

IMPROVING THE REGULATIVE
ENVIRONMENT TO FACILITATE THE
EXPLOITATION OF INFORMATION
RESOURCES IN THE PEOPLE'S
REPUBLIC OF CHINA

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INTRODUCTION

A supportive regulatory environment is necessary to facilitate the development and utilisation of information resources in China. The legal system and its enabling policies for information resources should focus on removing all the macro-level obstacles in order to promote and ensure the positive feedback effect of information cycles. This would include constructing a competitive market, enhancing infrastructure, strengthening taxation and financing the supporting system. The core interest in information exploitation is intellectual property (IP). There are five levels of IP protection: judicial trial, administrative execution, technological measures, collective management and industry discipline as well as private control. While strengthening IP protection ranks as the Government's priority policy, the free distribution and sharing of information should be strongly advocated to optimise the development and utilisation of information resources.

Digital information is playing a more significant role in our society than physical goods in regard to quantity and effects. Digital information is changing the whole world, with for instance, E-government, E-commerce and E-life. Information resources have become an important asset and key driver for social development.

The 'Developmental Strategy for Informatisation in China 2006-2020' issued by the Communist Party of China (CPC) Central Committee and the State Council declares that informatisation is a key strategy for maintaining national competitiveness and sustainability.¹ The key of informatisation is the development and utilization of information resources. While this is rather weak in China, enhancing the development and utilisation of information resources has been ranked as a priority government task because of the value in constructing a flexible and enabling regulatory framework.

INFORMATION EXPLOITATION

Inclusiveness of information resources

In social science information resources include all the information or data, created or used in social and economic life. While there is public information (from government or other public institutions), commercial information and community, or personal information, only orderly, applicable and sharable information becomes part of society's information assets. Information appears as a type of product during exploitation, and in the broadest sense any result from human labour is a product.² However an information product consists of two indispensable parts: the content of the product and its type of carrier, for example a creative artefact, a database, or a weather forecast.

Advances in information technology make it possible to digitise audio, video, text and other forms of information into a series of binary numbers. This further standardises information processing and communication and allows information development and utilisation to progress with unprecedented efficiency, broadness and depth. The development of information resources requires implementing some type of process on information such as collecting, communicating and

¹ People's Daily Online, '*China maps out informatization development strategy for next 15 years*' <http://english.peopledaily.com.cn/200605/09/eng20060509_264184.html> at 14 November 2007.

² Li Yang 'On the Informational Products' Responsibility' (2004) 6 *Chinese Legal Science* 72-81.

analysing. Utilising information resources requires using information in manufacture, decision-making and entertainment activities. Strengthening the development and use of information resources will promote the positive effects of information resources on the whole society; in other words the ever-evolving information requirements will be satisfied if quality information products are available.

Status quo of information exploitation in China

Information resources on the Internet

The Internet is becoming increasingly popular in China with 123 million Chinese using the Internet by the end of June 2006 (second only to the United States). At that point in time the number of broadband users reached 77 million and there were over 788 000 websites, 295 000 online databases and 2.4 billion web pages in the country.³ More remarkable than this is digital content and its applications with over 1.5 million people who frequently use network education; 2.5 million people who applied for jobs on the Internet; 3 million people who shopped online and 2.8 million people blogging. Digital information has given birth to new industry sectors and has compelled traditional industries to change and develop.

National fundamental databases

As reviewed in the 'China Informatisation Development Report 2006'⁴ the construction of national fundamental databases has made considerable progress. The land and resources main database has provided ample geographic information and technological support for e-government. The geographic information network service system has greatly improved, with numerous e-maps available. The public security agencies have gathered volumes of firsthand information, enough to support several thousand applications and websites covering nearly all administrative operations. Meanwhile, the Ministry of Civil Affairs began

³ China Internet Network Information Centre, *The 18th Statistical Report on China Internet Development Status* (2006); China Internet Network Information Center, *2005 China Internet Network Information Resources Study Report* (2006).

⁴ See the *Informatisation Report of China 2006* (Chinese Version), <<http://www.acsi.gov.cn/WebSite/ACSI/UpFile/File149.pdf>> at 14 November 2007.

establishing the ‘China natural disasters database’ at the beginning of 2005 in order to improve disaster assessment, emergency assistance, recovery, and decision making.

Information service for public welfare

The development and utilisation of information resources for public interests has drawn much attention and finance from the country. The Ministry of Agriculture has built an information collection system, a day-by-day news system and a monitoring system for agricultural production, marketing and resources. The *‘Implemental Recommendations for the Construction of the National Science and Technology Fundamental Platform in the Eleventh Five Year Period’* released in 2005 is scheduled to build platforms for sharing large-scale scientific apparatus and research data by 2010.⁵ The ‘Chinese traditional medicine patents searching system’, ‘library of laws’ and provincial special patents databases have been, or are being developed to provide patent information and free legal advice. The Chinese Ministry of Education’s ‘university graduates employment information network’ is the largest website of its kind. While the Education Department’s projects, such as ‘modern distance education for rural primary and secondary schools’, ‘construction of national fundamental education resources library’, ‘construction of modern distance career training resources library’ and ‘modern distance career and adult education resources development base’ are all in effect. These projects will establish favorable conditions for sharing and utilising education resources. It should also be noted that the construction of the national digital libraries and archives has also made significant progress.

POLICY OUTLINES TO STRENGTHEN EXPLOITATION OF INFORMATION RESOURCES

From the perspective of economic study, ‘information resources development’ refers to the producing of information products; and

⁵ See the *‘Implemental Recommendations for the Construction of the National Science and Technology Fundamental Platform in the Eleventh Five Year Period’*

<<http://www.hzst.gov.cn/zcfg/nation/2/21.htm>> at 14 November 2007.

'information resources exploitation' refers to the consuming of information products. The 'information resources market' encompasses the whole relationship arising from the exchange of information products and services. The information resources industry (used as a synonym of digital content industry) includes all the providers of information products and services such as cultural information, publishing, consultation, advertising, radio and news, network gaming, market studies and Internet information services.

Information resources have a production, distribution - exchange and consumption cycle. The exploitation policies regarding information resources should be designed to remove any macro-level factors adverse to the information production cycle, and to promote its positive feedback effects on society's advances. These policy outlines include: enriching the provision of public information resources, reforming mechanisms for better development efficiency, enhancing infrastructure and building a conducive financing and taxation support system.

Demand oriented, application based development mechanism

Information content is fused with its specific application. The development of information resources rephrases the development of information applications. The General Office of the CPC Central Committee in 2004 issued '*Recommendations to strengthen the development and utilization of information resources*' which pointed out that the information resources exploitation should be market centered and application driven.⁶ Different levels of information products or services are needed to meet the various requirements for social and economic evolution. Efficient development heavily depends on long term, flexible, operating mechanisms. There are three types of operating mechanisms that may be used in this area: administrative mechanisms, public mechanisms, and market mechanisms. An operating mechanism running on market rules with numerous business entities of diverse ownership is of special strategic importance. Such an operating mechanism will ensure the successful commercialisation of the development process and

⁶ See 'Recommendations to strengthen the development and utilization of information resources' (Chinese version), <<http://www.chinaird.com/policy/034.html>> at 14 January 2008.

industrialising applications and services, while modernising the implementing measures.

Enhancing information infrastructure

Comprehensive broadband networks and high-level technological platforms are required for flourishing information applications. While information exploitation in China currently lags behind the construction of infrastructure, the infrastructure could be improved by:

- increasing broadband network penetration and decreasing its access cost;
- advancing the convergence of networks and digital content;
- safeguarding private information and national confidential information; establishing the PKI and PMI systems; and
- building up a high-level information processing center, an open lab of advanced technologies and research and network studios for information products development.

Building fundamental databases and fortifying reserve of information

China has started a number of impressive demonstrative projects on information resources, such as a government information exchange system, land and resources fundamental information databases, corporations information database, demographic information systems, macro economic information systems, credits databases, digital libraries, courseware libraries, historical culture and development achievements network promotion system, and Internet information resources mining. Not only are these projects exploiting information resources, but they are making significant contributions to the national information reserves.

Exploitation of information resources for the public interests

Public sector information resources are central to advancing harmony, social welfare and equity. While public information should be fully publicised and accessible to the public, the commercial use of public

information is strongly opposed. Public information can become a major source of content innovation by virtue of a clearly defined pricing policy and copyright licensing by the public sectors. This issue is recognised by the administration with commercial exploitation, public use and the social value-added development of public information resources being listed as special programs in the government's schedules for the Eleventh Five Year development period.⁷

Financing and taxation system to boost information resources industry

Finance and taxation are two powerful weapons to influence the development of information resources and other social resources (for example human resources), because they can potentially boost the information resources industry. A variety of favorable policies for the high-tech industry have been issued by the central government or local administration. However enterprises in the information content sector will not benefit from these policies because advances in the information resources industry are hindered by the lack of financial support.

As a comprehensive industry, information resources is challenged to improve the way information exploitation is measured, to develop appropriate indicators and metrics for the quality of the information products and to improve the systematic collection, research and analysis of the industry sectors. It has been commonly recognised that lagging statistical indicators mask the economic potential and implications of emerging industry sectors and trends, which affect both business issues and the government policy setting.

LEGAL FRAMEWORK FOR INFORMATION EXPLOITATION

While the development and utilization of information resources is ready to flourish, the legislation required is incomplete, with legal conflicts and regulation gaps still in existence. Information exploitation needs to

⁷ See the Outline of the *11th-Five-Year Plan for National Economic & Social Development of PRC*, <http://ghs.ndrc.gov.cn/15ghgy/t20060529_70793.htm> at 25 January 2008.

build up a systematic legal framework to ensure a sustainable level of progress. This will allow for the stakeholders conduct in the information exploitation to be adjusted to maintain a favourable balance of interests.

Legislative principles

Legislation on information exploitation should correspond with the Constitution and maintain the strategic goals of national informatisation.⁸ Rules and regulations should focus on promoting the driving effects of information resources on the whole society with:

- a. Public interests first. Putting public interests first ensures that entities must put public concerns before the pursuit of their own interests
- b. Public information being open and statutorily available.
- c. Information freedom. This is a priority right and includes the freedom to obtain and communicate information
- d. Information safety and security. The freedom to obtain and share confidential information may result in a risk to personal or national interests. The definitions of public information and information secrecy should be defined in legislation. Adequate measures to protect information and liability for the safety of information should be rigorously regulated.

Basic framework

With the focus on expediting the circulation of information products, the legal framework for information exploitation should cover the following issues:

- a. Information access and procurement. Who has the rights or liabilities to access, procure or provide what kind of information?

⁸ Yang Xueshan 'Several Theoretic and Practical Problems for Legislature of Informatization' (1997) 10 *China Computer World*, 210.
<<http://www2.ccw.com.cn/1997/10/155364.shtml>> at 14 November 2007.

- b. Information communication. Who are allowed to or prohibited from communicating what information via what communication channels with what tools or devices?
- c. Information exchange and trade, including rules and regulations on the rights of digital content, intellectual property trading and international issues, information contracts, e-commerce, digital credit and authentication, regulations on information products.
- d. Information consumption. How to punish or prevent the improper use of information?
- e. Information safety and security. Who are allowed or prohibited to use what sensitive information? Who should use what measures to keep sensitive information secret?

FIVE LEVELS OF INTELLECTUAL PROPERTY PROTECTION

The development of information resources is a process of innovation with the value of information products resting with its creative content. The primary interest of information exploitation is IP. There are five ways to protect IP:

Judicial litigation

The extent of IP protection in Chinese law corresponds with endorsed international IP treaties. The IP owner or public prosecutor may raise an administrative, civil or penal lawsuit against the person accused of violating the IP material. A number of rules and regulations such as IP laws, contract laws, patent laws, trademark laws, criminal laws and unfair competition laws function as a safeguard for statutory IP rights.

Administrative execution

In China administrative responsibility for IP protection is covered by several agencies including the IP Bureau, Patent Bureau, Trademark Bureau, and Copyright Bureau, according to the provisions of *Patent*

Law, Copyright Law and *Trademark Law*. Customs is responsible for protecting IP in relation to imported and exported goods as prescribed in the *Statute of IP Protection in Customs Bureau 2004*. The National Quality Supervise, Inspection and Quarantine General Bureau has assumed the obligation of IP protection for producing original area marks, scientific and technological production appraisal and transfer as well as Chinese brand names. The Department of Science and Technology also assists protecting and managing IP in relation to science and technology.

Government agencies are able to implement comprehensive IP actions according to their administrative legal rights, provided the agencies follow the required statutory procedures. There are three primary classes of administration activities:

- a. Managerial activities such as accepting, examining, approving and registering an IP application;
- b. Executive activities such as settling IP ownership clashes, mediating infringement disputes, inspecting and punishing lawbreaking acts;
- c. Service activities such as consulting on IP policies and laws, patent searching and IP promotion.

The government agencies can take actions to manage IP infringement on their own initiative or upon an applicant's appeal. The judicial and administrative approaches to IP protection have their advantages and disadvantages. The judicial approach is more stable, exclusive, fair and final while being generally passive. Whereas the administrative approach is more adaptive, transferable, predeterminate, efficient and cheaper while being generally active overall.

Technological measures

Digital technologies have significantly changed and expanded the production, distribution and consumption of information products, while bringing new challenges for IP owners to remain in control of their digital products. Technological protection measures seem to be a possible and promising solution, as evidenced by the intense Digital Rights Management (DRM) practices worldwide. It is commonly recognised that inappropriate dependence on technological measures

would incur a new imbalance of interests between the owners and users of IP property. The following views can be beneficial in making appropriate use of the technological measures offered:

- a. Offering a restricted rationale of technological measures to avoid the privatisation and personalisation of IP rights. Only those measures applied by the proper right holders for the legal purposes of technological feasibility may be deemed the 'right' measure;
- b. Liability for inadequate information disclosure about the technological measures. Sufficient information should be provided to maintain the users' right to know and right to choose;
- c. Providing enough legislative space for listing exceptions to the ban on circumventing the technological measures. Some typical exceptions are: reverse engineering by specific classes of people for limited purposes; protection of personally identifying information; security testing; exemption for nonprofit libraries, archives, and educational institutions; law enforcement, intelligence, and other government activities and encryption research.

Collective management and industry self-discipline

Collectively managing IP has become an international trend. The collective management of IP allows for the smooth development of the copyright industry, while giving IP owners an effective way to profit from their rights. China's *Copyright Law* sanctions the collective management of copyright, as provided in subparagraph 54. There are two collective management agencies in China with: Music Copyright Society of China⁹ and China Audio-Video Collective Administration (CAVCA)¹⁰. Moreover, preparation is being made for establishing

⁹ It was founded by the China Musicians Association in 1992 for the purpose of protecting the copyright of musical works for the sake of musicians. For more information, please visit www.mesc.com.cn.

¹⁰ It was founded by the China Audio-Video Association and approved by the National Copyright Administration in 2005 for the purpose of managing and promoting the legal

another agency, namely the Collective Management Organisations for Literature, Films and Photographs. The China Collect and Transfer Center for Copyright Licence Fee,¹¹ a statutorily licenced copyright clearing agency is also in effect. It appears that the copyright collective management regime in China is developing normally.

An authoritative copyright information system (CIS) will help improve copyright management. For example a CIS holds the digital credentials required for network downloading and uploading, which implies some enforceable liabilities for the network content providers. The network content providers have to ensure the digital content on their server has the required identifiable labels to avoid any accusations of copyright infringement.

It has been recognised that industry cooperation will develop a win-win situation and move the industry forward, towards self-discipline. The only non-commercial, self-disciplined, working committee on network copyright under the China Internet Association was approved by three parties of network service providers, content service providers and copyright holders in January 2005.¹²

Private control on IP with information contracts

Business models of information products and involved interest relations vary greatly. The most flexible and convenient legal way to negotiate and settle the terms of trade among the parties is by establishing a specific

use of audio-video programs. It has been waiting for further approval by the Ministry of Civil Affairs of the PRC For more information, please visit www.cavca.org.cn.

¹¹ Copyright Agency of China (CAC) was set up in 1988 . 'Apart from the traditional copyright agency business of copyrights of books and audio-video products, CAC has made great efforts to extend the scope of business of the agency to the rights of periodicals, movies & television, works of fine arts, photographic works, electronic publications, digitized products, animation & comic, game software, and network communications. Its primary responsibility is to transfer and license copyright, to provide legal consultation and protection regarding copyright issues, and to collect and distribute the remuneration for the use of copyright.' For more information, please visit www.ccopyright.com.cn.

¹² See '*Self-Discipline Convention for Internet Copyright*' (Chinese Version), initiated by the China Internet Society in 2005, <<http://www.china.com.cn/chinese/PI-c/959921.htm>> at 14 November 2007.

contract. Through contracts the owner of information rights can personally control the distribution of information products.

The legal validity of new styles of information contracts

Information trade acts as a cradle of innovation on the types of contracts available, for example 'click or not' contracts and 'shrink-wrap' licences. These non-traditional styles of contracts help to cut trade cost and expand circulation. As their legal validity is in some instances uncertain, it is necessary to update the law to accommodate the emerging styles of contracts, or allow for judicial interpretation.

Technological particulars of a contractual right

Technologies are tightly coupled with digital information. Neglecting the technological particulars in information contracts may bring an unexpected expansion of rights, which may result in disputes between the parties. For example a right to broadcast a program may be considered as the right to broadcast via satellite, cable network, telephone network, DSL and other transmission method using the Internet, unicast or multicast signals to PC, television, mobile and other terminals. It is recommended that the contracts are standardised on a time frame with all means of exploitation allowed within that time and if the contract is silent on the technical means of distribution, then it does not include the rights to the manner in which the information is distributed.

Contracts for information free share

There are special types of information contracts which protect the integrity of voluntary licensing of IP rights. The most influential of these contracts of freedom are Copyleft for open source software and Creative Commons (CC) for general, creative products.

The term 'open source' commonly refers to a software program or a set of software technologies, which is made widely available by an individual or group in a source code for use, modification and redistribution under

a relatively unrestricted licence agreement.¹³ GNU Public Licence (GPL), Mozilla Public Licence (MPL), Lesser General Public Licence (LGPL) and Berkeley Software Development Licence (BSD or BSL) are the most widely used open source licences. Under these licences, licencees are given broad rights to sell, copy and modify the licenced programs, provided the licencees grant other licencees the same rights to sell, copy and modify the modifications to the original program. There are numerous software products under open source licensing including: Linux, X Window and the Apache web server package.

To encourage the use of creative materials available CC creates an alternative to full copyright where permission is required to use the material, and the public domain where permission is not necessary. CC offers a variety of licences for creative works based on mixing and matching terms, for example: 'no-derivatives', 'non-commercial' and 'share-alike'. Unlike many open source software licences the stated objective of CC is to protect the author's intent in allowing the re-use of their creative works, rather than promoting the re-use of works generally, or 'free' information that can be re-used by anyone. Numerous websites and network information products have adopted CC licences.

CONCLUSION

The development and utilisation of information resources is vital to the success of informationisation in China. Supportive policies and regulations are essential to facilitate the exploitation of information resources. The effect and the efficiency of information development rely on sustainable, demand-based, application driven, information market operation mechanisms, with a long term view; this should also be the focus of information policies. IP, as one of the core interests in information exploitation, needs to be effectively protected on different levels through a range of measures such as judicial trial, administrative execution, collective management, and personal or private control. Strengthening IP protection will remain one of the leading objectives for

¹³ Zhang Taolue, '*Study on the Intellectual Property of Open Source Software – Institutional Inducement, Rule Framework and Theoretic Reflections*' (Masters Thesis, Beijing University, 2004).

government work in the future. Nevertheless the free distribution and sharing of information should be strongly promoted to optimise the exploitation of information resources and to maximize the contributions of information to help society advance and evolve. A practical approach to promote information sharing within IP is through applying special licensing models such as Copyleft or Creative Commons (CC).

