
A Cultural Approach to DRM Implementation in China

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Abstract

China's adoption of copyright has been problematic. Between the Confucian emphasis on sharing cultural materials and a more politically motivated treatment in both Imperial and Maoist periods, there has been little basis for the Western intellectual property rights approach favored by the West and pushed in international trade agreements. Some scholars have questioned whether Western property rights approaches are appropriate for all cultures, and have suggested that Digital Rights Management (DRM) systems can offer an alternative approach. Delays in the implementation of copyright procedures and processes in China, particularly in the electronic media provide an opportunity to develop new approaches. China has an opportunity to consider how DRM systems and approaches could be developed to enable an alternative approach to intellectual property rights consistent with traditional cultural values. This article considers how China could implement DRM approaches within the international copyright structure that could maximize social value and acceptance.

Over the last few decades, there has been a movement by the West to standardize and expand intellectual property rights, especially copyright. The political and economic pressure at times has been intense, with the West often making acceptance of World Intellectual Property Organization (WIPO) treaties and policies a pre-condition to vital trade policy agreements. Many countries have thus found themselves having to implement or revise their own copyright laws and policies to conform to the guidelines mandated by the WIPO. China found itself in such a position as it sought to join the World Trade Organization (WTO), which mandated compliance with WIPO guidelines as a precondition of membership.

While China created specific copyright laws and policy that conformed to WIPO rules, it has had a difficult time implementing the new policy, in large part due to a

lack of cultural and legal traditions for dealing with cultural materials as property (Han, 2009; Liu and Bates, 2008; Montgomery and Fitzgerald, 2006). The history of copyright in China, while arguably long, is both limited and distinctive (Alford, 1995; Liu and Bates, 2008; State Intellectual Property Office of China, 1994). In particular, the concept of private ownership of information was considered anathema to the Communist Party in China, which only began to recognize the private value of creative works with the first liberalizations of the late 1970s. Yet even before the communist era, there was little in the way of formal copyright protection, and the precepts of Confucianism treated cultural materials as shared common heritage. There was very little in the way of a recognition and acceptance of the idea of private rights to cultural information and products that underlies and informs Western copyright law and policy.

China is not the only country to find the WIPO's copyright approaches in conflict with long-standing cultural norms, values, and tradition. Even in the West, scholars have questioned whether the WIPO approach's emphasis on property rights and commercial exploitation meshes with cultural norms and values (cf. Lessig, 2004; Park, 1996; Shiva, 1997; Vaidhyanathan, 2001). Others have noted the problems inherent in adapting traditional copyright approaches to digital technology (Bates, 2002; Benkler, 2006; Fujita, 1996; Jackson, 2002; Litman, 1996). Some have even espoused a need to develop a new approach for protecting intellectual and creative works (cf. Bates, 2002; Benkler, 2006; Lessig, 2004).

Some scholars have argued that the emerging Digital Rights Management (DRM) approaches may accommodate alternative approaches and metaphors for protecting intellectual rights within the existing copyright framework. In fact, DRM may offer the means for transitioning to a new approach for assigning and protecting rights to intellectual and creative works (Bates, 2008; Gillespie, 2004). This article will examine several distinctive DRM approaches and consider the degree to which one or more can be developed to reflect Chinese cultural, political and economic conditions and concerns, while remaining viable within global WIPO frameworks. We will also consider how a more culturally relevant intellectual property approach can contribute to creativity and innovation in media and cultural production, and contribute to the sharing of information and cultural goods and services.

Goals for Intellectual Property Rights Policy

There are a number of goals often attributed to intellectual property (IP) policy, and there are differences in the stated goals and priorities both between countries and over time. Still, IP policies in various countries can be generally characterized as following two somewhat divergent paths. First, there is the goal of using IP policy to promote social, or public welfare, through promoting creative efforts and

by making the results widely available for use. The other treats IP policy as largely economic policy – to enhance the ability of rights owners to capture the value of their intellectual property. These are not necessarily antithetical; a common argument is that increasing the ability to capture value provides more incentive to create information goods and services, with the consequence that society will benefit from the additional cultural materials. Most Western intellectual property rights policy in the nineteenth and twentieth century expressly recognized both goals and, in its early years, could be said to have attempted to balance those values. In recent years, priorities have arguably shifted.

Current copyright policies have tended to focus more on protecting and enhancing ‘author’ value, often by diminishing what falls into public domain and the public commons. A number of scholars have noted the associated risks of impeding future innovation and creativity, and the potential of reducing the range of cultural products to serve public interests (Benkler, 2006; Kranich, 2004; Reichman and Uhlir, 2003; Wagner, 2003). Second, Siebeck (1990) argued that the rules of international trade suggest that there is a complex feedback relationship between the scope of a country’s intellectual property laws and the stage of its economic development. While Western countries collectively emphasized the positive benefits of strictly implementing intellectual property rights (Maskus, 2000; Park, 1996; Samuelson, 1998), extension of copyright in developing or underdeveloped countries has often been portrayed as ‘protection for monopolies’, since domestic industries often can’t compete with Western content (Deardorff, 1990; *The Economist*, 2001; Lohr, 2002; Shiva, 1997; Vaidhyathan, 2003). Still, there is no denying that the more policy focuses on trade protectionism or unilateral profit, the larger the gap between general social benefits and private value will be. And this will eventually result in reduced economic and technical standing for these societies and states.

Intellectual Property Approaches in China

Early History

Historical events and traditional values have been widely cited as a reason for the widespread lack of copyright consciousness in China. William Alford (1995) attributed this primarily to the historic character of Chinese political and social culture. Tracing efforts to regulate printing and publication in Imperial China, Alford argued that early dynastic concerns were based on political, rather than economic, factors. The legal emphasis seemed to be more on controlling the dissemination of political ideas than on developing a concept of property interests in information goods and services (other than for the state), or promoting authorship or inventiveness.

In addition, the influence of China's cultural roots in Confucianism, which emphasized the notion of sharing cultural and creative works and ideas, has deeply shaped people's cultural traditions and perspectives. For more than 2500 years, under the influence of Confucianism, Chinese culture and tradition has treated creative works as cultural artifacts rather than as individually owned property. This has been supplemented by the traditional emphasis on copying in education in China. In fact, Pamela Yatsko (2000, 216) argued that

copying enjoys a long tradition in China and does not carry a stigma. Copying a masterpiece was historically considered an art form in its own right, while Chinese students have been taught for centuries to copy their teachers as accurately as possible before attempting to create.

Wingrove (1995, 6) argued that the 'Confucian emphasis on learning by copying applied to all aspects of life in China ... [and] copying, by tradition, is a mark of respect and homage'. Those whose works are copied usually regard such acts as a kind of identifying or recognition of his/her works (Mun, 2003).

Still, while authors, artists and creators were recognized and venerated within this tradition, their efforts were seen as part of the cultural tradition rather than as private property to be limited and controlled. The Western emphasis on unauthorized copying as theft, as denying value and worth to the author, stands in contrast to the cultural tradition in China. Chinese people would rather use the word 'copying' than 'stealing' to justify their action of casually, or even intentionally, using others' creative works.

The Communist Era

The lack of cultural emphasis on individual ownership of ideas, creative works and information, was reinforced by the Communist Party in China when it came to power and abolished the existing intellectual property rights system as part of its general abolition of private property. In the Maoism period, 'Owning property is tantamount to a sin. Thus, stealing an object that is owned by someone else is less corrupt than owning it outright yourself' (Tiefenbrun, 1998, 37–8). Certainly, until 1978, when it first included intellectuals as workers entitled to benefit from their labors, the Party generally rejected the notion of private ownership of cultural materials and the right to benefit from intellectual property as a 'bourgeois right' (Oksenberg et al., 1996).

Confucian cultural traditions and communist state policy have both influenced people's attitude towards the value and ownership of different forms of property. Steidlmeier (1993) divides property into three forms: (1) private, (2) common (shared), and (3) public (government). Seung-Hwan Mun (2003) suggested that, for the Chinese communist government, the concept of intellectual property was

considered as a public property; while for Confucianism, it was viewed as closer to the concept of common property. Whether viewed as common property or as public property, people are permitted in a socialist society (where public property is seen as belonging to the nation) to access and utilize creative works, if only for personal use. As such, creative works are not generally perceived the same way as material wealth or individually owned property, but instead as a kind of public product.

As part of its policy of opening economic markets and promoting economic development and trade, China officially joined the WIPO in 1980 and the Paris Convention for the protection of industrial property in 1984. In support of this, China implemented or revised a number of intellectual property laws, including the 1982 Trademark Law, the 1984 Patent Law and the 1990 Copyright Law (State Intellectual Property Office of China, 1994). The 1990 Copyright Law implements two foundational international intellectual property agreements, the Berne Convention for the Protection of Literary and Artistic Works and the Universal Copyright Convention. In 2001, the year China became a member of the WTO, the Copyright Law was revised not only to be in closer compliance with the provisions of Trade-Related Aspects of Intellectual Property Rights (TRIPs) but to also include 'network' copyright protection not addressed in TRIPs.

While cultural attitudes may provide a background for public acceptance of copyright, it is the function of the state to establish not only the law but also a pattern of promotion and acceptance of the legal framework itself. China's governing laws on intellectual property conform to treaty obligations and international standards; still, there remain questions regarding their implementation by the state, and the acceptance and adoption of embodied concepts and principles by the general public (Liu and Bates, 2008; Mertha, 2005; Montgomery and Fitzgerald, 2006).

One concern was the lack of a pre-existing regulatory infrastructure. The new laws attempted to create the necessary bureaucratic infrastructure to monitor and enforce intellectual property rights, but this infrastructure often found itself in 'turf wars' with other agencies, and trying to engage a legal system that had little in the way of precedent to work with (Oksenberg et al., 1996). A related concern was how rapidly the various sectors would adopt the underlying principles, and how willing the state and the various actors would be to promote changes in long-held cultural and political approaches to information goods and services. The pace and success of new policies depends more on their underlying goals, and to what degree those goals are accepted by the various publics involved.

China, whose rapid economic growth in recent decades is largely based on transferring advanced technology from the West, has been burdened over the

years with rampant copyright infringements. In 1991, the US Trade Representative (USTR), first identified China as a *priority foreign country* (under Section 301 provision of the Trade Act) for its failure to protect US copyrighted products (USTR, 1995). Seventeen years later it seems little has changed, as the International Intellectual Property Alliance (IIPA) recommended that the USTR maintain China on the Priority Watch List again in 2008, due to an extremely high estimated piracy rate (over 85 percent) for American intellectual property products (IIPA, 2008). While the piracy rate for business software (primarily unauthorized use of software in government, State-Owned-Enterprises and private firms) has declined to 80 percent of the market (down by 12 percent since 2003), the piracy for video, audio and entertainment software continues to range between 90 and 95 percent of the market. This high piracy rate has, as a whole, caused an estimated revenue loss by US copyright holders of more than \$2.9 billion in 2007.

Taken as a whole, copyright infringement in China has been so widespread that some argue that it is as much a social and cultural problem as a legal one, reflecting a social environment and culture where most people show a lack of copyright consciousness. Outside the West, there is concern that the ‘property rights’ focus of the WIPO conflicts with traditional cultural approaches towards creative works. This has been not only a Chinese problem – a number of scholars have questioned the applicability of ‘intellectual property’ policy in non-Western cultures, particularly for indigenous cultural materials.

Cultural Perspectives

Academic debates on the issues of copyright and infringements to date have been one-sidedly ‘focusing primarily on the unfair competition aspect’ (Yu, 2001, 93). Ronald Bettig’s (1996, 107) argument that

the positivistic and apparently empirical nature of economic analyses makes economists more forceful in the policymaking process than those making predictions or voicing concerns that are based more on an intuitive, philosophical, or even historical basis

illustrates the problematic focus on commercial value to the detriment of cultural values and traditions. But to gain widespread acceptance, copyright protection in China should positively accommodate Chinese cultural tradition that has historically affected and shaped people’s attitude towards intellectual products and services.

While China’s Copyright Law explicitly legitimates creative work as individual property, the Chinese people instinctively find the Western concept of copyright law at odds with established cultural traditions towards intellectual property. This,

combined with a weak legal tradition of copyright enforcement, has slowed the development of intellectual property consciousness in China.

Cultural Tradition towards the 'West'

In China, people's attitude towards Western intellectual property derives from current cultural perceptions of the West and relevant ideology. Western cultural content, particularly recorded music and movies, can legally access the Chinese market only by going through a particular kind of political censorship. Media products have been widely regarded as having the power to shape values and perceptions; therefore, the Chinese government first evaluates whether the values embodied in a cultural product are consistent with Chinese established ideology before authorizing its importation.

Meanwhile, the communist government tries to influence the public's attitudes towards Western cultural products. By publicizing the idea of communism's superiority over Western political system, state authority legitimates the emphasis on public property rather than private property; and through operating its particular education and media system, the state effectively portrays Western cultural products as what Edward Said called 'cultural imperialism' and 'cultural colonialism', capable of threatening Chinese cultural evolution, or even national security.

In brief, under powerful 'interpellation of the subject' (Althusser, 1972), the 'clash of different civilizations' is furthered within the socialist economic system via numerous mass campaigns. For instance, during the Cultural Revolution, the communist government heavily persecuted scientists, writers, artists, lawyers and intellectuals who were perceived to possess private property, a symbol of embracing the West (Alford, 1995). Collective resistance, on guard against Western cultural hegemony, gradually turns into a negative attitude towards Western intellectual copyright.

The recent adoption of copyright law added fuel to the flames of resistance, as it not only culturally shifts creative works from common to private property, but also both economically and ideologically facilitates Western monopoly over China. With the Chinese market opened to the West, copying Western intellectual property has been seen by some as proper – as a means of resisting Western cultural imperialism and publicly justified as a kind of righteous patriotism or nationalism. In short, infringements of Western cultural commercialized content are looked upon by many as a necessary revenge against the West and its cultural hegemony, and as a patriotic action to break through the copyright blockade and facilitate public use.

Cultural Tradition towards Public Domain

Anne Barron (2006) views the history of copyright from the eighteenth century as a process of a legal-conceptual evolution that gradually but inexorably: broadened the range of intellectual and creative materials qualifying for exclusive rights (from printed works in the eighteenth century to virtually any 'fixed' creative works in the twentieth); lengthened the duration of these rights (to as much as 70 years from the death of the human author); and expanded their scope (from a right to control copying to rights to control all kinds of reproduction and public communication). With these developments, the intellectual property rights system has been 'thoroughly entwined with parallel developments in information and communication technologies (ICTs); in the theory, practice and criticism of the arts; in the culture industry, and in the regulation of the public sphere generally' (Barron, 2006, 280). In this regard, copyright's primary role was, is and should remain the support of a democratic culture (Netanel, 1996). Hence this approach, as Barron (2006, 280) argued, 'theorizes the past, present and future of copyright law as bound up with the evolution of a distinct sector of capitalist production: the culture industry'.

In China, such ideas of 'public domain' have been largely restricted and/or controlled by political power. This has made it difficult for an author to easily access the so-called 'public sphere', and to support himself/herself financially through the sale of his/her creative works with the assistance of independent organizations (publishers, dealers, collective management organizations and so on). Both the weak tradition of democratic culture and the weak situation of civil society in China have meant that the author of creative works can do nothing but fall back on the government in order to dispose of his/her works in marketplace.

Intellectual Property Rights as 'Copy' Rights

As the above analysis suggests, much of the cultural conflicts with copyright is based not so much on the underlying concepts of recognizing and acknowledging authorship, or even with the notion of intellectual property, but with the idea of restricting or preventing the copying and sharing of information. While the whole conceptual history and tradition of copyright rests on a metaphor of restricting the copying of protected materials (in order to extract value), that is not the only way in which the idea of intellectual property and intellectual property rights can be addressed.

The rise of digital information networks has challenged the appropriateness of the 'restricting copying' metaphor; in fact, the information processing and transmission mechanisms of digital media and networks rely on the making of multiple copies in the process of communication. The idea of DRM emerged in part as a way to deal with the fundamental conflict of emerging digital media and

networks with the primal focus of copyright on limiting copying, as one form of technological protection measures designed to return control of copying to the rights holder. However, the flexibility of DRM can offer alternative approaches to protecting author rights, instead of simply limiting the ability to make and use copies of works. As such, DRM can offer a mechanism for developing an intellectual property rights approach that may be more consistent with traditional cultural values and approaches in China. The next section will provide an outline of DRM and some potential approaches.

DRM – Background and Potential

Digital rights management is an umbrella term that refers to a mixture of legal and technological mechanisms designed to provide intellectual property owners a greater level of control over the distribution and use of their property in a digital environment, by designating what rights consumers have in the use of the information goods or services once they are legally obtained. DRM is an evolving system that seeks to use the same technologies that have made the enforcement of traditional copyright problematic in a digital environment to maintain and extend fundamental and core intellectual property rights.

The rise of digital media has created a number of problems for copyright, in large part by removing the physical constraints on copying associated with older media forms (Jackson, 2002; Lessig, 2004). Moreover, many digital transmission and display systems work by making multiple copies of the content, arguably making copyright infringement endemic. Digital forms and media have thus raised a number of fundamental and conceptual questions about the long-term viability of the current copyright metaphor for intellectual property rights (Bates, 1999, 2002; Davis, 2002; Fujita, 1996; Lessig, 2004; Litman, 1996).

While DRM has its roots in simple copy-protection technologies, the same capacity to process information embodied in digital media that made it easy to copy (and to bypass simple copy protection schemes) also provides content owners with the means to explore other forms of control. DRM, as differentiated from simple copy protection, incorporates those approaches that seek to take advantage of the ability to process (and thus control the use of) digital information, rather than simply restricting the making of copies.¹ More recent DRM proposals embody the notion of embedding author identification information, as well as information outlining the permitted usages, within the digital content (watermarking). DRM systems in players and transmission systems examine the embedded information to determine permissible uses. As such, DRM may include the imposition of additional controls over the distribution and/or use

¹ While DRM can include the basic ability to prevent any copying, what is of primary interest here are the other ways in which DRM can be used to either restrict or enhance use of digital media.

of intellectual property, at the discretion of the intellectual property rights owner (Samuelson, 2003). In addition, digital rights management can be applied to all forms of digital content, including other forms of intellectual property (including material that is currently non-copyrightable).²

DRM is not without its detractors. Opponents assert that these added restrictions may assert rights that do not currently exist in intellectual property law, or may, in fact, restrict well-established consumer rights (EFF et al., 2005; Samuelson, 2003). Michele Boldrin and David Levine (2002) suggest that this moves beyond the well-recognized focus of traditional copyright (the right of first sale) and acts to establish a new intellectual property right, which they call downstream licensing, and view as economically dangerous. The second concern is also valid. Most copyright law provides some exemptions, mostly in the form of what is variously referred to as fair use or fair dealing rights, which permit limited copying under certain circumstances. While a sufficiently sophisticated digital rights mechanism may be able to recognize some of these conditions, it is easier to simply ban all copying or all types of certain uses, even those that are permissible or legal under current law.

Further, technology as a solution can only be successful if it is ubiquitous, and that means combining technological solutions with legal mandates for its use. Thus, the movement to DRM approaches involves both the creation of technological copy protection and/or rights management mechanisms alongside the development of laws and policies mandating their use and preventing circumvention. This is where a further concern is raised. The need to impose technological solutions throughout the digital realm will certainly increase the cost of equipment and networks, and may well slow down development of new technologies until such time as the DRM technologies can be developed and incorporated into new systems and devices.³

Early DRM approaches focused on security and encryption as a means of solving the issue of unauthorized copying. This 'containment' approach addressed the issue of excludability, but did not enable any further restrictions on the use of the decoded content. It embodied the principal metaphor of copyright in terms of focusing on controlling access to the content, and relied on the traditional legal prohibitions of copyright law to protect against further piracy (illegal copying).

² For example, when converting public domain materials into digital form, commercial distributors often incorporate the same DRM restrictions they utilize for copyrighted materials.

³ When digital audio tape (DAT) was introduced in the mid 1980s, availability in the US was prevented for over five years pending the development of DRM technology and policy. Adoption of the DRM also added the costs of incorporating the DRM technology into recorders, and required royalties of 2 percent for recording devices, and 3 percent for recording materials (Audio Home Recording Act, 1992).

This combination of encryption and licensing is widely used in proprietary media distribution systems, such as the DVD Forum's Content Scrambling System (CSS) (DVDCCA, 2006). While achieving its primary goals, the CSS system did little to prevent piracy, and was able to be bypassed when an open source decoder (called DeCSS) was developed (Patrizio, 1999). This particular system epitomized the primary problem with systems based on technological copy protection systems: the same technologies can be used to bypass or invalidate the protection scheme.

While the initial push for DRM followed the old copyright metaphor (limiting the ability to copy), some new proposals can also be seen as accommodating an alternate intellectual property rights metaphor, the 'right to communicate'. Under these approaches, the focus is not on copying per se, but on controlling the conditions of distribution and use. It is this potential that may offer China a digital intellectual property rights system more consistent with their cultural and social traditions.

What can be termed second-generation DRM offers a broader potential for managing distribution and use of content. Essentially, this set of DRM schemes involves the encoding of markers into the content that can be used for description, identification, protection, monitoring, tracking, and specifying authorized uses of all forms of digital information goods and services. When combined with technology to read markers and control usages by abiding by whatever restrictions are imposed, this second generation of DRM offers an expanded capacity for the management of digital content and rights.

Recent examples of this 'marking' approach can be found in the various DRM schemes that have been used in downloaded music. Apple, Microsoft, RealNetworks and Sony all developed systems that allow content producers to place restrictions on the use of digital music files within their systems, although the exact mechanism and the range of permitted uses varies from application to application. Another example can be seen in the proposed 'broadcast flag' DRM system for digital television in the US (Crawford, 2003),⁴ and the development of digital interconnection standards such as the HDCP.⁵ Most of these systems allow needed intermediate copying, but incorporate the use of markers and mandated control mechanisms to limit distribution to unauthorized equipment as a means of limiting copying or further distribution or use of digital content.

⁴ For example, HBO has considered the use of broadcast flags to prevent individuals from recording their broadcasts on digital video recorders.

⁵ HDCP is part of the HDMI digital interconnection standard. Among other things, it prevents distribution of digital signals to unlicensed devices, and includes a DRM marker system that can limit other uses of content.

The related ‘rights locker’ approach is conceptually similar, in seeking to focus on uses rather than copying, although it would require a drastic shift in how we define ‘ownership’ of information goods and services. The premise of the ‘rights locker’ approach is that consumers won’t actually own distinct physical copies of information goods and services. Instead, content is centrally stored on the digital network, and what the consumer owns are a set of legal rights to access the content from a range of devices (Bechtold, 2003). Under this approach, individuals purchase a set of rights to use content, rather than purchasing the content itself. The rights may be defined in a number of ways; subscriptions to broadcast feeds or streaming libraries can be considered a basic example, where the limits are in terms of who has access; a more sophisticated system might allow local downloads for a limited period (such as Netflix’s new Internet distribution system). Another option might grant ‘ownership’ in the sense of having permanent access rights to the content (consider Amazon’s Kindle approach).

One issue with all of these approaches is that they still essentially function by limiting access to, and use of, digital content. Since many creative works build on, or incorporate components of, other creative content, there is a concern that such mechanisms will inhibit further creativity and the development of derivative works by making their access and use more costly. There is considerable evidence that intellectual property rights extensions actually reduce the development of additional works, at least for patents (cf. Benkler, 2006; Lerner, 2002).

These concerns have contributed to the development of the concept of dynamic DRM approaches, where part of the specification of the rights is the conditions under which content can be used and/or transformed into derivative works. Conceptually, such systems can monitor later use of incorporated materials, and be used to develop mechanisms to share revenues or other benefits. While it is argued that such a system can address some of the access and creativity issues raised in copyright debates, it requires an additional, and substantial, level of complexity to manage rights and works involving a number of creators at various levels (Bechtold, 2003).

The Creative Commons and GNU General Public License are partial examples of dynamic DRM in that they explicitly address conditions of downstream use. Under these, copyrights are asserted, but the owners agree to freely license their use, subject to certain conditions. By making derivative use ‘free’, those systems avoid the more problematic and complex issues of how to appropriate and distribute the value (payments) for derivative and communal works by the simple tactic of not asking for payments.

There is one other approach that can utilize the ‘markers’ variety of DRM. One solution to the issue of piracy is, in essence, to abandon the idea of controlling

copying, distribution and use of digital content, in effect providing a public license to use information goods and services. Such a license, linked to a levy or access fee system, can provide a means for extracting value from use, thereby maintaining a mechanism for remunerating authors and copyright owners. Examples of this include most systems for music licensing for radio, and the taxes and fees placed on digital recorders and recordable media by several countries. The fees collected are supposed to offset the losses of the presumed piracy. While this approach can be accomplished outside of DRM, the use of DRM tags provides an easier, and economically more efficient, mechanism for tracking use, and for rewarding creators based on the value and amount of use of their intellectual works by others.

In general, this system is not favoured by the information industry, as it limits their ability to control uses and extract maximal value. On the other hand, licensing reduces negotiation costs and leaves some of the consumer surplus, generating social welfare.⁶ There is also the issue of how to distribute funds equitably when there are vast disparities in value and usage. Here, a DRM ‘marking’ system can be useful, by facilitating the ability to identify, track and measure the use of covered information goods and services, providing a mechanism for more equitable distribution of collected fees and levies.

However, to make these kinds of schemes work, the DRM scheme and its associated technical mechanisms must be mandated throughout the digital system, including distribution, storage and display devices, imposing significant costs and slowing development of digital media and information systems. When one recognizes that digital media continue to converge, this suggests an ever-expanding range of digital media and technologies that must be made compliant with any DRM scheme, thereby increasing compliance costs by orders of magnitude.

In addition, the capacity to place controls throughout the digital media raises a number of serious issues. Several scholars have raised concerns about the social impact of DRM (Gillespie, 2004; Lessig, 2004; May, 2003). Many DRM ‘marking’ systems require registration, and embody tracking systems that raise privacy concerns (Bechtold, 2003; Cohen, 2003; EPIC, 2004). The range and scope of ‘marking’ control options clearly provide the potential to assert digital ‘rights’ that are not recognized by current law or policy (Samuelson, 2003). Further, the mere existence of mechanisms that allow groups to control information and information flows, and allows the tracking of uses, raises serious questions about the potential impact of restricting access on creativity, on free trade and free

⁶ Besen et al. (1978) provide a good overview of the issues in their examination of the compulsory license for television station signals given to cable systems in the US.

markets, and particularly the concept of the marketplace of ideas (Bechtold, 2003; Benkler, 2006; Lessig, 2004).

Some of these concerns might be overlooked if digital rights management functioned effectively. However, all DRM systems to date have failed to meet the challenge of protecting the rights of the rights holder while also allowing the user their full legal rights under current copyright laws and exemptions. Further, none have succeeded in totally preventing criminal copyright infringement by organized, unlicensed, commercial pirates (Wikipedia, 2004). Digital rights management, like traditional copyright, seems to be problematic in execution, with real private and social costs as well as benefits (EFF et al., 2005; Gillespie, 2004; Shy, 2000).

Adapting Copyright and DRM to China's Cultural Traditions

The cultural and social traditions of China have encouraged the idea that information and creative works, particularly cultural artifacts, exist to be used and shared. The use and copying of materials is seen in many cases as a way of valuing and honoring the efforts of authors and creators. While the early communist policy of failing to recognize creative works as intellectual *property* was consistent with this approach, that approach is inconsistent with a number of China's current policies and goals. The opening of China's economy and its entry into global markets has pushed it into the WTO, and required recognition of a range of intellectual property rights, including copyright. And continuing to Most Favored Nation status has meant not only having the legal foundations in place, but also applying and enforcing those standards. This has proven problematic in China for a number of reasons (Liu and Bates, 2008).

There are a couple of easy first steps that China can undertake to foster a wider acceptance of the idea of intellectual property and intellectual property rights. First, it can stress the idea and role of public domain – that older cultural products do belong to the nation and the people, and may be freely used and copied. This is certainly consistent with Chinese tradition, and breaks the often-problematic conflation of copying with theft and piracy. If it so desires, China can add more recent state-produced cultural and other content to the public domain, or, borrowing the creative commons idea, maintain ownership (to be able to extract value in outside markets) while allowing citizens free access and use.

In addition, China can begin to emphasize the different types of intellectual goods and services. In particular, it can stress the difference between cultural and public content in contrast with commercial content; this allows a validation of the historical perception of cultural materials as being common or public property, while introducing the idea that there are other forms of information goods that should be treated as private property. As China moves more and more into a

market economy, this distinction is likely to become clearer and more widely accepted, along with the related idea of unauthorized use as depriving owners of value.

Developing an 'intellectual property rights' culture is likely to take time, however. In the meantime, a quick and easy solution to the treaty obligations, and a solution for illegal copying, is to make the copying legal. China can accomplish this by defining 'fair use' exemptions broadly, or by granting a compulsory license to appropriate sets of users and content. There are fair use and compulsory license provisions in the current law (Articles 22 and 23). Lucy Montgomery and Brian Fitzgerald (2006) suggested the use of an open licensing system. China can even impose fees or taxes to create a compensation pool for copyright holders, if that is seen as appropriate. Such a system can be culturally and politically sensitive; for example, by granting a compulsory license to schools, so that the traditional 'learning through copying' approach is legalized.

Another benefit is that for areas where state organizations are creating content, and using content created by other state enterprises, a compulsory copyright system can avoid the inefficiencies and problems of the state having to negotiate licenses with itself. While this approach is feasible, it is likely that this will not be seen as adequate by copyright holders outside China. Its acceptability is likely to depend on the level of reimbursement to rights-holders. Further, it does not provide an adequate solution to other intellectual property concerns.

In recent years, China has been able to increasingly generate economic returns from international trade in its intellectual property. It has recognized the benefits to be gained from the information sector (if only in the lessened need to pay outsiders for access to information goods and services). It has also recognized that the growth and development of this sector requires that artists, authors, creators, researchers, and scholars be not only supported, but encouraged in their activities. In particular, China has recognized the need to develop reward systems to encourage those who create commercially exploitable value. This was the strength of copyright; it could and usually did tie reward to use, at least in the short term.

Still, there is another, sometimes conflicting, policy goal; the perceived need to be able to control access to politically sensitive information goods and services. Copyright's emphasis on legal licensing in order to provide legal copies provided a bottleneck-style mechanism that helped restrict access to undesirable intellectual property. Copyright actually provided China with another mechanism to control the flow and use of information.

The problem has been that in the digital age, the ability to bypass publishing and/or import restrictions, combined with the ease of copying and distributing

information, has limited traditional copyright's ability to control. Even copyright protection measures and first-stage DRM containment approaches are inherently flawed in their ability to control access and constrain use – they only apply to the first instance. Later-stage DRM approaches, those incorporating markers, bypass the limits and concerns of controlling copying while arguably retaining some ability to control access and use for specific content. They also provide alternative points for tracking use and collecting rights fees. The use of second-stage DRM in streaming, and/or the 'rights locker' approach, can offer widespread access to and use of the kinds of cultural and educational materials covered by Confucian traditions, while restricting or offering more limited access to other kinds of content, or restricting access to certain user groups.

For example, cultural and educational materials can be archived in an open rights locker, while foreign content can be placed in a more restrictive archive, with limited access. The system could also be configured to allow students unlimited access to use, but not to ownership; while requiring consumers to pay more for ownership. These systems also provide a point of access for the collection and distribution to content creators of remuneration in the form of usage or license fees, or other subsidies. And, as addressed in the concerns of several Western scholars (Bechtold, 2003; Cohen, 2003; EPIC, 2004), these DRM approaches allow for the tracking of access to and use of information goods and services (which, on the other hand, might be perceived by the Chinese state as an additional benefit).

Thus, there would seem to be several ways that DRM could be implemented in a manner consistent with both China's cultural norms and traditions, and its more modern economic and political concerns and goals. Utilizing such approaches could ease the transition into intellectual property rights compliance for electronic media, content and industries.

It is clear that China has been under considerable pressure, both internally and externally, to bring its copyright system into compliance with WIPO and Western practices. It has needed to be seen as taking serious steps, as demonstrated by several recent crackdowns on commercial pirates, and the development of several public education programs to spread awareness of copyright among both the judiciary and the general public. Still, piracy in certain sectors abounds, and the Chinese state may need to take more forceful action to reduce the levels of illegal copying. The approaches outlined above can provide a quick start in reducing 'illegal' copying (if not copying itself), until a more Western 'copyright culture' is developed. Or until an alternative metaphor for intellectual property rights is developed.

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