The Protection and Management of Intellectual Property in a Digital Environment*

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The explosive growth of digital technology advances significantly impacts the scope and nature of traditional intellectual property protection and management. It poses a new era of opportunity and challenges for national and international intellectual property protection. This paper deals with management and protection of intellectual property in this new environment in the context of Malaysia. Beginning with the importance of digital environment, it describes how Malaysia strikes a balance between strategic harnessing of the opportunities offered by the technology advancement and addressing the numerous problems and issues that have emerged in traditional intellectual property protection as a result. Describing intellectual property issues such as copyright infringement, digital delivery, anti-circumvention measures, rights management information, transformation in marketing and distribution and trademark issues, it details how Malaysian government is addressing them.

The emergence of the digital environment poses a new era of opportunities and challenges for national and international property protection. The digital environment has been described as the electronic super highway: a dynamic information environment that supports business activities and provides immediate access to required information. It provides connectivity, information sharing, information technology (IT) tools, corporate memory and above all immediate access. The explosive growth of digital technology advances such as the development of microprocessors, mass storage graphics, video compression, high broadband communication network and the increasing computer literacy and use of the Internet, coupled with the deregulation and liberalization of global telecommunications and media markets, significantly impacts the scope

and nature of traditional intellectual property protection and management.

**Importance of the Digital Environment in Malaysia**

The digital environment is crucial to our nation's advancement. Information is one of Malaysia's most critical economic resources. The National Telecommunications Policy, the National Information Technology Agenda and the Multimedia Super Corridor (MSC) Project form the basis of Malaysia's strategic efforts towards the development and use of a digital environment. In 1996, the Malaysian government launched the MSC to leapfrog Malaysia into the information technology age. The MSC, a 15 km wide and 50 km long Greenfield 'corridor' to the south of Kuala Lumpur, is set up as a global testbed for companies, both local and international, to test the limits of technology and to prepare themselves for changes brought about by the information technology age. With a fibre-optics backbone of a potential capacity of 2.5-10 Gbits to be laid by the end of 1999, the MSC provides an integrated environment comprising the necessary physical infrastructure, technologies, policies, laws and fiscal and other incentives, within which IT and multimedia companies may innovate, test their technologies, and create strategic partnerships for mutual enrichment and success. To jump start the MSC and to lead the country into the digital economy, the Government of Malaysia has identified seven primary multimedia application areas, known as the seven flagship applications, namely, Electronic Government, Telemedicine, Smart Schools, Multi-purpose Card, R&D Cluster, World-wide Manufacturing Web and Borderless Marketing. So Malaysia has indeed opted to step into the era of the digital environment. Against this backdrop, the Malaysian government not only recognizes the many challenges it poses to traditional intellectual property protection, but is mindful of, and committed to, the need to effectively manage strong intellectual property protection in this new environment.

**Harnessing Opportunities in a Digital Environment**

In managing intellectual property in a digital environment, the nation strikes a balance between strategic harnessing of the opportunities offered by the technology advancement and addressing the numerous problems and issues that have emerged in traditional intellectual property protection as a result.

**Digital Technology and Access to Databases**

The main intellectual property management agency of Malaysia, the Intellectual Property Division of the Ministry of Domestic Trade and Consumer Affairs, has incorporated computerized information management policies in the registration and administration of intellectual property. A simple website disseminates basic information to its stakeholders while an automation programme for the administration of trademarks and patent procedure has been established to improve efficiency. This automation programme, or PANTAS as it is called, aims at providing a more efficient trademarks and patent service, that is responsive to user needs by establishing a modern and complete computerized administration system, including network linkages to all intellectual property offices. The immediate access to patent search databases available on the Internet is also used.
**Intellectual Property Creation, Dissemination and Management On-line**

As the digital environment opens up a virtual marketplace and e-commerce picks up, businesses are open to new facets of intellectual property creation, and intellectual property portfolio management on-line. Electronic publishing, multimedia creation, electronic delivery of digitized goods, on-line licensing, access to the borderless world market and technology transfer, go towards enhancing the competitive advantage and goodwill value that intellectual assets provide businesses.

However, even as lucrative potential business opportunities emerge, the digital environment is a bane for intellectual property holders. Digital technology provides an easier way of creating, storing, retrieving, manipulating, transmitting and often, infringing intellectual property rights. We shall now look at some of these issues and how Malaysia addresses these challenges.

**Intellectual Property Issues**

**Copyright Infringement**

Digital technology provides the highest possible quality of recording and transmission. It can take place without any adverse impact on its quality. There is no deterioration in quality in the second and subsequent copies. This makes it possible for the consumer, and also the pirates, to make perfect multiple copies of an original work quickly, and very often, cheaply. Digital technology also introduces compression. It is now possible to store large quantities of copyright works in smaller units or containers. For example, the complete collection of the Beatles albums can now be stored in one Digital Versatile Disc (DVD). Pirates have already taken advantage of these features of technology, to store as many as 150 song tracks in one compact disc. These features of digital technology may require changes in legal concepts. There is a need for the existing legal definitions of 'copying' and 'reproducing' to be reviewed. These legal meanings should include storage in an electronic form, as existing laws refer only to 'physical' storage.

**Digital Delivery**

Today, copyright works can be stored in electronic form and not just in a physical form. For example, a paperback novel traditionally sold in a bookshop in Kuala Lumpur can now be stored in a computer in Kuala Lumpur, uploaded onto a computer server on the Internet, and be read and copied by thousands of readers around the world. This is also true for other types of copyright works, like sound recordings, films, and photographs. This means that the copyright owner may have no control over the number of copies being made, and the way in which the work is being used. Furthermore, the borderless nature of the Internet may give rise to problems of jurisdiction, in the event of infringement actions. The owner becomes totally dependent on legal frameworks that are in place in the country in question. Interactive transmissions on-line have two aspects:

(i) uploading in a server—the new legal concept is called the 'right of making available'. This means that the person controlling the server could be storing many hundreds or even thousands of copyright works. These works are being 'made available' to the viewer or listener; and

(ii) transmitting by electronic means to one, or to any number of persons—these persons may or may not be in the
same geographical place. Furthermore, they may not be accessing or receiving the transmissions at the same time. The viewers/listeners may decide the time and place where they will access the copyright works. The new legal concept is called the 'right of communication to the public'.

In this interactive transmission, the consumer has full control over the time, place and manner in which they can view or listen to the copyright work. This is unlike the traditional passive transmission of a radio or television broadcast where the viewer/listener has no control over the time, place and manner in which they can view or listen to the copyright work.

Anti-circumvention Measures

As a pro-active way of preventing abuse of their copyright, copyright owners are making increased use of technology to protect their works in the electronic environment. The technological protection is devised to either access control, thereby preventing hacking into the network where the work is stored, or preventing access to a consumer who has not paid for use of the copyright work, and to copy control in order to prevent the work in an electronic network from being copied. Examples are ‘scrambling’ of signals and use of encryption technology. Anti-circumvention measures have emerged.

Rights Management Information

Technology now enables copyright owners to keep track of the different ways in which their works are being used. Copyright owners are making use of electronic tags, codes, and watermarks in their digitized works, known as Rights Management Information (RMI). The RMI may or may not be visible to the eye or audible to the ear, but will contain the copyright owner’s digital signature, licensing information, as well as signals to confirm whether or not the work has been previously copied. RMI is especially useful for licensing purposes. In Malaysia, where there are many broadcasters using sound recordings, the RMI can be used to administer, with greater efficiency and precision, the volume of sound recordings being used. The same RMI can also be used to distribute royalties back to the copyright owners in more accurate ways. Equally important is the ability of copyright owners in anti-piracy cases to use RMI to prove that a pirated work came from its original source.

Transformation in Marketing and Distribution

Digital technology is changing the way copyright owners conduct business. It is no longer necessary to store a copyright work in physical form. Electronic networks will deliver these copyright works to offices, schools and households. The record industry in Malaysia does mail-order service over the Internet, where the consumer places orders for physical products over the Internet and the compact disc albums are delivered either physically to the consumer or delivered on-line by downloading from the Internet. Copyright works can also be delivered to consumers through multi-channel subscription services, on-demand delivery, digital broadcasting, and digital kiosks. While the benefits are enormous, digital delivery can also make possible copyright infringement on a large scale.
**Trademark Issues**

As Internet governance takes shape and domain name systems are put in place, a number of trademark issues arise that contribute to erosion of trademark protection on-line. The area that has attracted the most amount of legal attention is where owners of registered trademarks have sought to have their trademarks registered as a domain name and found that the domain name has already been registered and is now owned by a third party. Cases of cybersquatting, meta-tagging, hypertext linking and framing are terminologies that have emerged as a result and have contributed to the development of recent case laws. Some landmark cases like BT and Others v One in a Million (1997)\(^2\) which addresses cybersquatting, and the Scottish case of Shetland Times (1997)\(^3\) which addresses not only trademark issues, but also copyright infringement issues, are steadily becoming landmark cases.

The Trademark Act 1976 governs trademark protection in Malaysia. Trademarks registered in Malaysia are protected only in Malaysia. There is no international trademark law. Trademark laws are usually handled on a national basis. Therefore, for many years, similar trademarks have co-existed in different countries. This has not caused major problems as usually different owners do not use the trademark in the same territory or for the same product. As a result, in respect of trademark/domain name disputes arising between companies in different jurisdiction, it is a distinct possibility that actions will be brought by each party in their own jurisdiction, which in turn, could possibly lead to conflicting decisions being handed down by the two countries. As such, issues pertaining to dispute resolution in a borderless world, the interaction and legal status of trademarks versus domain names, basis for establishing a court’s jurisdiction over infringement of a trademark on the Internet, are pertinent questions that have emerged.

**Addressing the Intellectual Property Issues**

We have addressed the above-mentioned issues in three main ways:

(i) by reviewing legislation, bearing in mind that over regulation may stifle the growth of e-commerce whilst minimal or no regulation will encourage theft and abuses;

(ii) by cooperating and actively participating in international fora for continuous improvement and updates on management techniques in this direction; and

(iii) by education and training, to enhance the knowledge and awareness of the various stakeholders in intellectual property protection and management in the digital environment.

**Legislative Measures**

Legislative action has been taken mainly for copyright issues, as this is the area most impacted by the digital environment.

The new WIPO 'Internet Treaties', the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT), which were adopted in 1996 are vital steps in addressing these copyright issues.

Among the important provisions which deal with the issue of digital technology and intellectual property are:

(i) the right of communication to the public, including interactive services;

(ii) protection of technological measures; and
The treaties are intended to respond to the new challenges presented by the digital environment, and once ratified and incorporated into national laws, are well positioned to address new technological issues discussed earlier in this paper. The treaties provide copyright holders a powerful new weapon to combat Internet and other on-line piracy and accord authors the exclusive rights in the communication to the public of their works, including through the Internet and other interactive networks. The treaties also make it an offence to remove or alter any electronic rights management information without authority. The treaties are expected to encourage authors and users to employ these new technologies to their full potential. It is also hoped that this would be enough incentive for authors to respond by creating products specially suited to the digital environment, and in the process, enrich the content industry.

The Malaysian government has introduced some changes to the Malaysian copyright law. These include:

(i) making transmission over the Internet an act controlled by copyright;

(ii) making circumvention of any effective technological device meant to prevent unauthorized access to copyright works an offence as well as an infringement of copyright; and

(iii) making removal or alteration of electronic rights management information or distribution of any copies of work knowing that electronic rights management information has been removed or altered, an offence as well as an infringement of copyright.

The amendment, which came into force on 1 April 1999, incorporated most, if not all, of the provisions of WCT. The Copyright Amendment Act 1997 was brought into force only very recently. It is probably too early to assess the effect of the introduction of the digital rights. Having said that, we are aware that the different groups of copyright owners have already been making use of digital technology, and are introducing technological standards for their copyright works.

When we first drafted the Copyright Amendment Act 1997, the WCT and WPPT were only just concluded. We have since become aware of some issues that have to be addressed. The law still needs fine-tuning in some aspects. For example:

(i) temporary or incidental copying— the definition of ‘reproduction’ under the Malaysian Copyright Act is very broad, and is intended to include computer storage. However, it does not make any mention of temporary copying. The definitions of ‘copy’ and ‘infringing copy’ may also require clarification to include electronic copies.

(ii) exceptions— certain exemptions, which were acceptable in the analogue age, may not be acceptable in the digital age because they erode the exclusive rights of the copyright owner. We know that it is possible to carry on commercial activity using home personal computers. Digital-quality copies, made in the privacy of the home, could just as easily be made and sold to consumers. There are instances in some Asian countries where university students illegally download sound recordings from the Internet and make compilations of the song track onto CDs, which are sold to willing purchasers. Existing exemptions for
private copying, fair dealing, research and education may now need to be reviewed.

(iii) technological measures—our law already prohibits the act of circumventing technological measures. We may need to look further, with the view to outlawing the manufacture and trade of circumvention devices. This refers not just to 'completed' devices, but also to components that may be dismantled and re-assembled, so as to avoid detection by enforcement authorities. It may be necessary to prohibit persons from providing services, giving information or instruction on circumvention of technological measures. Any advertisement publicising such services may need to be outlawed.

(v) service provider liability—this issue is still being studies in Malaysia and is yet to be addressed in our laws. Service providers (i.e., telecommunications organizations) are involved in the transmission of both legal and illegal copyright materials. The copyright owners feel that service providers should shoulder responsibility for copyright infringement (at least if they have knowledge of the infringement). On the other hand, service providers are reluctant to accept such responsibility. We believe that both service providers and copyright owners must share the responsibility to fight piracy, if they wish to enjoy the commercial benefits of electronic commerce. Therefore, both groups should advance their interests by co-operating to combat electronic piracy.

Administrative and International Cooporative Measures

As far as trademark issues are concerned, disputes will have to be settled by resorting to case law. Currently, there is no case law in this area in Malaysia. However, Malaysia is looking to WIPO who is working on the Internet domain names process. Since 1998, WIPO has undertaken an extensive international process of consultations. The purpose is to make recommendations on certain questions arising out of the interface between domain names and intellectual property rights.

Training

Malaysia has set up an Intellectual Property Training Centre to seriously pursue the goals of educating various target segments in the protection and management of intellectual property, as well as for developing local expertise in intellectual property issues. The Centre established two years ago has trained more than 800 participants from both the government and private sector and hosted two national level seminars on intellectual property issues on e-commerce and the Internet. The Centre also facilitates a meeting ground for interactive forums between interested parties.

Conclusion

The intention of the Malaysian government is very clear. Malaysia will move confidently into the 21st century, embracing the Information Age. Electronic commerce is very much a part of our agenda for Vision 2020. The necessary telecommunications infrastructure has been put in place. The legal framework—including intellectual property protection—is mostly in place. We are addressing security and privacy issues in both
intellectual property as well as in e-transactions, in the digital environment, that is necessary for competitive business operations. We believe we have been pro-active in legislative measures especially with our cyber-laws. The response of the business community has been very encouraging. Since the MSC project was announced, the global leaders of many key technology companies have been committing their investments and participation in our country. The author mentioned in his opening remarks the need for a delicate balance between the tensions of government policy, for the safeguard of the industrial intellectual property owners and the rights of the consumer population in accessing and using intellectual property. As all governments, we often have to do the 'balancing act'. However, we are optimistic that the correct priorities have been identified, have been pursued, and will continue to be pursued.

References

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3. Shetland Times Limited *v* Dr Johnathan Wills and Zetnews Limited (1997) FSR