for key stakeholders in software copyright and piracy. For software copyright regimes and civil organizations, the study will help them design and launch effective anti-piracy programs to lower the piracy rate. For software copyright owners, the study will help them adjust their actions to expand market shares of their copyright products. For the Chinese government, the study will help it develop appropriate policies in the software industry to advance the country's economic and social development. Finally, for foreign governments, the study will help them modify their positions in international copyright disputes to facilitate communication with the Chinese government and individual software users in China.

Meanwhile, this study will add the perspective of software end-users to international communication and new media studies. The studies in international communication have recorded many voices about software copyright and piracy. They are from foreign developed countries, developing countries, software multinationals and international copyright organizations. End-users’ voice, however, is rarely heard. This study, therefore, will bring end-users’ voice in parallel with the others and examine the interactions among them. For new media studies, this study adopts a

context-specific approach to study Chinese software users. It is different from most of piracy studies that try to develop a context-free model with a focus on users' personal predictors (e.g., age, gender, income, and computer experience). In this study, however, software users' perceptions will be examined against a broad socio-economic background in today's China. Thus, this study will link the studies on the micro level and on the macro level, and draw a comprehensive picture about software copyright and piracy in China.

To study Chinese software users' perceptions, the study places emphasis on users' communication processes, in which they talk, discuss, debate, and negotiate over the issues of software copyright and piracy so as to formulate their perceptions. According to Conrad and Haynes (2001), human communication embodies two intertwined major processes: structure and action. The structure approach intends to examine how social systems (e.g., technology, economy, politics, and culture) affect the communication process, while the action approach aims to investigate how human beings' creative actions (e.g., communication) produce the systems and structures. Eisenberg and Riley (2001) suggested that of all human activities, human communication clearly reflects structure's constraining forces and action's enabling forces.

From the structure-action perspective, Chinese software users' communication process about the issues of software copyright and piracy is, on one hand, influenced and constrained by structural factors at the macro level. On the other hand, the same process enables individual users to adjust, modify, and re-create the existing structure at the micro level. The structure-action perspective frames two major tasks of this

study: to examine how structural factors at the macro level influence Chinese users' perceptions about software copyright and piracy, and to examine how Chinese users at the micro level address the impacts of structural factors and develop their perceptions in the communication process. These two tasks direct the study to uncover a complicated dynamic communication process in which software users' perceptions are produced, and present a complete picture of Chinese users' various perceptions about the issues of software copyright and piracy.

Software piracy in China

China's entry into the global networked society has raised considerable debate over what benefits are derived from the development and expansion of information and communication technologies (ICTs) locally and globally. From a global perspective, such connectivity has created the capacity for China to communicate and share information through new developments in ICTs, particularly those related to the Internet. However, such developments raise two sets of hotly debated issues critical to the credibility and stability of China's membership to the global networked society: access and civil liberties. Nicol (2003) suggested that access deals with making it possible for everyone to use the Internet and other media while civil liberties include human rights such as freedom of expression, the right to privacy, the right to communicate, and intellectual property rights.

Without diminishing the importance of human rights issues, the major concern of the international business community has been China's failure to deal adequately with intellectual property violations. Since the mid-1990s, western countries, led by the United States, have criticized China's continued infringement of intellectual property

rights. Even under the World Trade Organization (WTO) Agreement, which provides more transparency through laws, regulations, administrative rules and judicial decisions on intellectual property protection (Panitchpakdi & Clifford, 2002), China has failed to meet the standards set by international laws on intellectual property. Consequently, China was listed in 2005 as a priority country under the "Special 301" provision of the United States Trade Act of 1974. This provision identifies foreign countries that deny adequate and effective protection of intellectual property or fair and equitable market access for United States' businesses or individuals that rely on intellectual property protection.

A number of reports and studies support the criticism of China's efforts to address intellectual property concerns, particularly software copyright. Business Software Alliance (BSA) (2004) indicated that the software piracy rate in China was 90% in 2004, ranking third globally after Vietnam (92%) and the Ukraine (91%). International Intellectual Property Alliance (IIPA) (2006) estimated that the accumulated trade loss due to copyright piracy in China between 2001 and 2005 amounts to US$11,582 million (see table 1).

Table 1: *American Companies' Loss Due to Copyright Piracy in China*

Estimated Trade Losses Due to Copyright Piracy and Levels of Piracy: 2001-05 (Million US dollars)										
INDUSTRY	2005		2004		2003		2002		2001	
	Loss	Level	Loss	Level	Loss	Level	Loss	Level	Loss	Level
Motion Picture	244.0	93%	280.0	95%	178.0	95%	168.0	91%	160.0	88%
Records/Music	204.0	85%	202.9	85%	286.0	90%	48.0	90%	47.0	90%
Bus. Software	1276.1	88%	1488.0	90%	1787.0	92%	1637.3	92%	1140.2	92%
Ent. Software	589.9	92%	510.0	90%	568.2	96%	NA	96%	455.0	92%
Books	52.0	NA	50.0	NA	40.0	NA	40.0	NA	130.0	NA
TOTALS	2366.0		2530.2		2859.2		1893.3		1932.5	

Note. From *the 2006 Special 301 Report: People's Republic of China*, International Intellectual Property Alliance (IIPA, 2006, p. 112).

The table indicated that China's piracy situation has not been effectively controlled

after its entry into the WTO at the end of 2001. The annual loss reached the highest in 2003 with US$2,859 million. The piracy loss continues to hover around this level in 2004 and 2005 with respective annual losses of US$ 2,530 million and US$2,366 million. Meanwhile, no significant changes were found in terms of piracy levels across all the involved industries. For example, the piracy level for the motion picture industry remains in excess of 90% during 2002 to 2005, ranging from 91% to 95%. At the same time, the piracy level for business software ranges only between 88% and 92%.

Theoretical approaches

The notorious piracy situation in China draws many scholars' attention and they study the issues of software piracy from different perspectives. The early studies tend to follow the storyline constructed by the American copyright industry, in which China is described as the villain and aggressor in violating software copyright, which must be fought in order for upstanding and innocent Americans to practice business. However, Halbert (1997) rejected this position and points out that a clear-cut black and white story is too simplistic to discover the series of underlying forces that are working, competing, and negotiating under the topic of software copyright and piracy.

Mum (2003) further suggested that issues of copyright and piracy in China can be studied with four dimensions in mind: economy, politics, technology, and culture. The economic dimension consists of the widespread availability of counterfeit products, easy accessibility to vendors of pirated products, and a lack of a localized copyright industry. The political dimension focuses on the difficulties in enforcing intellectual property laws that result from a vast territory and large population, a decentralized

government system, and a lack of transparency in the enforcement system. The technological dimension relates to the advance of new ICTs enabling easy and cheap copying and dissemination of pirated products. The cultural dimension is mainly concerned with the Confucianism that is inscribed into the entire Chinese culture and shapes Chinese users' perceptions in favor of software piracy.

Mum's (2003) framework was important in lifting software piracy out of a solely economic lens and introducing multiple factors to study the issues of software copyright and piracy in China. Wang (2003) examined the existing studies about film piracy in China, and finds that they, though focusing on different factors, more or less adopt the same approach of political-economy that is useful to uncover a series of tensions involved in global software copyright enforcement, for example, the tensions between developed and developing countries, between software companies and users, between transnational capital and social interests of local countries, and between western civilization embedded with the concept of software copyright and Confucianism that is prevalent in Chinese culture and history.

However, Wang (2003) pointed out that from the approach of political economy, issues of copyright and piracy can only be understood in, and be reduced to, the context of a totalizing capitalistic inscription. This approach is useful in explaining the underlying structure of the global economy but fails to acknowledge the cultural, national, and regional dynamics as a result of ongoing interaction between local specificities and globalization. Wang's (2003) criticism had important implications for this study. First, the approach of political economy is likely to place biased emphasis on users' confrontation that reflects conflicting interests of diverse stakeholders at the

macro level, and, at the same time, overlook users' agency at the micro level to address these competitive forces and demands. Second, the approach of political economy is likely to explain the roles of social norms, culture, history, and ideology in software copyright and piracy through a lens of material interests, and, at the same time, overlook independent, profound influences exerted by these spiritual[2] factors. Third, the approach of political economy is likely to place biased emphasis on human factors with material interests in software copyright and piracy, such as software companies, foreign developed countries, and the Chinese government, and, at the same time, overlook the role of non-human factors, such as technology. To some extent, technology, though being invented and manipulated by human beings, follows its own internal logic and has autonomous impacts on human society.

Instead, Wang (2003) advocated a network-and-process-oriented approach for the study of copyright and piracy in China to deal with a variety of universal/local, material/spiritual, and human/non-human factors. Wang and Zhu (2003) indicated that the network/process approach is based on actor network theory. According to Tatnall and Gilding (1999), "actor-network theory, or the sociology of translations, is concerned with studying the mechanics of power as this occurs through the construction and maintenance of networks made up of both human and non-human actors." (p. 959) Law (1991) pointed out that heterogeneous networks could be made up of people, organizations, agents, machines, and many other objects, and the task for actor network theory is to explore the ways that the networks of relations are composed, how they emerge and come into being, how they are constructed and maintained, how they compete with other networks, and how they are made more durable over time. So

Law (1991) defined the actor-network diagnosis of science as “a process of heterogeneous engineering in which bits and pieces from the social, the technical, the conceptual, and the textual are fitted together, and so converted (or translated) into a set of equally heterogeneous scientific products.” (p. 2)

Actor network theory has proved useful in studying the creation and diffusion of science and technology innovations. What distinguishes actor network theory from existing approaches in social studies of science and technology is its revolutionary move to break down the walls between such a series of conceptual dichotomies as nature versus society, human versus non-human, and technological-determinism versus social-shaping. Law (1991) suggested that because actor network theory integrates scientific realism, social constructivism, and discourse analysis in its central concept of hybrids, its theoretical richness derives from its refusal to reduce explanations to either natural, social, or discursive categories while recognizing the significance of each.

Applying actor network theory to their film piracy study in China, Wang and Zhu (2003) indicated that the network/process approach is useful for breaking through the boundaries between various studies in a number of disciplines. However, the inclusion of the findings from a wide range of disciplines is never a simple hodgepodge, but a well-organized/connected network. The strength of network/process-oriented research is to map out the complex operating mechanism with regard to "directions, movements, and forces that connect these nodes and points (e.g., where piracy networks are located and how they operate in relation to legitimate networks, how legitimate as well as illegitimate informational goods are transported and translated), as well as the ever-changing alignment and configuration of the web

itself (e.g., the complex and dynamic relations among state, transnational corporations, pirates, optic-disk production line makers and distributors, and consumers)." (Wang, 2003, p. 37)

The complex operating mechanism of the study of piracy can be explained by the model of translation, which refers to:

> A concern with how actors and organizations mobilize, juxtapose and hold together the bits and pieces out of which they are composed; how they are sometimes able to prevent those bits and pieces from following their own inclinations and making off; and how they manage, as a result, to conceal for a time the process of translation itself and so turn a network from a heterogeneous set of bits and pieces each with its own inclinations, into something that passes as a punctualised actor. (Law, 1991, p. 6)

Latour (1986) suggests that the translation process is determined by the different ways actors react to the innovation, who may modify it, deflect it, betray it, add to it, appropriate it, or let it drop. Law (1991) argued that different interests of actors can be translated into specific needs, and the specific needs are further translated into more general and unified needs so that these needs might be translated into one and the same solution. The success of this transformation process depends on the strategies adopted by one actor to identify other actors and arrange them in relation to each other (Callon, Courtial, & Turner, 1983).

Wang (2003) used the transformation function of the translation model to address the global-local dichotomy in the study of film piracy in China. Wang (2003) argued that it is more important to examine the specific links and connections that transport and translate between the local and the global than to exclusively focus on the global network and local setting as isolated phenomena. Thus, the study of film piracy is significant in adding the middle part and linkage to a dichotomized attention to the

macro/global/production and the micro/local/reception aspects (Wang and Zhu, 2003).

In Wang's (2003) study, the network/process approach integrates various factors in software copyright and piracy, including global/local, material/spiritual, and human/non-human, and examines their independent/interdependent impacts over Chinese users' perceptions. Meanwhile, the model of translation in this approach not only builds up the linkages between macro and micro levels, but also allows individual users' agency to address the complicated interactions, alignments, and negotiation of structural factors in their communication process.

In comparison, Wang's (2004) network/process approach is more powerful in its examination of Chinese software users' communication process about software copyright and piracy than the traditional approach of political economy. However, Wang's (2003) approach does not necessarily reject the traditional political economy but incorporates it as an integral part. In Wang's (2003) theory, the approach of political economy is useful to examine human factors with material interests, and map out material/non-material confrontations existing in a totality of capitalist structure relating to software copyright. Moreover, the network/process approach gives independent treatment to non-human/spiritual factors, and allows more nuanced and complicated interactions between human/material and non-human/spiritual factors besides resistance and confrontation. So in his earlier work, Wang's (2003) network/process approach serves as the first-order framework, under which political economy becomes the second-order. The combination of these two approaches is supported by Lindlof and Taylor's (2002) position that two or more theoretical frameworks could be creatively combined and applied to offer a thick description

about the research project. In the next chapter, I will review the existing literature about the issues of software copyright and piracy, and identify structural factors that are supposed to influence Chinese software users' perceptions.

CHAPTER II

LITERATURE REVIEW

This chapter will review the literature about software copyright and piracy, and place emphasis on the studies about China. The existing literature includes three parts. The first deals with background information on software copyright and piracy, such as definitions of software copyright, types of software piracy, and disputes surrounding copyright. The second is about five major aspects of software copyright and piracy: new ICTs, software companies' control, globalization, governments' strategies, culture and history. The third part is about the studies on individual users' piracy behavior with emphasis on Chinese piracy users.

Software copyright and piracy: Definitions, types, and disputes

According to the World Intellectual Property Organization (WIPO) (n.d.), a specialized agency of the United Nations dedicated to developing a balanced and accessible international intellectual property system, copyright is generally defined as "a legal term describing rights given to creators for their literary and artistic works", which covers a variety of works, including novels, poems, plays, reference works, newspapers, computer programs, databases, films, musical compositions, choreography, paintings, drawings, photographs, sculpture, architecture, advertisements, maps and technical drawings. The original creators of works protected by copyright and their heirs hold the exclusive right to use or authorize others to use the work on agreed terms. The creator of a work can prohibit or authorize:

- Its reproduction in various forms, such as printed publication or sound recording;

- Its public performance, as in a play or musical work;
- Recordings of it, for example, in the form of compact discs, cassettes or videotapes;
- Its broadcasting, by radio, cable or satellite;
- Its translation into other languages, or its adaptation, such a novel into a screen play.

Compared to the other types of works, computer software is a new form of copyright emerging from advances of new ICTs. However, computer software is protected under the very same laws that govern the other forms of works, such as music, literature, and movies. All software comes with a license agreement that specifically states the terms and conditions under which the software may be legally used. Licenses vary from program to program and may authorize as few as one computer or individual to use the software or as many as several hundred network users to share the application across the system.

On the other hand, the term "piracy", though being used in various ways depending on the country and context, generally refers to infringements of copyright or related rights. The World Trade Organization (n.d.) defined piracy as:

> Pirated copyright goods shall mean any goods which are copies made without the consent of the right holder or person duly authorized by the right holder in the country of production and which are made directly or indirectly from an article where the making of that copy would have constituted an infringement of a copyright or a related right under the law of the country of importation.

Software & Information Industry Association (SIIA) (n.d.) listed ten types of software piracy, including softlifting, unrestricted client access, hard-disk loading, OEM (Original Equipment Manufacturer) piracy/unbundling, commercial use of noncommercial software, counterfeiting, CD-R piracy, Internet piracy, manufacturing plant sale of overruns and scraps, and renting. Among them, Internet piracy is the most

rapidly expanding type of piracy and the most difficult form to combat. According to the Software & Information Industry Association (SIIA) (n.d.), Internet piracy refers to the uploading of commercial software (e.g., software that is not freeware or public domain) on to the Internet for anyone to copy or copying commercial software from any of their services. Internet piracy generally takes the following forms: auction site piracy; BBS (Bulletin Board Services) and News group piracy; FTP (File Transfer Protocol); warez; peer-to-peer; cracks/serial numbers sites; and Internet Relay Chat. Of these, BBS and news group piracy, FTP, and peer-to-peer are more widely used.

Although the definitions of copyright and piracy have been widely recognized, the disputes about copyright have never stopped since its creation. In general, there are two opposite views about intellectual property. One believes that unlike tangible objects, intellectual objects are public goods. Public goods have two major characteristics: non-rival and non-exclusive. According to Spinello and Tavani (2005), an object is non-rival if consumption by one person does not diminish what can be consumed by others, and an object is nonexclusive if it is impossible to exclude people from consuming it. Since public goods are non-exclusive and non-rival, there is a tendency that they will be under-produced without some type of protection or government intervention that will provide some measure of exclusivity.

Based on this concern, another view emerged to see intellectual property as private goods. Through intellectual property laws, exclusivity and rivalry were manually granted to intellectual objects so that they could be legally regarded as private goods. Spinello and Tavani (2005) listed three major philosophical theories that are used to justify intellectual property rights. The first is John Locke's "labor desert

theory" which argues that people have a natural right or entitlement to the fruits of their labor. Locke's argument is based on an assumption that labor is an unpleasant and onerous activity and property rights are required as a return for the laborer's painful strenuous work. Locke's "labor desert theory" is plausible enough when being applied to intellectual property, because intellectual property is, like physical property, the fruits of people's painful work. The second theory is based on Hegel's argument about property and personhood. Hegel believes that property is a natural right or end in itself because it provides freedom for the self. So property is an expression of personality and a mechanism for self-actualization. Hegel's notion is well-suited for intellectual property because abstract objects can also be invested with personality. In contrast to the natural rights perspectives of Locke and Hegel, the third theory is the utilitarian approach that is based on the premise that people need to acquire, possess, and use things in order to achieve some degree of happiness and fulfillment. The utilitarian argument for intellectual property rights is very straightforward: those rights are necessary to maintain social utility by providing authors, inventors, and other creators with rewards for their works. Without these rewards, there would be fewer such creations or inventions.

In comparison, the view of intellectual property as public goods is drawn on the unique characteristics of intellectual objects while the view of intellectual property as private goods is drawn on human beings' philosophical mediation. One appeals to the practical level and the other to the conceptual level. The inherent conceptual/ behavioral conflict has made the concept of intellectual property rights controversial since its inception. The tension between intellectual property as public goods and as

private goods is intensified with the rapid development of ICTs.

New ICTs and software piracy

New ICTs are a double-edged sword. On one hand, new ICTs enable software companies to tighten their control and surveillance over software users by upgrading and developing centralized technological architecture. On the other hand, new ICTs, especially peer-to-peer (P2P) technology, enable network decentralization that acts on the contrary to software companies' centralization system, and facilitates software piracy.

Nicol (2003) indicated that new ICTs make it easy and cheap to copy, modify, and disseminate ideas and information in a wide variety of forms, including audio, video and text, and, furthermore, the global nature of information networks makes worldwide distribution possible in a very short time. As a result, copyright enforcement is challenged because it is more difficult to prosecute offenders due to the speed of technological changes, the volume of infringement, the difficulty in tracking offences across international borders and the decentralized nature of P2P networks that copy materials.

Burk (1996) pointed out that the crucial role the Internet plays in software copyright piracy depends on its three distinctive features: packet-switching, smart communication, and transparency to physical distance. Packet-switching technology breaks information to be transmitted into discrete packets of bits that are labeled with the address of final destination, sends the packets on their way as allowed by transmission capacity, and reassembles the packets at the point of receipt. Therefore, packets from a variety of sources may share the same channel as bandwidth allows,

and more efficient use of network transmission capacity is achieved. Meanwhile, connected computers with high mechanical intelligence can monitor traffic on the network, and route packets along the least congested path to the next node in the network so that packets of a single message can take different paths to their final destination. In addition, the Internet is free from physical distance, and permits sharing of scientific equipment and information resources through remote access. As a result, facilities and resources on the network are not subject to the network's function or to the purposes of its creators. According to Burk (1996), these features of the network enhance dissemination of “non-rival” and “non-exclusive” information products, which can simultaneously benefit more than one person, and cannot prevent others from using them. So the network further lowers the cost of reproduction and enables more people to have access to information products. Meanwhile, the network lowers the cost of distribution and allows users to benefit from the products simultaneously regardless of geographical bound.

The advanced ICTs not only facilitate unauthorized dissemination of copyright-protected software but also alter people’s perceptions about software piracy. Research indicated that the distinct features of the Internet change users' perceptions about piracy and generate a casual attitude to copyright protection. For example, Freestone and Mitchell (2004) reported that young generation consumers in the United States are more permissive of software piracy on the Internet, and feel that they are doing no direct harm to sellers as they cannot see the direct economic consequences of their actions. Similarly, Siegfried (2005) found that online software piracy and the unauthorized sharing of copyrighted music both show a fundamental disrespect for

copyright among college students who believe that there is no potential ethical problem with their online actions. Forester and Morrison (1994) reminded us that Internet crime is looked upon in a less serious manner, both from an ethical and legal perspective, than crimes committed in an offline context.

In sum, new ICTs have two major impacts in software copyright and piracy. First, the development of ICTs poses challenges to software copyright enforcement. Second, the wide adoption of new ICTs changes individual software users' perceptions about piracy. To some extent, these impacts conceptually and practically empower individual users to conduct piracy activities. In response, software companies have to adopt more effective measures to regulate software copyright.

Software companies' control and users' resistance

Mertha (2005) pointed out that the concept of software copyright was created to induce and reward the innovation and creativity of software developers while at the same time allowing the public to enjoy the benefits of this innovative and creative behavior. These two conflicting goals, which are embedded in software copyright, reveal the tension between software developers and software users, and the concept of software copyright is used to balance this tension (Mertha, 2005; Stein & Sinha, 2002; Spinello & Tavani, 2005; Kimppa, 2005; Stahl, 2005; Lessig, 2004). However, Lessig (1999) pointed out that the history of copyright indicates an increasing unbalance between copyright holders and users as the copyright industry has been seen to utilize a variety of social resources to control copyright users and maximize its own interests. Lessig (2004) proposed a theoretical framework of four regulation modalities to enforce copyright protection: norm (e.g., change the public attitudes towards piracy), law (e.g.,

establish anti-piracy laws and policies and emphasize legal enforcement), market (e.g., follow market mechanisms and business rules to promote copyright software and attack piracy), and architecture (e.g., adopt new ICTs to conduct surveillance over the network in order to detect and punish piracy). The copyright industry itself plays a crucial role in creating, maintaining, and developing these regulation modalities.

First, the copyright industry can control the flow of Internet content through centralized ownership of the programming architecture, the software code. According to Lessig (1999), architecture codes would dictate exactly what could be done within the Internet, and a given company is able to manipulate the code to stop P2P piracy and other copyright violations. For example, Microsoft recently launched the latest operating system of “Windows Vista”. This new system enables Microsoft to locate the computers installed with pirated version of “Windows Vista”. The piracy users will be notified with a warning message. If the users continue to use the pirated version, another reminder will be sent out and some functions in Windows Vista will be prohibited until all the functions are banned. As architecture control becomes strict, Lessig (1999) anticipated that corporate forces would inevitably lead to built-in code-based regulations of online activity, substantial restriction of expression, and the commodification of online behavior. Under this sort of code-based regulation, anonymity, the free flow of information and ideas, and piracy would be seriously hampered as marketplace activity moves into a dominant position within cyberspace.

Second, software companies can regulate users’ behaviors through market mechanisms and business rules. For example, in order to attack software piracy, Microsoft launched an incentive sales program in the Chinese market. Under this

program, users of pirated Windows XP can get copyrighted XP at a very low price if they agree to fill out a piracy investigation questionnaire. Meanwhile, Microsoft signed an agreement with Lenovo, the largest PC manufacturer in China, to pre-install copyrighted Windows systems on Lenovo's products. Chinese consumers, if they agree to pay 30 or 40 extra dollars, can have copyrighted Windows XP installed on their purchased computers.

Third, software companies can launch anti-piracy campaigns to foster public attitudes in favor of software copyright protection. Gates (2006) suggested that the aim of anti-piracy campaigns is to forge alignments between the objectives of copyright owners and the personal self-fashioning activities of individual users, thus enlisting individual users as cultural laborers working to produce and enforce the meaning and legitimacy of the intellectual property regime. To fashion good cyber-citizens, appropriately respectful of copyrights, anti-piracy campaigns encourage individuals to connect recognition of the rights of copyright owners to their own projects of self-betterment. In this way, copyright protection is transformed from a judicial issue to a cultural issue, which is supposed to affect people's beliefs about piracy. In China, software companies' practices in norm regulation are conducted through their financial support of official copyright administration (e.g., the National Bureau of Copyright) and civil copyright organizations (e.g., the Business Software Alliance), which are responsible for organizing anti-piracy campaigns and education programs.

Fourth, corporate control on copyright users is also exercised through manipulation of copyright laws. For example, Mertha (2005) suggested that software companies spent a lot of resources in lobbying the U.S. legislature and government to

issue strict copyright laws and regulations. Representing the interests of software corporations, the U.S. government pushed the Chinese government to establish a complete set of copyright laws and policies to protect American companies' interests in China.

Lessig (2004) reviewed the history of copyright protection in the United States, and finds that copyright laws and regulations have become stricter over the last two centuries, and more biased towards copyright holders. He criticized the way current copyright regulation fails to balance the need to give authors and artists incentives and the need to assure access to creative work. His analysis uncovered the underlying political-economy mechanism of the growing tension between copyright holders and users. Recognizing this capitalist mechanism, Strangelove (2005) commented:

> Contemporary capitalism is aggressively eroding national sovereignty, privatizing knowledge and shared culture, and destroying the physical and social environment because the democratic system is increasingly incapable of restraining multinational corporations. It is also subjecting the entire range of human experience to the logic of the marketplace, which strives to commodify ever more areas of interaction and cultural production. (p. 9).

However, Strangelove (2005) believed that the extensive control imposed by corporations upon consumers and citizens through technology, corporate alliances, Internet architecture, and law will not be fully realized but invite more struggles and confrontations from the side of the public. The deviance of consumers and citizens is expressed in the form of a wide range of increasingly uncontrolled illicit behaviors, including copyright and trademark violations, unrestricted expression, and digital piracy. Considering pervasive deviant behaviors by consumers, Strangelove (2005) anticipated that highly intensified systems of regulation will nonetheless face substantial subversion, and the combination of resistance, deviance, and competition

and conflicts within the corporate sector will bring the Internet into a stable state. In terms of software copyright and piracy, the stable state refers to a kind of re-configured balance, which redefines the dichotomy between the need to give the innovators incentives and the need to maintain public access to creative works.

Lessig (2004) and Strangelove (2005) respectively focused on two dichotomized sides of copyright protection: the copyright industry's control and consumers' resistance. However, Katz (2005) argued that the inherent conflict between copyright holders and users is not as clearly dichotomized as we assume. Instead, it can be blurred by the copyright industry's paradoxical position on piracy. According to Katz (2005), software companies intentionally allow a certain degree of software piracy in order to maximally exploit the network effect that could make their products more valuable and profitable with the increased number of people who use the same products. Software piracy, if strategically manipulated, can become an effective tool of user discrimination. Consequently, the users with high value can pay more to get copyrighted software products and the users with low value can pay less to get pirated products. In this way, software companies are able to maximize the size of the software user base as well as the value of software networks. Hence, the copyright industry's real aim is not to totally eliminate piracy but to control piracy to a degree where they can obtain the maximal benefit.

Software companies' control and software users' resistance are not a new topic in the studies of software copyright and piracy. However, the process of globalization adds new elements into the existing tension between software companies and users. In the process of globalization, the company-user tension is transformed into the tension

between developed countries as copyright owners and developing countries as copyright users.

Globalization and software piracy

According to Bently and Sherman (2001), the scope of the original concept of copyright is limited within one country's territory. The copyright protection would become invalid if it operates outside of the national territory where it was granted. However, advanced ICTs and an intensified globalization process break down the barriers of national territory, and make copyright an unbounded subject of international trade. As a result, a number of developed countries with major ownership of copyright feel it necessary to enforce copyright protection across national borders. For example, Halbert (1997) suggested:

> Today, intellectual property has become a primary motivating factor behind the United States' position on international trade, and it informs treaties at both the bilateral and multilateral level. Implicit in this change of heart has been an increased concern over enforcement of intellectual property rights and a focus on piracy. The pirate emerges as a threat as the U. S. finds itself competing in a new environment where legal and illegal competition are infringing upon its ability to maintain market share" (p. 63)

China, with its huge domestic market, extraordinary economic growth, and, particularly, notorious piracy situation, emerges as one of the major targets of global copyright enforcement that is initiated and operated by the United States, the European Union, and a series of international copyright regimes, such as WIPO and WTO.

The approach of political economy is widely used in the analysis of globalization and copyright piracy, particularly in the case of the copyright disputes between China and western developed countries. For example, Pang (2006) suggested that strict enforcement of copyright protection has become a form of censorship that

requires copyright users to sacrifice their rights to those of the owners. He argues:

> Today's international copyright laws are major and powerful tools that perpetuate and reinforce the historically constructed uneven distribution of global wealth, as the developed world has become home to the intellectual property owners, while the developing world houses the users. (Pang, 2006, p. 111)

In a similar way, Wang (2003) directed criticism at international copyright regimes:

> Transnational copyright protection regimes are very much operating along the North-South divide…where North demands that the South comply with the copyright protection regulations and agreements authored mostly by the North and in its interests. (p. 188)

Halbert (1997) argued that strict intellectual property laws widen the existing divide between developing and developed countries. On one hand, developing countries with immature domestic industries are further disadvantaged and exploited by the strict laws. On the other hand, strict laws enable developed countries to maintain their monopoly over intellectual property products. Thus, Halbert (1997) believed that it is a rational action for developing countries to lower down the enforcement of intellectual property rights. Strangelove (2005) took China, Russia, Brazil, and India as examples to show that developing countries are unwilling to take strong action against online or offline piracy so that state penalties for copyright violations are weak, while law enforcement is irregular, ineffective, and mostly used as a political tool. Croix and Konan (2002) criticized the "one-size-fits-all" standard of international copyright laws. They argued that this position is likely to generate too much protection too early in some developing countries and become a source of continued international conflict between developed and developing countries. Aronson (2003) expressed his worry that

> ….rich countries and their large firms have now gained the upper hand versus poorer countries and smaller firms. The balance between innovators and users tilted in favor of innovators. This may prove

> profitable in the short-term for IP holders, but could hamper innovation and sustainable development in the longer term. (p. 29)

The studies above show that political economy is a powerful approach for assessing and critiquing the workings of the enduring architecture of global capitalism. However, Wang (2003) pointed out that from the perspective of political economy, issues of copyright and piracy can only be understood in, and be reduced to, the context of a totalizing capitalistic inscription.

Instead, Wang (2003) proposed a network/process approach to examine the increasingly complex issues of global software copyright and piracy. Again, as I noted above, Wang's (2003) approach is based on the actor network theory that emphasizes on the concepts of the network, human/non-human actors, translation/transformation as well as issues of agency. He first conceptualized globalized copyright and piracy as a web consisting of nodes and hubs that represent a group of related human and non-human actors, including copyright holders/producers, copyright distributors, piracy producers, piracy distributors, ICTs, international copyright regimes, the governments in developed and developing countries, local users/audience, and local administration where piracy occurs. Second, he suggested that it is critical to map out the directions, movements, and forces that connect these nodes and points. For example, what interests and goals the actors on the web have and how do they realize them; how piracy networks are created and where they are located; how piracy networks operate in relation to legitimate networks; and how legitimate as well as illegitimate products are transported and translated along the piracy and legitimate networks. Third, he focused on the ever-changing alignment and configuration of the web itself. For example, how an actor behaves in response to the other actors; how the

different actors negotiate their goals and interests to reach a dynamic balance; how this balance is broken and developed according to new conditions.

Wang and Zhu (2003) applied the same network approach to study film piracy in China, which involves complex issues of power vis-à-vis the state, Hollywood, transnational regimes, technology and consumers. They found that even though piracy has cut down on the profit margin of the Hollywood producers, it has also reinforced their dominance in global movie markets by widely circulating Hollywood products. Consequently, a favorable environment for their cultural products is created all over the world, which generates even further demand for more Hollywood products. Furthermore, while piracy challenges some aspects of the state power (e.g., the Chinese government subjects itself to the international copyright regimes in terms of copyright legislation and enforcement), it helps the state machine by stabilizing the labor market via the employment of various levels of workers (e.g., in retail, manufacturing and transportation sectors involved in the reproduction and distribution of copyright and pirated products), by contributing to tax revenues through various channels (e.g., hardware and software manufacturing and distribution sectors in the copyright industry), and by providing much needed and affordable forms of entertainment and escape to the increasingly anxious public in a society in transition (e.g., the Chinese audience is engaged in consumption of pirated products and are thus presumably less involvement in political activism and social movements).

In addition, digital technology has offered consumers unprecedented power and autonomy. While Hollywood still determines the content of what is circulated through the global distribution channels and underground piracy pipelines, the consumers are

empowered to constantly negotiate and interpret their individual local existence by selecting those products that best suit their interests. In the future, the consumers' sovereignty will be further increased with the development of digital technologies that lead to significant reduction in the costs of information services and easier access to content.

The Chinese government and software piracy

The intensified globalization process brings software copyright and piracy from a country's domestic issue to an international concern. The Chinese government faces increasing criticism from the international community about its inability to effectively protect software copyright. Responding to international pressures, the government has attempted to make dramatic and substantive changes in legislative, regulations and policy-making processes relating to software copyright. However, Mertha (2005) argued that the Chinese government, while being engaged in implementing copyright enforcement, is also facing internal pressures that constrain copyright protection. For example, China, as a developing country, wants to increase the diffusion of new technologies, innovation and information to close the widening gap with the developed world (Mertha, 2005; Stein and Sinha, 2002). Meanwhile, patriotism and traditional Confucian values add to normative responses to uncontrolled private ownership, including the limited-term monopoly conferred by copyright (Mertha, 2005; Yu, 2001).

Lu and Weber (2008) explored the Chinese government's strategies to deal with external and internal challenges surrounding software copyright by focusing on how the government addresses public-private dimensions[3] of software copyright in the

economy and politics to support these multiple and often competing objectives. Under this practice, the government's strategies for dealing with software copyright reflect the major principles of new authoritarianism. In economic terms, the state adopts a market economy as a fundamental mechanism to direct and regulate all economic activities in society. Meanwhile, the government's macro-regulation is also required to correct deficiencies of market economy and protect public interests. The establishment of a private market economic structure inevitably demands the emphasis on the private dimension of software copyright. In practice, this concern is achieved primarily by the state's administrative and judicial regulation of protection of software copyright. At the same time, state macro-manipulation is used to address the public dimension of software copyright in order to trade-off the defects of a solely market economy. This concern is handled practically by the state's preferential policy towards the domestic software industry.

In political terms, the state controls the public space, including political power and public opinion. Meanwhile, the state allows for opening up of the private space to increase transparency of government practices and provide citizens with some opportunities for expanded freedoms relating to social and economic justice issues. To establish the centrality of private market structure in the country's economy, the state is required to control political community/public opinion to provide legitimacy for the dominant position of market economy. Accordingly, in the issues of software copyright the private dimension is emphasized in public opinion facilitated by the state's control over mainstream mass media and education systems. On the other hand, the state's promise to open the private space to individual citizens can be found in its

acquiescence to the call for a public dimension of software copyright, derived from online discussions among individual software users. As a result, the private dimension of software copyright resides in political community/public opinion, and the public dimension of software copyright is often found in individual citizens' private space.

However, the increasing external and internal challenges emerging in globalization processes have pushed the government to manipulate economic and political boundaries formulated by new authoritarianism in order to maximize the benefits brought by globalization, and offset its drawbacks through a process of localizing the globalization. First, the private dimension of software copyright has a tendency to crossover into state's macro-regulation. For example, the state's administration over the domestic software industry becomes secondary to market operations because the sharing and transferring of software technology among different state-owned units are never free of charge.

Second, the public dimension of software copyright is also found to cross the boundary to the domains of market economy and public opinion. For example, software piracy is made accessible on the market by judicial tolerance for non-profit piracy users and loose enforcement of anti-piracy policies at the local government level. Also, the citizens' private discussions are amplified by the Internet and finally turn into a grass-roots social movement to call for protection of the public dimension of software copyright. In addition, Lu and Weber (2008) found that the Chinese government adopts both explicit and implicit methods to manipulate economic and political boundaries. Adoption of different methods depends on the different contexts as well as the guidance of new authoritarianism.

Lu and Weber (2008) mapped out Chinese government's strategies to deal with public and private dimensions of software copyright under the guidance of its leading philosophy: new authoritarianism. Because of the state's leading role in the country's ICTs development, its software copyright strategies have the most important impacts over software copyright protection in the country than all the other factors identified before, such as technology, software companies, and foreign countries. Meanwhile, because of its extensive control/intervention in the country's politics and economy (Qiu, 2007), the government's software copyright strategies can be viewed as a filter to facilitate, moderate, or distort the impacts of all the other structural factors according to its needs or goals in specific contexts. Therefore, the government emerges as an intermediate factor between the other structural factors and Chinese individual users.

Culture, history, and software piracy

Besides technology, software companies, foreign countries, and Chinese government, Mum (2003) argued that cultural factor needs to be considered as a defining aspect of copyright piracy in China. Collectivism and individualism have been used extensively to explain different piracy rates across the countries and individual users' ethical decision-making for piracy use. Husted (2000) applied Hofstede's (1997) cultural dimensions to examine their correlations with piracy rates, and finds that software piracy is significantly related to the cultural dichotomy of individualism and collectivism. Husted (2000) explained that a collectivist culture advocates sharing within the in-group, and one would expect that software would also be the subject of such sharing. This position is supported by Marron and Steel's (2000) finding that the countries with an individualistic culture have lower piracy rates than ones with a

collectivistic culture.

Meanwhile, Swinyard, Rinne, and Kau (1990) compared individual software users in Singapore and the United States. They found that the Singaporean group was more influenced by the benefits of their actions on self, family, or community than by the legality of copying the software. By contrast, the United States group was more influenced by the legality of the decision than by the benefits of the decision. Specifically in Mainland China, Wang, Zhang, and Ouyang (2005a) conducted an initial examination about the relationship between pirated software purchasing and Chinese culture, and report that more group-oriented users are more likely to be engaged in the theft of software programs or the sharing of intellectual property. They concluded that collectivist culture is seen as a contributory factor to the prevalence of software piracy in China.

The collectivist culture makes Chinese users share not only software programs but also the responsibility of piracy use. Wang, Zhang, Zang, and Ouyang (2005b) pointed out that collectivism leads to a weak individual assumption of responsibility. In Chinese ancient history, punishments were placed on not only individual criminals but also the entire family of the criminal. The individual assumption of responsibility is contradicted by the idea that rightness of law decreases when more people violate it, as a Chinese proverb says, "the law cannot apply if everybody breaks it."

In addition, Wang et al. (2005b) suggested that there are other cultural factors, besides collectivism, contributing to Chinese users' attitudes towards software copyright. For example, Chinese often believe that copying and imitation enable them to interact with the past to acquire knowledge to guide their behaviors (Yu, 2001).

Confucius viewed transmission of cultural and social values embodied in the past as more important than creation of new knowledge. Research indicated that Confucianism can be seen as a cultural form of "learning by copying", which regards the copying of works as "a mark of respect and homage" (Martinsons & Martinsons, 1996; Yu, 2001; Unger, 1982). Yu (2001) reported that copying was practically necessary to achieve success in all kinds of major examinations in ancient China, which emphasized classical Confucian works.

Chinese culture's impacts on software copyright and piracy are reflected in two ways. First, Chinese users in a collectivist culture view software sharing as altruistic conduct, which benefits the group and needs to be honored. A Chinese proverb says that "he that shares is to be rewarded; he that does not, condemned". Second, Confucian thoughts in traditional Chinese education, which encourage copying and repeating, give Chinese people a weak sense of intellectual property rights in their early education period.

Of more importance, these two cultural factors, instead of being isolated, are tightly intertwined. Alford (1995) suggested that at the core of traditional Chinese society's treatment of intellectual property was the dominant Confucian vision of the nature of civilization and of the constitutive role played by a shared and still vital past. Confucianism views civilization as defined by "a paradigmatic set of relationships, each bearing reciprocal, although not necessarily equal, responsibilities and expectations, which the parties were morally bound to fulfill" (Alford, 1995, p. 19). These relationships are achieved only through the dual functions of the past: as the instrument through which individual moral development was to be attained and as the

yardstick against which the content of the relationships was measured. Alford (1995) concluded that Confucianism stands against copyright protection in so far as it did not allow the concept of copyright to take root.

Besides Confucianism's prohibition of copyright protection, another contributing factor is the Communist ideology the Chinese Communist Party exercised in China after it took over in 1949. Yu (2001) suggested that Communism, though being quite different from traditional Confucianism, has little within it to contradict or displace Confucianism on copyright. In general, Communism believes that property belongs to the State and the people, instead of private owners. Intellectual works, hence, are supposed to contribute to the welfare of the State and the people rather than generate economic returns to individual creators. Montgomery and Keane (2004) reported that copyright becomes irrelevant under the Marxist view of cultural production. According to Marxism, cultural forms, as expressions of class relations, are not valued in terms of exchange but for their utility. The utility of cultural products is decided by the state and translated into public ownership of intellectual works. Ignorance of copyright turns into aversion during a series of mass campaigns and class struggles in Mao's era, particularly the Cultural Revolution (Yu, 2001). Alford (1995) quoted one comrade's words during the Cultural Revolution:

> Is it necessary for a steel worker to put his name on a steel ingot that he produces in the course of his duty? If not, why should a member of the intelligentsia enjoy the privilege of putting his name on what he produces? (p. 65)

Communist practices of copyright are essentially compatible with traditional Chinese culture. They support each other and jointly build up Chinese people's attitudes towards software copyright.

Individual software piracy users

So far, the research reviewed above is all conducted at the macro level. They explore different structural factors that contribute to the general piracy situation in China. In contrast, the research reviewed below will be all about micro level analyses focusing on individual software users' attitudes, intentions, and behaviors about software copyright and piracy.

According to Olson and Zanna (1993), attitude is generally defined as a psychological tendency of evaluating a specific entity and generating certain favorable or unfavorable responses. In general, the existing literature indicates that software users have a high level of tolerance towards software piracy (Rahim, Rahman, & Seyal, 2000), think it socially and ethically acceptable (Solomon & O'Brien, 1990; Wong, Kong, & Ngai, 1990), and hold supporting attitudes towards software piracy (Ang & Lo, 1998; Cohen & Cornwell, 1989; Logsdon, Thompson, & Reid, 1994; Rahim et al., 2000; Wong et al., 1990). A number of predictors are found to be associated with college students' attitudes towards software piracy, including gender, major of study, history of software piracy, and perceptions of peer norms (Ang & Lo, 1998; Logsdon et al., 1994; Solomon & O'Brien, 1990; Wood & Glass, 1996).

Compared to the attitudes towards software piracy, the intentions to use pirated software are found to be significantly associated with more predictors, such as gender, age, family income, computer experience, personal computer ownership, major of study, software piracy attitude. According to Fishbein and Ajzen (1975), intention is defined as the cognitive representation of an individual's subjective probability to perform a given behavior and is considered the immediate antecedent of behavior.

Some researchers suggest that testing piracy intention would be better than directly testing piracy behaviors, because people tend to conceal or under-report their unethical or illegal behaviors.

The existing literature on the factors affecting piracy attitude and intention suggests that the formation of people's software piracy behavior is a complex process involving multiple factors through multiple pathways. However, Liang and Yan (2005) pointed out two major limitations in these studies. First, in almost all the existing studies, participants are college students majoring in either business or computer science. Furthermore, most of existing studies are conducted in the United States with a few exceptions, including Saudi Arabia (Im & Ah, 1997), Thailand (Kini, Ramakrishna, & Vijayaraman, 2003), Singapore (Moores & Dhaliwal, 2004), and Hong Kong (Wong et al., 1990; Moores & Dhillon, 2000). The sample biases in both college major and original country restrict our understanding of software piracy to the problems of a subset of college students in the world.

Second, in the existing studies, the most common research method continues to be the anonymous survey. Researchers heavily rely on the survey method to solicit and measure student's attitude and intention towards software piracy, as well as collect demographic variables (e.g., gender, age, and income), computer-related variables (e.g., computer attitude, computer experience, and personal computer ownership), and contextual variables (e.g., peer norms regarding software piracy, institutional monitoring of software piracy). However, researchers have pointed out that under-reporting of software piracy is a common problem because students might fear certain actions against them if they reveal their true beliefs and previous behaviors

(Christensen & Eining, 1991; Hollinger, 1993; Im & Ah, 1997; Rahim et al., 2000). Furthermore, many surveys have often used one single item to capture some complicated constructs, such as intention and attitude, resulting in problematic validity and reliability of measuring these constructs. More recently, some researchers have started to combine self-reported surveys with scenario probing methods to overcome the problem of under-reporting (Logsdon et al., 1994; Rahim et al., 2000; Wagner & Sanders, 2001; Wagner, 1998), showing a promise of using multiple methods to study complex software pirating behaviors.

Chinese piracy users

To date, few studies on individual piracy users have been conducted in Mainland China. Wang et al. (2005a) and Wang et al. (2005b) were initial attempts to study Chinese piracy users. Wang et al. (2005a) proposes a conceptual framework to understand the Chinese consumers' ethical decision-making process about purchasing pirated software. Wang et al.'s (2005a) model identified two important transition steps: from recognizing a legal problem to recognizing an ethical problem, and from recognizing an ethical problem to moral behavior. Different from the traditional ethical decision-making research, Wang et al. (2005a) emphasized that recognizing an ethical problem is not a starting point in the case of software piracy in China. Instead, recognizing a legal problem is the first step because software piracy is an issue with more legal content than ethical content. Specifically in China, a large number of software piracy users are still unaware of legal issues of software piracy due to a long-time neglect of copyright education in the country. Even with a good sense of copyright legality, many Chinese consumers still think software copyright is low in

moral intensity or not an ethical problem at all. In this way, a perception of a legal issue may not successfully transfer to an ethical issue.

Wang et al.'s (2005b) research is one of the first empirical studies to examine Chinese consumers' purchase of pirate software. Four factors are found significant in influencing Chinese consumers' attitudes towards software piracy. They are value consciousness, normative susceptibility, novelty seeking and collectivism. Moreover, Wang et al (2005b) is the first attempt to test Chinese culture's impact over individual users' attitudes towards software copyright and intention to use pirated software. It is found that the respondents with higher scores in collectivism would have less negative attitudes towards software piracy.

As a pioneer study, Wang et al.'s (2005b) findings have important implications for both piracy scholars and anti-piracy practitioners. First, to achieve success in anti-piracy in China, software companies first need to hold an appropriate view of Chinese consumers. Chinese consumers should not be simply and always regarded as deviants with malicious intentions. The study finds that novelty-seeking is an important factor determining consumers' attitude to software piracy that lead to purchase intention. Wang et al. (2005b) suggested that software piracy sometimes is just a way that consumers try out new software, especially when information availability and software accessibility in China are not at the same level as in developed countries and the average computer literacy of Chinese consumers are low.

Second, the study finds that integrity does not influence Chinese consumers' attitude towards software piracy, but normative susceptibility does. This means that good people with inner virtues do not think evil of piracy and they can pirate. On the

other hand, people who want to look good express negative attitude towards piracy. This means that external motivation is more important than inner virtues in reducing piracy.

Third, three issues need to be considered in designing anti-piracy programs: differentiating legal and pirated software, educating about the social consequences of software piracy, and educating about the consequences of purchasing piracy. The research finds that product differentiation between copyrighted and pirated software is a key to prevent piracy. Consumer-perceived differences of the reliability and functionality between pirated and copyrighted software programs are important in determining their purchase intention. To reduce piracy, copyright owners can educate consumers and reinforce consumer perceptions that copyrighted software is more functional and reliable than that which is pirated.

Besides the two studies above, there is another group of studies conducted in Mainland China about the general piracy situation, including pirated software, movies, music, and books. Compared to the cause-effect pattern used in the first two studies, the second group of studies is more descriptive. The studies in the second group adopt the probability sampling method with a large sample size, and their description offers a general picture about the piracy situation in today's China. For example, Wei (2002) compared the findings in two national surveys about citizens' reading and purchasing habits in 1999 and 2001, and concludes that the piracy situation is still very serious but citizens' awareness of copyright was continuously increased. Both surveys are nationwide and organized by China Publishing Science Institute, a major government-funded research unit. The first survey covered urban and rural areas in

twelve regions, including Beijing, Shanghai, Shenzhen, Xi'an, and Jinzhou, and involved 3,075 respondents with the age range from 18 to 70. The second survey covered fifteen regions, including Beijing, Shanghai, Guangzhou, Chengdu, and Kunming, with 4,600 respondents.

Wei (2002) suggested that Chinese citizens' copyright awareness has been significantly improved between these two surveys. For example, 61.9% respondents in the second survey believed that piracy is good for neither readers nor publishers, increasing nine percentage points from 52.9% in the first survey. On the other hand, only 8.1% expressed that piracy is good for both readers and publishers, decreasing 2.5 percentage points from 10.7% in the first survey. However, the percentage of piracy buyers among the respondents continued to grow up from 43.1% in 1999 to 45.8% in 2001. Moreover, the 1999's survey found that three age ranges of 18-19, 20-29, and 30-40 consist of the population that are most likely to purchase pirated materials, among which 64.4% respondents between 20 and 29 report that they ever purchased pirated materials. In the 2001's survey, there were four age ranges with the piracy rate of over 40%, including 18-19, 20-29, 30-40, and 40-49. The two age ranges of 18-19 and 20-29 reported the piracy rate of over 60%. It shows that piracy users become more diverse across different ages and regions.

Meanwhile, Wei (2002) reported that cheap price, availability of various products, and purchasing convenience were three top reasons for people to purchase pirated materials. In 1999, 79% of respondents expressed that they buy piracy because of cheap price. This number reached to 84.2% in 2001. It indicated that there was a growing demand for pirated materials because of the large price disparity between

copyright and pirated products.

Comparing the results of two surveys, Wei (2002) predicted that there would be a substantial decrease in Chinese people's piracy activities. This anticipation is based on three observations. First, the price disparity between copyright and pirated products would be further curtailed. Thus, pirated products would not be as competitive as before. Second, the availability of various products in piracy would not be as attractive as before. In 1999 survey, 21.5% respondents reported that they purchased pirated products for the availability of a variety of products. This number dropped to 12.5% in the survey of 2001. The piracy market would not be able to provide consumers more diverse products than the copyright market. Third, consumers would not be able to have easy access to piracy vendors because of the government's strict attacks on the piracy market. Thus, the degree of convenience for purchasing pirated products is decreased. This trend is reflected by the dropped percentage of purchasing convenience as a reason for using piracy from 38.7% in 1999 to 34.2% in 2001. However, Wei's (2002) anticipation overlooks the rise of the Internet piracy, which, with low price, high usability and high accessibility, is gradually replacing the traditional piracy market. Chinese people's piracy activities, though decreasing in traditional purchasing of pirated products, would have a substantial increase on the Internet.

Different from the nationwide coverage of Wei's (2002) study, Zhang's (2005) study was conducted in Nanjing, the capital city of Jiangsu Province in the southeast of China. This study was made in April 2005 with 552 respondents, including 291 males (52.7%) and 261 females (47.3%). It is found that about 50% of urban citizens ever purchased pirated products with the knowledge that the products they purchased were

pirated. There is no significant gender difference across piracy buyers with male 53.6% and female 46.4%. Thus, gender as a demographic factor contributing to piracy activities is not supported in this study. Meanwhile, the age range group between 20 and 29 is the population that is most likely to buy piracy, followed by the age groups of 30-39, under 19, and 40-49.

One of the most interesting findings in this study is that people with higher education levels are more likely to purchase pirated products. 78.6% of respondents with the degree of master and above reported purchasing pirated materials, followed by 65.8% for bachelor degree, 52.5% for associate degree, and 50% for high school degree. In addition, top four careers with highest purchasing rates of pirated products are science and technology (80%), health and culture (76.9%), college students (71.4%), and education (62.5%). Zhang (2005) suggested that intellectual groups have more desires for information products, and are more likely to purchase pirated products. Ironically, the purchasing rate of pirated materials reaches to 46.2% among media professionals, who are supposed to be well informed and aware of the issues of copyright and piracy. It reflects a lack of ethical environment favorable to anti-piracy campaigns in China's society.

Another interesting finding is that people with higher income are more likely to purchase pirated products. The purchasing rate of pirated products amounts to 75% for the respondents with monthly income over RMB 4,000, followed by 67.4% for monthly income between RMB 2,000 and RMB 2,999, and by 66.7% for monthly income between RMB 3,000 and RMB 3,999. This finding not only rejected the common assumption that high-income people are less likely to buy piracy, but also

indicates a positive correlation between consumers' income and piracy activities. Zhang (2005) drew a conclusion that income level is not a major factor influencing piracy behaviors, which is consistent with the findings in the piracy studies conducted in other countries. In addition, the respondents who possess personal computers and have access to the Internet are more likely to buy pirated products. The purchasing rate of pirated products for this group is 69.7%.

Summary

The literature review includes a variety of research areas and identifies a group of structural factors relating to software copyright and piracy. They are new ICTs, software companies, foreign developed countries, Chinese government, Chinese culture and history. Meanwhile, the literature review uncovers limitations and inadequacies in the existing research. In general, there are two major types of studies respectively conducted at macro and micro levels. Macro-level studies explore the roles structural factors play in the country's general piracy situation, including new ICTs, software companies' control, foreign developed countries, Chinese government, Chinese culture and history[4]. Meanwhile, micro-level studies focus on the impacts of demographic factors over individual software users' attitudes, intentions and piracy behaviors.

In macro-level studies, individual software users are often reduced to passive subjects whose piracy behaviors are either taken for granted or simply explained in an economic way. Individual software users' perceptions about the issues of software copyright and piracy are either overlooked (e.g., in the studies of globalization and the government's strategies) or inadequately addressed (e.g., in the studies of new ICTs,

software companies' control and Chinese culture). On the other hand, micro-level studies view individual software users as active subjects, whose perceptions and behaviors about software copyright and piracy can be explained and predicted by examining various demographic factors, including gender, education, income, career, age, computer adoption/proficiency, and peer-belief. Thus, a theoretical gap is found between macro and micro studies. The gap consists of two related questions: 1) how do the factors examined in macro-level studies penetrate into the micro-level and affect individual software users' perceptions about software copyright and piracy? 2) How do individual software users at the micro level creatively address the impacts of macro-level factors and formulate their perceptions?

In addition, qualitative research methods are often adopted in macro-level studies in order to provide detailed description about the issues of software copyright and piracy in a specific context. For example, qualitative methods are dominant in the studies about software companies' control, globalization, Chinese government's strategies, Chinese culture and history. On the other hand, quantitative research methods are often adopted in micro-level studies in order to pursue a context-free model to explain individual users' perceptions and behaviors. For example, the pioneering studies over Chinese piracy users are all conducted with quantitative surveys. With different research methods, a methodological gap is found between macro and micro studies. In order to link macro and micro research, a context-specific study is necessary to examine contextual factors' influences on Chinese software users' perceptions. A context-specific study requires a thick description about macro-level factors as well as about interaction and interdependence between these factors.

This study, therefore, aims to fill the conceptual and methodological gaps between macro and micro studies. The focus of this study is placed on Chinese individual software users' perceptions about the issues of software copyright and piracy. The analysis of Chinese users' perceptions would indicate how macro-level structural factors influence individual users at the micro level as well as how individual users creatively address macro-level factors' impacts. Meanwhile, the analysis of Chinese users' perceptions comprises a context-specific study to include all the contextual factors that are specifically related to China.

So the general research question of this study is:

How do Chinese software users perceive the issues of software copyright and piracy?

To answer the research question, Chinese users' communication process is analyzed in an arena in which individual users talk, discuss, debate and negotiate about the issues of software copyright and piracy to form, modify, and adjust their perceptions. Esenberg and Riley (2001) suggested that human communication is a process to reflect both structure's constraining forces and action's enabling forces. To link structure's constraining forces on the macro level and actions' enabling forces on the micro level, Wang's (2003) network/process-oriented approach is adopted to first conceptualize software copyright and piracy as a web consisting of nodes and hubs that represent macro-level structural factors identified above, such as new ICTs, software companies, foreign countries, Chinese government, and Chinese culture and history. Then, the network/process-oriented approach directs the analysis on Chinese users' communication to illustrate the directions, movements, forces that connect these nodes and points. Meanwhile, the model of translation enables individual users to creatively

address identified directions, movements, and forces between nodes and points, and temporarily achieve alignment and configuration of the web.

CHAPTER III

METHODOLOGY

To answer the research question, Chinese software users' communication process is examined in order to explore how they perceive the issues of software copyright and piracy. In this study, the Tianya Community, the largest online public forum in China, was selected as a site to study users' online communication about software copyright and piracy. Meanwhile, Lindof and Taylor's (2002) qualitative communication research methods are used to analyze and interpret online postings that are retrieved on the Tianya Community.

Qualitative research and the actor-network theory

Whatever research methods employed in a study depend on appropriateness of the methods to address research questions or hypotheses. In this study, Chinese users' communication process is examined to study users' perceptions about the issues of software copyright and piracy. Arneson (1993) argued that process emphasizes how something occurs rather than the outcome or results obtained. According to Krippendorf (1970), communication research requires data that are rich enough to contain explicit evidence about processes of communication.

The research indicates that qualitative research has advantages to study the communication process. According to Van Maanen (1983), "qualitative research" is regarded as

> An umbrella term covering an array of interpretive techniques which seek to describe, decode, translate, and otherwise come to terms with the meaning, not the frequency, of certain more or less naturally occurring phenomena in the social world. (p.9)

Lindolf and Taylor (2002) suggested that most communication scholars consider qualitative research to be the broadest and most inclusive term for interpretive, naturalistic inquiry, and ethnography, because:

- All qualitative inquiries often deal with the similar research questions: What kinds of things are going on here? What are the forms of this phenomenon? What variations do we find in this phenomenon? (Lofland, 1971, p.13)

- All qualitative researchers commonly use the aesthetic forms of montage (in which images of social life are juxtaposed to create a larger narrative) and pentimento (in which obscured elements of social life are restored for consideration) (Denzin and Lincoln, 2000).

Patton (1990) recommended employing qualitative research methods to study the dynamic communication process. First, the communication process is a fluid and dynamic phenomenon, and the study of process dynamics enables researchers to "isolate critical elements that contribute to program successes and failures" (Patton, 1990, p. 135). Second, because individuals experience communication process differently, an inductive, naturalistic approach can reveal a variety of perspectives available in reference to communication processes. Third, to depict communication processes requires detailed descriptions, and qualitative methods provide researchers an opportunity to closely examine communication issues. Arneson (1993) also mentioned the advantages of qualitative research in the study of the communication process:

> Qualitative methods respect the composition of meaning and activities under study by recognizing that people creatively adapt their behavior to all situations. Qualitative methods recognize the continual cycles of the creation, interpretation, and re-creation of meaning fundamental to social awareness (p. 160).

In addition to facilitating the studies on the communication process, qualitative methods are also useful for the studies adopting the actor-network theory. Wang and

Zhu (2003) suggested that the actor-network approach integrates various factors, including global/local, material/spiritual, and human/non-human, and examines their complicated interactions, alignments, and negotiations. This complex process can be better presented by qualitative research methods with thick descriptions about the model of translation (Wang and Zhu, 2003).

Considering these advantages, this study adopts qualitative research to examine Chinese software users' online communication process about software copyright and piracy from the perspective of the actor network theory. Lindolf and Taylor (2002) suggested that qualitative research requires selecting an appropriate site to collect data. In this study, digital archival at online public forums emerges to be a good choice to overcome the difficulties in data collection about piracy studies.

Difficulties in data collection and digital archival as a solution

One of the difficulties in studying piracy end-users results from another important civil issue in the network society: privacy. Krim (2002, September 5) suggested that online copyright protection is facing the challenge of Internet service providers, which, under the name of defending privacy, refuse to block the users who share copyright-protected materials on the Internet. McCredie (2003) pointed out that an inherent tension exists between laws/policies to protect privacy of individual users and laws/policies to protect intellectual property rights of artists and corporations. The tension between piracy and privacy does not only exist in the enforcement of copyright protection but also in the piracy research. Liang and Yan (2005) suggested that the attempts to gather information from piracy vendors and piracy users are often thwarted by their non-cooperation. Piracy users, considering their privacy, are likely to reject invitations

to the studies about piracy.

Digital archival data at online public forums provides a solution to address the privacy concern in piracy studies. First, digital archival data at online public forums can be regarded as a public archive in which "records are viewed as prepared for the expressed purpose of examination by others" (Berg, 2004, p. 211). Berg (2004) argued that the analyses of online archives are not different from the studies using old newspaper stories, broadcasts, and the Congressional record, or other public archival data for research. Berg (2004) listed three conditions for a researcher to freely quote and analyze information stored in digital archival: it is publicly archived; no password is required for archive access; and no site policy prohibits it.

Second, although there are still debates over the Internet research ethics, archival research is regarded as the least intrusive or active method to human subjects (Broad & Joos, 2004). Berg (2004) saw archival research as one of unobtrusive strategies:

> To some extent, all the unobtrusive strategies amount to examining and assessing human traces. What people do, how they behave and structure their daily lives, and even how humans are affected by certain ideological stances can all be observed in traces people either intentionally or inadvertently leave behind. (p. 209)

Of more importance, Berg (2004) suggested that unobtrusive methods provide access to aspects of social settings and their inhabitants that are simply unreachable through many other means. It is true in this study. First, anonymity of online public forums provides participants a comfortable place to freely express their ideas and interact with other participants. Second, online public forums, especially the large ones in China, have a big number of online participants. So the study can reach a variety of

perceptions among Chinese software users. Third, digital archival at online forums frees the researcher from limits of time and space to reach the postings that were created years ago by participants located in remote physical areas. Fourth, online postings are archived in topic threads. For example, a participant initiates a posting as a new topic and other participants can reply to this message. All the messages including the new topic posting and reply postings are archived together under a thread. Therefore, online participants' communication can be observed under each thread in which they discuss, debate, and negotiate with one another.

Although most archival data can be managed unobtrusively, Berg (2004) reminded us that researchers sometimes should be cautious about some ethical concerns. For example, since some archives include certain identifiers, such as names and addresses, their use requires that researchers take steps to ensure confidentiality. Gatson and Zweerink (2004) suggested that it is quite common and often not hard to figure out offline identities from online identities, especially when the site has a stable population who spend a considerable length of time there.

Specifically in this study on the Tianya Community, the investigator is unable to know any real demographic information about the subjects, such as name, gender, geographic location, profession, and email/postal address, and the only possible identifiers are the usernames of the participants. However, the subjects in the Tianya Community use the same usernames to participate in a variety of topics across different discussion boards. It is possible that their real demographic information is released when they talk about more casual, less serious topics on the other discussion boards. In order to ensure confidentiality, the usernames of all the collected messages

are removed in data collection. Instead, the collected messages are coded into Message 1, 2, 3, 4, etc.

Virtual community: Online/offline relations

Online public forums provide a good site to study this topic. A subsequent question related to online data collection is if the data collected on the Internet can represent users' perceptions in the real world. In other words, the question is if users' perceptions revealed in the online communication are different from the ones they have in the offline world. This question can be answered by the existing studies on virtual community.

Jankowski (2002) defined virtual community as one that is not tied to a particular place or time, but still serves common interests in social, cultural and mental reality. Shapiro (1999) argued that virtual community is where participants will find a true sense of belonging, and their shared experience will create a sense of commitment. Rice (2002) suggested that virtual community provides a valuable and useful supplement to local physical community, where community members are more active to participate in community-related issues. For example, Silver (2000) studied the Seattle Community Network, and found that the community provides “a culturally rich, civic-based online platform of resources, materials, and discussion forums with and within which residents of Seattle can share ideas, interact with one another, and build communities” (p. 294). Jankowski (2002) suggested that people’s online participation often takes the form of public discussion and debate about social, political and cultural issues on local community, and even the state.

Meanwhile, Broad and Joos (2004) rejected the argument in early studies that

online participants use deception to create identities on the Internet that are different from who they “really” are. Instead, they point out that the Internet is a space where “real selves” can be produced in terms of cultural contingencies. According to Broad and Joos (2004), the Internet is an arena where “deprivatized” selves are “publicly” produced, and this production process involves in the interplay tension between circumstantial restraints and self-constituting social actions.

The studies on virtual community reflect four implications for this study. First, virtual communities serve similar functions of actual communities, where participants are enabled to conduct a variety of social activities. Second, virtual communities and actual communities are not quite different in terms of the production of “real selves”. Third, virtual communities allow participants to develop self-constitution, and create their “real selves” more freely and completely than actual community, because the Internet, being anonymous and free from boundaries, is less controlled by social authorities. Fourth, virtual communities are both private and public, where private selves are disclosed in front of public access. These implications indicate the functional integration of online and offline communities as well as there being little difference between online and offline data in studying software users' perceptions.

Why the Tianya Community?

Online public forums have been identified as a good site for this study. A close review over the largest online public forums in China indicates that the Tianya Community is the best choice for two reasons. First, the Tianya Community is ranked as No. 1 among all the Chinese online forums in terms of the number of participants and the number of daily visits (iResearch, 2008). Second, the Tianya Community has a complete set of

digital archival and an efficient searching system. Using the search engine, the researcher can retrieve all the related postings that can be dated back to 1999 when the community was established. The number of related postings amounts to several thousands. Meanwhile, the researcher also tested the other three largest online forums: Xiaonei Community (ranked No. 2), Daqi Community (ranked No. 3), and Xisi Hutong Community (ranked No. 4). Due to technological limits, the total number of postings retrieved from these three communities is only several hundreds. Another reason is that these communities have a shorter history than Tianya Community so as to have a limited number of postings about software piracy.

The Tianya Community (www.tianya.cn) was established in March 1999, and currently includes over 300 public discussion boards and 210,000 personal web logs. According to the ranking of iResearch (2008), Tianya Community is ranked No. 1 of all the online communities in China, No. 30 of all Chinese websites, and No. 323 of all the websites in the world. According to iResearch (2008), the user coverage of Tianya Community is 2070 per million, far exceeding Xiaonei Community that is ranked No.2 and has 1,670 user coverage. The user coverage is an index to calculate how many users access to a particular website per one million users in the world, indicating the community's popularity.

Membership in Tianya Community is very open. No action needs to be taken by individuals in order to have full access to peruse all of the messages of the website. Individuals can “lurk” the website as a guest for an unlimited period of time without revealing their presence or providing any information about themselves. If an individual wants to post a message at the website, he or she can register as a new user

of the site. The registration consists of entering a user name, password, and a working email address. The registrant is not required to provide any demographic information, such as gender, race, age, or geographic location. Once an individual is registered, an individual is free to post messages at the website. Messages can be posted in two ways: responding to a message already posted on the website, or creating a new topic thread.

This simple registration and posting process allows wide access to community participation. As a result of these limited requirements, there is a great deal of anonymity for participation in the community. The website has a privacy policy that requires all participants' identities to be confidential and exempt from any inquiry of any individual or organization except for: 1) when a user authorizes disclosure of his or her personal information; or 2) when a legal procedure demands disclosing the user's information.

The community also has a detailed copyright policy. First, the community is exempted from any obligation connected to the postings of any individual participant. Second, any message, once being posted, is regarded as public resource owned by all the members in the community. However, the copyrights of postings still belong to individual participants. Third, any person, when quoting the postings for non-commercial purposes, should indicate the authorship and the source of the messages.

Procedure

In the community, there is no a particular discussion board devoted to the issues of software copyright and piracy. However, five discussion boards are found in which software piracy copyright issues are discussed extensively: IT Vision, Computer

Networks, Economics, Law, and Zatan (see table 2). Each forum is surveyed by using the internal search engine with the keywords of “piracy”, “software copyright”, “copyright”, “software piracy”, and “software download”. The search retrieves 561 posting threads with 6,150 individual postings ranging from March 1, 1999 to June 30, 2007.

Table 2: *Distribution of Postings across Five Main Bulletin Boards*

Bulletin Boards	**Distribution of Postings**
Computer Networks	43%
IT Vision	35%
Economics	18%
Law	2%
Zatan	2%

In general, these postings reveal two major types of communication among online participants. The first is based on narrative stories. Typically, one participant posts his personal experiences about software copyright and piracy. Then, the others draw on this narrative story to start discussion. For example, a posting with the title of "my love of piracy" records the author's personal experience of piracy use.

According to the author, his initial motivation to use piracy is his love of reading. However, he was unable to afford the high prices of copyrighted books. When the computer age arrives, he naturally comes to buy pirated software. He raises two reasons for piracy use. One is price, and the other is that the quality of copyright software might not be as good as what producers promise, and he worries about spending a lot of money on copyright junk.

His posting is like an essay with about 400 Chinese characters. The reply postings are all very short with only one or two sentences. For example, one says, "Piracy must have its charm. Otherwise, it cannot last until now", and the other says, "I do not mean to support piracy, but I am too poor to buy copyright."

Another type of communication refers to online conversation. For example, one posting asks, "How can I change Word doc to PDF file and from PDF to Word doc?" One answers, "Word to PDF is easy. Just use Acrobat. PDF to Word is difficult. What I only know is to copy and paste." Then, the first participant continues, "Where can I get Acrobat?" "You may go to Google, and search for downloading Acrobat Standard."

This type of online communication is short with one or two sentences, and often takes the form of question and answer. It is more popular than the first type at the community. These two types of online communication are respectively based on narrative story and online conversation. Gubrium and Holstein (1997) indicated that the tension between online conversation and narrative analysis exists in the practice of online fieldwork, and the best way to deal with the tension is to study them in representational interplay and keep one another in check. The cross-validation in narrative story and online conversation enables the researcher to examine what is said and how it is said, and explore underlying socio-cultural factors behind the communication (Gubrium & Holstein, 1997). In this study, narrative stories can usually be used as exemplars to indicate typical perceptions held by Chinese software users. Meanwhile, online conversation can describe how these typical perceptions interact with one another and lead to users' adjustment and modification.

Data management and reduction

In this study, the process of data management and reduction strictly followed Lindlof and Taylor's (2002) qualitative research methods. Lindlof and Taylor (2002) drew on classic methods of coding and categorizing, and apply them into communication studies. According to Lindlof and Taylor (2002), data management and reduction start with the researcher's initial reflective thinking in data collection. Emerson, Fretz, and Shaw (1995) referred this reflective thinking to "asides" and "commentaries". "Asides" means brief and reflective thoughts that pop into the researcher's mind to make sense of a particular happening or event, while "commentaries" is "a more elaborate reflection on some specific event or issue." (Emerson et al., 1995, p.102) In this study, the researcher's initial reflection is about price of copyright software products, which permeates across many postings and provides a basic explanation for users' piracy behavior. Furthermore, discourses about product price are extended into market strategies adopted by software companies. Thus, price is not an isolated reason for piracy use. Instead, it is linked to pricing strategy of software companies. Online participants often extend their talks about prices of copyright software to software companies that set up the prices. In this way, price and software company are connected to offer a more elaborate reflection on users' perceptions about software copyright and piracy.

The similar "asides" or "commentaries" also happen in participants' debates over piracy use. The researcher is first impressed with two opposing attitudes towards piracy use. For example, many postings simply express clear-cut stances: support and reject. However, some postings further appeal to laws or morals to justify their stances.

So I realize that pros/cons positions can be examined on at least two levels: legal and moral. The differentiation between legal and moral levels makes more sense of people's piracy debates.

Departing from initial reflections, the data reduction process moves into the stage of coding and categorizing. According to Lindlof and Taylor (2002), category is "an array of general phenomena: concepts, constructs, themes, and other types of "bins" in which to put items that are similar" (p. 214), and categorization refers to "the process of characterizing the meanings of a unit of data with respect to certain generic properties" (p. 214). Meanwhile, codes are the linkages between the data and the categories posited by the researcher, and the core purpose of coding is to mark the units of text as they relate meaningfully to categories (Lindlof and Taylor, 2002). According to Lindlof and Taylor (2002), codes are based on the units of texts, representing the very basic meaningful units of the data. Categories are drawn over clustering of codes, and have more conceptual and theoretical meanings.

The first step of coding and categorizing is to define basic meaningful units of the data. Berg (2004) suggested seven major units in written messages: words, themes, characters, paragraphs, items, concepts, and semantics. Gossett and Kilker (2006) pointed out that it is a better way to use themes as basic units in coding online postings, because online postings are poorly structured and often contain diverse, scattered meanings. The use of themes as basic units can be more flexible to contain different themes/meanings emerging in one piece of message. Berg (2004) explained themes in details:

> In simplest form, a theme is a simple sentence, a string of words with a subject and a predicate. Because themes may be located in a variety of

> places in most written documents, it becomes necessary to specify in advance which places will be searched. For example, researchers might use only the primary theme in a given paragraph location or alternatively might count every theme in a given text under analysis. (p. 273)

Given the poor structure of online postings, Gossett and Kilker (2006) advocated to code themes located in one or several sentences. There might be many themes reflected in one posting or no themes can be identified if the sentences in a posting are unable to convey a distinctive theme. In this study, all 6,150 postings are coded to explore themes in each of them.

With the themes as units, coding and categorizing are conducted under the guidance of grounded theory. Grounded theory is the most influential model for coding qualitative data and is widely used in communication studies. According to Strauss and Corbin (1990):

> A grounded theory is one that is inductively derived from the study of the phenomenon it represents. That is, it is discovered, developed, and provisionally verified through systematic data collection and analysis of data pertaining to that phenomenon. (p. 23)

Grounded theory suggests that theory development is grounded in data gathered and analyzed in the field. Theory is to "evolve during actual research, and it does so through continuous interplay between analysis and data collection" (Strauss & Corbin, 1994, p. 273).

According to Lindlof and Taylor (2002), grounded theory consists of three stages: constant comparative coding, integration, and dimensionalization. "Constant comparative coding" describes a process in which the researcher compares each incident to other incidents in order to decide in which categories they belong to. In the same process, each category's core properties are re-examined, re-defined, and further

clarified by going back and forth between data and categories many times until exhaustive categories are established and their properties are clearly defined. Two kinds of coding are involved in this stage: opening coding and coding frame. Open coding is initial, unrestricted coding of data when the researcher goes through the texts line by line and marks those chunks of text that suggest a category. At the same time, a coding frame is developed to "list all possible categories, the code names for each category, examples of each category, the number of incidents coded, and the location of each incident in the data records" (Lindlof & Taylor, 2002, p. 220).

In this study, one third of retrieved postings (about 2,200) are first examined with open coding procedure. Meanwhile, a coding frame is temporarily created but is subject to changes anytime when a new incident emerges against existing categorization. For example, open coding first identifies several themes reflected in online participants' talks about copyright software products. Some people express that price of copyright products is too expensive. Other people say that their income is too humble to afford copyright products. Another group of postings, whereas, believe that copyright software is overpriced because actual value of copyright software does not deserve high price. Then, a category is created on the coding frame to cover the emerging themes of price, income and value. This category is named "cost", including cost to purchase copyright products, cost to produce copyright software, and cost to maintain basic living conditions. In this way, a coding frame is generated in the process of categorizing different themes emerging in open coding.

However, the established coding frame has to be changed when a new incident is found against the existing rules of categorization. For example, an existing category

is “moral dilemma” that describes the dilemma between the utilitarian end of piracy use and the moral pressure piracy users feel when using pirated software. But as open coding continues, a group of new themes about moral are found. Online participants often appeal to different moral standards in their debate over piracy use. For instance, one side believes that piracy use is a shame against widely accepted social mores while the other side feels proud of using piracy because it reflects the spirits of sharing and altruism. In this situation, the category of “moral dilemma” is too narrow to include variations in online participants’ perceptions. Of more importance, “moral dilemma” assumes that participants conceptually and morally accept software copyright protection but only violate it in their practices because of utilitarian constraints. This assumption apparently is against the conceptual conflict relating to piracy use. So the category of “moral dilemma” is canceled and a new category of “moral debate” is used to specifically describe the moral conflict.

A complete coding frame is established as of the end of constant comparative coding (see Appendix A). It includes five major categories: software products, software developers, foreign developed countries, China development, and debates over software copyright and piracy. Under five major categories, there are 15 subcategories: cost, usability & accessibility, pricing strategy, anti-piracy strategy, market expansion strategy, service, foreign developed countries in software copyright and piracy, foreign developed countries in history, social development, economic development, Chinese government, defining software copyright & piracy, general debate, moral debate, and legal debate.

With the established coding frame, the study moves to the next two stages in grounded theory: integration and dimensionalization. According to Lindlof and Taylor (2002), the process of integrating categories starts with what is called “axial coding”—using codes that make connections between categories and thus result in the creation of either new categories or a theme that spans many categories. Meanwhile, the process of dimensionalization involves identifying properties of categories and constructs. With defined categories and constructs, the researcher can start to tease out the key dimensions within each construct. Lindlof and Taylor (2002) suggested that integration and dimensionalization work in parallel with the process of interpretation that involves the translation of an object of analysis from one frame to another, in which theories or symbolic relationships are applied to understand data and categories in a new light. Lindlof and Taylor (2002) emphasized the crucial role theory plays in interpretation:

> Theories and concepts may lay part of the groundwork for starting a project, but during the researcher's time in the field, data are collected and analyzed without being constrainted by any single theory. By the time the researcher leaves the field, the need to bring theory back into the process returns. This does not mean that one must commit to a specific theory. In fact, just the opposite: "being theoretically informed means that one is reflexive toward the deceivingly self-evident reality one faces in and through the data, able to toy with different perspectives to it, and that one is open to new insights about everyday life and society" (Alasuutari, 1996, p. 375). Thus, two or more theories may be put into creative tension with each other with respect to thickly describe cases created from field study. Theoretical frameworks are useful to the extent that they help rearchers stretch their imaginations and create and validate claims about the data they have generated. (p. 238)

Lindlof and Taylor's (2002) theory-guided interpretation is useful in this study. As discussed in Chapter I, Wang's (2003) network/process-oriented approach is used as the first-order framework to explicate complex interactions among human/non-human and material/non-material factors while the approach of political economy serves as

the second-order framework to explore resistances and confrontations existing in the totality of capitalist structure. In Chapter IV, the approach of political-economy is adopted to explore material tensions of structural factors and how they affect Chinese users' perceptions about software copyright and piracy. In Chapter V, the network/process-oriented approach is adopted to explore complicated material/non-material interactions between various structural factors as well as individual software users' agency to address combined impacts of structural factors.

CHAPTER IV

GLOBALIZATION AND ANTI-GLOBALIZATION

As I noted, this chapter will use the approach of political economy to guide analysis and interpretation over the identified themes and categories. The following four sections are included: 1) to introduce Mittleman and Chin's (2005) anti-globalization theory as a framework of political economy; 2) to explain the themes and categories in the coding frame; 3) to identify key constructs and their dimensions that contribute to the formation of Chinese software users' perceptions about software copyright and piracy; and 4) to apply Mittleman and Chin's (2005) theory to interpret key constructs and their dimensions.

Global copyright enforcement and anti-globalization framework

Responding to copyright infringements in developing countries, developed countries have exerted political and economic pressure, often in the form of international treaties and organizations, to enforce international copyright laws (Stein & Sinha, 2002). Wang (2003) confirmed this trend by noting the rise of international copyright regimes, such as WIPO and WTO, which represent the increasingly trade-oriented global governance of copyright and the further subjugation of the domestic to global trade regimes. Global copyright protection, therefore, is supported by "the formidable power of transnational capital as represented by copyright industries, the embeddedness of technology and transnational legal and trade regimes under capitalism …" (Wang, 2003, p. 35). Pang (2006) advanced this notion of control a step further by pointing out the formation of global copyright hegemony through the efforts of international

copyright regimes and their local delegations. According to Pang (2006), global copyright hegemony defines and re-defines social identities and relations in economy, politics and culture to reinforce and perpetuate historically constructed and uneven distribution of copyright production and consumption, as the developed world has become home to copyright owners, while the developing world houses the users.

However, Strangelove (2005) suggested that highly intensified systems of global copyright regulation face substantial subversion expressed through various forms of resistance and deviance from within local, regional, national, and global settings. Wang and Zhu (2003) argued that these resistance activities reflect the struggles and confrontations between consumers in developing countries and the extensive copyright control regime imposed by multinational corporations and governments of developed countries through international copyright regimes. Examined under the theories of globalization, the control and resistance in global software copyright enforcement reflect two conflicting parallel processes of globalization and anti-globalization. These two processes are well mapped in Mittelman and Chin's (2005) triadic framework about resistance to globalization.

Mittelman and Chin (2005) draw from the work of Polanyi (1957), Gramsci (1971), and Scott (1990) to explore the forms of anti-globalization. They establish three resistance propositions – counter-movements, counter-hegemony and infra-politics – to illustrate the complex debate underpinning software copyright and piracy. These propositions provide an emergent framework to conceptualize contemporary resistance points to globalization and subsequently the software copyright regimes. These three propositions work on different levels of resistance.

Polanyi's (1957) "counter-movements" focuses on resistance to free market economy, an economic system controlled, regulated, directed by markets embedded within the production and distribution of goods. Drawing from Marxist political economy, Polanyi (1957) argued that all the social institutions of economy, politics, and culture are established to ensure the self-regulation of the market by creating conditions which make the market the only organizing power in society. Thus, the resistance to self-regulating market economy focuses on challenges to a series of social conditions and assumptions on which the free market economy is established.

Contrasting Polanyi's (1957) privileged economism that reduces transformations in all aspects of social life to economic determinants is Gramsci's (1971) concept of hegemony that transcends the dichotomy of structure and superstructure and encompasses whole ways of life. According to Mittelman and Chin (2005), "hegemony is a dynamic lived process in which social identities, relations, organizations and structures based on asymmetrical distributions of power and influence are constituted by the dominant classes. Hegemony, then, is as much economic as it is 'ethic-political' in shaping relations of domination and subordination." (p. 18) Hegemony is established when power and control over social life are perceived as emanating from "self-government" through a series of institutions of civil society, such as church, family, schools, media and trade unions, which give meanings and organization to everyday life (Gramsci, 1971). Thus, resistance to hegemony emphasizes challenges to social institutions as an instrument of education that perpetuates hegemonic norms in both material and non-material structures.

Although placing different emphases on material economism or

material/non-material hegemony, Polanyi's (1957) "counter-movements" and Gramsci's (1971) "counter-hegemony" both work at a collective level with openly declared contestations. On the other hand, Scott's (1990) "infra-politics" works on an individual level without openly declaring a call for resistance. Infra-politics activities often occur in the realm of everyday informal assemblages, such as the market, workplace, household, and local community. Such activities embody symbolic hidden transcript of anger, aggression and disguised discourses of dignity, including rituals of aggression, tales of revenge, gossip, rumor and creation of autonomous social space for assertion of dignity. The concept of hidden transcript is a response to the dominant class's public transcript or the recording of verbal and non-verbal acts carried by the dominant party. Accordingly, the hidden transcript reflects the surreptitious challenge practices of subordinate parities for economic, status, and ideological domination (Scott, 1990).

Mittelman and Chin (2005) suggested that conceptual tensions among these three propositions correspond to the changing conditions of social life, and reflect more complex targets and modes of resistance, all of which coexist and are modified in globalizing processes. As such, the three theoretical propositions form a triadic framework to help "identify possibilities for contesting forms of domination, expanding political space, and opening new venues-redefinitions of politics" (Mittelman & Chin, 2005, p. 25). This chapter, therefore, adopts this framework as heuristic device to interpret Chinese users' discourse on software piracy as reflections of domination of social authorities and as forms of resistance to the dominant public transcript found within globalization processes that contextualizes the controversy

surrounding software copyright and piracy.

Integration and dimensionalization are conducted to uncover two underlying constructs with dichotomized dimensions. They are software companies and foreign developed countries. Under the guidance of Mittleman and Chin's (2005) theory, the dichotomized dimensions of these two constructs are conceptualized and interpreted into two conflicting parallel positions about software copyright and piracy: one is named “global discourse” that reflects globalization processes to support global software copyright enforcement; and the other is named “local discourse” that reflects the anti-globalization process to resist global software copyright enforcement. The following paragraphs will explain these two types of discourses across a variety of themes and categories.

Software products: Cost, usability, and accessibility

Cost, usability and accessibility play critical roles in diffusion and adoption of innovations, including those that emerge illegally at the marketplace. Rogers (2003) suggested that these elements feed into how users perceive relative advantages in adopting an innovation. Among online discussants, cost is consistently mentioned as a reason to choose pirated software. There are three themes under the category of cost: cost to buy copyright software, software users' income, and use value of copyright software products. Talking about the cost to buy copyright software, one participant said[5]:

> Please look at the following prices: Microsoft Windows Small Business Server 2003 RMB 5280-7800; Microsoft Windows Server 2003 RMB 7800-9200; Microsoft Windows XP Home Edition RMB 650-1300; Microsoft Windows XP Professional COEM RMB 950-1380; and Microsoft Windows XP Professional RMB 1080-1780. All the prices are quoted from http://bj.it168.com. Look at Small Business Server

> 2003, the cheapest is RMB 5280, which is more than the total cost of all my computer hardware. I can afford this price only if I sell all my hardware. If so, where would I install this software program? The lowest price of Windows XP Home Edition is RMB 650. It is reluctantly acceptable but still very expensive, because it equals to the monthly net income of a common family in China. (Quote 1)

In addition to high prices of copyright software products, many of software users, especially students or low-income earners, express that their income is too humble to afford copyright software. As one user indicated:

> An official version of WIN98 costs about RMB 2000. My monthly income is no more than RMB1000 and needs to be used to support my family. Where can I get extra money to buy copyright software? (Quote 2)

The two postings above indicated a large distance between copyright software prices and Chinese users' affordability. They are the most popular themes in software users' online discussion and the most important reasons for their use of pirated products. For example, one user suggested:

> I have two requirements for software programs: useful and cheap. If I can spend only five Yuan [Chinese currency] to get the same use value of the product that is priced for hundreds or thousands of Yuan, why should I spend so much money? Most of us are still not rich. For those rich people, several hundred Yuan might be cheap enough. But do they ever think of the people who are living at the bottom of the society? I love piracy, I support piracy, and I like piracy, because I have no money. Without piracy, many people's computers would be a pile of junk. (Quote 3)

Besides high price and low income, some users start to ask if the actual use value of copyright software products deserves the high price. In another word, the question is if copyright software products are overpriced at the market. For example, a participant said:

> Even if I earn RMB100, 000 per month, I am still not to buy copyright software. Microsoft Windows have so many holes and bugs. We spend a

> lot of money on their products just to provide free platforms for Microsoft to test their products. I am rich but I am not a fool. I do not buy copyright software because I think they do not deserve their prices. If you spend RMB 2, 000 on a program that is filled with a variety of problems and very unsafe, you have to spend extra hundreds of Yuan to buy anti-virus programs and firewalls……You have to worry if the entire system would crash down, if all the data would be ruined, and if this system would be incompatible with other software programs. In the end, I spend a lot of money only in exchange for a lot of worries. Why should I do that? (Quote 4)

The postings quoted above represent three themes under the category of cost: cost to buy copyright software, Chinese users' income, and use value of copyright products. These messages reflect local discourse in Chinese software users' perceptions about software copyright and piracy, which resists copyright software and supports piracy. In terms of cost, local discourse is based on two positions: 1) a large distance exists between copyright software prices and Chinese users' income; and 2) copyright software products are overpriced. In response to local discourse, global discourse is also found in the category of cost, which supports copyright software and resists piracy. For example, an online participant talked about high prices of software products:

> Setting price is the right of a producer. If a company sets a high price and nobody buys their products, the company is unable to make money. It is natural. It accords to the basic principles of free market economy. A product is produced just in order to make profit. It is nothing wrong. If you cannot afford a product, it is your own problem. You can simply give it up. But if you try to obtain the product in any illegal way, it is your fault. Let me say it again: it is software companies' business to set up prices. If the price is not reasonable, it is their loss. However, it does not mean you can take high price as an excuse for using pirated software programs. (Quote 5)

The author appealed to free market economy to justify high prices of copyright software products. He believes that pricing reflects the basic principle of free market economy. If we agree with free market economy, we should accept high prices of

software products. Another posting justified high prices from the perspective of users' income.

> If low income could be used to excuse using pirated software products, how about today's housing price? If a low-income earner is unable to afford his or her house, does it mean he or she could move into the house without paying money? Is there any difference? (Quote 6)

The author refused to accept low income as an excuse for piracy use. He compared software products with houses to emphasize that high prices of both software programs and houses result from free market economy. Since we can tolerate housing prices, we have no reason to reject software prices. In addition to the denial of the excuses of high price and low income, another participant talked about the actual use value of software products.

> If you run a software company, you would know why copyright software products are so expensive. Do you know how long it takes to develop a mature commercial software program? Do you know how much work the developers have to do, such as designing, coding, and testing? Do you know how many copies a final product can be sold for? Many people invest their time and energy into a program. How could you get it with only three or four Yuan? (Quote 7)

In this message, the author justified the use value of copyright software by pointing out the developers' hardworking. The high price reflects the philosophy of market economy that the actual value of a product is expressed in its price and hardworking should be rewarded with material interests.

While relative advantages are often expressed in economic terms such as cost, Rogers (2003) suggested that they also apply to other areas such as social prestige, accessibility and usability. Many postings focus on accessibility and usability as important factors in users' decisions to adopt pirated software. For usability, a user summarized his experience with copyright and pirated software products:

- A copyright product is packaged in a big box with many plastic covers. A pirated product is contained only in a paper sleeve that is a good way for environment protection.
- To install a copyright product, you have to use a CD-KEY. You need no key for a pirated product so that even a computer idiot can install it.
- A copyright product has limited versions while a pirated product has many versions to better serve software users.
- A copyright product contains only one software program but a pirated disc includes several software programs by different companies. You can always find the most updated, advanced programs on a pirated disc.
- Of more importance, there is no significant difference in terms of functionality and stability between a copyright program and a pirated program. A pirated program is 100% identical to its corresponding copyright program. (Quote 8)

For accessibility, one participant contributed:

> It is so convenient to buy pirated software programs. You do not have to go to software stores. The piracy vendors are just at your downstairs, at the gate of your apartment building, or on the way you get back home. I even know a vendor's cell phone number. He promised me free delivery and free replacement of any program I am not comfortable with. With such a good vendor, what can I ask for? Let copyright software go to hell! (Quote 9)

Usability and accessibility are used as two reasons for Chinese users to adopt pirated software products, indicating local discourse that resists software copyright and supports piracy. On the other hand, the users on global discourse refuse to buy the excuses of usability and accessibility. For usability, one user said:

> Many people consider software's value from the perspective of price, and simply draw a conclusion that pirated products are more cost-effective than copyright products. However, this conclusion is biased, because it overlooks the following concerns:
>
> The first is time. Many users care about their computers' speed and are willing to pay more money to buy a faster CPU. Ironically, they seldom care about software speed, especially the operating system's speed. The problems in pirated programs would cost users several hours or days to recover their operating systems. Time is money. Waste of time means devalue of computer hardware.

> The second concern is money. Research indicates that over 80% system problems are caused by pirated software. Given that many users are not computer professionals, they have to send their computers back to the manufacturers when they meet problems. Thus, various fees are generated in this process, such as transportation, inspection, and repairing. Most of time, the problems caused by pirated software are not covered in manufacturers' guarantee programs. So the repairing fee would be very high.
>
> The third concern is security. In order to operate normally, a pirated program has to break the self-protection system of a copyright program. However, the breaking would inhibit some functions, increase the number of bugs and holes, and decrease the program's compatibility. In order to protect copyright owners' interests, most of copyright products are installed with some invisible settings. When being pirated, these invisible settings would cause some malfunctions, or even crash down the whole system. The usual symptoms include frequent shutting down and retarded operation. What even worse is that some vicious pirates add virus programs into pirated products. When these products are installed, virus programs would change the system registration and steal users' confidential information.
>
> The last concern is about added value service. The users of copyright products can get added value services from software developers, for example, free online upgrading or acquiring new operating systems at very cheap prices.
>
> A copyright program contains hundreds of developers' wisdom and efforts. It is far more than one or two discs. When you decide whether or not to buy a copyright software program, what you should consider is not only its price but also a variety of advantages it embodies. Please do not be blinded by the cheap price of pirated software. (Quote 10)

This posting is the most complete justification about usability of copyright software programs. Copyright products are compared with pirated products in time, money, security, and added value. The author believes that copyright programs have many advantages in usability and deserve high prices.

In software products, the analysis reflects the conflicts between global discourse and local discourse. The users on global discourse often appeal to the

principles of free market economy to justify price and usability of copyright software products. Their positions include: 1) the value of copyright programs are expressed in their prices; 2) copyright programs have excellent usability so as to deserve high prices; 3) if users are willing to pay more, they can have better products and services; and 4) software owners have exclusive rights to set up their products' prices.

On the other hand, the users on local discourse believe that high prices under free market structure far exceed users' affordability and do not reflect the use value of copyright programs because of their poor usability. They, therefore, turn to pirated products and use them to resist free market economy. For example, one user said: "The biggest contribution of pirated software products is to lower down the price of copyright products. Without piracy, we cannot have today's discounted prices of copyright software programs." (Quote 11) Another user openly expressed: "Piracy is used to rob the rich and help the poor. It is a natural regulation to free market." (Quote 12)

The tension between global and local discourses reflects Polanyi's (1957) position of counter-movements. Global discourse represents the self-regulatory mechanism of the free-market model that governs globalization processes in the context of software copyright and piracy. Meanwhile, local discourse represents the resistance to free market structure that is seen as unfairly dominated by software companies. In software products, the resistance to free market structure is mainly expressed in users' complaints about high price and poor usability of copyright products as well as their adoption of piracy to fight against copyright software products. The arguments supporting and against free market economy indicate corporate control

and users' resistance. The conflict between software owners and software users continues into the users' discussion about software developers.

Software developers

Compared to the category of software products, the tension between software owners and software users is more explicitly expressed in users' discussion on the category of software developers, including four subcategories: pricing strategy, anti-piracy strategy, market strategy, and services. The users' debate between global and local discourses concentrates on the practices of big software companies. Microsoft, hence, emerges to become the number one target. To express his wrath, one user compiles an open letter to Microsoft. The following are some quotes from this letter:

> Microsoft, I feel sorry for you. I should not curse your market strategies while using your pirated software. Your price-setting people are nothing but a group of idiots. You are not selling products. You are robbing under the name of law……Microsoft, I feel sorry for you. I should not feel sympathetic about those small companies and piracy manufacturers when I hear they are sued by you for pirating. Especially for those piracy manufacturers, I feel their loss is just my loss. They are illegal criminals and you are legal criminal. Their crime is stealing and your crime is robbery……Microsoft, you infringe my right of information by refusing to release original codes; you infringe my right of choice by brutally killing your competitors; you infringe my right of property ownership by frequently updating your products. Given that you infringe my so many rights, I decide not to observe the permission agreement for software use, which apparently is unfair. (Quote 13)

The letter revealed a complete set of resistance positions against Microsoft across all four subcategories of pricing strategy, anti-piracy strategy, market expansion strategy, and services. This letter saw Microsoft's copyright enforcement as a tool to control and exploit software users by extensively infringing their rights and interests. In his eyes, corporate control and exploitation are legitimated and protected by the imbalance of power distribution between software users and software owners. So he called for

rejecting permission agreements of software use, which are written according to the principles of market economy.

In addition to criticizing software companies, the other users were more direct in rejecting the concept of software copyright and the underlying free market structure behind the practices of software companies. For example:

> Microsoft is simply a robber who blocks the road with its control over software, and, then, charges every passenger. It [Microsoft] uses the term of “intellectual property rights” to openly conduct its robbery under the name of international law and justice. (Quote 14)

> Why should I feel guilty [for piracy use]? On the contrary, it is software companies that should feel guilty. Those companies uphold the flag of free market economy to charge whatever high prices at will without any consideration of a broad range of public interests. For our software users, what can we do? We are forced to follow the game rules created by software companies under this unfair market structure. We are even deprived of speech freedom to call for protecting our interests. (Quote 15)

In the category of software developers, the resistance of local discourse starts with users' complaints about software companies' strategies in pricing, anti-piracy, market expansion, and services. Then, the criticism is further directed at the concept of software copyright and the self-regulating free market structure, which are used to legitimate the practices of software companies. Many users on local discourse are aware that the free market economy is the fundamental source to cause today's unbalanced power distribution between software owners and software users, and without effective measures to correct free market structure, the interests of software users cannot be well protected. In order to fight against control and exploitation of software companies, some users turn to software pirates. For example:

> Whenever I do not have money to buy software, I will think of you [software pirates]. Without your hardworking, I would not be able to

> use the computer. The Internet prosperity all depends on you. You are underground heroes. You are protectors of our poor people. In order to help millions of software users, you are working like ants and never care about personal interests and reputations. I represent all software users to express our gratitude to you. You are "Lei Feng" [a famous altruistic model in China] alive on the Internet. You are "Bai Qiu En" [an unselfish foreigner who volunteered to help Chinese people in the Second World War] alive in my computer. Salute to all your guys! (Quote 16)

In the eyes of the author, software pirates are the saviors of millions of poor Chinese users. Their piracy behaviors are viewed as effective measures against corporate control and exploitation. On local discourse, piracy is no longer an immoral activity but needs to be honored and praised.

On the other hand, the users on global discourse are more likely to support software owners/companies. They believe that software owners' copyright enforcement is a reasonable way to observe business rules, and individual users have enough freedom to avoid control and exploitation directed on them. Their opinions were completely expressed in the following response to the open letter for Microsoft:

> If it [Microsoft] infringes your right of information, you can refuse to use their products. If it infringes your right of choice, nobody holds a knife to force you to use their products. If it infringes your right of property, nobody stops your use of PC 286 and DOS operating system. Nobody even stops you if you would like to use abacuses……Actually Microsoft has considered China's piracy situation. Did you ever see Microsoft sue any individual piracy user in China? Actually Microsoft has adopted a lenient attitude towards individual Chinese users. You have been already allowed to pirate their products secretly. You should be satisfied. (Quote 17)

Besides defending software owners' strategies, the users on global discourse also go further to protect the concept of software copyright and the self-regulating market structure under which copyright enforcement operates. For example:

> Why do college graduates have the same income as migrant workers?

> Why do China have little technology breakthrough? Why are most of advanced technologies invented in foreign countries? Why do many excellent students go abroad? It is because knowledge in China is too cheap and the social status of intellectuals is too low. Why do we have cheap knowledge and poor intellectuals? It is because we have never protected intellectual property rights so that China is lacking in a good environment for fair play and competition. (Quote 18)

> Ancient China plays a leading role in science and technology across the world. However, most of these technologies finally disappeared, instead of being widely disseminated and inherited. In contrast, Western countries were aware of intellectual property rights at a very early time. Meanwhile, the free market structure they adopted guarantees that technology developers or copyright owners can enjoy huge economic rewards so that Western countries achieved fast development in science and technology. In today's China, free market economy is most necessary. Under the structure of free market, resources and manpower would be directed to where they are most demanded and where they can generate maximum profit. That is why our country is now conducting the economic reform into market economy. (Quote 19)

The debate between global and local discourses starts with software owners and extends into the concept of software copyright and the self-regulating free market structure. The arguments on global discourse represent the interests of software owners and call for strict enforcement of software copyright (Lessig, 2004), reflecting corporate control and exploitation over software users. The arguments on local discourse protect the interests of software users and call for overturning the existing structure of intellectual property rights and free market economy (Strangelove, 2005), reflecting deviance and resistance of software users. The tension between global and local discourses supports Polanyi's (1957) counter-movements that provide a balanced counter-point to the monopolized position of the self-regulating market economy.

Foreign developed countries

So far, the discourse surrounding software products and software developers illustrate the tensions between software owners and software users within national boundaries.

However, this counter-movement is not limited to national boundaries. Stein and Sinha (2002) suggested that economic globalization has drawn what is normally a localized issue into the international arena, highlighting the significant disparities that users see between developed and developing countries. In line with Polanyi's (1957) counter-movements, software users' protests shift to globally concerned activism. Associated criticisms by Chinese software users highlight Western developed countries' domination of the global copyright regime and exploitation of developing countries under the regime. One user clearly illustrated these tensions:

> Windows 98's price in China is the same as, if not a little higher than, in Japan and European countries. What development level are they at? What level are we at? Of course, we should buy copyright products, but we simply cannot afford them. Thus, should we choose to use abacuses when they are using computers? Are those Western countries too greedy when they talk about copyright? When we plant rice, how much rice can exchange a pair of socks from them? When we produce socks, how many socks can exchange a car from them? When we produce cars, how many cars can exchange a computer chip from them? Our technology and economy lag far behind theirs. But they require us to obey the same game rules, and we have to participate in the game. They have been on the top of the world for so long, but refuse to give any concession to poor countries. They even refused to let poor countries develop a little for the sake of diminishing increased distance. (Quote 20)

The author believed that high prices of copyright software products put China at a disadvantageous position in the international trade with foreign developed countries, and enhance the existing technological gap between China and developed countries. In this process, software copyright is reduced to a tool manipulated by foreign developed countries to exploit developing countries and perpetuate the historically-structured divide in software production and consumption. The role of software copyright in the international trade was noticed by the author in the following posting:

> Intellectual property right is intentionally created for the interests of

> Western countries. By now, it has been totally reduced to the tool of knowledge hegemony. For any idea or any product, as long as he comes up with before you, or he makes up before you, or he files patents before you, you are just unable to do it. Otherwise, you have to pay a large number of money to buy its copyright or patent. It is ok and acceptable if he really invents new technology. What even worse is that even if you know his products are trash, you have to give money to him and you can do nothing but being exploited. (Quote 21)

In the category of foreign developed countries, the underlying economic structure to justify the concept of copyright is not only self-regulating free market economy that is identified in the categories of software products and software developers, but also the philosophy of free trade in international trade and business. A posting directly criticized the free trade promoted by foreign developed countries with particular venom directed at the United States:

> Free trade actually is the largest lie! And the biggest liar is the United States, which claims to promote free trade. But look at what they are actually doing. In their strong fields, such as copyright industry, they desperately ask other countries to exercise free trade. However, in their weak fields, they never hesitate to create trade barriers. Free trade should be conducted between two countries at a similar level of development in order to achieve mutual benefits. If free trade is applied between the United States and an African country, it is like a kid sparring with a heavy-weight boxer, totally incomparable! More important, the rules of game are always created by the stronger, more powerful side, while the weaker side has no right to make choices. (Quote 22)

Talking about foreign developed countries in global software copyright enforcement, Chinese users' resistance focuses on their domination of international copyright regimes, their adoption of software copyright as a tool to continue exploitation over developing countries, and their promotion of free trade to legitimate copyright enforcement activities.

So far, such criticism has concentrated on the economic/material level. In the

expanding process of economic globalization, counter-movements shift the focus from software companies to foreign developed countries that represent these companies' interests globally (Halbert, 1997). Within this criticism, foreign developed countries are blamed for manipulating international intellectual property regimes to enforce copyright protection across the world and exploit developing countries. While software users focus on economic tensions between developed and developing countries, politics, culture and ideology also play an integral part in international copyright controversies. Accordingly, software users' discussion on economic exploitation under the name of copyright leads to the claim of Western imperialism with associated economic, political and cultural controls over developing countries:

> How did these countries become rich? Does their wealth come from civilization and democracy they claim to have and desperately promote across the world? No! They rob the whole world. After filling their pockets, they sit down and begin to talk about ethics, talk about free trade, and talk about intellectual property rights. For them, copyright is just a tool to control our economy, as well as our politics and ideology, and let China always take their orders …. They act like a villain who makes enough black money from underground business, and now turns around to tell people to love peace and give up violence. Today, they come to ask for copyright. Who can compensate our Yuan Ming Yuan [a famous Chinese historical architecture that was burned down by English and French invasion troops)? Who can compensate our loss brought by British opium exports to our country? (Quote 23)

The author recognized that software copyright is not only an economic term but also an important part of Western civilization. In his eyes, the concept of software copyright embedded with Western civilization threats not only China's material interests but also China's politics, culture and ideology. Western civilization, therefore, acts as a tool to justify their imperialism in the world. Another posting expressed:

> Do not listen to the lies of Western countries. Look at their history. Who are innocent? How much wealth they grabbed from the other

> countries? How many American Indians were killed? How many Australian natives were killed? How many African slaves were sold? How much opium they sold to China? How many Chinese people were enslaved by them? Now they have money. They start to talk about "civilization". But "civilization" is just a camouflage. Most of time, they are willing to conduct their robbery under the name of civilization, except when they lost patience, for example, in Iraq and Afghanistan. (Quote 24)

All the postings above illustrated two themes under the category of Western developed countries: Western developed countries in global software copyright enforcement and Western developed countries in history. On local discourse, users' resistance to the first theme concentrates on economic conflicts between developed countries as copyright owners and developing countries as copyright users. Meanwhile, users' resistance to the second theme probes into spiritual/ideological control foreign developed countries exercise under the name of Western civilization. In this situation, software piracy emerges to be a weapon for Chinese users to fight against both material and spiritual controls of foreign developed countries. For example:

> Piracy gives us a space to develop and a space to grow up. To steal American technology shows that we are capable of using its technology to beat it. "To treat somebody in a way he or she treats you". It means that we are strong and smart. Only what the strongest said is the truth. In history, foreigners steal our gunpowder to attack us. Today let's use American software to enslave America. My fellow brothers, the most important thing for us is to study hard. The truth always belongs to stronger people. (Quote 25)

> If somebody believes that the original increment of capital is a fair process, and has nothing wrong, it means that if your arms are stronger than mine, it is all right for you to kick me down and that is my destiny. Then, we have enough reasons to say today that it is all right for me to pirate you and it is your destiny. If villains have been allowed legally, why should we hesitate to be villains too? To deal with villains and burglars, we should learn from Gadhafi and Saddam to use the villain's way to fight against villains. (Quote 26)

In response to resistance positions on local discourse, global discourse is also found in

users' online discussion. These users refuse to connect the issues of software piracy with international conflicts between developed and developing countries, and simply view copyright protection as an issue of law enforcement. For example:

> Piracy and nationalist sentiments are totally different. Please do not put them together. Anti-piracy is the world's trend, and is a very important issue. To protect copyright is to protect our own interests. It is not only to protect others' interests, and not only to protect American interests or Microsoft's interests. It is to protect the interests of every citizen, every organization, and every country, all of which are the subjects under legal protection. To infringe other's interests is against the basic spirits of laws. (Quote 27)

Meanwhile, some users on global discourse believe that strict enforcement of software copyright would win a good reputation for China and create a positive national image in the world. They think that software copyright protection is China's obligation to WTO, and China should faithfully keep its promise to the world. For example:

> If a country wants to be internationalized and join globalization process, it must adopt effective measures to protect copyright. First, copyright protection would show the world that China is a responsible member of the international community. Second, copyright protection is the demand of software industry development. Third, copyright protection can win the international respect. Fourth, China should respect the existing international rules as it has joined WTO and become a member of the international society. Fifth, even if piracy can help save a lot of money, China still has to face serious punishments placed by other countries. Sixth, if someday Chinese software industry is strong enough to export their products, the other countries would not protect Chinese products because China fails to protect the copyrights of foreign products right now. (Quote 28)

Compared to Polanyi's (1957) emphasis on the economic/material dimension of software copyright and piracy, the debate between global and local discourses in the category of foreign developed countries focuses more broadly on both material and spiritual controls imposed by foreign powers and associated resistance to them. Such a position reflects to some degree Gramsci's (1971) position of counter-hegemony,

which challenges institutionalized apparatuses as instruments of education to perpetuate control over material and non-material structures. On one hand, resistance attempts to counter foreign capital exploitation and protect China’s economic interests. On the other hand, resistance fights political and cultural controls by foreign powers, in terms of Western civilization, through global enforcement of software copyright.

To some extent, Chinese users' resistance reflects the position of xenophobia. Yu (2001) suggested that xenophobic sentiments are mainly a reaction to the humiliation that China suffered under the hands of Western imperialism. Fueled with xenophobia, Chinese people are always skeptical of Western institutions and are paranoid about foreign aggression. Notable examples of outbursts of xenophobic sentiments include attacks on Western missionaries in the latter half of the nineteenth century, the Boxer Uprising in 1900, and the May Fourth Movement in 1919 (Zheng, 1999). During the Mao era, xenophobia was constantly used to mobilize the masses to implement the Party's policy directives (Yu, 2001). In the issues of global software copyright enforcement, xenophobia advocates to revenge or punish foreign developed countries by rejecting their copyright products, the concept of software copyright, free trade, and Western civilization, all of which are seen as tools to perpetuate software copyright hegemony.

So far, three general categories are analyzed: software products, software developers, and foreign developed countries. Chinese users' discussion from products to developers and to foreign countries indicates three development trajectories in their perceptions about the issues of software copyright and piracy. First, users' perceptions develop from the issues that are physically close to their daily life, such as software

products, to the issues that are physically remote to their life, such as foreign developed countries. Second, users' perceptions develop from the issues that are superficially recognized, such as price and usability of software products, to the issues that are located behind the scene, such as free market economy and Western civilization. Third, users' perceptions develop from the economic/material issues, such as price, profit, and market, to the spiritual/non-material issues, such as Western civilization. Examined under Mittleman and Chin's (2005) framework, these trajectories indicate that users' resistance positions move from Polany's (1957) counter-movements that resists free market economy to Gramsci's (1971) counter-hegemony that resists the combined control exercised through material and non-material apparatus. This transition is also found in users' debates about software copyright and piracy behaviors.

Users' debate about software copyright and piracy use

There are four themes under this category: defining software copyright and piracy, general debate, legal debate, and moral debate. The theme of defining software copyright and piracy deals with questions and answers about how software copyright is defined and what behaviors are considered as piracy. For example:

> So called "software piracy" refers to illegal copying of copyright protected software programs, or counterfeiting unauthorized software programs. Simply speaking, software piracy includes any unauthorized copying of copyright protected software programs.....According to this definition, if I borrow my friend's copyright software and install it upon my computer, I commit piracy. However, it is different from "piracy" we often talk about, which refers to purchasing pirated software discs at the underground market. According to our layman definition, installing software programs borrowed from others is not piracy. (Quote 29)

The users on local discourse disagree with official definitions of software copyright

and piracy, and challenge them in their own ways. For example:

> I think the agreement of software authorization is very ridiculous. If somebody applies it into the other products, people would think he or she is insane. When you buy a car, you are asked to sign an agreement of authorization with the vendor that the car can only be used by you but nobody else. When you buy a television set, you are told that this television can only be watched by you. When you buy a house, you are the only one who is authorized to live in this house. How do you feel? But this agreement is allowed in software copyright, and this is the rule of game. You buy copyright products. But you are unable to freely dispose this product at your will. How absurd the agreement is! (Quote 30)

The author's argument uncovers the paradox embedded with the concept of software copyright. According to Spinello and Tavani (2005), property rights are based two characteristics: rivalry and exclusive. However, intellectual objects possess neither of these characteristics. So intellectual property rights are actually against the natural characteristics of property but only forcefully imposed by social authorities. When the author compares software products with other products, absurdness in software authorization agreements is exposed.

The support and challenge to the concept of software copyright reveal users' conflicting views about software products: software as public goods and software as private goods. Spinello and Tavani (2005) suggested that public goods are non-rivalry and nonexclusive. So software, if examined with its natural characteristics, belongs to public goods. However, Spinello and Tavani (2005) added that intellectual property laws manually grant exclusivity and rivalry to intellectual objects so that they are regarded as private as tangible objects. In this way, software is viewed as private goods.

Users' conflicting views about software products lead to the debates over piracy

behaviors. There are three kinds of debates. In general debate, users simply express their support or resistance to piracy without appeals to any economic, cultural, or political grounds. Their postings are often very short. For example, a user said, "I support copyright software. Everybody should use copyright software." (Quote 31) On the other hand, another user suggested, "I have never used copyright software in my life. So if I am caught someday for piracy use, I am afraid I will be sentenced to death.....All right, I am waiting for that day. "(Quote 32)

Because of the limited number of words, the general debate cannot provide valuable information about users' perceptions on piracy use. In contrast, legal debate and moral debate illustrate the tensions between local and global discourses in details. Talking about their positions in piracy use, users often appeal to laws for justification. For example, some participants noted that neither copyright laws nor software regulations punish individual piracy users:

> According to software regulations, software users, if they do not know or there is no evidence to show that they know the software they use is pirated, would be exempted from legal liability. In this situation, legal liability would be placed on pirated software providers who should compensate economic loss of software copyright owners. This regulation is applicable to China's current piracy situation.....My lawyer said copyright infringement does not include individual users' purchase and use of pirated software. So software piracy by individual users can only be regulated by morals. (Quote 33)

The posting illustrated users' awareness that individual piracy users could be exempted from legal liability. Lu and Weber (2008) suggested that the current legal system in China creates some space for piracy use by refusing extension of legal liability to individual users without commercial purpose and by exempting criminal punishment on piracy vendors who distribute pirated products below 1,000 copies. Being aware of

legal regulations, Chinese software users adopt laws to defend their piracy use and reject software companies' legal control. For example, one participant asked, "Please give me some good advice. Microsoft claims to sue us. I know it is a threat. In Chengdu, I never heard any legal case filed by Microsoft." (Quote 34) Another user replied, "Please do not worry about that. I am sure they are threatening you. Even if Microsoft sues you, they cannot win the case, because Chinese copyright laws stipulate that individual users are always innocent and only piracy providers could be guilty." (Quote 35)

Besides appealing to copyright laws, some users on local discourse also challenge the law-makers who are blamed for only protecting the interests of copyright owners.

> The state's laws have become the tools for software companies, such as Microsoft, to exploit us. It makes me very uncomfortable. I start to doubt if the law-making process is fair. I feel that these laws only protect the interests of software companies and overlook the interests of our consumers. I do not know if these law-makers ever consider our grass-root users or if they have been bribed by Microsoft and passed everything the companies gave them. I believe that a fair legal system should also restrict illegal profit made by software companies under the name of software copyright while attacking piracy. (Quote 36)

The messages quoted above revealed users' resistance in the theme of legal debate. They first utilize the holes in the current legal system to defend piracy use, and, then, challenge "unfairness" of the law-making process. The first appeal is conducted on a superficial level and focuses on protecting economic interests of software users. The second appeal moves further to resist the underlying corporate control that manipulates the law-making process. Compared to the first appeal, the second appeal works on both economic and moral levels, because it not only calls for protection of individual users'

interests but also starts to explore "fairness" in law-making.

In response to local resistance, the users on global discourse focus on defending the law making process about software copyright and piracy. Their defense often combines both economic and moral appeals. For example:

> I have nothing to say if a social member does not follow the widely accepted moral standards. I am poor but I am upright. No matter how poor I am, I should obey the law. If a murder escapes from legal punishment, does it mean all of us should go to try this luck? Without a healthy social environment, without the respect for a healthy social environment, the debate on software copyright emerges. On the other hand, the controversy would disappear under a well-regulated free market structure. I have nothing to say, if we do not follow mores, do not follow regulations, and do not follow laws. If everybody only cares about his or her immediate interests, our country would have no future. (Quote 37)

Instead of talking about specific legal clauses, the users on global discourse stress on general functions of copyright laws. One of the most important functions is to protect widely accepted moral standards, such as honesty, fairness, and justice. Therefore, the debate on the legal level illustrates a transitional stage from material conflicts to spiritual confrontations. The transition ends when the users convert their discussion to moral debate of piracy use. In the theme of moral debate, the users on global discourse often equate piracy use with stealing.

> Piracy use is the same as stealing. Please do not complain high prices of software products. If they are expensive, you do not have to use them. You cannot say that I have to steal your BMW because it is too expensive to buy. Nobody pushes you to use piracy and stealing has become your habit. You have been used to paying little for quality products and services, and having no sense of shame. (Quote 38)

> If you did steal, please do not try to pretend you are innocent. You use piracy and you are a thief. Why are you so eager to justify yourself? You should acknowledge it honestly. No matter how hegemonic software companies are, you do steal their products. Please be a man to take responsibility for what you did. (Quote 39)

In addition to condemning piracy users, the criticism of stealing is also placed on China as a nation. Thus, the moral appeal of stealing is extended from the tension between software users and software owners to the tension between foreign developed countries and China. For example:

> Let me ask if piracy is illegal? No matter what you pirate are foreign or local products, you do steal others' labor fruits. It has nothing to do with price and convenience. Housing is expensive but everyone needs it. When a thief steals and a robber robs, they often say it is because I am poor and I am hungry. But if they say so, can they be exempted from criminal punishment? Since you are poor, why do you have to play computer games and watch movies? .....By all means, piracy is neither an honorable thing for any individual user nor a glory for our nation. (Quote 40)

> Piracy is all about if a nation is inferior or not. If a nation is inferior, nobody in this nation would feel shameful about stealing. That is why we have so many corrupted government officials. Since you can steal a very small thing, you would not hesitate to steal a very big thing. (Quote 41)

Gates (2005) noted that the brokers of copyright industries realize that they cannot win the current battle against piracy through legislative, judicial, and technical channels alone, and, then, began to adopt strategies for winning hearts and minds and prescribing codes of appropriate copyright conducts. To equate piracy use with stealing is the most frequently used strategy to make moral appeals. The moral appeal to stealing is very effective because it presents the audience a black-white story so that they can easily make ethical decisions (Halbert, 1997). To equate piracy use with stealing encourages software users to connect recognition of the rights of copyright owners to their own projects of self-betterment in social ethics (Gates, 1995).

However, the users on local discourse refuse to accept the black-white story and justify piracy use by introducing multiple moral standards against the simplified

argument of stealing. They first challenge the moral grounds of the people who are against piracy. The following posting was a typical response:

> There is always a voice around my ears. It is not strong but very annoying. It is not harsh but very penetrating. That is “piracy equals to steal”. It is talking about moral standards. Moral standards might not have as tangible effects or hurts as economic and legal measures. But they exceed the other measures to directly affect people's hearts.....Although you do not lose anything, you will feel very uncomfortable. You unconsciously ask yourself, "Am I really a thief?" If you did ever ask the same question, please read the following words. By all means, internal peace and self-affirmation are sometimes more important than money. If one starts to question himself, he would never be happy.
>
> "Am I a thief?" I ever asked myself.
>
> Piracy is not a merit. It is not a question. But should we feel guilty because of piracy? As we know, there is nothing completely pure in this world.
> According to one Chinese saying, “there is no pure gold, and there is no perfect man”. Everybody has a blemished point, more or less depending on the degree. So when you denounce others, first watch yourself.
>
> Let's take a look at the people who criticize piracy and find out who they are. Do they dare to show us their computers? Are their computers all installed with copyright software programs? I am sure 90% of piracy critics would be silent in face of this question.
>
> Ok. Even if all the software you use are copyrighted, can you tell us how and where you get money to pay for them? Public fund? Bribery? Or dirty money? Does their criticism sound still upright? In this way, another 10% critics would be out.
>
> As we have seen, those people are already in the mud and keep throwing mud to us. They dare not put themselves under the sunshine. So I say we do not have to feel guilty or keep questioning ourselves. So go ahead to use piracy. I support. It is just a very tiny blemish if compared with those piracy critics.
>
> … I, here and now, affirm that piracy users might not be true Saints, but those claiming to only use copyright products must be 100% hypocrites. (Quote 42)

In this posting, the author is aware of the importance of moral debate to the issues of

software copyright and piracy. In order to alleviate the sense of guilt for piracy use, the author questions the moral stances of the users on global discourse and labels them as "hypocrites". According to the author's philosophy, the people with serious moral defects are not qualified to denounce the people with minor ethical blemishes. In contrast to attacking moral stances of copyright protectors, the other uses on local discourse even refuse to regard piracy as a moral problem. Instead, they recognize that the moral appeal is nothing but a tool used to conduct corporate control and exploitation. For example:

> It is all the same no matter you are a thief or not. To steal, a thief is to pursue his interest. To protect our own interests, all of us start to hate thieves. It is the same for software products. Software companies should consider software users, and should not apply moral standards over individual users. So you can say, piracy users are thieves and software companies who sell overpriced products are cheats. (Quote 43)

The author refused to accept moral judgment of software companies by pointing out materialistic tensions behind the social ethics in software copyright controversy. The author more or less follows the approach of political economy to uncover how social ethics are manipulated to protect the interests of special groups. Being aware of excessive corporate control under the name of social ethics, some users on local discourse appealed to human rights to fight.

> I always support piracy. If someday the prices of copyright software products are down to one tenth of my monthly income, I might consider using copyright products. For the low-income users, their life would be a problem if they spend a lot of money on copyright products. However, the right of living is one of basic human rights we have. I do not want to sacrifice my human rights just in order to support software copyright. Without software products, we are unable to study. For our students, we do not have enough money to buy copyright software. So we have to turn to piracy. However, this conduct has been defined as copyright infringement by our government and the [copyright] industry. It makes us very uncomfortable. To receive education is also one of human rights.

> I am not willing to sacrifice my human rights just to support software copyright. (Quote 44)

The author viewed piracy as a method to protect his human rights, such as the right of living and the right of education. Human rights are used as an alternative moral standard to counteract the moral appeal of stealing.

The users' moral debate on software copyright and piracy reveals Gramsci's (1971) counter-hegemony, which challenges institutionalized apparatuses as instruments of education to perpetuate control over material and non-material structures. Gates (2005) noted that copyright industries through such organizations as Motion Picture Association of America (MPAA) and Business Software Alliance (BSA) have designed and distributed pre-packaged curricula aimed at involving teachers and parents in indoctrinating students into industry-defined standards of copyright conduct. The arguments on global discourse reflect the operation of these instruments of education (e.g., MPAA and BSA), focusing on equating piracy use with stealing. On the other hand, the users on local discourse look for alternative moral standards to fight against these institutionalized apparatuses. For example, they challenge moral grounds of copyright protectors in order to undermine the legitimacy of their criticism, and appeal to human rights to morally justify piracy use. They even directly point out material and non-material dynamics in copyright hegemony and reject any moral judgment to perpetuate copyright hegemony.

Discussion

With the established coding frame, this study applies axial coding to map out connections among categories and subcategories. As a result, three general trajectories are identified to describe the development of users' perceptions about the issues of

software copyright and piracy. First, users' perceptions develop from the issues that are physically close to their daily life, such as software products, to the issues that are remote to their life, such as foreign developed countries. Second, users' perceptions develop from the issues that are superficially recognized, such as price and usability of software products, to the issues that are located behind the surface, such as free market economy and Western civilization. Third, users' perceptions develop from the economic/material issues, such as price, profit, and market, to the spiritual/non-material issues, such as Western civilization and moral debate.

The connections of different categories and subcategories illustrate two major underlying constructs: software companies and foreign developed countries, which have been identified in the literature review as important material/human factors influencing software copyright and piracy. The construct of software companies is expressed in software users' discussion about software products and software developers while the construct of foreign developed countries is expressed in users' talking about foreign countries in global software copyright enforcement and in history. Meanwhile, the constructs of software companies and foreign developed countries are also found in users' legal/moral debates on the concept of software copyright and piracy use.

Two conflicting dimensions emerge from Chinese users' online discussion across various categories and subcategories. One is named "global discourse", which supports copyright software products, software companies, global software copyright enforcement, and the concept of software copyright on both legal and moral levels. The other is named "local discourse", which resists copyright software products,

software companies, global software copyright enforcement, and the concept of software copyright.

To interpret identified constructs and dimensions, Mittleman and Chin's (2005) anti-globalization framework was used to guide the interpretation process. Under different categories, the tensions between global and local discourses represent different types of globalization and anti-globalization processes in terms of software copyright and piracy. For example, the users' support and resistance to copyright software products and software companies reflect Polanyi's (1957) position of counter-movements, which rejects free market economy in which market plays a sole role in regulating, directing, and controlling economic activities. In the category of software products, users' resistance focuses on copyright software's high cost and poor usability/accessibility. In contrast, the users are likely to use pirated software with low cost and good usability/accessibility. On the other hand, the users who support copyright products refuse to accept cost and usability as excuses for piracy use, and insist that high cost and superior usability of copyright software are natural results of free market economy. In the category of software developers, users' resistance focuses on corporate exploitation of software users through a variety of strategies in pricing, anti-piracy, and marketing. Compared to the resistance to copyright products, users' resistance to software companies directly touches upon the underlying structure of free market economy, which perpetuates unbalanced power distribution between companies and users. On the other hand, the users on global discourse believe that free market economy has empowered users to choose software products they are comfortable with so that users do not have to be exploited by software companies.

Focusing on Polanyi's (1957) position of counter-movements, users' debates on software products and software developers provide evidence for Lessig's (2004) argument about corporate control and Strangelove's (2005) argument about users' resistance. Corporate control is found to affect some users' perceptions about software copyright and piracy. They believe in free market economy and choose to support copyright products and software companies. Meanwhile, resistance is also evidently expressed in users' perceptions. They reject not only copyright software products but also software companies, and further challenge the free market structure.

As globalization process intensifies, the tension between software owners and software users has been transformed into the tension between foreign developed countries as copyright owners and China as copyright user. Accordingly, the debates between global and local discourses continue in the category of foreign developed countries. Talking about foreign developed countries in global software copyright enforcement, resistance users first place emphasis on Polanyi's (1957) position of counter-movements to argue that free market economy and free trade have been reduced to a tool used by foreign developed countries to exploit China. Then, the users link foreign developed countries' practices in global software copyright enforcement with Western imperialism in history. Talking about Western imperialism in history, the users start to challenge Western civilization, which provides spiritual legitimacy for software copyright, free trade, and free market. Thus, the users' resistance to foreign developed countries transcends the sole economism in Polanyi's (1957) counter-movements and appeals to both material/economic and non-material/spiritual levels as suggested by Gramsci's (1971) position of counter-hegemony. Pang (2006)

argued that global copyright hegemony defines and re-defines social identities and relations in economy, politics and culture to reinforce and perpetuate historically constructed and uneven distribution of copyright production and consumption. In response to software copyright hegemony, Gramsci's (1971) counter-hegemony aims to challenge social institutions as an instrument of education that perpetuates copyright hegemony in both material (i.e., free market and free trade) and non-material (i.e., Western civilization) structures.

The transition from Polanyi's (1957) counter-movements to Gramsci's (1971) counter-hegemony is also found in users' debates over the concept of software copyright and piracy use. In legal debate, the users challenge copyright laws that protect software copyright as well as free market structure on which software copyright is based. Uncovering the material tension embedded in copyright laws, users' resistance reflects Polanyi's (1957) position of counter-movements. In moral debate, the users utilize multiple moral standards to fight against the moral appeal of equating piracy with stealing. Their resistance is directed at moral education launched by social institutions to legitimate software copyright and free market structure. The unity of combined economic and moral resistance transcends the material/non-material distinction, and illustrates Gramsci's (1971) position of counter-hegemony that resists social identities and relations constructed under software copyright hegemony.

The transition from Polanyi's (1957) counter-movements to Gramsci's (1971) counter-hegemony reflects Chinese users' in-depth understanding about the issues of software copyright and piracy. The users recognize that software copyright and piracy are not only an economic/material issue but also an issue about spirituality and

ideology. Furthermore, they are aware that material and non-material dimensions support each other, and constitute an integrated process of hegemony that transcends the dichotomy of structure and superstructure and encompasses the whole ways of life.

In addition, the users' debates on global and local discourses constitute public and hidden transcripts in Scott's (1990) position of infra-politics. For example, the global discourse supports copyright software products, software companies, global software copyright enforcement, and moral education of equating piracy use with stealing. The global discourse reflects the public transcript that records the typical arguments of dominant parties in the issues of software copyright and piracy, such as software companies and foreign developed countries. On the other hand, the local discourse supports pirated software products, resists software companies and foreign developed countries, and adopts multiple moral standards against simplified equation of piracy with stealing. The local discourse reflects the hidden transcript that exists in software users' everyday lives, expressions, and actions, and represents a response to the public transcript of dominant parties.

According to Scott (1990), public transcript resides in the country's public opinion while hidden transcript resides in citizens' private space. The coexistence of public and hidden transcripts in Chinese users' online discussion indicates blurring distinction of public/hidden transcripts. Blurring the distinction of the public/hidden transcript is expressed in both format and content of resistance transcript. On one hand, the public transcript has been found to penetrate into software users' daily talking and a certain number of Chinese software users accept the arguments recorded in the public transcript. On the other hand, the hidden transcript in this study has achieved a higher

degree of collectivity and visibility[6] than traditionally-defined hidden transcript, because of public/private duality of online space, which is regarded as a communication space outside of the immediate control of the state but not entirely contained within the private sphere of the family (Yang, 2003). Therefore, users' online discussion about software copyright and piracy falls somewhere in-between traditional public and hidden transcripts.

Meanwhile, blurring the distinction between public/private transcripts is also expressed in content. Some contents in the hidden transcript are borrowed from the public transcript in today's China. For example, users' resistance to corporate exploitation and free market structure appeals to Marxism that is promoted by the state-controlled mass media system as orthodox ideology. Marxism advocates class struggle and encourages grass-root people to fight against capitalist exploitation. Although class struggle and capitalist exploitation are seldom emphasized in the country's propaganda system because of the government's concerns with open-door policy and economic reform, Marxism still possesses a dominant position in China's official ideology and is used to legitimate the governance of the Communist Party (Lu & Weber, 2008). Meanwhile, in the debates of software copyright and piracy use, the resistance users often appeal to the concept of human rights, such as the rights of living and education. The issues of human rights are supported by foreign developed countries and often used to attack Chinese government. In response to foreign criticism on human rights, Chinese government through its official media system promotes the other dimensions of human rights, such as the rights of living, education, and development. The government argues that the concept of human rights has multiple

layers, in which the rights of living, education, and development constitute the foundation for citizens' freedom, and are more important and urgent to be addressed in today's China. Software users, therefore, adopt the state-promoted rights of living, education, and development to challenge the moral grounds of software copyright protection.

Although the state does not openly relate Marxism and human rights to the issues of copyright and piracy in public transcript, the state's promotion of these positions creates the necessary conditions for software users to make connections in their hidden transcript. Consequently, the assumed clear-cut boundary in Scott's (1990) theory becomes blurred in this situation, as existing contents in public transcript are used to develop hidden transcript against software copyright enforcement. Subordinate groups, thus, do not need to develop and legitimize their own resistance positions. Instead, they have much flexibility to use one piece of existing discourse to oppose another piece of discourse in the same public transcript. This flexibility is largely defined by fragmentation of public transcript in today's China as a result of globalization.

Giddens (1991) used two terms of "disembedding" and "reembedding" to describe this fragmentation mechanism. Disembedding lifts out of social relations from local contexts of interaction and restructures them across indefinite spans of time-space while reembedding refers to reappropriation or recasting of disembedded social relations so as to pin them down to local conditions of time and place. In this study, the mechanism of disembedding lifts out the social relations embedded with the concept of software copyright from local contexts in Western developed countries. The social

relations and local contexts support each other and formulate the solid unity, including copyright, free market, free trade, human rights, and Western civilization. Then, the mechanism of reembedding relocates these disembedded social relations into Chinese situation that are historically embedded with Marxism, planning economy, and urgency to realize such human rights as living, education and development. As Giddens (1991) anticipated, disembedding mechanism's interaction with re-embedded contexts would act either to support or to undermine each other. In this study, the mechanisms of disembedding and re-embedding generate the public transcript relating to software copyright and piracy, which records the acts of both international and domestic domination parties whose interests are both congruent and conflicting. Therefore, the public transcript does not achieve solidarity but represents a fragmented structure of conflicting directions and forces (Scott, 1990).

The analysis of three resistance positions in users' online discussion illustrates Mittelman and Chin's (2005) notion of an emerging strategy of "borderless solidarity" in globalization process. The term "borderless solidarity" implies two meanings. First, the wide diffusion of ICTs allows the individuals scattered in different areas to cross the geographic boundaries and form alliances in the cyberspace. Second, globalization processes break down the walls between various traditional resistance movements with different targets and modes. These types of resistance are horizontally connected and re-organized into new solidarities. In this study, we have seen how this strategy is played out in the users' resistance positions to software copyright enforcement. For example, boundaries are broken down between the consumer-company tensions and international confrontations over developing and developed countries as well as

between economic/material exploitation and cultural/spiritual collision. As a result, the previously isolated resistance movements, working on a variety of levels and dimensions (i.e. individual, national, international, material and non-material), are horizontally connected and re-organized to produce a set of new resistance positions and arguments.

In this complex process, the three resistance positions are not only connected but also modified. For example, traditional collective resistance, such as Polanyi's (1957) counter-movements and Gramsci's (1971) counter-hegemony, change to take the format of Scott's (1990) infra-politics, which primarily resides in the realm of individual everyday informal assemblages without openly declaring a call for resistance in public space. Meanwhile, advanced network technology improves the degree of collectivity and visibility of Chinese users' hidden transcript to some extent. The modification blurs the traditionally-defined boundary of public and hidden transcripts. The modification of resistance positions illustrates the fragmentation process occurring within public and hidden transcripts, as well as dominant and subordinate groups under the structure of globalization.

Summary

This chapter sets out to examine the online discussion by Chinese users over the issues of software copyright and piracy as resistance to global software copyright protection. Examined under Mittelman and Chin's (2005) anti-globalization framework, the identified categories and themes in users' postings support in differing degrees resistance propositions offered by Polanyi's (1957) counter-movements, Gramsci's (1971) counter-hegemony, and Scott's (1990) infra-politics. Three resistance

propositions with different major targets and modes coexist in Chinese users' online communication, and are connected by the strategy of "borderless solidarity" and modified by fragmentation processes as a result of globalization. The linked network of these resistance positions illustrates Mittelman and Chin's (2005) notion about ontological shift of contemporary resistance to globalization in terms of resistance forms, agents, and sites. First, undeclared forms of resistance existing in the hidden transcript against global copyright hegemony take the place of openly declared forms of resistance embodied in the public transcript. Second, the agents of resistance transcend dichotomized dominant/subordinate social class, and, instead, include not only a wide range of common Chinese subordinates but also the Chinese government as a representative of the dominant class resisting the wholesale implementation of Western concept of copyright. Third, the sites of resistance are expanded from public sphere to everyday life in private households. Meanwhile, the resistance to global copyright enforcement, as this study suggests, also finds its instantaneous audience in cyberspace with the development of ICTs.

CHAPTER V

CHINESE SOFTWARE USERS' ADJUSTMENT

In Chapter IV, the approach of political economy is adopted to interpret Chinese software users' online discussion about the issues of software copyright and piracy. The study identifies two opposing discourses of globalization and anti-globalization. Two human factors with material interests are found to play important roles in this globalization/anti-globalization process: software companies and foreign developed countries. According to Wang's (2003) network/process-oriented approach, non-human and non-material factors, besides human and material factors, make independent contributions to the discourses' formation. Moreover, Wang (2003) argued that the emphasis should be placed on complicated interactions between human/material factors and non-human/non-material factors. In the same process, software users draw on their creativity and agency to address these complicated interactions and adjust their positions in perceiving the issues of software copyright and piracy.

This chapter, therefore, has three major tasks: 1) to examine the impacts of non-human and non-material factors on software users' perceptions, 2) to examine the interactions among human/no-human and material/non-material factors, and 3) to examine how Chinese software users creatively deal with the combined impacts of identified structural factors in their communication process.

Three non-human/non-material factors emerged in the users' online discussion, including new ICTs, Chinese culture, and patriotism. New ICTs are related to the categories of software products and software developers. Chinese culture is mentioned

in the category of debate over software copyright and piracy use. Patriotism is identified in the categories of foreign developed countries and China development.

New ICTs

Research shows that new ICTs, especially network technology, facilitate piracy activities and affect users' perceptions about software copyright and piracy (see: Nicol, 2003; Burk, 1996; Freestone & Mitchell, 2004; Siegfried, 2005). These findings are supported in the analysis over Chinese users' discussion. The impacts of new ICTs are first expressed in users' talking about software products. In the category of software products, new ICTs serve to lower down price and improve usability and accessibility. One participant recalled his experience about software download:

> Two or three years ago, I was a fan of copyright software. I spent thousands of RMB to buy copyright programs. Later, I started to buy pirated software discs that only cost me several hundred in total. However, pirated discs were so poor quality and crashed two DVD readers in my laptop (each for seven or eight hundred RMB). Now I am crazy about software download. The Internet is the only way for me to get software programs. On the Internet, you can find all software programs, pirated and shared. To get them, what you pay is just electricity fee and the Internet access fee. (Quote 45)

The author compared copyright software, pirated discs, and Internet piracy. He finally decides to download software from the Internet. Cost is the most important reason for him to choose software download, because 1) he almost pays nothing for online download and 2) online download can protect his DVD readers. Besides cost advantage of Internet piracy, some participants emphasized accessibility.

> Nobody can really resist the temptation of getting exactly what you want completely free of charge by only clicking the mouse. It [broadband download] is now fast and convenient if you can afford broadband access. (Quote 46)

> I haven’t bought pirated software for one year. I hate poor quality of pirated discs. Of more importance, I do not want to follow the vendors to sneak into their hidden shops, like a thief always with fear of being detected. Now I change my piracy habit. I give the money of buying pirated discs to China Telecom [a broadband network service provider]. (Quote 47)

These two postings talked about accessibility from different perspectives. The first is about how easy the Internet piracy is (i.e., click mouse). The second is about how this convenience helps decrease the author’s sense of guilt in access to pirated products. In the category of software products, users' discussion about advantages of the Internet piracy reflects Rogers' (2003) position that relative advantages, such as cost and convenience, decide if an innovation could be adopted by individual users. Compared to copyright products and pirated discs, Internet piracy possesses relative advantages in cost and convenience. As a result, many software users would rather download software online than purchasing pirated discs at offline market. One user expressed his favor of software download as well as his hatred of pirated discs.

> Buy pirated discs? Why don't you use BT [an application of peer-to-peer Internet technology]? I bought pirated discs several years ago but now I throw all of them away. They are a pile of junk, because they are either too old or cannot be opened at all. Now I use BT that only takes three or five hours to download 1G material. The money I spent on purchasing pirated software can be used to buy a 160G hard disk. (Quote 48)

Internet piracy represents a third power that breaks the existing market structure distributed between copyright software and pirated software discs. As more and more people go to the Internet for software download, pirated discs gradually lose advantages at the offline market in competition with copyright products. This change was noticed by one participant who observed the underground piracy market.

> Pirated software discs in my city come from Zhejiang Province. The wholesale price is about RMB 3.5 per copy. The retail price is about RMB 5. You can calculate how much profit vendors can make from each copy. In contrast, the wholesale price for the newest version of Rising anti-virus software [a local software product] is RMB 95 while the retail price is RMB 228. You can calculate how much profit the vendors could make from copyright products. Now more and more people begin to download software from the Internet. The vendors find that their sales of pirated discs significantly drop to such a degree that to sell pirated products is less profitable than to sell copyright products. So in my city, many vendors have begun to sell copyright software while cut off pirated discs. This is the rule of market. To sell pirated software is highly risky and makes less money. Who wants to always do it? (Quote 49)

The author's observation indicated that wide adoption of Internet piracy shrinks the market's demand for pirated software discs. Without a large demand, piracy vendors are unable to maintain high profit margin. Comparatively, the sales of copyright software products turn to be more profitable. In addition, the sales of pirated discs are illegal and likely to be punished by copyright administrations. Many software vendors, therefore, give up the sales of pirated discs. In this way, the underground piracy industry is seriously crippled and copyright software products dominate the offline market in China.

To some extent, new ICTs enable software copyright owners to win the war against underground piracy producers and achieve domination over the offline market. As a result, software piracy retreats from the offline market and moves to the cyberspace. In this process, software piracy is changed from a profit-oriented business activity exercised by piracy producers into a non-profit social/relational activity conducted by online software users. This change makes software users adopt discriminative attitudes towards software download and offline purchasing. As one participant mentioned:

> I support copyright software. But I do not buy copyright products, too expensive. I support pirated software. But I do not buy pirated software. I only download them from the Internet. I have paid money for the Internet access. (Quote 50)

According to his philosophy, online download is not the same business transaction as offline piracy purchase, because no profit is involved in this process. He argued that he paid for the network access and should have rights to get the resources online. This philosophy was also held by another posting:

> Copyright WINDOWS 98 costs over RMB 2,000. How many people can afford it? In order to persuade others to give up piracy, we must do it by ourselves. Now I do not use pirated software. It is so good to download them from the Internet. (Quote 51)

This author not only denied that software download is the same piracy behavior as offline purchasing, but also believed that software download is a good way to stop offline piracy because online download can significantly decrease the possibility of the consumers to purchase pirated software at the offline market. The distinction between online download and offline purchasing reflects the distinction between online world and offline world in users' perceptions. Many users tend to perceive the Internet as a public domain in which software programs are public goods. Their perceptions are based on the non-profit purpose of online sharing.

> All the software programs I use are pirated. But I hate to buy pirated discs. All my software programs are downloaded from the Internet. The Internet should be free, freedom, and free sharing. (Quote 52)

> Support copyright products! We should give up purchasing pirated discs and punish underground piracy producers…..Let’s download software from the Internet. Free of charge! Long live, free of charge!!!!!!!!!! Long live, free Internet!!! (Quote 53)

The belief in the Internet as a public domain influences the users’ perception of software download. A number of users equate software download with access to the

resources in the public domain. Thus, it is not necessary to pay for them. Meanwhile, another group of users, though admitting that software sharing is a kind of piracy behavior, refuse to equate it with traditional offline purchasing of pirated discs. They argue that software download is not a profit-oriented business transaction but an altruistic and unselfish behavior that benefits a wide range of software users. Therefore, software users develop positive attitudes towards software download and individual piracy users on the Internet in contrast to negative attitudes towards purchasing pirated discs and the underground piracy industry. Moreover, some users even see cyberspace as the Communist society described by Karl Marx, in which free sharing is valued to meet the needs of all the social members. For example:

> To some extent, eMule [an application of peer-to-peer technology] society is the Communist society, in which everybody is equal and only gets what he needs. This is what the capitalists are afraid of. In order to extend their control over the Internet, the capitalists have to get rid of online Communism. Western countries stop eMule because they do not want to see the Communism's expansion on the Internet which acts on contrary to the development of online capital market. However, our country claims to achieve the Communism. But the government stays with the capitalists to attack online Communism. It is ridiculous and apparently against the ultimate goal of our country.
>
> They [Western countries] attack eMule for nothing but to exercise their monopoly in both economy and politics. In eMule society, there is no rich-poor divide. You can use 1M data to exchange 1G data. Even if you have nothing, you still can share the data obtained in the process of exchange and get what you want. This kind of virtual Communism scares the capitalists. When they find that their interests are infringed, they never hesitate to attack eMule without considering if online communism benefits the people, meets the basic needs of the people, and represents the advanced production power. (Quote 54)

The term "online Communism" reflects a good match between new ICTs and Communism. New ICTs create technological conditions to realize Communism in cyberspace. Communism, promoted by the government as dominant ideology,

conceptually legitimates software sharing on the Internet. The alignment of new ICTs and Communism reinforces software users' discriminating attitudes towards offline purchasing of pirated discs and software download. The distinction is based on both practical and conceptual concerns. First, software download practically lowers down cost and improves accessibility in software use. Second, software download embedded with non-profit, altruistic spirits conceptually empowers software users to conduct their sharing activities on the Internet. Both of these concerns are enabled by new ICTs.

In addition to changing piracy behaviors of software users, new ICTs have another impact on software companies. It is primarily exercised through network effect of advanced information technologies. According to Katz (2005), network effect is a new phenomenon emerging with ICTs' development and ICTs-enabled information economy. Castells (2005) pointed out three distinctive features of information economy. The first is self-expansion, in which the computers are the basis for constructing new computers, and the more powerful computers become, the more complex the technologies that can be built using them. The second is recombination that is about modularity/ability of the technology to combine all kinds of information into something new and meaningful. The third refers to distributional flexibility that means information, once being digitalized, can be processed anywhere, and can be easily shifted from one state of aggregation to another. These features constitute a technological paradigm that integrates a variety of technologies and information into a system of relationships characterized by its synergies. Network effect is based on this paradigm to require a universal platform that is compatible with a variety of

technologies and information productions. When more people choose the same platform, the platform becomes more valuable in facilitating self-expansion, re-combination and distributional flexibility. When more people choose the same platform, this platform becomes more universal and excludes the other similar platforms. In terms of software copyright and piracy, network effect is expressed in software companies' market strategies to transform their products into a universal platform and exclude alternative platforms. Software piracy plays an important role in these strategies. For example, one of these strategies is Microsoft's incentive program that allows piracy users to exchange their pirated operating systems for copyright Windows products. A participant commented on this program:

> As we know, for business enterprises, their basic task and fundamental belief is to make maximum profit. So when Microsoft announces that individual piracy users can exchange their pirated XP for copyright XP free of charge, do you have any doubt? Is there really a free lunch in this world? Microsoft is not a charity organization. If it does no good, would Microsoft do it...It is actually a new conspiracy of Microsoft. The conspiracy used to be like:
>
> 1. Develop a poor operating system;
> 2. Through piracy, let everybody use it;
> 3. Because everybody uses this poor system, the other enterprises have to convert to this system when designing their products.
> 4. Microsoft can make a lot of money from enterprise users.
>
> Now because an effective copyright-protection system is added into Windows XP, the situation is changed into:
>
> 1. Develop a poor operating system;
> 2. Nobody can pirate;
> 3. Nobody can use it;
> 4. No enterprises are willing to adopt it;
> 5. No money is made.
>
> So Microsoft changes their strategy:
>
> 1. Develop a poor operating system;
> 2. Nobody can pirate it;
> 3. Allow piracy users to exchange their old pirated operating

systems for copyright XP;
4. Everybody starts to use this poor system;
5. Every enterprise converts to this system;
6. Big profit is made.

> So every user should not overlook the real reason behind this exchange program. Windows XP is an important step for Microsoft to exercise monopoly and control freedom. So far, most of users get used to it. Microsoft's strategy reflects its ambition to become a public enterprise like power, gas, and telephone. Its final goal is to lease software products to individual users in order to monopolize a universal platform. (Quote 55)

The author uncovered how Microsoft makes strategic use of network effect to develop its operating system into a universal platform that is compatible with various technologies and software programs. The formation of a universal platform establishes Microsoft’s dominant position at the market, and, at the same time, excludes the other similar programs. The following posting explained how Microsoft uses network effect to defeat the competitors at Chinese market and take advantage of software users.

> Why does Microsoft dare to keep such high prices? It is because its piracy is everywhere in the world. Microsoft is not eager to stop piracy. It is very patient to wait until all Chinese users are comfortable with, used to, and heavily rely on pirated Windows, and until many Chinese users do not know how to use computers without Windows. Then, Microsoft would find ways to charge you. Its charging will start with enterprise and government users and gradually extend to individual users. At that time, if you express any disagreement, you would be sued to death. What a pity! At that time, no individual user is able to control the whole situation. Can you say "let's give up Windows"? No, you cannot, because all the software programs in your computer have already been developed on the Windows platform. Dare you give it up? When you give up Windows, you have to give up your habit that has been formed for so many years, have to give up data sets that have been accumulated for so many years, and have to give up almost everything you work on. (Quote 56)

The users' discussion about software companies' market strategies reflects network effect that is played out through software piracy. These postings support Katz’s (2005)

position that software piracy, if strategically manipulated, can become an effective tool of user discrimination. The users with high value, such as enterprise users, can pay more to get copyright products. The users with low value, such as most of individual users, can pay less to get pirated products. Accordingly, software companies' copyright enforcement focuses on enterprise users while intentionally allow individuals' piracy use to some extent. In this way, software companies are able to maximize both the size of software user base and the value of software network (Katz, 2005).

Internet piracy plays a very important role in software companies' market strategies. First, Internet piracy facilitates wide adoption of software companies' products by lowering down prices and improving accessibility. With a large number of user base, software companies are able to develop their products into a universal platform and take full advantage of network effect. Second, the altruistic spirit of online sharing makes software users draw distinctions between offline purchasing and software download as well as between piracy producers and individual piracy users. Consequently, software users form negative attitudes towards offline purchasing and piracy producers in contrast to positive attitudes towards software download and individual piracy users. Users' negative attitudes support software companies' current emphasis in attacking the underground piracy industry and charging enterprise users with commercial purposes (Lu & Weber, 2008). On the other hand, users' positive attitudes satisfy software companies' current need of expanding the user base of their products, which is realized through their intentional neglect over individual users' online piracy behaviors (Katz, 2005). Finally, software companies, though refusing to admit, reluctantly accept the current situation in Internet software piracy. As

Strangelove (2005) pointed out, highly intensified systems of corporate control will face substantial subversion, and the combination of resistance, deviance, and competition and conflicts within the corporate sector would bring the Internet into a stable state. In terms of Internet software piracy, the stable state refers to a kind of modified balance enabled by new ICTs, which redefines and moderates the dichotomy between the need to give the innovators incentives and the need to maintain public access to creative works.

In sum, new ICTs have three major impacts on software copyright and piracy: 1) to lower down the prices of software products and improve accessibility; 2) to transform software piracy from a profit-oriented business activity to a non-profit social/relational activity; and 3) to make software companies adjust their market strategies to take advantage of network effect. Examined under the lens of globalization and anti-globalization, new ICTs function to moderate the conflicting positions between software owners and software users. First, software owners' resistance to piracy is modified into the strategic manipulation of software piracy through network effect. The strategic manipulation is expressed in software companies' attacking underground piracy industry and punishing enterprise piracy users while overlooking individual users' piracy activities. Second, software users' support of piracy is modified into the distinction between offline purchasing of pirated discs and online download. Compared to offline purchasing, software download win more support of software users, because of its distinctive features of non-profit and free sharing. As a result of new ICTs' moderation, a degree of agreement is reached with software users' favor of online download and software companies' reluctance to punish

individual piracy users. It becomes a grace space in which individual users' online sharing can be allowed to some extent.

The impacts of new ICTs over software copyright and piracy reflect Wang's (2003) network/process-oriented approach that refuses to reduce non-human factors into the tools manipulated by human factors and emphasizes on their independent contributions to the whole network. In this study, new ICTs are found to interact with the other structural factors (i.e., software companies and the Communism) so as to complicate the dichotomized positions between global and local discourses. Besides new ICTs, the similar complication process is also found in Chinese culture's impacts over software copyright and piracy.

Chinese culture

Chinese culture as a non-material factor is often adopted by software users in their debate over software copyright and piracy. Unlike Communism that only offers legitimacy for local resistance discourse, Chinese culture, particularly Confucianism, provides spiritual support to both globalization and anti-globalization processes. The users on global and local discourses appeal to Chinese culture in different ways.

The existing literature concentrates on Chinese culture's conceptual support to local resistance discourse (Wang et al., 2005a; Alford, 1995; Yu, 2001; Montgomery and Keane, 2004; Lu, in press). For example, Lu (in press) suggested that at the heart of the conflict over software piracy are the tensions between individualism and commercialism found in Western understandings of copyright, and Confucianism and collectivism found within Chinese cultural responses to related issues of intellectual ownership. These tensions are found in one participant's passionate questions:

> Suppose a child having no money to pay for study stands outside of the window and listens to lectures, does he infringe copyright? Is it a kind of piracy? If the child goes home and tells the class contents to his siblings, does he or she become a disseminator of piracy? (Quote 57)

These questions reflect how Confucian values continue to influence Chinese thinking on intellectual property. One of the core tenets of Confucianism is to "teach without discrimination," arguing that each person, no matter rich or poor, has the right to receive an education. Study is strongly encouraged and knowledge should be disseminated widely into society for the benefit of the majority. In this sense, software piracy facilitates education development and knowledge dissemination. As one participant pointed out:

> Actually, software piracy has the same function of Confucius' private schools. Both of them enable poor people to receive education. It is such an honorable conduct. So for piracy producers, what we should do is to use laws and regulations to restrict their high profit and improve the quality of pirated products. (Quote 58)

From the perspective of education, Confucianism advocates free sharing of knowledge and information among a wide range of social members. On the other hand, the actions to prevent knowledge sharing are considered selfish and dishonorable in Confucian values. Swinyard et al. (1990) noted that the Chinese proverb of "he that shares is to be rewarded; he that does not, condemned" can explain to some degree the impacts of Confucianism on Chinese users' responses to software copyright. One user pondered ethical dimensions of software piracy, drawing on traditional aspects of Confucianism to justify his position:

> Is piracy shameful? Wrong? I feel it is an honor. How did China achieve the peak of intellectuality in ancient time? Kong Yiji [a character in Lu Xun's novel who is a poor Confucian disciple) can help explain this, "To steal a book does not count for stealing". Chinese history is created by Confucius together with thousands of "Kong Yiji".

> Why? It is because Confucius is a teacher of others, and Kong Yiji takes books as his life. That is where Chinese ancient knowledge economy comes from. (Quote 59)

The author believed that the unselfish, collective efforts of Confucius and his disciples created Chinese ancient civilization, and ensured successful transmission and preservation of traditional values across generations. In users' online discussion, Confucian thinking is adopted as a form of cultural resistance to Western values of individualism and commercialism embedded with the concept of copyright as commodity. Confucianism tends to view intellectual objects as public goods, which should be shared by the whole society and benefit all the social members. In this sense, Confucian thoughts help defend local discourse against software copyright protection.

Free sharing of knowledge indicates Chinese culture's emphasis on human relations. Zhang (1989) suggested that Chinese culture advocates harmony between man and man, and between man and nature. In ancient China, education serves as a tool to diminish economic and intellectual divides between ruling and ruled classes as well as maintain social harmony (Zhang, 1989). However, Chinese culture's emphasis on harmonious human relations does not necessarily reject individuals' claim of rights over their private properties. Instead, Chinese culture also protects individuals' private property rights. In this sense, Chinese culture supports John Locke's position that labor is an unpleasant, onerous activity and property rights are required as a return for the laborer's painful strenuous work. One user quotes an ancient poem to express his respect for laborers' hardworking and his regret for infringing intellectual property rights:

> .....The current situation is that most of people are short of money, and are often forced to make a choice between spiritual and material needs.

> In this situation, few people are able to sacrifice their stomachs for high-profile virtues....."Working in the field under the mid-day sun, sweats seep into the earth; who knows the food in bowls, every piece contains so much hardworking." This ancient poem teaches us to respect the fruits of other people's strenuous work. Now it seems that people have forgotten our ancestors' teaching. We should feel sorry about it. (Quote 60)

Chinese culture's respect for private property rights provides moral grounds for users on global discourse to defend software copyright and attack software piracy. They often equate software copyright infringement with stealing, and draw Confucian philosophy to criticize pirates' stealing activity. For example:

> Maybe you ever bought piracy. You spent little money to enjoy high quality products. You feel it is a good deal. Indeed, you have some benefits. But you infringe others' interests, and even the country's interests. It is not a conduct an upright person should do. Do you remember "chastity people do not drink stolen water and honest people do not eat begged food"? Do you want to be a person without chastity and honesty? (Quote 61)

"Chastity people do not drink stolen water and honest people do not eat begged food" is a famous saying taken from classic Confucian works. It emphasizes individual virtues and advocates sacrificing material interests to achieve moral obligations. Virtuous people would rather die than drinking stolen water or eating begged food. However, some users on local discourse refuse to equate software piracy with stealing. They argue that software piracy is just a minor misconduct and can be tolerated or overlooked. In response, the users on global discourse quoted another ancient saying:

> Maybe somebody can say that software piracy is just a minor misconduct and we do not have to take it so seriously. Please think about that ancient saying, "do not stop doing a good thing because it is very small; and do not do a bad thing because it is very small." (Quote 62)

The postings above indicate Chinese culture's contribution to software copyright protection. This finding is against the traditional view of Chinese culture that resists software copyright and encourages piracy. Instead, Chinese culture plays a dual role in software copyright and piracy. On one hand, it encourages free sharing of knowledge. On the other hand, it recognizes individuals' hardworking embedded with intellectual objects and advocates granting exclusive rights to software owners.

The qualitative findings in this study are supported by Lu's (in press) quantitative research. Lu (in press) identified two opposing components in Chinese culture: individualistic component and collectivistic component. The individualistic component includes such value items as benevolent authority, keeping oneself disinterested and pure, repayment of both good and evil that another person has caused you, a sense of cultural superiority, prudence/carefulness, and protecting your face. The collectivistic component includes such value items as tolerance with others and harmony with others. The students with higher scores in the individualistic component are more likely to agree with copyright owners' exclusive rights over their products and express tolerance towards the high prices of software products. The students with higher scores in the collectivistic component have more negative attitudes towards software companies, reflecting the Chinese saying of "he that shares is to be rewarded; he that does not, condemned". Individualistic and collectivistic components coexist in the issues of software copyright but work on different levels: the individualistic component legitimates the exclusive rights held by software owners while the collectivistic component restricts their abuse of software copyright.

Examined under the lens of globalization and anti-globalization, Chinese culture, like new ICTs, functions to moderate the tensions between global and local discourses. First, its duality prevents software users from falling down into either direction of supporting or opposing piracy. On one hand, the individualistic component builds up the public awareness of software copyright and persuades individual users to abide by copyright laws and regulations. On the other hand, the collectivistic component restricts extensive corporate control under the name of software copyright and encourages software companies to sacrifice parts of their interests for the benefits of the whole society. Second, Chinese culture's emphasis on social harmony calls for a balanced, integrated account between the conflicting interests of software owners and software users. Chinese culture's dual role offers conceptual support to the moderation function of new ICTs. For example, Chinese culture's support of unselfish free sharing of knowledge legitimates software sharing on the Internet. Meanwhile, Confucianism's recognition of software owners' rights over their products spiritually resists profit-oriented offline purchasing of pirated discs and piracy behaviors of enterprise users with commercial purposes.

Patriotism

The findings above suggest that the tensions between software owners and software users are moderated by both new ICTs and Chinese culture. In this section, the tensions between foreign developed countries and China are found to be moderated by another non-material factor, patriotism, which emerges with online users' discussion about China development in globalization process. In order to maximize the benefits and offset the drawbacks in globalization, China is required to balance the tensions

between globalization and localization. Downs and Saunders (1999) pointed out that Chinese patriotism is rising as an important tool to deal with the global-local tensions (also see: Townsend, 1992). Yu (2001) noted that patriotism facilitates Chinese government's adoption of self-strengthening worldview in its policies of developing science and technology, all of which emphasize on autonomous innovation as the core principle. The worldview of self-strengthening helps justify unauthorized reproduction of foreign works, which is regarded as a way of strengthening the country and catching up with foreign developed countries. Therefore, pirated software is sometimes viewed as "patriotic software", which is supposed to speed up the nation's information modernization at little or no cost (Yu, 2001).

Patriotism is found to penetrate into software users' mentions on China's economic and social development. The following arguments were often seen on the discussion board:

> Piracy is the biggest patriotism. Piracy can make China achieve modernization at least cost. Piracy can save a lot of money paid to foreigners. Piracy can support a variety of national industrial sectors, for example, DVD, VCD, clothes, and computer. Many related industries are supported by piracy. Stopping piracy can only protect interests of one or two companies. But piracy contributes to the overall China's industry development. To support piracy is to support China. (Quote 63)

> WIN95 lowered down the threshold of computer use, and let common people easily use computers. WIN95 is a revolutionary move, and enables wide adoption of computers. When Americans were developing graphic operating systems, what were we doing? We just developed a Chinese DOS. Without piracy [of WIN95], we had to use DOS. Without piracy, the children of 900 million farmers would have no access to computers, and the children of 200 million workers would be unable to afford computers. Only a small number of rich people can get touch on computers. Are you among that small number of rich people? Without pirated WIN, China's hardware industry would not develop so fast, and no mention about network services. Today's Lenovo [a local computer producer], Founder [a local computer producer], NetEase [a local

> website portal] and Shengda [a local computer game developer] would not exist at all, because nobody can develop their products or services on the basis of Chinese DOS. Without pirated Photoshop, there would not be so many graphic experts in China, and you would not be able to edit photos at home. Without Virtual C, there would not be so many qualified programmers in China. (Quote 64)

These postings argued for two main contributions software piracy makes to economic development in China. First, software piracy promotes the development of industrial sectors relating to software products, such as computer hardware, data storage, and network services. Software piracy provides tools and platforms on which these industrial sectors are based. Second, software piracy trains a large number of IT professionals that are valuable human resources for China's economic development. Meanwhile, software piracy also makes two contributions to social development in China. First, software piracy improves the country's overall level of science and technology, and advances China into a higher stage of development. Second, software piracy enables millions of children in low-income families to have access to computers and improve the people's computer literacy.

Patriotism not only allows Chinese people to use software piracy but also advise them to protect local software companies in competition with foreign companies. It is reflected in users' discriminative attitude towards local and foreign software companies.

> For local software, I would rather use copyright products. If I am not able to afford, I would rather borrow them. If I cannot borrow them, I would rather use pirated foreign products with the same functions. I can say 95% of local software programs in my computer are copyrighted but 100% of foreign programs are pirated. (Quote 65)

> I firmly support using pirated Microsoft products. To use copyright products, I would rather choose local software. Let's support our national software industry. (Quote 66)

> I agree to use domestic software if they are not extremely expensive. By all means, the money does not go to foreigners' pockets. But for foreign software, we must use piracy. We have spent a lot of money to buy foreign hardware. We should not do the same on software. (Quote 67)

With limited competence in technology and finance, local software companies possess a disadvantageous position in competition with foreign companies. From a patriotic perspective, some users advocate to make a distinction between local and foreign products, instead of non-discriminatively pirating all the software products. A discriminative position towards foreign and local companies is raised in order to protect domestic software industry by pirating foreign products.

As the postings above show, patriotism serves as an effective tool for some software users to deal with global-local tensions in the issues of software copyright and piracy. They connect piracy use with patriotism by talking about its contributions to China's development, and calling for a discriminative position towards foreign and local software companies. They believe that software piracy can help China catch up with foreign developed countries in a short time with little or no cost. In this situation, patriotism serves as an intervention measure to resist free market and free trade structure, under which global software copyright protection is promoted and conducted by Western developed countries.

From the same patriotic perspective, another group of software users, however, deny software piracy's contributions to China's development. Instead, they emphasize on negative effects of software piracy over the country's long-term development.

> For a long run, software piracy cannot benefit the development of the whole Chinese industry and the global software industry. We should strictly punish those piracy vendors, because they sell the fruits of intellectual labor at a very low price. If piracy is stopped, the cost for

> individual and enterprise users, of course, would be significantly increased. However, high cost would encourage a lot of people to invest in software industry, because they see high reward from it. Now we see our software industry lags far behind India. To think, if people know that this industry is very lucrative, they would automatically join it, even if without the government's preferential policy…….For a long run, copyright protection would not only enhance the competitiveness of the national industry and create employment opportunities, but also diminish the distance between local and foreign companies. (Quote 68)

In response to the discriminative attitude towards local and foreign software companies, some patriotic users refuse to use piracy to protect local industries and national interests. They, instead, recognize that piracy can help foreign companies expand their market share in China, and shrink the development space of local software companies.

> Why are foreign products so expensive? Foreigners are not stupid. They know how to make money. They maintain high prices today in order to ask for more compensation tomorrow. They are not afraid you steal their products today, because they know you will pay back tomorrow. You don't want to pay back? It is impossible because you have no choice. Those domestic software companies that compete with foreigners would have been all eliminated from the game, because the foreigners have established monopoly in China's market. (Quote 69)

Being aware of foreign companies' use of software piracy to defeat local competitors, the author believes that Chinese domestic companies could benefit from software copyright enforcement because their low prices would make their products more competitive in free market structure. On the contrary, piracy is allowed to some degree by foreign software companies in order to maximally exploit network effect (Katz, 2005). In this situation, those patriotic users would like to accept self-regulating market economy and support global software copyright enforcement.

In sum, patriotism is found to play a dual role in China's development. For a short term, software piracy can accelerate economic and social development, and enable China to catch up with foreign developed countries at a fast speed with little

price. For a short term, a discriminative position about local and foreign products can benefit local software industry and undermine foreign companies' domination at Chinese market. The short-term concern is to resist free competition and free market economy. However, for a long term, software piracy can decrease the competitiveness of local software industry and damage China's overall innovation capability. For a long term, software piracy is manipulated by foreign software companies to defeat their local competitors. The long-term concern is to support free competition and free market economy.

The short/long-term concerns prevent patriotic users from complete inclination on either side, and require them to find a balanced way to integrate short/long-term concerns. In order to address these concerns, Chinese software users adopt the position of "socialist market economy" promoted by Chinese government as the guiding philosophy in the country's economic development. There exist two basic considerations under the socialist market economy. First, socialist market economy aims to establish an economic system operationally controlled, regulated, and directed by market, to which order in the production and distribution of resources and goods is entrusted. Second, the state’s macro-regulation over market is emphasized in order to correct the deficiencies of free market alone, protect public interests and the interests of a wide range of social members, and to construct a harmonious society. In the structure of socialist market economy, the centrality position is given to market economy while the state's macro-regulation plays a secondary role.

Chinese software users adopt socialist market economy to deal with short/long-term concerns of China's development in the issues of software copyright

and piracy. In order to address unbalanced power distribution between software companies and software users, Chinese users ask the government to play a more active role under the existing structure of market economy. For example:

> Individual users could be temporarily ignored. However, the government should organize frequent checks over enterprise users. If piracy use is found, strict punishment should be placed on them. Enterprises use pirate software for commercial purposes and are able to afford the prices of copyright products. But individuals' piracy use can improve the sales of copyright software and hardware products, and, at the same time, improve the country's level of informationalization. It benefits both the country and the people. I think international IT giants like Microsoft should also agree with this idea. (Quote 70)

> I think, for education institutes, the government should give them subsidy. For business enterprises, the government should ask them to buy copyright software. For individual users, the government should have a lenient attitude. By all means, software piracy does nothing good to our country's software industry. (Quote 71)

The authors ask the government to develop different policies towards education, individual, and enterprise users. The state's macro-regulation should be used to let education users and individual users have access to software products while tighten copyright enforcement over enterprise users. In addition, some users urge the government to take administrative actions to lower down copyright products' prices and develop domestic software industry. For example:

> I think the problem lies in Chinese government. Why doesn't China have a company like Microsoft? The problem in the banking system is that there is no venture capital. The problem in the state's financial system is about administrative approval of high-tech companies.....The government's procurement should give priority to domestic software products. (Quote 72)

> High profit of software developer leads to software piracy. To solve this problem, software companies have to lower down price. The government should develop effective laws, regulations, and public campaigns [to push software companies to drop price]. By now, there are a lot of works that need to be done in the state's macro-regulation. If

> we stop piracy right now, many users would go to use freeware, such as Linux. If the government can spend more resources in developing local software industry before it starts to stop piracy, the users would have more choices when local industry becomes mature. (Quote 73)

In order to address the long/short-term conflict in China's development, patriotic software users, under the guidance of socialist market economy, ask the government to be more flexible and develop discriminative policies towards different software users (i.e., education users, individual users, and enterprise users) and towards different software owners (i.e., foreign and local software companies). Under the structure of socialist market economy, the centrality of market economy requires the government to give priority to software copyright protection to achieve the long-term goal of the country's development. Meanwhile, the state's macro-regulation is applied to make distinctions among software users and software owners in order to achieve the short-term goal.

The model of socialist market economy is used to moderate the long/short-term conflict relating to patriotism. This moderation process is facilitated by new ICTs and Chinese culture. First, new ICTs support the patriotic use of software piracy, because software download lowers down the cost of piracy use and accelerates dissemination of pirated software products. Patriotic users believe that wide adoption of Internet piracy would help China win out in competition with foreign developed countries. Second, big software companies capitalize network effect to defeat their local competitors and monopolize Chinese market. Patriotic users, therefore, see software copyright enforcement as a method to protect local software companies. In this way, new ICTs serve to support both long-term and short-term concerns in patriotism.

Meanwhile, Chinese culture provides conceptual support for software users' adoption of socialist market economy. First, Chinese culture's respect of software copyright legitimates the central position of software copyright protection in socialist market economy. Second, Chinese culture's emphasis on education and free sharing of knowledge allows the state's macro-regulation to counteract extensive corporate control and protect public interests. Of more importance, Chinese culture advocates harmony between software owners and software users as well as between foreign developed countries and China. Chinese culture sees long-term and short-term patriotic concerns are not in conflict but in harmony. Long/short-term concerns cross-check each other to avoid going too far on either side, and constitute an integrated cultural approach to the issues of software copyright and piracy.

On the conceptual level, Chinese culture's integration of long/short-term patriotic concerns enhances the viability of socialist market economy. On the practical level, Internet software piracy, which is supported by Chinese culture, emerges as a way to enforce the model of socialist market economy. On one hand, Internet piracy recognizes the centrality of software copyright protection under the structure of market economy. For example, Internet piracy retreats from the offline market and transforms itself from a profit-oriented business transaction into a non-profit social/relational activity. In addition, Internet piracy promotes software users to develop negative attitudes towards piracy producers and offline purchasing of pirated discs. On the other hand, Internet piracy helps the state's macro-regulation in resisting extensive corporate control and enabling education and individual users to have free access to software products.

Users' distinctions to moderate globalization and anti-globalization

In all, a flexible, discriminative position emerges as a general solution developed by Chinese software users to deal with the tensions between global and local discourses in the issues of software copyright and piracy. This position includes a series of distinctions between offline purchasing of pirated discs and software download, between enterprise users and individual users, and between foreign and local software companies. There are also some other distinctions, for example, between freeware/open-source software and copyright/pirated software, between software companies and independent software developers, and between conceptual recognition and behavioral practice.

The distinction between conceptual recognition and behavioral practice refers to users' conceptual acceptance of software copyright protection and practical use of software piracy. It reflects Chinese users' ambiguous stance in the conflict between globalization and anti-globalization. On one hand, they are attracted by globalization and materialistic benefits it imbues. These benefits are nurtured and satisfied, to some degree, by the focus on the concept of software copyright. On the other hand, software users are bound by their identities rooted in local economy, culture, ideology, and politics, such as low income, Confucianism, patriotism, and socialist market economy. Parts of local identity, especially its material dimension, are against software copyright and free market economy. As a result, users find themselves facing a dilemma that is based on disparity between ethical obligation and utilitarian end. Users frequently expressed such a dilemma in online postings as well as their solutions:

> I love copyright products. But I only bought piracy. I have no choice, because copyright is too expensive. From the ethical perspective, we

> should buy copyright products. However, when piracy is put in front of you, who can resist? Who is a Saint? (Quote 74)
>
> I spiritually support copyright software and materially support pirated software. I salute to software developers and say thanks to software pirates. I am afraid that policemen catch piracy users. I am also afraid that piracy use would prohibit new, better software products. Is it my fault? I am so tired. I have no money, and I have to be condemned. If I do not use piracy, I do not even know what is computer. No matter what I say, they are all nonsense. I feel so innocent when being criticized. (Quote 75)

In these postings, software users acknowledged that piracy use is inappropriate and felt guilty about their piracy actions. No matter whether they talk about piracy in careless, joking, serious, or even radical ways, there are significant moral pressures associated with their piracy use. However, although piracy use is not an honorable conduct, Chinese users have to surrender their ethics under larger economic pressures. This dilemma essentially reflects the inherent conflict surrounding intellectual objects. As indicated in the literature review, the view of intellectual property as public goods is drawn on unique characteristics of intellectual objects (i.e., non-exclusive and non-rival) while the view of intellectual property as private goods is drawn on human beings' philosophical mediation (i.e., normative theories of Locke and Hegel, and utilitarian theories). The first appeals to the practical level and the second to the conceptual level. The inherent conceptual/behavioral conflict makes the concept of intellectual property rights controversial. Resolving this dilemma between ethical obligation and utilitarian end, Chinese software users tend to make a distinction between conceptual acceptance of software copyright and practical use of software piracy. Users' distinction indicates their willingness to simultaneously subscribe to the conflicting views about intellectual property rights and keep a balance between them.

Of more importance, the conceptual support of software copyright relieves the ethical pressure to some extent. Conceptually admitting piracy at one level serves to minimize the significance of their actions but at another level it reinforces resistance to the activities of authorities who control globalization processes and intellectual property regimes.

The distinction between conceptual acceptance of software copyright and practical use of piracy provides software users a flexible position to deal with the tensions between globalization and anti-globalization. Meanwhile, this flexible position also includes users' distinction between independent software developers and software companies. In general, software users show more respect and sympathy to individual developers than to software companies. For example, an independent developer expressed his feelings in communication with software users.

> I am an independent developer. I spent one year developing a freeware program and put it on the Internet for sale. Because this software is not frequently used, I thought nobody would like to buy it. But today it was bought by somebody. The buyer's email impressed me very much, especially the last sentence "I will always support excellent software". I feel very grateful for this buyer. What he gives me is far more than money. (Quote 76)

Software users not only bought the products of independent developers but also helped them promote their products at the market. For example:

> I think you should put your software upon sourceforg [the largest open-source software development website in the world] and change its copyright into commercial copyright. The advantages are: First, if your program really has a market, it won't disappear. Instead, it can be noticed by people and can be edited and completed by other programmers. Second, you would win respect and recognition instead of being pirated. Third, if your software has business value, it is only free for individual users. You can charge enterprise users by giving them authorization. Many successful software programs follow this

> model, for example, BT, Linux, Mozilla, and GCC. Programmers, this is a good way to go. (Quote 77)
>
> You can talk to some companies to see if they are interested. If they are interested, they can give you financial support, and let you open a software company. Of course, your target should be enterprise users. You can hire more people to promote it into a big brand. (Quote 78)

Software users' support of independent developers reflects their respect for software copyright and their willingness to develop new products under the structure of market economy. The users' support of software copyright protection helps small independent developers survive in competition with big software companies. On the other hand, the products of independent developers often take the form of freeware which promises free access of individual users and only charges enterprise users with commercial purposes. The form of freeware indicates software owners' consideration of individual users' interests and willingness to limit copyright enforcement to a reasonable degree.

Freeware and open-source software represent a different type of software copyright and distinguish themselves from the dichotomy of copyright products and pirated products. According to Software & Information Industry Alliance (SIIA) (n. d.), freeware is software that is distributed in a way that allows individuals and non-profit organizations to use the software at no charge. The software usually comes with a license agreement that prohibits the software from being sold, rented, or otherwise distributed in a for-profit manner. While there is no money exchanged to obtain a copy of freeware and it can usually be downloaded without liability, freeware can still be considered to be pirated if it is used in a manner that violates an accompanying agreement. For example, if the freeware license contains a restriction on selling the freeware and someone includes the freeware on a compilation CD of freeware

programs and sells the program, the freeware has been pirated because the license has been violated.

According to Business Software Alliance (BSA) (n. d.), "Open Source" is a software-licensing model where the source code of the software is typically made available royalty-free to the users of the software, under terms allowing redistribution, modification and addition, though often with certain restrictions. The support, training, updates and other services for the software may be provided by a range of entities, increasingly under commercial arrangements. Open source programs are often, though not exclusively, developed through a collaborative effort in which a number of persons contribute elements of the final software. Software companies are also contributing paid programmer time and programs developed in-house to the open source community.

Freeware and open-source software are favored by software users, because of their unique ways to deal with software copyright. One user listed his reasons to choose Linux, an open-source operating system.

> The current Linux system is good enough with only a few functions different from Windows. It is very easy to use, even for the users who never used computers before. What are common users doing with computers? They just browse websites, receive/send emails, chat, and write documents. All of these functions can be realized under Linux ……As a matter of fact, Linux is better, safer and more reliable. You do not have to worry that the system would suddenly slow down. You do not have to delete some data to release hardware storage. Only a bad operating system like Windows would ask you to delete data. More important, Linux is free. You do not have to pay a cent to any organization or any individual. Your use of Linux is protected by laws. (Quote 79)

> In the United States, many universities are still using UNIX. Why? It is because Windows in the United States are not cheap. Now we have cheap Linux. Why don't you have a try? .....I also used pirated software.

> But if I can find freeware or open-source software with the same functions, I always try my best to use them to replace pirated programs. Linux + Open Office + Firefox are very interesting! (Quote 80)

According to the authors, freeware and open-source software, compared to copyright products, have advantages in price and usability. Compared to pirated software, they are legal products and their use is allowed by copyright laws. The users believe that freeware and open-source software are good surrogates of business software and resolve the tensions between global and local discourses. However, some users expressed their worry about the future of freeware and open-source software. For example:

> I think China's overlook of open-source software is a big pity. If our country have paid enough attention to developing open-source software at the very beginning, for example, teaching Linux and Unix in our universities, China now would have a large number of high-tech professionals and do not have to be condemned and exploited by foreign countries and companies. Unfortunately, we miss this opportunity so that it is very hard now to change users' habits from Windows to Linux. Another difficulty is that Linux is lacking in big companies' support. Big companies often develop their products on the basis of Windows and few software applications can be compatible with Linux system. (Quote 81)

The author's worry was about extensive corporate control. In order to maximize the market share of their products, big software companies draw on network effect and strategically manipulate software piracy so as to inhibit the development of freeware and open-source software. The emergence of freeware and open-source software complicates the dichotomized relation between copyright and pirated products. Freeware and open-source software provide a third way to enable millions of grass-root users to enjoy software products and, at the same time, protect software copyright. In order to deal with emerging challenges from freeware and open-source

software, big software companies are forced to adopt discriminative positions towards individual users and enterprise users as well as towards offline purchasing and online download.

So far, this study has identified a group of distinctions software users creatively make on the micro level in order to deal with the combined impacts of various structural factors on the macro level, such as software companies, foreign developed countries, Chinese culture, patriotism, and new ICTs. Software users' distinctions include the ones between offline purchasing of pirated discs and software download, between enterprise users and individual users, between foreign and local software companies, between freeware/open-source software and copyright/pirated software, between software companies and independent software developers, and between conceptual recognition and behavioral practice. These distinctions represent the agency of individual software users in response to complicated interactions of macro-level structural factors.

These distinctions, though focusing on different issues in software copyright and piracy, reinforce one another and consist of an integrated approach to address the tensions between globalization and anti-globalization. This approach aims to seek a balanced account between global and local discourses, and has three major features. First, it confirms the central position of software owners' exclusive rights over software products, which is the assumption of all these distinctions. This assumption is explicitly expressed in users' conceptual acceptance of software copyright and their support of individual software developers. Second, this approach, while giving full respect to software copyright, calls for efforts to protect disadvantageous stakeholders

in the issues of software copyright and piracy. It is explicitly expressed in users' favor of individual piracy use, independent software developers, and local software companies. Third, this approach prioritizes the social dimension of software copyright over the economic dimension. For example, new ICTs transform software piracy from an economic issue between software owners and software pirates to a social/relational issue of software users. Meanwhile, software users support unselfish/non-profit nature of software download, freeware and open-source software against profit-orientation embedded with commercial software products, enterprise piracy use, and offline purchasing of pirated discs.

Discussion

This chapter explores the impacts of non-human and non-material factors over software users' perceptions about software piracy and their agency/creativity to deal with complicated interactions of various structural factors. Chapter IV reveals two opposing discourses existing in software users' perceptions, which represent globalization and anti-globalization processes surrounding software copyright and piracy. Software companies and foreign developed countries are identified as two constructs contributing to the formation of these discourses. Under Mittleman and Chin's (2005) theoretical framework, the political-economy approach is adopted to map out materialistic tensions of human factors as well as connection and modification of different types of resistance positions in globalization process.

Recognizing global and local discourses in software users' perceptions, this chapter uncovers the impacts of non-human and non-material factors, including new ICTs, Chinese culture, and patriotism. All these factors are found to play dual roles in

the formation of software users' perceptions, and moderate the existing confrontations between globalization and anti-globalization. For example, new ICTs, on one hand, make software users give up offline piracy purchasing and transform software piracy from a business-oriented transaction to a social/relational activity. On the other hand, ICTs-enabled network effect pushes software companies to allow piracy to some extent in order to maximize their profit. A certain degree of agreement can be reached about Internet software piracy, which is favored by individual software users as a social/relational non-profit activity, and is reluctantly accepted by software copyright owners as a method to expand the user base of their products.

The mediating function of Chinese culture is expressed in its dual position in the relation between software owners and software users. Chinese culture, on one hand, affirms software owners' exclusive rights over their products and legitimates material rewards granted to copyright owners. On the other hand, Chinese culture encourages education and free sharing of knowledge to benefit the whole society. Of more importance, Chinese culture's emphasis on harmony simultaneously inhibits users' piracy behaviors and owners' copyright abuse.

Patriotism emerges to moderate the tensions between China and foreign developed countries in the issues of software copyright and piracy. For a long term, patriotism advocates software copyright protection to foster the development of national ICT industries and improve the country's overall competence in science and technology. For a short term, patriotism encourages software piracy to catch up with foreign developed countries at a fast speed with little or no cost. To deal with the long/short-term conflict, Chinese software users adopt the model of socialist market

economy that requires the government to give the central position to software copyright protection while take effective administrative actions to promote software products' diffusion to a wide range of members in society. The model of socialist market economy is adopted as a patriotic solution to moderate the confrontations of globalization and anti-globalization.

Meanwhile, new ICTs, Chinese culture, and patriotism are found to support one another in the process of moderating global and local discourses. For example, Chinese culture's advocacy of unselfish free sharing of knowledge legitimates software sharing on the Internet while its recognition of software owners' copyrights resists profit-oriented offline purchasing of pirated discs. New ICTs facilitate the patriotic use of software piracy by reducing cost and improving accessibility while ICT-enabled network effect makes patriotic users support software copyright protection in order to oppose foreign companies' manipulation of software piracy. Moreover, Chinese culture's emphasis on harmony promotes a balanced, integrated approach to deal with the confrontations between global and local discourses. This approach is primarily expressed in users' adoption of software download and socialist market economy. In practice, software download offers a way to exercise the model of socialist market economy in the issues of software copyright and piracy.

The users' integrated approach complicates the traditional class distinctions in the theories of Gramsci (1971) and Scott (1990). On the local level, the traditional class distinction in copyright hegemony exists between copyright owners as the ruling class and copyright users as the ruled class (Strangelove, 2005). On the global level, the class distinction refers to developed countries as copyright owners and ruling class, and

developing countries as copyright users and ruled class (Pang, 2006). Overlapping local and global copyright hegemony emerges a dual role of the Chinese government. On the local level, the Chinese government represents the interests of the ruling class including software copyright owners. On the global level, the Chinese government represents the interests of China as a developing country, the ruled class in the international community. The dual role of the Chinese government is expressed in Scott's (1990) notion of public and hidden transcripts. The public transcript records hegemonic values, ideologies, and opinions of the ruling class, while the hidden transcript records surreptitious challenge practices of the ruled class for economic, status, and ideological domination. The dual role of the Chinese government results in two types of public transcript: global transcript and local transcript. The global transcript records hegemonic ideologies of the ruling class including software copyright owners and foreign developed countries. These hegemonic ideologies are promoted by the Chinese government through its controlled mass media and education systems, for example, free market economy, free trade, and equating piracy with theft. Meanwhile, the local transcript records the concerns of the ruled class including software copyright users and China as a developing country. They are also strongly promoted by the state-controlled media and education systems, for example, Chinese culture and patriotism. These two public transcripts appear to be separate and unrelated in the public discourse in China. However, Chinese software users creatively link these two transcripts in their hidden transcript and develop their integrated approach to deal with software copyright hegemony.

Examined under Mittleman and Chin's (2005) framework, the users' integrated approach prevents traditional resistance movements, based on counter-movements and counter-hegemony, from achieving critical mass through collective contestations and openly declared call for resistance. Instead, the resistance exists primarily through Scott's (1990) notion of infra-politics, which is communicated among software users and expressed in their everyday practice of piracy use but not in public and government discourse. Scott (1985) pointed out that one of obstacles to open, collective resistance is double-cropping identities of subordinate groups. Given that subordinate groups of users are losing an unproblematic unitary identity in increasingly complex social contexts, the different and even conflicting modalities of subordinate identity constrain the formation of collective behaviors with openly declared call for resistance (Scott, 1985).

Gramsci (1971) explained that fragmented identities of subordinate groups lead to the lack of common sense in the development of counter-hegemonic consciousness. The notion of common sense is a result of an individual's relationship to and position in a variety of social groups, which share the same mode of thinking and acting. When a user belongs simultaneously to a multiplicity of social groups, common sense-making is reduced to disconnected and episodic manifestations. Conformity and resistance, therefore, are found to coexist in users' perceptions, causing inconsistencies between thought and action as well as self-contradictory behaviors of subordinate group members, who may "embrace its own conception of the world while still adopting conceptions borrowed from dominant classes" (Gramsci, 1971, p. 326).

In this study, the moderation functions of new ICTs, Chinese culture, and patriotism fragment the identities of Chinese software users. They form their anti-copyright arguments by accepting the elements in ICTs, culture, and patriotism that are in favor of piracy use (i.e., software download, free-sharing of knowledge, and the short-term goal of catching up with developed countries), yet simultaneously buying into the elements in these factors in favor of software copyright protection (i.e., rejection of offline piracy purchasing, software owners' rights over their products, and the long-term goal of China's social and economic development). Thus, both forces of conformity and resistance coexist within software users. Consequently, both counter-movements and counter-hegemony against global copyright enforcement are modified and mostly expressed in the form of Scott's (1990) infra-politics on individual level, instead of developing into a collective movement in public transcript.

To deal with fragmented identities, Chinese software users generally adopt a flexible, discriminative position composed by a series of distinctions, between offline purchasing of pirated discs and software download, between enterprise users and individual users, and between foreign and local software companies, between freeware/open-source software and copyright/pirated software, between software companies and independent software developers, and between conceptual recognition and behavioral practice. These distinctions represent the agency/creativity of individual software users in response to combined impacts of macro-level structural factors. They are tightly connected, support one another, and constitute an integrated approach towards software copyright and piracy. Assuming the central position of software copyright protection, this approach calls for support to disadvantageous stakeholders

relating to software copyright, such as local companies, independent developers, and individual users.

Software users' approach reflects not only their agency/creativity to handle the complex situation but also a constructive interaction between software users and Chinese government. It is largely determined by the special role Chinese government plays in the issues of software copyright and piracy. As discussed in Chapter II, because of its leading role in the country's ICTs development, the government has the most important impact over software copyright protection. Meanwhile, because of its extensive control/intervention in the country's politics and economy, the government can be viewed as a filter to facilitate, moderate, or distort the impacts of the other structural factors. Therefore, the government functions as an intermediate factor between the other structural factors and Chinese software users.

In general, both Chinese government and software users are engaged in looking for a balanced account between globalization and anti-globalization. In this process, software users' approach is formulated in accordance with the state's software strategies and complements these strategies from the users' perspective. For example, software users' assumption of the centrality position of software copyright protection is drawn on the state's guiding philosophy in the country's economic development: socialist market economy. In terms of software copyright and piracy, socialist market economy requires the central position of software copyright protection under the structure of market economy. Chinese government utilizes its controlled mass media system and education system to legitimate the centrality of software copyright protection in public opinion (Lu & Weber, 2008).

Meanwhile, the Chinese government has the obligation to develop the country's ICTs industries and improve people's computer literacy (Mertha, 2005). Under the structure of socialist market economy, these obligations are realized through the state's macro-regulation, which is expressed in its preferential policies to develop local software industry, its refusal to extend legal liability to non-profit end-users, its reluctance to eradicate P2P technology on the Internet, its strategic manipulation of local piracy industry and local government's interests, its acquiesce to software users' online discussion against software copyright protection, and its promotion of Chinese nationalism with the core tenets of Confucianism and patriotism (Lu and Weber, 2008). The state's macro-regulation promotes software users' call for support to disadvantageous stakeholders in software copyright and piracy. For example, the government's reluctant practices in attacking software piracy (i.e., refusal to extend legal liability to non-profit users, allowing software piracy to some extent at local market, and lose control of P2P network technology) encourage software users to protect the interests of disadvantageous stakeholders (i.e., individual users, independent software developers, and local software companies). Meanwhile, the government's promotion of Confucianism and patriotism provides spiritual support to free sharing of software products on the Internet.

Chinese government makes strategic use of its leading role in the country's socio-economic life to filter the other structural factors involved in software copyright and piracy. The filter function places Chinese government to an intermediate position between software users and the other factors, and enables it to closely interact with Chinese software users, and exert immediate impacts over them. Therefore, Chinese

users' approach to software copyright and piracy is highly correlated with the government's strategies. However, Chinese users' approach is not a simple replication of the government's strategies but an important supplement. Chinese users' approach explicitly express the concerns that Chinese government is reluctant to declare in official channels due to increasing pressures from foreign developed countries. Lu and Weber (2008) suggested that the Chinese government, because of the international pressure, dares not openly recognize its hesitation to completely eradicate software piracy, or openly connect its promotion of Confucianism and patriotism with piracy use. These concerns, however, are all adequately expressed through Chinese users' approach on micro level. Open declaration of the concerns about disadvantageous stakeholders, from the users' perspective, legitimates the state's macro-regulation over the issues of software copyright and piracy, and shields Chinese government from international criticism. In this way, software users' approach facilitates the government's strategies to seek a balanced account between globalization and anti-globalization. The connection of the users' approach with the state's strategies indicates a constructive interaction between Chinese government and software users, in which they influence, support, and complement each other.

Summary

This chapter sets out to examine the impacts of non-human and non-material factors over software users' perceptions about software copyright and piracy. New ICTs, Chinese culture and patriotism are found to moderate the existing confrontations between globalization and anti-globalization, which are formulated by human and material factors, such as software companies and foreign developed countries.

Moderation functions of these factors fragment the identities of software users to reduce traditional collective resistance movements of counter-movements and counter-hegemony into individually-based infra-politics without openly declared contestation. In order to deal with fragmented identities, Chinese software users adopt a flexible, discriminative position to make a series of distinctions. These distinctions, though focusing on different issues, consist of an integrated approach to address complicated interactions of various structural factors. Meanwhile, Chinese government is found to direct the formation of software users' approach by strategically filtering the impacts of the other structural factors. On the other hand, software users' approach complements Chinese government's software strategies by openly calling for protecting the interests of disadvantageous stakeholders relating to software copyright. Both Chinese government and software users are engaged in seeking a balanced account between globalization and anti-globalization. In this process, they influence, support, and complement each other.

CHAPTER VI

CONCLUSION

This study set out to explore how Chinese software users perceive the issues of software copyright and piracy. Tianya Community, the largest online public forum in China, was selected as a site to study users' online communication about software copyright and piracy. Digital archival at Tianya Community was searched with key words of software copyright and software piracy to retrieve 561 posting threads with 6,150 messages. Lindlof and Taylor's (2002) qualitative communication research methods were used to analyze and interpret online postings.

In Chapter IV, the approach of political economy was adopted to map out two opposing discourses existing in Chinese software users' perceptions about the issues of software copyright and piracy. Examined under Mittleman and Chin's (2005) framework, these two discourses respectively represent globalization and anti-globalization processes in terms of software copyright and piracy. Two human and material factors, software companies and foreign developed countries, were identified to contribute to the formation of these two discourses. In Chapter V, the network/process-oriented approach was adopted to examine the impacts of non-human and non-material factors (i.e., new ICTs, Chinese culture, and patriotism) on software users' perceptions. All these factors were found to perform moderation functions over the confrontations between global and local discourses.

The combined use of the network/process-oriented approach and the political economy approach uncovered complicated interactions of various structural factors.

The materialistic tensions between copyright owners and users and between China and foreign developed countries create global and local discourses, whose focuses range from free market economy to hegemony including domination and resistance on both material and non-material levels. Under the lens of political economy, non-material/non-human factors, such as technology, ideology, culture, and ethics, are reduced to the tools used by human factors to construct or deconstruct copyright hegemony. However, the network/process-oriented approach rejects the over-simplified function of non-material/non-human factors. Instead, it finds that these factors serve to moderate the existing tensions between globalization and anti-globalization, and foster a certain degree of alignment between them. The findings indicate the strength of actor-network theory in breaking down the walls between a series of conceptual dichotomies (i.e., nature versus society, human versus non-human, and technology-determinism versus social-shaping) and integrating all of them into its central concept of hybrids.

The network/process-oriented approach corrects the weakness of the political economy, and complicates the parallel discourses of globalization and anti-globalization, which are identified under the lens of political economy. A certain degree of agreement and adjustment between globalization and anti-globalization are allowed through the moderation of non-human/non-material factors (i.e., acceptance of online download and application of socialist market economy in the state's software strategies). Consequently, the traditional collective resistance positions, such as Polanyi's (1957) counter-movements and Gramsci's (1971) counter-hegemony, are modified into individual-based Scott's (1991) infra-politics without openly declared

call for contestation.

To address various structural factors on macro level, individual software users are enabled by the model of translation in the actor network theory to creatively develop an integrated approach towards the issues of software copyright and piracy. Law (1991) suggested that the mechanism of translation enables the actors to mobilize and juxtapose the factors on the web to prevent them from following their own inclinations, and, instead, come to more general and unified demands with one and the same solution. Chinese software users creatively interpret the multiple meanings embodied with human/non-human and material/non-material factors, extract parts of them from their original socio-economical backgrounds, identify the common ground among them, and integrate them into a single-dimension solution that calls for a flexible, discriminative position to seek a balanced account between globalization and anti-globalization. In this process, Chinese government plays an important filtering role in the operation of translation mechanism. With the leading position in the country's development, the government applies powers and resources to manipulate the impacts of the other structural factors according to their own goals and needs. The government takes an intermediate position between the other factors and individual software users. The government's filter function and intermediate position set up the extent to which the model of translation works to enable individual software users' agency. In response, individual software users' creative translation of various structural factors more or less reflects and supports the state's software strategies.

The power of the model of translation lies in software users' agency to link the global level with the local level as well as the macro level with the micro level (Wang,

2003; Wang & Zhu, 2003). In this study, Chinese users are able to innovatively utilize global and local resources input on the macro level by software companies, foreign developed countries, network technology, Chinese culture, and patriotism, which, with diverse interests and goals, exercise powers through a variety of channels, such as education, mass media, laws, regulations, and market. On the micro level of software users' perceptions, individual agency is played out to make these powers and resources deviate from their original expectations, and turn to better serve the interests and stances of individual users. However, individual users are not given complete autonomy in manipulating global and local resources. The macro-level authorities are still able to retain their influence on the micro level and achieve their expectations to some extent. The complicated interactions between individual agency and macro-level factors result in a series of distinctions software users make to moderate existing tensions in the issues of software copyright and piracy. As Law (1991) pointed out, translation between global and local levels as well as between macro and micro levels offers a negotiation space for individuals to transform global and local resources and generate a return to global and local actors, and for global and local actors to exercise controls over individuals. The negotiation results in a flexible, discriminative position composed by a series of distinctions, between offline purchasing of pirated discs and software download, between enterprise users and individual users, between foreign and local software companies, between freeware/open-source software and copyright/pirated software, between software companies and independent software developers, and between conceptual recognition and behavioral practice.

The primary objective of this study is to examine how Chinese software users

perceive the issues of software copyright and piracy. The findings provide significant insights for both academic research and key stakeholders' practices about software copyright and piracy in China. It is one of initial attempts to examine software users' perceptions in the specific contexts of contemporary China. The network/process-oriented approach allows inclusion of a variety of structural factors and comprehensive examination over complicated interactions of these factors. The focus on software users' communication process explores both constraining forces of structural factors and enabling forces of individual users' agency/creativity in the formation process of software users' perceptions.

The findings in this study reject or differ from the existing positions about some structural factors and offer new understandings. First, new ICTs are found to have dual impacts over software users' perceptions. On one hand, new ICTs, as indicated in previous studies, promote piracy use and weaken users' awareness of software copyright protection. On the other hand, new ICTs facilitate software copyright owners to defeat piracy producers at the offline market, and develop an ambiguous attitude towards software copyright protection. The latter impact has not been adequately addressed in the existing literature.

Second, Chinese culture is found to have dual impacts over software users' perceptions. On one hand, the collectivistic component in Chinese culture, as indicated in previous studies, tends to reject the concept of software copyright and encourage piracy use. On the other hand, the individualistic component in Chinese culture assures software owners' exclusive rights over their products and supports software copyright protection. The dual role of Chinese culture rejects the popular position in previous

studies that Chinese culture resists software copyright and encourages piracy.

Third, patriotism is found to have dual impacts over software users' perceptions. On one hand, patriotism encourages piracy use in order to catch up with foreign developed countries in a short term with little or no cost. On the other hand, patriotism reminds software users that software piracy, for a long term, would damage the country's social and economic development. The dual role of patriotism is against the existing position that patriotism only provides legitimacy for piracy use.

Besides the contributions to academic research, this study also has important implications for key stakeholders in software copyright and piracy in China. For software copyright regimes and civil organizations, the study can help them design and launch effective anti-piracy programs to reduce piracy rate. The existence of global discourse in software users' perceptions indicates significant effects of existing anti-piracy campaigns. Dual roles of Chinese culture and patriotism offer more hopes to enhance the impacts of these campaigns by emphasizing the elements in culture and patriotism, which favor software copyright protection.

For software copyright owners, the study would help them adjust the actions to expand market shares of their products. The study finds that users' resistance to software copyright enforcement concentrates on extensive corporate control. An important question posed for software copyright owners is how to correct their negative images in software users' perceptions. First, copyright owners should lower down the retail prices of their products to the degree that grass-root Chinese users are able to afford. Given many users express that they would rather use copyright products if their prices could be reduced, low prices would expand the user base of software products and still maintain

high profit-margin. Second, copyright owners, instead of hiding behind administrative agencies, international regimes and civil organizations, should directly participate in copyright campaigns to have a face-to-face communication with individual users. Direct interaction with software users would change software owners' image from a vicious, behind-scene conspirator to a candid, responsible, considerate stakeholder. Third, campaigns should primarily appeal to traditional Chinese culture, especially Confucianism's duality in respecting software owner's copyright and developing a harmonious relation between owners and users. Campaigns would be more convincing and effective if they touched upon the two sides of Chinese culture rather than making biased calls for protecting copyright owners' interests.

For Chinese government, the study would help it develop appropriate policies to advance the country's economic and social development. So far, the government's strategies in software copyright and piracy have been proved successful, because they have developed a constructive interaction with millions of grass-root software users and won their support. However, individual users are not completely satisfied with the state's intentional overlook that gives them access to pirated products. Instead, they require the government to enhance its macro-regulation to give more administrative supports to education users, individual users, independent developers, and local software companies.

For foreign developed countries, the study would help them modify their positions in international copyright disputes to facilitate communication with Chinese government and individual software users in China. The significant rise of Chinese nationalism with core tenets of Confucianism and patriotism needs to be seriously

noticed. Given the fact that China started to play a more and more important role in today's world and its development cannot be easily stopped or reversed, foreign developed countries should change their attitudes towards China in the issues of software copyright and piracy. The previous simplified criticism (i.e., the black-white storyline) can only result in stronger resistance from Chinese government and individual users, which nowadays have stronger faith in nationalism and possess more powers and resources than before. The direct confrontation with China would have very little progress in protecting the interests of foreign software companies, because the external pressure from the international society is often skillfully alleviated by Chinese government and is unlikely to transform itself into strict enforcement on micro level (Lu & Weber, 2008; Mertha, 2005). Instead, it would ignite the flare of Chinese nationalism among millions of grass-root users. If so, the elements in Chinese culture and patriotism supporting piracy use would be over-amplified so as to overwhelm the impacts of the elements favoring software copyright protection. As a result, piracy use would get out of the control of rational nationalism and turn into an irrational xenophobic activity that is fundamentally against the interests of foreign developed countries. Thus, foreign developed countries should give up their old positions and adopt more constructive strategies to manipulate confrontation and cooperation depending on different situations. In general, confrontation can only be used as a threatening tool to prevent China from irrationally falling down to the extreme end of total piracy use. Meanwhile, cooperation should be emphasized to remind Chinese government of the benefits derived from software copyright protection and diminish negative effects of Chinese nationalism.

NOTES

[1]Kong Yiji is the major character in Lu Xun's novel of "Kong Yiji". Lu Xun is one of the leading writers in the early 20th century and his works are well known among Chinese people.

[2] Wang (2003), Wang and Zhu (2003), and Mittleman and Chin (2005) use the term of "spiritual" to refer to such factors as social norms, culture, ideology, beliefs, and religion, which reside at human beings' conceptual level.

[3] The public-private distinction is defined by Mertha's (2005) argument that the concept of software copyright is created to induce and reward innovation and creativity of software developers while at the same time allowing the public to enjoy the benefits of this innovative and creative behavior. Thus, the private dimension of software copyright is about to reward innovation and creativity of individual software developers and protect their private interests while the public dimension is about to allow the public to have access to software products and advance the whole society's overall development.

[4] Although there are a small number of studies that examine the impacts of new ICTs and Chinese culture on individual users' perceptions, most of the research in new ICTs and Chinese culture generally are conducted at macro level.

[5] All the quotes of Chinese software users are extracted from their online postings and translated by the author from Chinese to English.

[6] Weinstraub (1997) suggested two basic criteria for distinction between public and private: visibility (what is hidden or withdrawn versus what is open, revealed, or accessible) and collectivity (what is individual, or pertains only to an individual, versus what is collective, or affects the interests of a collectivity of individuals. According to Weinstraub (1997), these two criteria may blur into each other in specific cases, and can also be combined in various ways, but the difference in principle is clear enough. This study adopts visibility and collectivity to distinguish Scott's (1990) public and hidden transcripts.

[7] In this study, copyright(ed) software/products refer to "commercial software". According to Business Software Alliance (n. d.), "Commercial Software" is the model where the software developed by a commercial entity is typically licensed for a fee to a customer (either directly or through channels) in object, binary or executable code. The commercial entity often provides support, training, updates and other similar services needed by customers to efficiently use that software. The source code of the software may be made available1 to certain users of the software through special licensing or other agreements, but is usually not distributed to the general public, and may not be copied or modified except in a manner provided for in such agreements. The term of copyright(ed) software/products is used to distinguish from a variety of pirated software/products as well as open-source software/freeware.

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APPENDIX A

SUMMARIZED CODING CATEGORIES

Categories	Definitions	Examples
Software products (copyrighted product[7]s, pirated products, and open-source/free/share software)		
Cost	Software price, consumer's affordability and income, and software price to reflect value.	Participants talk about high/low price of copyright/pirated products, and their income to afford the price.
Usability and accessibility	Quality, stability, functionality, performance, and contents of software products as well as availability of software products	Participants complain that the quality of copyright products is even worse than pirated products, or vice verse. Participants talk about how easily they can access to copyright/pirated software products.
Software developers (software companies, piracy manufacturer/distributors, individual developers, pirates and vendors)		
Pricing strategy	Talks and comments about how software developers set up the price of their producs, and its consequences	Participants citicize that software companies are very greedy and do not consider customers' interests. Participants use piracy as a tool to punish or reveange vicious software companies.
Anti-piracy strategy	Mentions and comments about how software developers protect copyrihgt and attack piracy, and its consequences	Participants discuss if they should join a Microsoft program to surrender their pirated Windows systems in exchange of copyrighted copies. Participants discuss how to help individual developers to protect copyright.
Market expansion strategy	Mentions and comments about how software developers compete one another at the market, and its consequences	Participants recognize that Microsoft allows piracy use in order to defeat their competitors in market. Participants discuss how to help individual developers to compete with giant software companies in market.
Services	Mentions and comments about the services provided by software developers to individual users	Participants complain the bad services of software companies. Participants discuss their personal experiences with software companies' services.
Foreign developed countries		
Foreign developed countries in software copyright and piracy	Mentions about the role foreign countries play in current global software copyright enforcement	Participants criticize that foreign countries manipulate international copyright/trade regimes in favor of their interest.
Foreign developed countries in history	Mentions about what foreign developed countries did on China in modern history	China was defeated by foreign countries in recent two centuries and Chinese wealth was grabbed. Chinese people were humiliated and exploited by imperialism.
China development		
Social development	Mentions about the role software plays in the country's education, computer literacy, knowledge dissemination, and improvement of science and technology	Participants express that piracy use help improve computer literacy, disseminate knowledge, and increase the country's overall level of science and technology. Participants express that the improvement of t science and technology should not rely on piracy.
Economic development	Mentions about how piracy use contribute to development of local software industry, computer industry, IT industry, and the entire national industry.	Participants worry that wide use of piracy could seriously impede the development of local software industry. Participants believe that piracy use could facilitate the development of local computer industry, IT industry, and the overall national economy.
Chinese governmnet	Mentions and comments about Chinese government's strategies in regulating software copyright	Participants believe that Chinese government does not really want to stop piracy but just make a show to foreign countries.
Debate over software copyright and piracy use (purchasing, sharing and download)		
Defining software copyright and piracy	Clarification about users' confusion in software piracy types.	Participants discuss if downloading software is a piracy behavior. Participants discuss if the concept of software copyright is clearly defined
General debate	Simply claim to support or reject software piracy	Participants use one sentence to express their stance in software piracy.
Moral debate	Appeal to morals to justify or criticize software piracy	Participants equal piracy use with theft. Participants believe piracy behavior is altruistic and unselfish.
Legal debate	Appeal to laws to justify or criticize software piracy	Piracy use is to break laws. Piracy use is exempted from punishment under the current copyright laws.

主题	定义	范例
软件产品 （正版，盗版， 开源，免费，共享软件）		
成本	软件价格，消费者收入与支付能力，以及软件价格反映价值。	网友谈论正版盗版软件的价格差异。 网友谈论软件用户的收入无法支付软件价格。
软件的性能	质量，稳定性，性能，表现，软件内容，以及用户是否能接触到。	网友抱怨正版软件的质量太差，甚至比盗版还差。 网友讨论他们很容易接触到盗版软件。
软件开发者（软件公司，盗版商， 个人开发者，以及软件销售者）		
价格策略	软件开发者确定产品价格及其结果。	批评软件公司贪婪忽视消费者的利益。软件用户利用盗版惩罚或报复软件公司。
反盗版策略	软件开发者保护版权打击盗版的行为及其结果。	网友讨论是否应该加入微软的盗版换正版的计划。 网友讨论如何帮助个人开发者保护版权。
市场开发策略	软件开发者市场竞争策略及其结果。	网友认识到微软利用盗版打击竞争对手。网友讨论如何帮助个人开发者与软件公司竞争。
服务	软件开发商为用户提供的服务	网友抱怨软件公司的服务差。网友讨论个人与软件公司打交道的经历。
西方发达国家		
西方发达国家在软件版权和盗版中的立场	西方发达国家在全球软件版权保护中扮演的角色。	批评发达国家操纵国际版权组织保护他们的利益。批评西方发达国家打着自由贸易的旗号来剥削发展中国家。
西方发达国家在历史上的作为	西方发达国家在历史上对中国的所作所为。	中国被西方国家奴役。帝国主义侮辱剥削中国人民。
中国的发展		
社会发展	电脑软件在教育，知识普及，电脑普及，和提高民族科技水平中所起到的作用。	盗版有助于普及电脑，传播知识，提高国家科技水平。
经济发展	盗版有助于国产电脑产业，IT 产业，和整个国家工业的发展。	网友担心盗版将影响国产软件行业的发展。 网友相信盗版有利于国产电脑产业，IT 产业，和整个国民经济的发展。
中国政府	中国政府管理软件版权的策略。	网友觉得中国政府并不真心反对盗版，只是做样子应付外国的压力。
关于软件版权和盗版的争论		
软件版权和盗版的定义	澄清关于软件盗版的错误观点。	网友讨论下载软件是否属于盗版行为。网友讨论软件版权是否明确定义。
简单争论	简单表示支持或者反对软件盗版。	网友用一两个句子表达他们的观点。
道德争论	从道德的角度讨论盗版。	盗版等同于盗窃。盗版是无私的行为。
法律争论	从法律的角度讨论盗版。	盗版触犯法律。盗版不受法律惩罚。

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