International Protection of Intellectual Property

Rights in the Light of the Expansion of

Electronic Commerce

By: Abdalla Ahmed Abdalla

Supervisor: Akolda M. Tier

A Thesis submitted for the Ph. D. Degree of the University of Khartoum

Khartoum

2004
To my wife Afaf Ahmed Bashir, without whose sacrifice, encouragement and help; this work might never have seen the light.

To my children Mohammed, Ahmed, Awwab and Muneeb from whom I took much of the time that I would have had spent with them.
Acknowledgements

In this space I would like to acknowledge all the help I received throughout the different stages up to the completion of this achievement. Particularly, I am grateful to my supervisor professor Akolda Man Tier for his valuable directions and assistance. My thanks are also due to King Suod University, General Administration Institute, King Fahad Public Library, and King Abdul Aziz Public Library in Riyadh, Kingdom of Saudi Arabia, for facilitating to me access to their rich libraries. Special thanks are due to the Sudanese personnel working in these institutions: Ahmed Babiker, Mohammed Awad and Abdul Rahman. Also I would like to thank my colleagues Ahmed Kamal-Addin and Sonia Morettie who revised an earlier draft of this thesis.
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<td>AAA</td>
<td>American Arbitration Association</td>
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<tr>
<td>ACPA</td>
<td>Anti-Cybersquatting Consumer Protection Act 1999</td>
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<tr>
<td>ACTRIPS</td>
<td>Advisory Council on Trade-Related Innovation Policies</td>
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<tr>
<td>ADR</td>
<td>Alternative dispute resolution</td>
</tr>
<tr>
<td>ARPA</td>
<td>Advanced Research Project Agency</td>
</tr>
<tr>
<td>BBS</td>
<td>Bulletin Boards Systems/Servers</td>
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<tr>
<td>CAFC</td>
<td>Court of Appeals for the Federal Circuit</td>
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<tr>
<td>CAs</td>
<td>Certification Authorities</td>
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<tr>
<td>CBD</td>
<td>Convention on Biological Diversity</td>
</tr>
<tr>
<td>CCPA</td>
<td>Court of Customs and Patent Appeals</td>
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<tr>
<td>ccTLD</td>
<td>country code Top Level Domain</td>
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<td>CMC</td>
<td>Computer Mediated Communications</td>
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<td>CONTU</td>
<td>Commission on New Technological Uses of Copyrighted Works</td>
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<tr>
<td>DARPA</td>
<td>Defense Advanced Research Project Agency</td>
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<tr>
<td>DMCA</td>
<td>Digital Millennium Copyright Act</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>DNS</td>
<td>Domain Name System</td>
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<td>DTI</td>
<td>British Department of Trade and Industry</td>
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<tr>
<td>DRMS</td>
<td>Digital Rights Management Systems</td>
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<td>ERMS</td>
<td>Electronic Rights Management Systems</td>
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<td>e-commerce</td>
<td>Electronic Commerce</td>
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<td>EDI</td>
<td>Electronic Data Interchange</td>
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<td>EPC</td>
<td>European Patent Convention</td>
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<td>EPO</td>
<td>European Patent Office</td>
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<td>EP</td>
<td>European Patents</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>FDI</td>
<td>Foreign Direct Investment</td>
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<tr>
<td>ftp</td>
<td>File Transfer Protocol</td>
</tr>
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<td>FTDA</td>
<td>Federal Trademark Dilution Act</td>
</tr>
<tr>
<td>GII</td>
<td>Global Information Infrastructure</td>
</tr>
<tr>
<td>gTLD</td>
<td>general Top Level Domain</td>
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<tr>
<td>HTML</td>
<td>HyberText Markup Language</td>
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<tr>
<td>HTTP</td>
<td>HyberText Transmission Protocol</td>
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<td>IANA</td>
<td>Internet Authorized Naming Authority</td>
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<td>ICC</td>
<td>International Chamber of Commerce</td>
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<td>ICANN</td>
<td>Internet Corporation for Assigned Names and Numbers</td>
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<td>ICT/ICTS</td>
<td>Information and Communication Technology/Technologies</td>
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<td>Abbreviation</td>
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<td>IETF</td>
<td>Internet Engineering Task Force</td>
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<td>INNs</td>
<td>International Non-proprietary Names</td>
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<td>IP</td>
<td>Internet Protocol/ Intellectual Property</td>
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<td>IP/IPR/IPRs</td>
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<td>ISDN</td>
<td>Integrated Service Digital Network</td>
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<tr>
<td>ISP</td>
<td>Internet Service Provider</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>ITU</td>
<td>International Telecommunication Union</td>
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<td>JPO</td>
<td>Japan Patent Office</td>
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<tr>
<td>MAPS</td>
<td>Mail Abuse Prevention System</td>
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<tr>
<td>MNC</td>
<td>Multinational Corporations</td>
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<tr>
<td>MPEP</td>
<td>Manual of Patent Examining Procedure</td>
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<tr>
<td>MUDs</td>
<td>Multi-User Dungeons</td>
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<tr>
<td>NATO</td>
<td>North Atlantic Ally Treaty Organization</td>
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<tr>
<td>NGOs</td>
<td>Non-governmental organizations</td>
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<tr>
<td>NSF</td>
<td>National Science Foundation</td>
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<tr>
<td>NSI</td>
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<tr>
<td>NTIA</td>
<td>National Telecommunications and Information Administration</td>
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<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
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<tr>
<td>P2P</td>
<td>peer-to-peer</td>
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<tr>
<td>PKI</td>
<td>Public Key Infrastructure</td>
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</table>
RAM                Random Access Memory
R&D                Research and Development
ROM                Read Only Memory
SCCR               Standing Committee on Copyright and Related Rights
SLD                Second Level Domain
TCP/IP             Transmission Control Protocol/Internet Protocol
TLD                Top Level Domain
TRIPS              Trade-Related Aspects of Intellectual Property Rights
UCC                Uniform Commercial Code
UCITA              Uniform Computer Information Traction Act
UDRP               Uniform Domain Name Dispute Resolution Policy
UNCITRAL          United Nations Commission on International Trade Law
UNCTAD            United Nations Commission on Trade and Development
URIs               Uniform Resources Identifiers
URL                Uniform Resource Locator
US/U.S./USA        United States of America
USPTO             United States Patents and Trademarks Office
WHO               World Health Organization
WIPO              World Intellectual Property Organization
WTO               World Trade Organization
WWW               World Wide Web
Table of International Agreements and Other Instruments

Bilateral Treaties

Agreement on the Establishment of a Free Trade Area between United States and Jordan (2000)

Multilateral Treaties

- Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) 1994
- Berne Convention for the Protection of Literary and Artistic works in 1886.
- Convention Establishing the World Intellectual Property Organization (WIPO) 1967
- Madrid Agreement for the Repression of False and Deceptive Indications of Source on Goods (Madrid Agreement) 1891
- Paris Convention for the Protection of Industrial Property 1883
- Patent Cooperation Treaty (PCT) 1970
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- Uniform Commercial Code (UCC) 1989
- Uniform Computer Information Transaction Act 1999
- Utah Digital Signature Act of 1995
English

- Copyright, Designs and Patents Act 1988


French

- French Code on Intellectual Property

German

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- Kennedy v. Thomassen (1929) 1 Ch. 426.
- Marks & Spencer Plc., v. One in a Million, 1998 FSR 265.
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WTO WT/DS114/R
ملخص

قامت حقوق الملكية الفكرية الحديثة على مبادئ أساسية تمثلت في منح المخترعين والمبدعين في المجالات العلمية والأدبية والفنية حقوق اقتصادية وأدبية محددة لمحدودة خاضعة لبعض الاستثناءات والإعفاءات. ويشير مصطلح "الملكية الفكرية" إلى أعمال الفكر الإبداعية في مجال الاختراضات والصناعات الأدبية والفنية والرموز والأسماء والنصوص والرسوم الصناعية. وقد اكتسبت حقوق الملكية الفكرية أهمية كبيرة بعد أن أصبحت مصدرًا مهما للثروة خاصة في الدول المتقدمة التي تشهد اقتصاداتها تحولات كبيرة ظهرت جليًا اعتبارًا من الربع الأخير من القرن العشرين، حيث تحولت من اقتصاديات تعتمد على الصناعات التقليدية إلى اقتصاديات تعتمد على المعرفة. وقد امتنعت هذه التحولات الاقتصادية، إضافة إلى التطور التكنولوجي المتمثل في الإنترنت والتجارة الإلكترونية على حقوق الملكية الفكرية، التي شهدت بدورها تحولات كبيرة شملت تسهيل استنساخ المواد المتعلقة بإث الحماية بدرجة عالية من الجودة ونقلها عبر الإنترنت إلى أي مكان في العالم. تصل الإنترنت، مما خلق تهديدًا مباشرًا لحقوق الملكية الفكرية على نطاق العالم. ومن ناحية أخرى ساعدت تكنولوجيا التشفير، وما شابهها من وسائل، حامل حقوق الملكية الفكرية في السيطرة في معظم الأحيان على منتجاتهم، بل منع حتى الاستخدامات المشروعة بموجب القانون.

ناقش هذا البحث مسألة الحماية الدولية لحقوق الملكية الفكرية في ضوء توسع التجارة الإلكترونية. وقد شمل البحث عشرة أبجات تناولت على التوالي التطور التاريخي للملكية الفكرية، وطبيعة وحدود حقوق الملكية الفكرية، والتحدي المتمثل في ظاهرة الإنترنت وكيفية تنظيم التجارة الإلكترونية وكيفية حل معضلة تنازع القوانين التي تواجه التجارة الإلكترونية والملكية.
الفكرية، وكيفية حماية حقوق الملكية الفكرية المتصلة في حقوق المؤلف والعلامات التجارية وبراءات الاختراع على الشبكات الرقمية، وأثر تدويل حماية حقوق الملكية الفكرية والتوافق القانوني الدولي بشأن حماية تلك الحقوق على الدول النامية، إضافة إلى الخاتمة والتوصيات.

تضمن الباب الأول سراً تاريخياً لتطور الملكية الفكرية. شمل هذا الباب ثلاثة فصول رئيسية، تتبع الفصل الأول منها تطور الملكية الفكرية اعتباراً من عصر ما قبل التاريخ والعصر الإغريقي الروماني والعصور الوسطى وعصر النهضة والعصر الحديث. وناقش الفصل الثاني النظام القانوني التقليدي الذي كان ينظم حماية الملكية الفكرية، والذي استند على مبدأ الإقليمية في توفير تلك الحماية وفقاً لما قررته اتفاقية باريس لحماية الملكية الصناعية 1883، واتفاقية بيرن لحماية المصنفات الأدبية والفنية 1886. وركز الفصل الثالث على الدعوة لتدويل حماية حقوق الملكية الفكرية ودور اتفاقية النواحي التجارية من حقوق الملكية الفكرية (ترسيس) 1994 في هذا في هذا المجال، وما تبعها من تطورات شملت إبرام العديد من الاتفاقات الجماعية والثنائية واستحداث وسائل جديدة للتصدير في المنازعات المتعلقة بحقوق الملكية الفكرية مثل النظام الموحد لحل النزاعات المتعلقة بأسماء النطاق الذي أصدرته مؤسسة الإنترنت للأسماء والأرقام المخصصة، إضافة إلى دور النقاص، بما في ذلك المحاكم الوطنية وهيئات الفصل في النزاعات التابعة لمنظمة التجارة العالمية والوسائل البديلة.

بين الباب الثاني طبيعة حقوق الملكية الفكرية وشروط منحها وحمايتها والغرام من ذلك. وقد تضمن هذا الباب ثلاثة فصول رئيسية، تطرق الفصل الأول منها إلى تعريف مصطلح الملكية الفكرية وعدد أنواع الملكية الفكرية التي شملت حقوق المؤلف التي تضم المصنفات الأدبية والفنية كالروايات والقصص والمسرحيات والأفلام والألحان الموسيقية والرسوم واللوحات والصور الشمسية والتمثيل والتصميمات الهندسية والحقوق المجازة لحقوق المؤلف والتي تشمل حقوق فناني الأداء المتعلقة بآدائهم وحقوق منتجي التسجيلات الصوتية المرتبطة بتسجيلاتهم وحقوق هناث الإذاعة المتصلة ببرامج الراديو والتلفزيون من جهة، ومن الجهة
الأخرى حقوق الملكية الصناعية التي تتفرع بدورها إلى براءات الاختراع والحقوق التي تمنح لأنواع الإبداع التي لا تبلغ درجة الاختراق، والعلامات التجارية والخدمية، والأسماء التجارية، والرسوم والنموذج الصناعية والدوائر المتكاملة، وبيانات المصدر الجغرافية، إضافة إلى الأسرار التجارية والمنافسة غير المشروعة. وتضمن الفصل الثاني والثالث شرحاً موجزاً لحقوق الملكية الفكرية وشروط منحها وما يرد عليها من قيود واستثناءات. وناقش الفصل الرابع التبديرات القانونية والفلسفية لحماية حقوق الملكية الفكرية.

أما الباب الثالث فقد تطرق إلى التحدي المتمثل في ظاهرة الإنترنت وكيفية التعامل معها. تضمن هذا الباب ثلاثة فصول رئيسية، تتناول الفصل الأول تعريف مصطلح الإنترنت وكيفية عملها، حيث شمل هذا الفصل شرحاً مفصل عن البنية التحتية للإنترنت وتطبيقاتها العملية، وناقش كذلك تطور الإنترنت وإمكانية توسعها في المستقبل، حيث تتبع هذا الفصل ظاهرة الإنترنت منذ ظهورها ومراحل تطورها المختلفة. أما الفصل الثاني فقدفحص تأثيرات الإنترنت على المجتمع الدولي، حيث ناقش محاسن الإنترنت وسلبياتها. ودرس الفصل الثالث كيفية السيطرة على الإنترنت وعرض مختلف النظريات التي تم طرحها، ومنها النظرية التي تدعو إلى معاملة الإنترنت كعالم منفصل عن عالم الواقع له قوانينه ونظمه الخاصة به، وتلك التي تدعو للتقليد بالقوانين التقليدية التي ترى أنها قادرة على استيعاب ظاهرة الإنترنت والتعامل معها، وثالثة تدعو إلى الاستفادة من القدرات التكنولوجية للسيطرة على الإنترنت من خلال تصميمها بشكل يتوافق مع ما يريده القانون، ونظرية رابعة تدعو إلى تطبيق خليط من التدابير التكنولوجية والقانونية.

ناقش الباب الرابع كيفية تنظيم التجارة الإلكترونية. تم تقسيم هذا الباب إلى ستة فصول رئيسية، عرض الفصول الأول فرض وتحديات التجارة الإلكترونية، حيث تضمن تعريف التجارة الإلكترونية وتطورها وانتشارها والمعوقات التي تعترض سبيلها، بما في ذلك تلك المتعلقة بالناحية المالية والدخول إلى السوق، إضافة إلى المعوقات القانونية. أما الفصل الثاني فقد ناقش
النظريات المقترحة لتنظيم التجارة الإلكترونية، ومنها نظرية تدعو إلى إيجاد قانون دولي موحد عن طريق الاتفاقيات، وأخرى تدعو إلى تبني قانون موحد عن طريق القوانين النموذجية، وثالثة تدعو إلى تطوير قوانين شبيهة بالقوانين التي كونها التجار خلال العصور الوسطى لتنظيم تعاملاتهم، ونظرية رابعة تنادي بتطوير قوانين عن طريق مزج النظريات الثلاث سالفة الذكر.

أما الفصل الثالث فقد درس كيفية صياغة العقود عن طريق الإنترنت، حيث تضمن هذا الفصل تعريف المصطلحات ذات العلاقة مثل العقد الإلكتروني والسجل الموسيقي والوكيل الإلكتروني.

كذلك ناقش هذا الفصل عناصر العقد التقليدية، وهي الإجاب والقبول والمقابل والمقابلات خلق علاقات تعاقدية، وكيفية تطبيق تلك العناصر على العقود التي تبرم عبر الإنترنت، خاصة ما يعرف بالوكيل الإلكتروني. وفحص الفصل الرابع مدى قانونية العقود الإلكترونية في ضوء الشكليات التي يتطلبها القانون في العقود التقليدية مثل الكتابة وكون المستند أصلي وموقع من قبل الشخص المخول بذلك. أما الفصل الخامس فقد تناول مسألة توثيق المستندات الإلكترونية، حيث عرف بعض المصطلحات ذات العلاقة مثل التوثيق والتوقع الإلكتروني والتوقيع الرقمي، كما عرض الوسائل المتبيعه حاليا في التوقيعات الإلكترونية ومنها التوقيع الرقمي، وما يعرف بالمكافئ الوظيفي وذلك عن طريق البحث وراء الحكمة من الإجراء المطلوب ومدى تحقيق ذلك بواسطة إلكترونية، وكذلك الطريقة التي تعرف بذات الشعبيتين وهي مزيج من الطريقتين السابقتين.

وناقش الفصل السادس مسألة قبول المستند الإلكتروني في الإثبات وقيمه الإثباتية.

أما الباب الخامس فقد تحدث عن مضامين القانون الدولي الخاص بالنسبة للتجارة الإلكترونية والملكية الفكرية. وقد قسم هذا الباب إلى ثلاثة فصول رئيسية، شرح الفصل الأول منها قواعد الاختصاص وبين أهمية الاختصاص لإصدار أحكام قابلة للتنفيذ، كما بين نوعي الاختصاص وموا الاختصاص العام الذي يستند إلى محل إقامة المدعى عليه والاختصاص الخاص الذي يعتمد على نوع النزاع، مثل قضايا المسؤولية التقصيرية المتمثلة في التعدي على حقوق الملكية الفكرية والعقود التجارية بين رجال الأعمال، سواء تم الاتفاق على تحديد
المحكمة المختصة أو لم يتم، وكذا العقود التي تبرم بين التجار والمستهلكين. وناقش الفصل الثاني القانون الواجب التطبيق في حال الاتفاق على قانون بعينه والقيود الولد على حق الأطراف في الاختيار، وكيفية تحديد القانون الواجب التطبيق في حال عدم الاتفاق أو في حال التعدي على حقوق الآخرين. وتناول الفصل الثالث مسألة تنفيذ الأحكام والزام المخالفين بالتفعيل بالقانون ومدى الحاجة إلى آلية تنفيذ فعالة. وبين هذا الفصل العوائق التي تحول دون الوصول لتنفيذ فعل فيما يختص بالتعاملات التي تم عبر الإنترنت والتي تتمثل في صعوبة اكتشاف المخالفات ومدى تعرض الكشف عن هويات المخالفين مع قوانين الخصوصية. وتطرق هذا الفصل كذلك لموضوع عدم كفاية التدابير القانونية التطبيقية، خاصة فيما يتعلق بحقوق الملكية الفكرية التي قامت على مبدأ الإقليمية، واستعراض النظريات المفترضة لمعالجة هذا القصور ومنها النظرية التي تدعو إلى الاعتماد على التكنولوجيا كوسيلة لإدارة الحقوق والسيطرة عليها عبر الشبكات الإلكترونية، وذلك التي تقترب اللجوء للطرق البديلة لحل المنازعات وثالثة تدعو إلى التنفيذ المباشر عن طريق الأشخاص الذين يسيطرون على أنشطة الإنترنت مثل مقدمي الخدمة ومسجلي أسماء النطاق.

ركز الباب السادس على أثر التجارة الإلكترونية على حماية حقوق المؤلف والحقوق المجاورة لها. قسم هذا الباب إلى ثلاثة فصول رئيسية، ناقش الفصل الأول منها مدى حقوق المؤلف في الأعمال المنتشرة بالشبكات الرقمية. تناول هذا الفصل الحقوق الاقتصادية الحصرية، بما في ذلك حق الاستنساخ وحق العرض على الجمهور، وما إذا كان مقبولاً الاكتفاء بأحد هذين الحقين بشأن الأعمال المنتشرة عبر الإنترنت بعد أن ألغيت التقنية الرقمية عملياً الفرق بينهما، وهل يمكن إيجاد مخرج مقبول لتعويم الحقين. كذلك ناقش هذا الفصل الحقوق الأدبية للمؤلف وأهمية تطبيقها على الأعمال المنتشرة بالشبكات الرقمية. وتطرق الفصل الثاني لحماية حقوق المؤلف والحقوق المجاورة لها بالشبكات الرقمية. ناقش هذا الفصل المسؤولية عن التعدي على حقوق المؤلف والوضع القانوني لمقدمي خدمات الشبكات
الرقمية حيال ذلك. كذلك نقاش هذا الفصل المسؤولية عن التعدي المباشر والتعدي غير
المباشر، وجوائب القانون الدولي الخاص المتعلقة بحقوق المؤلف، بما في ذلك الاختصاص
وتثبيت الأحكام والقانون الواجب التطبيق. أيضا شمل هذا الفصل موضوع استخدام الوسائل
التقنية لحماية حقوق المؤلف، حيث أشار إلى بعض أنواع التقنيات المستخدمة والدور الذي
يقوم به كل منها، ومن تلك التقنيات التي تسمح إبتداءً بالدخول على المواقع الإلكترونية لكنها
لا تسمح بالاستغلال غير المشروع مثل الاستنساخ أو التخليص، والتقنيات المستخدمة لمنع
الدخول إلى المواقع الإلكترونية ابتداءً، والتقنيات التي تمكن من وضع علامات مائية ووسم
غير مرئية على الأعمال المشروعة بالإنترنت، وأنظمة الرقمية لإدارة الحقوق. أما الفصل
الثالث فقد ناقش وضع الاستثناءات والقيود المفروضة على حق المؤلف بالشبكات الرقمية،
حيث تناول مدى الحاجة لتطبيق الاستثناءات والقيود التقليدية على الأعمال المشروعة
بالإنترنت وأثر الأنظمة الإلكترونية لإدارة الحقوق على استثمار الجمهور من تلك
الاستثناءات والقيود.

tناول الباب السابع حماية العلامات التجارية بالشبكات الرقمية. اشتمل هذا الباب على ثلاثة
فصل رئيسي. ناقش الفصل الأول موضوع تسجيل العلامات التجارية كأسماء نطاق، حيث
شرح مصطلح أسماء النطاق وبين المشاكل التي نتجت عن تسجيل العلامات التجارية
كأسماء نطاق من قبل أشخاص لا يملكونها، ودور مؤسسة الإنترنت للأسماء والأرقام
المخصصة في حل تلك المشاكل، واستعرض آخر التطورات المتعلقة بأسماء النطاق،
ومستقبل مؤسسة الإنترنت. كذلك ناقش هذا الفصل سبل حل النزاعات بين مالكي العلامات
التجارية ومسجل أسماء النطاق، حيث استعرض التجارة الوطنية ودور سياسة حل
النزاعات التي طبقتها مؤسسة الإنترنت بهذا الشأن. واستعرض الفصل الثاني الممارسات
الأخرى على الإنترنت التي تخص العلامات التجارية، ومنها استخدام العلامات التجارية
كرمز أو مفتاح يضمن بصورة غير مرئية في عنوان الموقع المراد جذب الجمهور إليه،
بحيث يمكن لماكينات البحث رصد ذلك الموقع متى ما يطلب منها البحث عن مواقع تخص
تلك العلامة التجارية. وكذلك وضع محتويات بعض المواقع المستهدفة، عدا الصفحة
الرئيسية، داخل إطار موقع آخر لجذب عملاء الموقع المستهدف واستقادة أصحاب الموقع
الأخر من ذلك بجذب مزيد من الإعلانات استنادا إلى عدد الزائرين. وكذلك لجوء بعض
المعاملين في عالم الإنترنت إلى ما يعرف ب"بوب أب أس" وهي إعلانات تظهر فجأة
على شاشات الحاسب الآلي دون استذان وأيضاً ما يعرف بشراك الفار، وهو أن يتم استدراج
المتصفح إلى موقع ما يتمتع ببرامج الوجوع والخروج لديه ولا يستطيع الخروج من ذلك
الموقع إلا بغلق جهاز الحاسب الآلي. أما الفصل الثالث فقد ناقش صعوبات تأقيم القانون
التقليدي للعلامات التجارية مع الإنترنت لتوفير الحماية للعلامات التجارية على الإنترنت.
وفي هذا الصدد أبان الفصل الثالث الجدل الذي يدور حول مدى استخدام العلامة
 التجارية عبر الإنترنت لشروط "الاستخدام" الذي يطلبه في كثير من القوانين لتسجيل العلامة
أو الاحتفاظ بها، وكذلك مسألة تعايش العلامات التجارية التي كان مقبولا في ظل إقليمية
حماية العلامات التجارية. أيضاً ناقش هذا الفصل مسألة الاختصاص ومدى فعالية المعالجات
المتاحة بشأن الاعتداء على حقوق أصحاب العلامات بالشبكات الرقمية.
أما الباب الثاني فقد درس حماية براءات الاختراع على الشبكات الرقمية. تضمن هذا الباب
ستة فصول، ناقش الفصل الأول منها إمكانية تصنيف المخترعات المتعلقة بالتجارة
الإلكترونية مثل برمج الحاسب الآلي ووسائل أداء الأعمال التجارية ضمن المخترعات التي
تمنو براءات اختراع، حيث استعرض الفصل الثاني مختلف الآراء الداعمة والمعترضة. كما
فحص الفصل الثالث بعض المقترحات التي قدمت للتعامل مع المخترعات المتعلقة بالتجارة
الإلكترونية، حيث اقترح البعض توفير نوع من الحماية برعا طبيعة تلك المخترعات،
سواء كانت ببرامج حاسب آلي بحثة أو وسائل أداء أعمال تجارية تعتمد على برمج الحاسب
الآلي، بينما اقترح آخرون التمسك الصارم بشروط منح براءات الابتكار، عند فحص
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طلبات الحصول على براءة اختراع عن وسائل أداء الأعمال التجارية، خاصة شرط عدم
وضوح الائتمان للمختصين في المجال قبل اكتشافه من قبل المخترع، وذلك بغض النظر من أعداد هذا النوع من براءات الاختراع واستعداد الاختراعات التي لا تمثل فتحاً في هذا المجال والتي تكون عادة معروفة أو يمكن الوصول إليها بقليل من الجهد من قبل المختصين.

درس الفصل الرابع إمكانية تحجيم براءات الاختراع المتعلقة بالتجارة الالكترونية عن طريق التطبيق الضيق لنظرية التكافؤ التي تطبقها المحاكم الأمريكية عندما تجد أن منافس صاحب براءة الاختراع قد أدخل بعض التعديلات الشكلية على اختراع منافسه ليحصل على براءة اختراع لنفس الاختراع. أما الفصل الخامس فقد فحص حجم الخبرات المتوفرة في مجال الاختراعات المتعلقة بالتجارة الالكترونية، وناقش مدى أهمية التوسع في تطبيق نظرية القياس للتقليص من أعداد براءات الاختراع الممنوحة في هذا الجانب، وذلك بناءً على مثلا للخبرات المماثلة المتوفرة خارج نطاق الإنترنت والتجارة الالكترونية، والتي يعمد البعض لنقلها إلى الإنترنت ويعمل للحصول على براءة اختراع عليها. وناقش الفصل السادس جوانب القانون الدولي الخاص المتعلقة ببراءات الاختراع، بما في ذلك الاختصاص والقانون.

الواجب التطبيق والاعتراف بال権كوركاد وتنفيذها.

وناقش الباب التاسع الدعوة إلى قوانين الملكية الفكرية متواطئة على مستوى العالم وأثر ذلك على الدول النامية. استمر هذا الباب على أربعة قصص رئيسية، استعرض الفصل الأول منها فرص التجارة الالكترونية التي يمكن للدول النامية الاستفادة منها والتحديات التي ينبغي عليها تخطيها لبلوغ تلك الغاية. وعرض الفصل الثاني الآراء المؤيدة والمعارضة لتدويل حقوق الملكية الفكرية. أما الفصل الثالث فقد درس آثار تقوية حقوق الملكية الفكرية التي تهدف إلى توفير حماية أكثر صرامة لحامل تلك الحقوق على حساب المجتمع، حيث أبان هذا الفصل آثار ذلك على الدول النامية من ناحية التكاليف والفوائد. وفحص الفصل الرابع السياسات الاستراتيجية التي ينبغي على الدول النامية تبنيها لجنى ثمار تداول حقوق الملكية

الباب العاشر عبارة عن خاتمة وتوصيات، حيث تضمنت الخاتمة تفخيخ لما ورد بالأبواب.

القسم السابق، فيما ركزت التوصيات على الخطوات التي ينبغي اتخاذها لتحقيق أكبر الفوائد الممكنة من حقوق الملكية الفكرية والأعمال والتجارة الإلكترونية للمجتمع الدولي ككل. وأوصت الدراسة بضرورة التوصل إلى اتفاقية دولية لحل مشكلة تنازع القوانين التي فاقمت الإنترنت من حدتها، وأن ذلك يتطلب بالضرورة اتفاق عالمي لتنظيم الإنترنت وإرساء حقوق الملكية الفكرية موضوعية.

وجملت إلى أن تنظيم الإنترنت يتطلب إعداد إدارة جماعية تحت رقابة الأمم المتحدة، وأن الوصول إلى اتفاقية دولية ناجحة بشأن حقوق الملكية الفكرية موضوعية يتطلب إزالة أو التقليل من تعارض المصالح الإقليمية، وهذا بدوره يضمن زيادة معدلات التنمية بالدول النامية والأقل نموا. ويمكن تحقيق هذه التنمية بعدة طرق منها الدعم المالي المباشر ونقل التكنولوجيا وتشجيع الاستثمار الأجنبي المباشر، وتبني حقوق الملكية الفكرية تضمن إلى الابتكار والتنافسية. وعلى الدول المتقدمة أن تكف عن الضغط على الدول النامية وتوقف الحملة المتصاعدة لفرض قوانين ملكية فكرية على تلك الدول لأن ذلك لن يأتي بنتائج عملية، وعليها بدلاً من ذلك أن تقدم الدعم المالي وال الفني للدولة النامية وتبني معها شراكة.

حقيقة تراعي مصالح الجميع.
Abstract

The modern intellectual property rights (IPRs) have been premised on basic principles represented in granting the creators and other producers of intellectual goods and services certain time-limited rights to control the use made of their products, subject to certain exceptions and limitations. The term 'intellectual property' denotes copyright and rights relating to it and industrial property. Generally, copyright includes the rights of authors in their scientific and artistic works and the rights relating to them, such as the rights of producers, performance, producers of phonograms and broadcasting organizations in their performances, phonograms and broadcasts respectively. Industrial property includes patents, utility models, trademarks and service marks, trade names, industrial designs and integrated circuits, geographic indications, trade secrets, and the protection against unfair competition. IPRs have acquired increasing importance because they have become a major source of wealth, especially for developed countries, which are experiencing great economic transformations. The economies of developed countries have become knowledge-based economies, instead of the traditional industries. Moreover, the emergence of technologies such as the
Internet and electronic commerce, have brought further transformations in the field of IPRs. The Internet has facilitated the easy and perfect copying and transfer of intellectual property products worldwide, hence posing direct threat for their protection. On the other hand, the use of technical measures for the protection of IPRs threatens the lawful exploitation of these rights by the society members.

This thesis discusses the international protection of intellectual property rights in the light of the expansion of electronic commerce. It contains ten chapters deal respectively with the historical development of the intellectual property law, the nature, purpose and scope of modern intellectual property rights, the challenge of the Internet, the regulation of electronic commerce, the conflict of laws implications for electronic commerce and intellectual property, the protection of copyright, trademarks and patents on digital networks and the impact of internationally harmonized IPRs on developing countries, in addition to a conclusion and proposals for reform.

Chapter 1 discusses the historical development of the intellectual property law. It is divided into four parts. Part 1 traces the earliest stages of development of intellectual property rights, including prehistory forms of intellectual property rights, forms of intellectual property in the Greco-Roman Era, the Middle Ages and the
Mercantilist Period. Part 2 discusses the emergence of modern intellectual property law. Part 3 reviews the traditional legal system governing intellectual property rights. Part 4 examines the internationalization of intellectual property rights. It is divided into four subtitles including a background, the role of TRIPS in the international protection of intellectual property rights and beyond TRIPS developments. Beyond TRIPS developments include multilateral and bilateral treaties, regional instruments, and other developments. Also this Part discusses the role of litigation in the creation of new international intellectual property norms, whereby it reviews the views supporting national courts, WTO Panels, and Alternative Dispute Resolution mechanism.

Chapter 2 studies the nature, purpose and scope of modern intellectual property rights. It is divided into four parts. Part 1 defines the term 'intellectual property' and enumerates the main categories of intellectual property rights and how new rights are created. Part 2 studies in brief copyright and neighboring rights. It is divided into four subtitles which examine copyright and neighboring rights, scope of protection, and exceptions and limitations. Part 3 reviews the industrial property rights. It is divided into seven subtitles which discuss the different aspects of the industrial property rights including patents, utility models, trademarks and service marks, trade names,
industrial designs and integrated circuits, and geographical indications, in addition to protection against unfair competition and trade secrets. Part 4 examines the justifications for, and, against intellectual property.

Chapter 3 studies the phenomenon of the Internet, its potential evolution and expansion, its impact on the international society and the approaches for its regulation. It is divided into three parts. Part 1 studies the emergence of the Internet, and its evolution and potential expansion. It includes the definition of the term Internet and other related terms, how it works and its potential evolution and expansion. Part 2 discusses the positive and negative aspects of the Internet. Part 3 examines the approaches advanced for the regulation of the Internet. It discusses four approaches relating to the governance of the Internet viz., self-governance approach, regulation by means of the traditional legal system, governance through the control of the architecture of the Internet and a hybrid regulation approach.

Chapter 4 examines some of the legal aspects relating to the regulation of electronic commerce. It is divided into six main parts. Part 1 discusses the opportunities and challenges of electronic commerce. It is sub-divided into three sub-titles including the definition of the term electronic commerce, its potential growth and the impediments confronting its future growth and expansion. Part 2
studies the theoretical approaches advanced for the regulation of electronic commerce. It is sub-divided into four sub-titles which discuss the different suggested approaches. Part 3 studies the formation of electronic contracts. It is sub-divided into five sub-titles involving the definition of the related terms and the discussion of the necessary elements for the formation of contracts such as offer, acceptance, consideration and intention to create legal relations. Part 4 examines the validity of electronic contracts in the light of the formalities required by law. It is sub-divided into three sub-titles, which discuss some of the formalities frequently required by law in paper-based environment and whether these formalities can be satisfied by a data message. Part 5 discusses the authentication of electronic documents. It is sub-divided into two sub-titles including the definition of related terms and a review of the approaches concerning the methods of authentication of electronic documents. Part 6 discusses the admissibility and the evidential value of electronic documents. It is sub-divided into two sub-titles discussing the admissibility of electronic documents as evidence and the weight accorded to such evidence.

Chapter 5 studies the conflict of laws implications for electronic commerce. It is divided into three main parts. Part 1 deals with issues relating to jurisdiction. It is subdivided into two main subtitles which
discuss the general jurisdiction of courts, which is based on the domicile of the defendant, and the various cases of specific jurisdiction including jurisdiction on tortious acts, choice of jurisdiction, jurisdiction where there is no choice and jurisdiction on disputes involving consumers. Part 2 discusses the governing law. It is divided into four subtitles which study the applicable law where there is choice of law and where there is no choice and the limitations on the choice of law, in addition to the study of the law applicable for infringements cases. Part 3 discusses the enforcement of rights. It is divided into four subtitles which study the need for effective enforcement in the Internet era, the difficulties relating to detection of infringements and identification of wrongdoers, the insufficiency of the traditional means of enforcement and the attempts made to date in relation to enforcement including technical devices, alternative disputes resolution and direct enforcement.

Chapter 6 discusses the impacts of electronic commerce on the international protection of copyright and related rights and whether the existing legal system can be adjusted to respond to this technological challenge effectively and efficiently, so as to safeguard the furtherance of the guiding principles of copyright and related rights. It is divided into three main parts. Part 1 studies the scope of the rights of authors on digital networks. It is divided into two subtitles discussing the
exclusive economic rights and moral rights of authors. Part 2 studies the protection of copyright and related rights works disseminated over digital networks. It is divided into four subtitles which discuss the infringement of copyright and the related rights and the legal status of the Internet Service Providers, the private international law aspects of copyright and related rights, the protection of copyright and related rights through technical measures and the legal protection of such technical measures. Part 3 examines the future of the traditional copyright exceptions and limitations on digital networks. It is divided into two subtitles which study the scope of the traditional exceptions and limitations and the impacts of the electronic rights management systems on those exceptions and limitations.

Chapter 7 discusses the current problems facing the protection of trademarks rights on digital networks. It is divided into three main parts. Part 1 studies the registration of trademarks as domain names. This part is sub-divided into six titles comprising the definition of domain names, the problems generated by the registration of trademarks as domain names, the role of the Internet Corporation for Assigned Names and Numbers (ICANN), the recent developments relating to domain names, the future of ICANN, and the settlement of disputes between domain names holders and trademarks owners. Part 2 discusses other forms of practices on the Internet that proved to be
detrimental to trademarks rights. This part is sub-divided into five titles dealing with the use of trademarks as meta tags or keywords or in framing and linking, pop-up advertisements, and mouse-trapping. Part 3 clarifies the clash between the principle of territoriality, upon which the traditional trademark law has been based and the global nature of the Internet. It is divided into four subtitles which discuss the requirement of ‘use’ for the acquisition and maintenance of trademarks rights on the Internet, the co-existence of trademarks on digital networks, jurisdiction over infringements online and the extent of remedies in infringement actions.

Chapter 8 discusses the protection of patent rights on the digital networks. It is divided into six parts. Part 1 discusses the patentability of electronic commerce-related inventions. It is divided into two subtitles, which study the patentability of software and business methods. Part 2 discusses the different views in favor of, and, against patenting business methods and software. Part 3 studies some views advanced for dealing with electronic commerce-related inventions. It is sub-divided into two titles discussing the various suggestions. Part 4 discusses the impact of the narrow application of the doctrine of equivalents on the scope of business methods patents. Part 5 examines the scope of prior art for electronic commerce-related inventions. Part 6 studies some private international law issues relating to patents law.
It is divided into three subtitles discussing jurisdiction, applicable law, and recognition and enforcement of judgments.

Chapter 9 discusses the potential of electronic commerce for developing countries and the ongoing move towards internationally harmonized intellectual property rights, their implications for developing countries and the strategic policies that should be adopted by developing countries to face any accompanying challenges. The chapter is divided into four main parts. Part 1 reviews the potential of electronic commerce for developing countries. It is divided into two subtitles discussing the opportunities and challenges in this respect. Part 2 reviews the different arguments for, and, against the move towards internationally harmonized intellectual property rights. It includes two subtitles which discuss the arguments of the supporters and opponents of internationalization. Part 3 examines the implications of strengthened IPRs for developing countries. It is divided into two subtitles discussing the costs and benefits of strong IPRs in relation to development generally and access to the Internet and electronic commerce in particular. Part 4 discusses strategic policy issues for developing countries. It is divided into four subtitles examining the technical and capacity gaps in developing countries and the necessary safeguards for developing countries in order to fill these gaps. It identifies gaps in four areas need to be filled by developing
countries viz., understanding the concepts, issues, benefits and risks of intellectual property protection; implementing and complying with existing commitments; managing and influencing on-going negotiations on further commitments; and making and developing strategies and setting the agenda for the future.

Chapter 10 is a conclusion and proposals for reform. The conclusion summarizes the previous chapters. The proposals for reform recommend for the conclusion of an international agreement in order to solve the problems relating to conflict of laws, which have been exacerbated by the emergence of the Internet. However, as far as intellectual property is concerned, the success in concluding such an agreement depends on international agreement on related issues such as the regulation of the Internet and the adoption of acceptable substantive intellectual property rights. In this respect this Study recommends for collective administration of the Internet under the auspices of the United Nations. Moreover, a successful international agreement on substantive intellectual property rights necessitates the removal or lessening of the conflict of interests of the stakeholders. This, in turn, requires the increase of development rates for developing countries, through different means including direct financial support, transfer of technology, encouragement of direct foreign investment, and adoption of intellectual property laws.
conducive to innovation and competition. Developed countries should not exercise pressures on developing countries and should stop the ongoing campaign for imposing on developing countries intellectual property laws not acceptable by them. They should, instead, provide developing countries with the financial and technical support they need and work with them to achieve the common interests of all parties.
Chapter 1

Historical Development of Intellectual Property Law

Introduction

The digital revolution and the emergence of the Internet with its borderless dimensions have created a series of new legal problems facing intellectual property law. In order to find out solutions for these problems and as the past and the present are intimately linked, a flashback for the history of intellectual property may offer a better understanding of the intellectual property system and help in finding solutions for the present problems. This chapter makes a brief study of the historical development of intellectual property rights (IPRs), the traditional legal system governing them and the latest developments concerning IPRs as well as the legal system governing them. It includes four parts. Part 1 traces the emergence of intellectual property rights and its earliest stages of development including prehistory forms of intellectual property rights, forms of intellectual property in the Greco-Roman Era, the Middle Ages and the Mercantilist
Period. Part 2 discusses the emergence of modern intellectual property law. Part 3 reviews the traditional legal system governing intellectual property rights. Part 4 examines the internationalization of intellectual property rights. It is divided into four subtitles including a background, the role of TRIPS in the international protection of intellectual property rights and beyond TRIPS developments. Beyond TRIPS developments include multilateral and bilateral treaties, regional instruments, and other developments. Also this Part discusses the role of litigation in the creation of new international intellectual property norms, whereby it reviews the views supporting national courts, WTO Panels, and Alternative Dispute Resolution mechanism.

1. Earliest Stages of Development of Intellectual Property Rights

i) Prehistory Forms of IPRs

The supporters of property rights in intellectual products contend that the essence of intellectual property rights could be traced back to prehistory times. According to one writer, “intellectual property notions have evolved from the dawn of history, although identity-
related symbols are also of early origins”. In this respect pottery is considered as a valuable source of knowledge. Excavations showed that some elements of intellectual property may be identified in ancient civilizations which predated Greco-Roman times. For example, marks on jars and tools found in tombs of ancient Egyptian kings dated back to 3200 BC. Also stones seals bearing marks were found in Greece and Near East from about that time onward. Similar examples were found in China where the name of the maker or of the place of origin of clay or porcelain pots was imprinted together with the name of the emperor. These marks are considered as a precursor of trademarks. A distinctive feature of prehistory forms of intellectual property was that trade-related advantages were of less importance in comparison with other kinds of gains such as the acquiring and preservation of power, particularly in political, military and religious matters. It has been stated that there were indications of “exclusive rights in bricks and papyrus (Egypt), and wheat and purple (Phoenicians) predated Greco-Roman times”.

2 Ibid., at 28.
4 See Granstrand, supra note 1, at 28.
5 Ibid., at 27.
(ii) **Forms of Intellectual Property in the Greco-Roman Era**

New forms of intellectual property emerged during the Greco-Roman era. It has been stated that the Greeks were the first to repudiate slavish copying of existing works and to punish literary piracy. Moreover, during the Roman era, authors often sought to get not only glory but also pecuniary profits from their manuscripts. However, this pecuniary gain is said to be “far from the recognition of exclusive reproduction right because the Romans did not yet appreciate the distinction between the ownership of a manuscript and the exclusive right to reproduce it”.\(^7\) In these ancient cultures patent-like institutions for technical inventions were not known but there are indications of other forms of intellectual property such as trademarks and a patent-like system for ‘food chemistry’ in Sybaris, the Greek colony in the southern part of the Italian Peninsula.\(^8\)

(iii) **Protection of Intellectual Property in the Middle Ages**

The Middle Ages witnessed significant development in notions of intellectual property as a result of the development of trade and technology. The traditional means of protection, based on secrecy, was considered as inconvenient. This may be due to the fact that “a ruler could feel overly dependent on the secret-based ‘natural’

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\(^7\) Ibid.

\(^8\) See Granstrand, supra note 1, at 27.
monopolistic power of professional guilds and societies, as well as on that of an individual artisan such as a clever weaponsmith”. Moreover, secrecy-based protection would compel the owner of that secret to keep it for himself or within a narrow circle, a matter threatening its loss if such owner was missed for whatever reason.\(^9\) Different incentives were created for encouraging disclosure of secrets including prizes, grants, patent privileges and the like. A patent-like system emerged during that period in relation to ore mining. During this period the priority rule ‘first to invent’ had appeared. The meaning of the term ‘invention’ at that time was close to the meaning of ‘discovery’ in the present day language.\(^{10}\) The presence of patent privileges, among other alternatives, may be due to the fact that a ruler who granted these privileges would not pay any direct remuneration and moreover, remuneration of the privilege holder would be connected with the practical exploitation of the patented invention and the demand for it, whereby he could charge higher prices for his products.\(^{11}\)

The republic of Venice is considered as a pacesetter of intellectual property rights in the Middle Ages because it had developed the essential elements of the intellectual property system in the period

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\(^9\) Ibid. at 31.
\(^{10}\) Ibid.
\(^{11}\) Ibid.
between 1450 and 1550. At that time there were two types of privileges known in Venice; one was known as invention privilege, which protected against unauthorized imitation and the other was known as trade privilege, which protected against competition. The republics of Venice and Florence were described as “the most brilliant countries of civilization in the Western World in 14th and 15th centuries”. In 1474 the republic of Venice issued a formal patent code, which is considered as the first patent code in history. In this code any invention was capable of receiving protection provided that it was found workable, useful and subject to compulsory licensing provisions. A distinctive feature of that code was that “it provided for patents as a matter of right and general principle, not merely of royal favor”. Likewise, copyright protection found its way in the republic of Venice. In 1469 the Senate of Venice granted the first privilege in the field of copyright. It preceded all the privileges granted at that time by other European countries including Germany, France and England. At first copyright privileges were granted to new as well as old books, but since 1517 a new statute was issued whereby it confined protection to new books only. In 1544 an act was

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12 See Endeshaw, supra note 6, at 55.
13 See Granstrand, supra note 1, at 32.
14 See Endeshaw, supra note 1, at 32.
15 See Granstrand, supra note 6, at 55.
16 See Endeshaw, supra note 6, at 55.
promulgated, which provided expressly for the right of an author to keep his work unpublished. This right has been described as a form of recognition of the author’s personality.\textsuperscript{17}

Remarkably, Venice had not given similar attention to the protection of trademarks. This is attributed to the fact that at those times the commercial value of trademarks, to an extent worthy of protection, had not generally emerged.\textsuperscript{18} However, due to the decline of Venice, most of its discoveries and practices, especially the patent system, were largely transferred and adopted by the other Italian city-states and Europe. It has been stated that the Venetian patent system was adopted by the other Italian city-states and Europe exactly as developed in Venice.\textsuperscript{19}

\textbf{iv) Protection of Intellectual Property during the Mercantilist Period}

As the development of intellectual property is connected with economic progress, England and France, the leading powers in this respect in the mercantilist period, were considered as the pacesetters of intellectual property. The other countries, which entered in the field of industrialization thereafter such as Germany, USA, Japan and old

\textsuperscript{17} Ibid., at 56.
\textsuperscript{18} Ibid.
\textsuperscript{19} Ibid.
Russia had adopted an adaptive course.\textsuperscript{20} Therefore, the study of the development of intellectual property in the mercantilist period will concentrate mainly on England and France.

During the mercantilist period patents were seen as a convenient tool for implementing policies concerning the promotion of industry and commerce, which were considered as key instruments in economic progress and regulated by the state.\textsuperscript{21} An important event in this period was the promulgation of the Statute of Monopolies by the English Parliament in 1624, which provided under section 6 for monopoly privileges of 14 years for the true and first inventor, provided that the invention was new in England i.e., the monopoly privilege was granted not only for the deviser of the invention, but also to one who imported it from abroad.\textsuperscript{22} This Statute was used as a model by the British colonies in North America, which started to adopt similar patent laws in the 17\textsuperscript{th} century.\textsuperscript{23} The significance of the Statute of Monopolies lay not only in its recognition of a specific form of a patent system, but also in the shift it made in the way of granting patent privilege whereby patent privileges became a concern of a government or its bureaucracy and governed by specific rules and

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\textsuperscript{20} Ibid., at 58.
\textsuperscript{21} See Granstrand, supra note 1, at 32. See also Endeshaw, supra note 6, at 57.
\textsuperscript{23} See Granstrand, supra note 1, at 33.
\end{flushright}
conditions instead of being a grant of a royal ruler or sovereign depending on his own will or temper.\textsuperscript{24} However, in France the practice of dealing with patent as a privilege granted by the monarch continued until the French Revolution in 1787, whereby the National Assembly issued in 1791 a patent law treating inventions as personal rights of the inventors who had complete and unlimited rights to use them.\textsuperscript{25} Another important event within that period was the promulgation of a federal patent law in the United States of America in 1790.\textsuperscript{26} Generally, “the period from the late 18\textsuperscript{th} century to the late 19\textsuperscript{th} century is characterized by continued but locally disrupted diffusion of the patent system internationally”.\textsuperscript{27}

However, an anti-patent movement was generated in Europe in 1860s to an extent that the patent laws were abolished in some countries such as Holland and weakened in other countries as in England. Yet, in the 1870s the anti-patent current almost faded down. This anti-patent movement resulted from the dominion of free-trade and anti-monopoly notions in that period, but the pressure of pro-patent interest groups in emerging industry, supported by the worldwide depression

\begin{footnotes}
\item[24] Ibid.
\item[25] See Endeshaw, supra note 6, at 60.
\item[26] See Granstrand, supra note 1, at 34.
\item[27] Ibid., at 35.
\end{footnotes}
in the 1870s, led to the revival of protectionism notions and the weakening of anti-patent movements.\(^{28}\)

The development of copyright in Europe, generally, was affected by the progress in printing after the discovery of the printer, whereby the relative ease of making copies paved the way for fraudulent re-print. Both in England and France the publishers (stationers) had succeeded in getting privileges for the exclusive rights of printing. The granting authorities found a way to control publishing through granting privileges to the stationers who were obliged to publish only authorized materials, so that the state could prevent the dissemination of ideas considered as detrimental to its interest or against public morality. Thus privileges of printing acquired a political function as they provided the authorities with effective means for censorship.\(^{29}\)

Typically, the publisher became the sole owner of the published book once he agreed with the author for publishing that book. The author had no more than the amount specified in the agreement between him and the publisher.\(^{30}\) This state of affairs continued in England till the promulgation of a copyright Act in 1709, which was known as the Statute of Anne. Under this Statute the authors and their assigns were granted the “sole right and liberty of printing books”, on condition that

\(^{28}\) Ibid.

\(^{29}\) Endeshaw, supra note 6, at 61-5.

\(^{30}\) Ibid., at 62.
the book had to be registered with the Stationers Company before publication. The right was valid for 14 years capable of being renewed for another 14 years if the author survived after the expiry of the first period.\textsuperscript{31} No significant change happened thereafter except the extension of copyright protection to artistic works such as sculpture, painting, drawings, photographing etc., until the enactment of the 1911 Copyright Act, which is considered as the first British legislation unifying the various copyright Acts in a single text.\textsuperscript{32}

Likewise, in France the exclusive control of publishing by Stationers continued until the enactment of copyright legislation by the decrees of Louis XVI (1777) whereby authors’ right to publish and sell their works was explicitly recognized as well as the separate rights of publishers. The rights of other categories of copyright owners, such as painters and sculptors in their creations were also recognized. Authors were granted perpetual property rights in contrast with the temporary monopoly granted to publishers.\textsuperscript{33} However, after the Revolution this legislation was replaced by the Decree of 1791, which considered the authors’ right as natural rights that need not require concessions from public authorities. This decree was followed by the 1793 Decree, which provided for the exclusive right of reproduction for authors, and

\textsuperscript{31} See Cornish, supra note 22, at 246.
\textsuperscript{32} Ibid., at 248-50.
\textsuperscript{33} Endeshaw, supra note 6, at 62.
the 1810 Decree, which extended the term of protection from 10 to 20 years and the 1852 decree, which considered the infringement of copyright an offence. No significant changes were made thereafter in copyright law until the promulgation of the law of 1957, which was replaced by the law of 1985.  

Trademarks have been used and recognized in France since the 13th century. But their use at that time was compulsory. Their function was to distinguish the owner of the products, not the products carrying them. Artisans were compelled to put marks on their products so as to enable the concerned authorities to trace the origin of the products carrying these marks. As per a royal edict issued in 1564, imitators of marks were considered as counterfeiters liable to capital punishment. However, “the mandatory requirement of placing marks was not evenly applied to every activity so that an anomaly resulted in making infringement a felony in one trade and a civil wrong in another”. A law of trademarks issued in 1857 and amended in 1890 and 1891 provided for the protection of trademarks for a period of 15 years capable of being renewed. “Registration did not bestow any title but served as a declaration of proprietorship, which depended ultimately on prior use of the mark”. The French judiciary is said to be the first in

34 Ibid.
developing the concept of unfair competition in the early 19th century in order to “combat the abuse of freedom of trade” 35

In England, as in France, the marks were used as means of identifying the owners of the goods in the earlier stages. Their use was motivated by the desire to prove property in goods missed as a result of piracy or shipwreck. A statute passed in 1353 provided for the restitution of goods depending on the marks they carried without any need to resort to common law. Also, as in France, the artisans in England were compelled to put marks on their products. However, these marks, which were first considered as ‘police’ or ‘liability’ marks were later on developed into ‘asset’ marks i.e., they acquired value as symbols of individual good-will. 36 This transformation of the function of marks from a regulatory method to a valuable asset indicating the good-will of a business was considered as “a significant step towards legal recognition of proprietorship in trademarks”. 37 The protection of trademarks in England was mainly developed by case law. Only in the second half of the 19th century did the English Parliament start to deal with the regulation and protection of

35 Ibid., at 62, 63.
36 Ibid. at 67.
37 Ibid.
trademarks. The first British trademarks registration Act was passed in 1875.\(^\text{38}\)

2. The Emergence of Modern Intellectual Property Law

In their analysis of the history of modern intellectual property law, Sherman and Bently disagree with the view considering the 1624 Statute of Monopolies and the 1710 Statute of Anne as the origin of patent and copyright law in England respectively. They argue that copyright, as understood today, emerged only after 1850s or thereabout and that the Statute of Monopolies played minimal role, if any, as it had been mainly declaratory of what had been held to be the law by judges. They contend that “while gradual, haphazard and in some ways still incomplete, by the 1850s or thereabout modern intellectual property law had emerged as a separate and distinct area of law replete with its own logic and grammar”.\(^\text{39}\) To explain their views, the said two writers make an artificial distinction between what they called pre-modern and modern intellectual property law, depending largely on the British law over the period from 1760 through to 1911. They state that 1760 witnessed the height of literary property debate and 1911 witnessed the enactment of the British copyright law. They base their distinction on what they consider as the distinctive features

\(^{38}\) See Cornish, supra note 22, at 393-94.

of the law before and after the 1850s. According to them, modern and pre-modern intellectual property law differ in the way in which the law is organized. In other words, while modern intellectual property law with its subsidiary categories of patents, designs, trademarks, copyright and neighboring rights is considered universally as given, under pre-modern law there was no consensus on the form in which the law should be organized. The current shape of intellectual property law was not known before 1850s and although there was agreement on granting property rights in mental labor, the nature of this legal category itself was uncertain. Another difference between modern and pre-modern intellectual property law lies in the particular form each of them took. Pre-modern law is described as subject-specific and reactive i.e., it dealt only with particular problems presented to it, whereas modern law is described as abstract and forward looking because it deals not only with the objects it regulates, but also it is concerned with the shape that the law itself is going to take when performing these tasks as reflected in modern legislation. A third difference between modern and pre-modern intellectual property law relates to the protected subject matter and the approach adopted by the law towards that subject matter. Under pre-modern law the concentration was on the creativity or mental labor embodied in the protected subject matter, which played a pivotal role in determining
the final shape, duration and scope of the concerned legal rights. Modern intellectual property law on the other hand emphasizes more on the object in its own right. In other words, it has shifted its focus from the mental labor, which was considered as the essence of the intangible property embodied in a book, for example, and concentrated more on “the object as a closed and unitary entity; with the impact that the book had on the reading public, the economy and so on”. ⁴⁰

This closure of intangible property was reflected in the approach adopted by the law when dealing with the protected subject matter. Thus, while pre-modern law used the traditional jurisprudence when treating the issues relating to intangible property such as the identification of the essence of the protected subject matter, with the closure of intangible property the modern intellectual property law has utilized the resources of political economy and utilitarianism in dealing with the protected subject matter. ⁴¹ Moreover, the role played by registration in pre-modern intellectual property law was different from its counterpart in modern intellectual property law. Under pre-modern law registration was used as a means of identifying the intangible property whereas under the modern law it has been used not only for identifying the intangible property, but also for performing

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⁴⁰ Ibid., at 173.
⁴¹ Ibid., at 174.
other jobs such as placing the intangible property in a standardized format. In so doing, registration has helped in the closure of intangible property and the related move away from creativity and mental labor in modern law. Furthermore, registration has played a positive role in modern intellectual property law in managing and demarcating the shape of the intangible property embodied in the protected subject matter, especially with regard to patent, designs and trademarks in addition to its role as a means of proof of ownership.\textsuperscript{42}

However, Sherman and Bently at the end of their analysis of the history of making modern intellectual property law conclude that in spite of the fact that the second half of the nineteenth century witnessed “the closure of intangible property and the consequential exclusion of creativity and mental labor from the law’s immediate horizon” nevertheless, this does not mean complete disappearance of creativity from intellectual property law. This is because, despite its efforts, “modern intellectual property law has been unable to confine intangible property to the document as registered or, and this is particularly the case with copyright, the immediate physical form in which it is expressed”. Intangible property still plays a central role in organizing the categories of modern intellectual property law, which were differentiated according to their relative value. But, unlike pre-

\textsuperscript{42} Ibid., at 180-93.
modern law where the value of the protected subject matter was measured in terms of the mental labor embodied in the concerned property, under modern intellectual property law “the ‘value’ tended to mean the macro-economic value of the property”. Within this perception what is important is not the labor or creativity embodied in the work but its contribution, which is judged in economic or quasi-economic terms. Moreover, under modern intellectual property law creativity has appeared in new forms, for example, the requirements of originality and non-obviousness.43

3. The Traditional Legal System Governing Intellectual Property Rights

As stated above, by 1850s or thereabout modern intellectual property law emerged as a discrete area of law. Intellectual property laws at that time were identified by their pure national character. Different internal factors interfered in determining the scope of protection for the various types of intellectual property rights in each country. Each country was making a balance between “the interests of the society as a whole in its economic and cultural development and the interest of the individual to secure a ‘fair’ value for his intellectual efforts or investment of capital or labor”.44 The scope of protection was

43 Ibid., at 194-202.
44 See Cornish, supra note 22, at 5& 6.
determined mainly by political decisions expressed primarily in forms of national legislation. The economic and cultural differences among nations have been reflected in differences in the approaches toward intellectual property rights and their specific features.45 Moreover, as intellectual property laws have been connected with the economic objectives of each country, there has been some tendency not to extend protection to nationals of other countries unless the receiving country is in need for the work of the foreigner for furthering its interest or the interests of its nationals, for example, an invention needed for the economic and industrial progress of the receiving country. The tendency of excluding nationals of other countries from acquiring or retaining intellectual property rights is very clear in relation to copyright protection where the recipient countries are typically reluctant in paying out royalties to foreign owners.46

However, the expansion in trade and the progress of industries in the last quarter of the 19th century have made the activities of exporting and importing of technology and know-how major concerns for industrial and non-industrial countries respectively. This development had rendered the interaction between the different countries and their nationals inevitable. Therefore, a need for transborder protection of intellectual property rights has become a necessity. The response of

45 See Endeshaw, supra note 6, at 58.
the different countries to the demands of providing protection to foreigners’ intellectual property rights depends on the need of the concerned country for protection of the rights of its nationals abroad. Thus, few countries were ready to grant unilaterally protection for the foreigners’ rights similar to that granted to its citizens, and this was mainly confined to copyright protection and moreover, this was said to be motivated by the desire to be followed by other countries e.g., it was said that when France unilaterally extended copyright protection to foreigners in 1810, it had been suffering from piracy of the rights of its nationals in other European countries and made this step to encourage other countries to do the same. France was followed by other countries such as Denmark in 1828, Prussia in 1836 and England in 1837. Therefore, protection of intellectual property rights of foreigners, especially industrial property rights, was secured at first through bilateral arrangements, which required strict reciprocity. It has been stated that by 1883 there were 69 bilateral treaties in this respect.  

During the second half of the 19th century the industrializing countries of Europe and America had enacted intellectual property laws, more or less, similar in nature and scope. The Western European countries, which were “similar in outlook and stage of culture and

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47 See Endeshaw, supra note 6, at 69-73.
industrial development”, adopted the call for multilateral protection of intellectual property rights. By the end of the 19th century the most basic conventions in the field of intellectual property, namely, the Paris Convention on Industrial Property 1883 and the Berne Convention on Literary and Artistic Works 1886 were concluded.48 A criticism for the two conventions is that they could only be amended by unanimous agreement of member states. Regardless of this unanimity rule the two conventions had been amended many times mainly to elaborate their scope in favor of the industrializing countries.49 Another criticism is that member countries have confined their “obligations in the main, without any too scrupulous regard for precise compliance”. In addition, there are no specific provisions, in both conventions, for the settlement of disputes.50

However, later on developed as well as developing countries have shown dissatisfaction with both conventions. On the one hand industrial countries are complaining of the increasing scale of piracy for their products while, on the other hand non-industrial countries have expressed their dissatisfaction with the contribution of the two conventions in the dissemination of technology, learning and entertainment. They claim for adapting both conventions “so as to

48 Ibid., See also Cornish, supra note 46, at 48.
49 See Cornish, supra note 46, at 48.
50 Ibid.
foster their ability to attract foreign technology, and also the stuff of learning, entertainment and sophisticated marketing so as to found and foster their domestic industry”. Therefore, direct amendment of either convention at present is considered difficult, if not impossible.\footnote{Ibid.}

Furthermore, “intellectual property rights, which help to sustain the lead of those with technical know-how, with successful marketing schemes, with new fetishes for pop culture, have come to foster immense commercial returns”, coupled with the growth and expansion of international trade, the globalization of production and the massive increase in exports\footnote{See Cornish, supra note 22, at 11.}, have led the dominating powers to call for new means of protection for intellectual property rights to combat the ascending scale of piracy of their products worldwide. The existing legal techniques for the protection of intellectual property rights are seen as insufficient. Different views have emerged, some call for new rules and others call for improvement of the existing rules.\footnote{Ibid.}

4. Internationalization of Intellectual Property Rights

i) Background

The call for a universally uniform legislation could be traced back to the discussions preceding the conclusion of the Paris Convention since
1878. However, the controversy about the suitability and expediency of a universal system has not been settled yet. For some, the unification of intellectual property laws, especially patent system, is seen as utopian because the differences in legal systems are due to differences in the economic and legal foundations in each country. Others consider such unification as possible and necessitated by the mounting economic demands, and that only political obstacles have stood in its way.\textsuperscript{54} Since 1965, the US has started its campaign for the establishment of a universal patent system. Later on this campaign has been extended to cover other areas of intellectual property rights. The cause of this campaign is said to be the desire of the US to maintain technological superiority over other industrial countries. The US contends that the existing multilateral conventions are unable to protect its economy from piracy and counterfeiting. So it calls for a new regime that can respond to its needs, instead of accommodating within the current conventions.\textsuperscript{55}

It has been stated that the US used its allegations of piracy as a pretext for objecting to other legitimate demands of developing countries relating to issues such as the denial of protection for certain categories of inventions e.g., pharmaceutical and chemical substances, strict standards of patentability, a shorter period of protection, the

\textsuperscript{54} See Endeshaw, supra note 6, at 79.
\textsuperscript{55} Ibid., at 80.
issuance of compulsory licenses and stiffer regulation of technology transfer agreements.\textsuperscript{56} Moreover, the US has resorted to apply unilateral measures in form of economic sanctions against the countries, which are considered by the US as not maintaining adequate and effective protection of intellectual property rights or not providing fair and equitable market access to its citizens in connection with intellectual property protection. In doing so, the US is depending on its own internal laws, especially the famous section 301 of the 1974 Trade Act and its subsequent amendments.\textsuperscript{57}

Furthermore, the US had started a new move aimed at reducing intellectual property issues into trade issues and hence, bringing them under the umbrella of the General Agreement on Tariff and Trade (GATT) and its effective enforcement mechanism. This new trend has been described as an attempt by the US to emulate the rule of section 301 of its Trade Act for international trade as a whole. In 1987 the US formulated a proposed intellectual property code to be adopted by the GATT. The proposed code addressed debatable issues in intellectual property such as the extension of patent protection to cover all fields of technology including controversial areas like pharmaceutical and chemical substances. The aim of the US is to replace “national treatment and minimum intellectual property standards of existing

\textsuperscript{56} Ibid., at 80-1.
\textsuperscript{57} Ibid., at 81-2.
conventions by material reciprocity where countries would be forced to provide protection similar to that of their trading partners”.

The US efforts in this respect have resulted in the conclusion of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

**ii) The Role of TRIPS in the International Protection of Intellectual Property Rights**

The final Uruguay Round of the GATT adopted on April 15, 1994 the Agreement Establishing the World Trade Organization (WTO), effective on January 1, 1995. An annex to this Agreement is the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). Under TRIPS the term ‘intellectual property’ refers to all categories mentioned in sections 1 to 7 of Part II of that agreement, namely; copyright and neighboring rights, trademarks, geographical indications, industrial designs, patents, lay-out designs (topographies) of integrated circuits and undisclosed information. Most of the provisions of the Paris Convention for the Protection of Industrial Property and the Berne Convention for the Protection of Literary and

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58 Ibid., at 82-3.
Artistic Works are incorporated by reference in TRIPS Agreement and some provisions are either changed or extended.\textsuperscript{60}

The rules provided for under TRIPS Agreement are considered as minimum standards for the availability, scope and use of intellectual property rights. Therefore, controversial issues relating to the protection of intellectual property such as the term and area of protection for patent, copyright and trademarks are considered as settled. In this respect, TRIPS Agreement provides for the patentability of all fields of technology for a term of twenty years and for copyrightability of computer programs and databases and the protection of well-known trademarks without need for registration. The term for copyright protection is the life of the creator plus fifty years thereafter and the term of protection of trademarks should not be less than seven years capable of indefinite renewal. Also TRIPS provides for the protection of industrial designs and integrated circuits for a term of ten years, in addition to the provision that trade secrets and know-how should benefit from the protection that member states are expecting to provide. Moreover, previous practices relating to “compulsory licenses for inventions, marks or literary and artistic works are restricted. Exclusions of protection are strictly limited to the need to maintain public order or morality, to protect public health and

\textsuperscript{60} Ibid.
nutrition”, provided that such exclusion be compatible with the provisions of TRIPS Agreement. Furthermore, TRIPS requires member countries to provide for enforcement procedures in order to enable aggrieved parties to take effective actions against infringements of their intellectual property rights, including expeditious remedies to prevent infringements and remedies deterring further infringements. The required procedures should be transparent, effective and expeditious. The WTO settlement of dispute mechanism will be applied for the implementation of TRIPS provisions.

TRIPS Agreement is considered as a transformation from the traditional multilateralism characterizing the other previous conventions relating to the protection of intellectual property rights, which is based on territoriality, sovereignty and national treatment to a new universalism based on trade principles and implemented by WTO. TRIPS is considered as “a major milestone, laying out for the first time a minimum level of adequate intellectual property protection and enforcement on an international scale”.

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61 See Endeshaw, supra note 6, at 87. See also WIPO Publication, supra note 59, at 337-44.
The main features distinguishing TRIPS from other previous multilateral conventions for the protection of intellectual property rights may be summarized as follows:

- Unlike the other conventions, TRIPS provides for a comprehensive uniform code of intellectual property covering all categories of intellectual property rights known at the time of its conclusion. This uniform code has left few, if any, options or alternatives for member states to include in their internal laws.65

- Also, unlike the other conventions, TRIPS is concentrating on the trade-related aspects of intellectual property and disregard any cultural or social implications thereof.66

- TRIPS is supported by an enforcement mechanism represented in the WTO dispute-settlement mechanism, “backed by US tenacity and a further residual use of US aggressive unilateralism”. Such enforcement mechanism is not available in the other conventions.67

The negotiations which preceded the conclusion of TRIPS show that many developing countries had resisted the inclusion of the issue of intellectual property in the agenda of the General Agreement on Tariff and Trade (GATT) in 1986, arguing that the World Intellectual Property Organization (WIPO) was the appropriate forum, but

65 See Endeshaw, supra note 6, at 84-6.
66 See Doern, supra note 63, at 92-101.
67 Ibid., at 101.
ultimately they accepted it as part of a package covering other agreements facilitating the access of developing countries products such as agricultural and textile to developed countries markets, on the belief that “the benefits of the other Uruguay Round Agreements would outweigh the economic and social costs of TRIPS”.68

TRIPS has been much criticized for different reasons. In this respect it has been argued that TRIPS was not based on a carefully coordinated economic analysis and that “it was the manifestation of rent-seeking desires of those multinationals that saw opportunities for themselves in redefining and globalizing intellectual property rights”. Also it was seen as a result of US coercive strategy to force other countries to respond to its own economic interests.69 One commentator sees TRIPS as an attempt to “remake international copyright law in the image of Western copyright law” and that if it succeeds, “it will be one of the most effective vehicles of Western imperialism in history”.70 He adds that as TRIPS, which was concluded in the Internet era, did not take account of this new phenomenon and

69 Ibid. at 95.
disregard its impact on the protection and dissemination of intellectual property; it is therefore, outdated and may be overprotective.\textsuperscript{71}

From developing countries perspective, it has been argued that TRIPS was imposed on developing countries. To prove this allegation, Professor Drahos traced the negotiations preceding the conclusion of TRIPS since 1986 and concluded that there were no negotiations in the true sense because developed countries, especially the United States, used different forms of pressure including unilateral trade sanctions, bilateral arrangements and other forms of pressure in addition to the exploitation of the ill-informed and ill-resourced developing countries’ negotiators so as to coerce developing countries to sign TRIPS.\textsuperscript{72}

It is believed that TRIPS has tilted the balance on which intellectual property has been basically built, in favor of right holders at the expense of public interests, and as such, it deprived developing countries from striking a proper balance between their developmental needs and the protection of private IPRs. “Pre-TRIPS countries were able to set their own IPR policies and legislation. Most developing countries exempted essential consumer items, especially pharmaceutical drugs, food products and biological materials

\textsuperscript{71} Ibid.

(including seeds and plant varieties) from patentability”. Most of these privileges are no longer allowed under TRIPS. The approach of ‘one-size-fits-all’ adopted by TRIPS is believed to be a great disservice to developing countries. “Many of the present-day developed countries did not adopt IPR legislation or strict IPR standards when they were going through the stages of development that the developing countries of today are attempting to go through”. The history showed that many of the developed countries of today adopted highly deficient IPRs regimes compared to the present standards. Most of them did not allow patents on chemical and pharmaceutical substances until recently. For example, “pharmaceutical products became patentable only in 1967 in West Germany and France, 1979 in Italy and 1992 in Spain”. Similarly, chemical substances became patentable in 1967 in West Germany, 1968 in Nordic countries, 1976 in Japan, 1978 in Switzerland and 1992 in Spain. The disenchantment of developing countries has been further exacerbated as the implementation of TRIPS showed that while the IPRs on which developed countries acquired a dominant position have been well protected under TRIPS, other forms of IPRs emanating mainly from developing countries, such as traditional knowledge, have not been adequately protected. By allowing the patenting of life forms such as microorganism, in addition to the non-biological and microbiological processes, TRIPS
has facilitated the “exploitative appropriation by transnational companies of the biological resources and traditional knowledge of local communities based mainly in developing countries”. This form of exploitation has been described as ‘biopiracy’. Moreover, developing countries found that some of the claims and promises, relating to the promotion of innovation and transfer of technology respectively, have not been fulfilled. Furthermore, it has become apparent for developing countries that “developed countries regard TRIPS, not as the final word on intellectual property protection, but rather as a solid foundation from where to extort greater degrees of protection from developing countries”.73

It is believed that although all countries may enact intellectual property laws compatible with TRIPS requirements under the threat of economic sanctions of section 301 of the US Trade Act and WTO, yet as most of those countries, especially non-industrial countries, are in imperative need for laws conforming to their necessities, they will find ways to circumvent those uniform laws and apply alternative measures and standards. Forcing non-industrial countries to adopt laws against their economic interests will put the economies of those countries under further strain and may curtail any expansion in their markets, a

matter which may in turn be against the benefit of industrial countries as well, which are always in need of those markets. It is believed that non-industrial countries have been “pushed to the precipice: to abandon any economic development and perish or scrape through with whatever they can, including forming international economic zones as seems to be the trend of these days”.74

It is worthy to mention that the disenchantment over TRIPS is not confined to developing countries, but extend to some of the transnational companies. This is because, although TRIPS came into being as a result of the pressure of transnational corporations, especially those of the US, EU and Japan, which started their efforts to frame IPRs as a trade-related issue since the 1973-1979 GATT Tokyo Round, nevertheless some of these transnational corporations, particularly pharmaceutical and life science businesses, are dissatisfied with TRIPS. Likewise, many developed countries would like TRIPS to be amended so as to accommodate new technological advances, including the Internet and electronic commerce that have taken place since the conclusion of the Uruguay Round.75 Moreover, the supporters of TRIPS are complaining of non-compliance of some of the developing countries with their obligations under TRIPS after January 1, 2000, the day on which TRIPS has become effective for

74 See Endeshaw, supra note 6, at 85.
75 See UNCTAD-ICTSD Capacity Building Project on IPRs, supra note 68, at 45.
developing countries. According to one writer, this non-compliance is attributed to the fact that the US negotiators may have placed so much faith on their “belief that developing countries would make honest efforts to voluntarily comply with both the letter and spirit of the agreement”, and that litigation would be enough deterrent for those not complying. He describes this as overreliance on the rule of law and litigation. The overreliance on the rule of law, as he believes, emanated from the underestimation of the power of internal political and economic forces that work against the compliance of a developing country with TRIPS and also the underestimation of the fact that member states may reinterpret their commitments in TRIPS in ways that respond to domestic political and economic pressures. This overreliance on litigation, he added; “stem in part from the affinity for litigation as a problem-solving tool, both within the United States and among lawyers in particular”. He thinks that litigation is an imperfect tool for TRIPS as the expected volume of litigation would overwhelm the litigation system of WTO and, moreover, the cases are considered as complicated because “in addition to their factual backdrop, they have substantial political dimension, which are more acute because TRIPS imposes positive obligations that require affirmative steps by countries to comply”. He believes that the successful and expeditious

76 See Ley, supra note 64, at 789.
77 Ibid., at 791-2.
implementation of TRIPS requires a political will and strategy. Developing countries should possess a political will to implement their responsibilities under TRIPS and the developed countries as well should have political will to comply with the agreement themselves and hold developing countries accountable. Moreover, there should be a selective and strategic litigation concentrating on simple and straightforward cases that constitute clear violation of the TRIPS, so as to build a body of precedents, and hence to leverage these decisions to obtain greater compliance on other countries. In addition, diplomacy may work as another tool for securing increasing compliance with TRIPS.\footnote{Ibid., at 793-4.}

iii) Beyond TRIPS

The international intellectual property lawmaking process is increasingly becoming more complicated. Different forums, including a diversity of multilateral agreements, international organizations, bilateral and regional arrangements and even private entities, are participating in this process. Almost all these institutions overlap in driving towards globally harmonized and strengthened IPRs.

(a) Multilateral Treaties
Many developments in the field of the international intellectual property law have taken place since the conclusion of TRIPS. In the field of copyright and neighboring rights two agreements were concluded in 1996, namely, WIPO Copyright Treaty (WCT) and WIPO Performances and Phonograms Treaty (WPPT), which came into force in March 2002.\footnote{See WIPO Survey of Issues relating to Intellectual Property on the Internet: Issue III, December 2002, Available at: http://ecommerce.wipo.int/survey/html/4.html, last visited in February 2003.} These two agreements have been formulated to accommodate new technological advances, such as the Internet. It has been commented that these treaties provide “advanced copyright protection which, in reality, probably represent the substantive ‘floor’ of copyright-protected levels under TRIPS Round 2”.\footnote{See Lea, Gary, ‘Digital Millennium or Digital Dominion? The Effect of IPRs in Software on Developing countries’, (2002), [in] Drahos and Mayne (ed.), supra note 72, at 154.} The new issues introduced by WCT in comparison to the Berne Convention are that: first, the WCT increases the range of protected subject matter such as the protection of software. Second, it expands the range of modes of dissemination of works, which are considered as infringing acts e.g., it considers digitization as a form of reproduction. Third, it requires Signatory States to take civil and criminal measures to prevent any interference with technical devices used to restrict access to copyright content. It has been observed that some of the provisions of the WCT such as the “creation of a freestanding right of distribution (Article 6) and a uniform right to
control communication to the public (Article 8) go well beyond TRIPS, let alone Berne”. Moreover, the provisions of the WCT which are expected to cause far-reaching effects on copyright exceptions and limitations are those of Articles 11 and 12 relating to control of copyright content by right holders through technical measures and rights management information (RMI). This is because there are no express requirements or even permissions for exceptions or limitations on these control measures. This fact is reflected in the first implementation attempts of WCT by Signatory Countries such as the 1998 Digital Millennium Copyright Act (DMCA) of the US and the 2001 Directive on Copyright in the Information Society of the EU, which contain fewer exceptions or limitations than what is provided for under copyright law. The WPPT contains similar provisions.81

The international developments in the field of patents include the Patent Law Treaty (PLT) 2000, the reform process of the Patent Cooperation Treaty (PCT) and the ongoing negotiations of the Substantive Patent Law Treaty (SPLT).82 The PLT deals with procedural requirements relating to the application, obtaining and maintaining patents worldwide. It aims at harmonizing the procedures in this respect. The main criticism directed to this treaty is that it relaxes “the conditions for admission of a patent application and the

81 Ibid.
82 See: http://wipo.org/treaties/ip/index, html
determination of the application date”. The importance of the determination of the application date is that it is crucial for the assessment of novelty and inventive step and for establishing the right to a patent grant in case of rival claims by different inventors. It has also been observed that although the rules under Article 5 of the PLT appear to benefit patents applicants, they may in fact increase the uncertainty and litigation and, as such increase the load on national patent offices instead of reducing it.83

On the other hand, the PCT was concluded in 1970 with the aim of creating a single international system regulating the filing procedures for patent applications that would be valid in all Contracting Countries. One of the main characteristics of that system was that it respected the substantive differences in the patent laws of the Contracting Countries. The process of reforming the PCT started in 2000. It aims at introducing amendments that would simplify and streamline the procedures and align the PCT with new PLT standards. It has been commented that although the reform of PCT found support both from developed and developing countries, yet there are fears that the objectives of the United States, which is the main proponent of this reform, may not be limited to the making of the system more cost-effective in comparison to the cost of direct national filing, and may

transcend the grant of substantive rights for PCT applicants. “Thus the system could move away from its current, non-binding patentability opinions and adopt procedures where substantive rights could eventually be granted via the PCT”.84

However, the most controversial development in the field of patents may be the draft Substantive Patent Law Treaty, which is currently, (2004), under discussion at WIPO. This treaty concentrates on substantive standards aiming initially at “creating uniform substantive patent law standards relating to issues of prior art, novelty, utility and inventiveness, requirements relating sufficient disclosure, drafting and interpretation of claims, ground for refusal of an application, and for revocation and invalidation of a patent”. Further, this first phase may witness harmonization in areas such as who is entitled to a patent: the first to invent or the first to file, and the post-grant opposition proceedings, if the differences between the US and EU in this respect would be settled. The provisions of this draft treaty go well beyond TRIPS by giving specific definitions to the requirements of patentability and what an invention is. It is feared that if the SPLT is adopted in its current form, it will not be in the benefit of developing and least developed countries, as it would set binding international standards in critical areas of patent law so far left to be determined by

84 Ibid. at 7-15.
each country according to its own public interest. “Strong pressures to adopt such standards both bilaterally and multilaterally (through, for example, the review and amendment procedures of article 71 of TRIPS) can be anticipated”. To date, the participation in negotiations by developing and least developed countries is weak in comparison to the participation of developed countries and many non-governmental organizations (NGOs) representing the interests of transnational corporations and patent lawyers. It has been recommended that: “it is necessary to improve the quality of participation by developing countries whose representatives often lack expertise and experience in international intellectual property standard setting and in the examination of the relationship between intellectual property and national interests, and who may be unfamiliar with some of the technical subjects being discussed in WIPO”.

85 Ibid. at 15-22.

(b) Bilateral Treaties and Regional Instruments

Away from the ongoing negotiations at forums such as WIPO and WTO, developed countries are pursuing their intellectual property agenda through bilateral and regional arrangements. Developed countries, especially the United States, use these alternative forums to conclude agreements that “aim to raise national IPRs standards to the
level of TRIPS, or even beyond. Some of the resulting agreements have required developing countries to introduce TRIPS standards before the expiry of the transitional period, and introduce standards of protection even higher than those required by TRIPS. Many such commitments are embedded in free trade agreements”. An example of such bilateral treaties is the 2000 agreement between the United States and Jordan on the Establishment of a Free Trade Area. Under this Agreement Jordan is obliged to give patent in all fields of technology to the same extent as applied in the US. The Agreement made no mention of exceptions from patentability provided for under Article 27.3(b) of the TRIPS. Moreover, Jordan must join the International Union for the Protection of New Varieties of Plants. Furthermore, a supplementary memorandum of understanding requires Jordan to allow the patenting of business methods and computer-related inventions. An example of regional instruments is the Draft Agreement (Free Trade Area of the Americas) July 2001. This Draft Agreement includes a chapter on the protection of IPRs, “which in addition to requiring compliance with now standard international intellectual property principles, also requires parties to enact laws substantially equivalent to 17 U.S.C. section 1201(a)(1)(A), which creates a distinct tort for circumventing technological measures”. It

86 UNCTAD-ICTSD Capacity Building Project on IPRs, supra note 68, at 52.
87 Ibid., note 37.
has been argued that the standards provided for under DMCA go well beyond what is required by WIPO Copyright Treaty 1996 and WIPO Performances and Phonograms Treaty 1996.88

(c) Other Developments

It has been observed that the “sudden emergence of the WTO as part of the international intellectual property lawmaking process seemed to energize WIPO”. In addition to several treaties in different fields of intellectual property that have been concluded since the conclusion of TRIPS, WIPO has formed ‘Standing Committees’ so as to respond quickly to social and technological developments relating to intellectual property and make proposals to the WIPO Assemblies for “adoption in form of non-binding recommendations rather than pursue the same substantive goals through the mechanism of formal treaties adopted after a long negotiation process”. The notable examples in this process are the Joint Recommendation Concerning Provisions on the Protection of Well-Known Marks adopted by the WIPO General Assembly and the Paris Union Assembly in September 1999 and WIPO Joint Recommendation Concerning the Protection of Marks,

and Other Industrial Property Rights in Signs on the Internet in September 2001.89

These non-binding recommendations are considered to be ‘soft law’, i.e., each nation may choose whether or not to act in compliance with them. Another example of the so-called ‘soft law’ is the Uniform Domain Name Dispute Resolution Policy (UDRP), adopted by the Internet Corporation for Assigned Names and Numbers (ICANN) in 1999. ICANN requires each of its approved registrars to include in the agreements for the registration of domain names a clause obliging the registrant to submit to the application of UDRP, in case of dispute between domain names registrants and trademarks owners. In case of such disputes, ICANN-authorized dispute settlement providers appoint quasi-arbitral panels that apply “substantive rules that were developed in an unconventional process of international intellectual property lawmaking”. The decisions of these panels are not binding on national courts, and as such can be overcome by contrary determination in national courts. The importance of these forms of lawmaking processes is that the resulting soft law may turn into hard law, i.e., binding law through different mechanisms, including incorporation in bilateral or multilateral treaties. For example, the draft agreement on

Free Trade Area of the Americas requires Signatory States to ensure that their trademark laws comply with the WIPO Joint Recommendations on Well-known Marks. Even WIPO is seeking to incorporate its non-binding recommendation on trademarks in a treaty harmonizing international trademarks law. Therefore, it is recommended that care and attention should be made when formulating rules through these new lawmaking processes.90

In the field of copyright, the WIPO Standing Committee on Copyright and Related Rights (SCCR) is currently (2004) discussing a treaty on broadcasting/cablecasting/webcasting. The aim of this proposed treaty is to expand the exclusive copyright protection on transmitted content to 50 years. It has been observed that the protection would cover all contents “(not only the signal) even when the content was not owned or created by the ‘casting’ entity”. Moreover, “the loosely defined new webcasting right as promoted by USA (where it is not recognized, however) could apply to almost any listserve of web page”.91

A notable development in the field of copyright is the emergence of the concept of ‘open access’. The aim of this concept is to provide alternative to the restricted access model based on the exercise of

90 See Dinwoodie, supra note 89, at 1002-3
IPRs. There are several initiatives in this respect including the initiative for freely accessible software under a legal mechanism known as ‘copyleft’. Under this mechanism third parties are not allowed to modify free software and protect it under IPRs. Many governments including US, EU and several developing countries are encouraging the public procurement of open-source software. The concept of open access operates within the current legal framework of copyright law. The right holder who allows the free access to his work retains some or all of the exclusive property rights that are granted under statutory intellectual property law. “Despite that open access is based on a restricted use of IPRs, WIPO has refused to deal with this kind of initiatives”.92

92 Ibid.
iv) The Role of Litigation in the Creation of New International Intellectual Property Norms

(a) National Courts

By now, the traditional reluctance of national courts to adjudicate intellectual property disputes involving foreign intellectual property laws seems almost to vanish, particularly within copyright context. In addition to domain names disputes, national courts are beginning to tackle cases in other contexts with broader international ramifications and thus contribute to the effective creation of international intellectual property rules. U.S. as well as EU courts have begun to assume jurisdiction on disputes involving claims under several foreign copyright laws. Typically, U.S. courts differentiate between jurisdiction and applicable law. However, recently, U.S. courts have developed a device, particularly for infringements that take place on the Internet, to the effect that where an infringing act took place in the United States and enables further reproduction abroad U.S. courts apply the U.S. law for both domestic and abroad acts of infringement, i.e., they apply choice of law rules that allow localization of

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infringements via the Internet in the United States.⁹⁴ It is believed that “as a practical matter, these new private law developments occurring in national courts increasingly may come to compromise and generate the content of international intellectual property law”. Professor Dinwoodie argues that substantive international rules developed by national courts jurisprudence may possess advantages over public lawmaking processes (whether classic or new). This is because, according to him, the development of international law through national courts is more responsive to the competing values of national autonomy and universal rules and subject to refinement by a range of national institutions, which may modify or even reverse the decisions of those courts. He thinks that as agreement on substantive harmonized rules “(especially forward-looking rules)” may not progress due to competing interests of the different parties, national courts lawmaking processes may offer a greater prospect of progress. He concedes that the jurisprudence that may result from the involvement of national courts in international lawmaking process may be uncertain but, according to him, this common uncertainty is a value in itself.⁹⁵

⁹⁴ See Los Angeles News Serv. V. Reuters T.V. Int'l, Ltd., 149 F. 3d 987 (9th Cir. 1998), [cited in] Dinwoodie, supra note 89, at 1007.
⁹⁵ See Dinwoodie, supra note 89, at 1009, 1011.
Professor Austin argues that if national courts were to develop a substantive law approach to choice of law in transnational intellectual property disputes, such as the notion of localization adopted by the U.S. courts, “there would be considerable scope for courts to engage with scrutiny of underlying values and policies of the different domestic rules that may be in conflict”. He adds that: “identifying ‘core’ intellectual property values might be quite difficult, however, particularly in cases of doctrinal uncertainty”. Professor Dinwoodie acknowledges the possibility of such difficulty. Thus, he recommends that the interpretation and application of foreign law by national courts needs comparative analysis covering not only the supply of information about the foreign law, but also translating that information into knowledge and understanding so that such information be properly understood and applied. However, national courts are considered by one commentator as institutionally incompetent to address jurisdictional ambiguity created by digital networks in a way that would take into account the implications for international trade, particularly in relation to developing and least developed countries.

96 See Austin, supra note 88, at 1190-91.
(b) WTO Panels

It has been argued that the conventional wisdom at the time of the promulgation of TRIPS was that although Member Countries were allowed to grant higher forms of protection within their territories, practically the international protection of IPRs would be harmonized within the minimum baselines prescribed by TRIPS because while foreigners and national innovators of a country adopting heightened protection could benefit from that heightened protection, the nationals of that country could not rely on their local higher levels of protection to establish comparative advantage internationally due to the territoriality of IPRs.\(^98\) However, the implications of heightened protection may differ within the context of electronic commerce involving the widespread dissemination of digital goods and services. Jurisdictional ambiguity over infringing acts occurring on digital networks has destabilized the territorial notions of protection. National courts respond to such jurisdictional ambiguity by “developing the necessary doctrines to localize online activity for the purposes of asserting jurisdiction and applying local law. Lacking universal standards, these ad hoc unilateral efforts at localization reach inconsistent results, with domestic innovators either over- or under-compensated in relation to foreign imitators”. It is believed that

\(^98\) See Adams, supra note 97, at 129.
even if the currently negotiated draft Hague Convention on Jurisdiction and Foreign Judgments in Civil and Commercial Matters\textsuperscript{99} or any other alternative multilateral treaty\textsuperscript{100} is eventually promulgated and succeed in removing such inconsistency, this would not solve the problem of heightened protection in a manner consistent with trade and non-trade values observed in TRIPS Agreement. This is because national courts are institutionally incompetent to “address the complexities introduced by the integration of intellectual property within international trade law. Accordingly, private enforcement runs the risk of disrupting the negotiated balance of benefit and burden between developed and developing/least developed states”\textsuperscript{101}

It has been argued that the interests of developing/least developed countries may be best served within a public institutional framework “where the potential for cross-sectoral advantage exists, and where express accommodations have been made to lessen any adverse impact of increasing trade liberalization and heightened standards of intellectual property standards”. In this respect, it is believed that WTO institutions are competent to strike a balance between the competing interests involved in a manner that both protects the

\textsuperscript{99} See http://www.hcch.org/en/conventions/draft36e.htm
\textsuperscript{100} See in this respect a proposed convention devoted totally for intellectual property, authored by professors Rochelle Dreyfuss and Jane Ginsburg. Available at: http://www.kentlaw.edu/depts/ipp/intl-courts
\textsuperscript{101} See Adams, supra note 97, at 130-31.
proprietary entitlements of private actors and addresses the concerns of states located on the less privileged side of the digital divide. Therefore, efforts of reform should be directed to TRIPS Agreement in order to rectify the shortcomings which appeared as a result of the emergence of digital networks.\(^\text{102}\)

Some commentators, however, have criticized the dispute resolution process adopted by the WTO Panels arguing that “the methodology of the panels has been quite strict in tying decisions to the literal language of TRIPS Agreement; Webster’s Dictionary has become an essential research tool in WTO TRIPS litigation”. It has been argued that, “there is evidence that, at least in some respects, WTO panels will not try to alter radically the mix of national autonomy and universal standards embodied in the international intellectual property agreements”.\(^\text{103}\) The supporters of the competency of WTO Panels argue that the latter arguments should be advanced in favor of the competency of WTO panels in order to address the widening gap between minimum prescribed standards and heightened protection accorded new technologies, because private international law institutions are incompetent and “are not particularly well-suited to the task of designing WTO-neutral rules of enforcement in accordance

\(^{102}\) Ibid. at 131.
\(^{103}\) See Dinwoodie, supra note 89, at 1005-6.
with the full range of values already integrated within the global trade regime”.\textsuperscript{104}

(c) Alternative Dispute Resolution

Alternative dispute resolution (ADR) is used here in its widest sense to include different ways of private settlement of disputes ranging from more informal means such as negotiation and mediation, passing through quasi-arbitral means as in cases of settlement under the UDRP to more formal means of arbitration. Traditionally, ADR mechanisms were uncommon in intellectual property disputes because intellectual property rights have been perceived as territorial rights based on public policy considerations. The emergence of e-commerce has contributed in pushing intellectual property rights to the center of economic activity. As a result intellectual property materials are increasingly marketed on an international scale and ADR is “gaining importance in intellectual property disputes. This is evidenced by the growing number of intellectual property disputes filed with institutional ADR providers such as the WIPO Arbitration and Mediation Center”.\textsuperscript{105}

It has been argued that ADR systems are contributing in the creation of new international intellectual property norms. Commenting on the

\textsuperscript{104} See Adams, supra note 97, at 121-22.
panel decisions issued under UDRP by ICANN-authorized dispute settlement providers, Professor Dinwoodie believes that the mere adoption of UDRP by ICANN in late 1999 is “another example of speedy (and novel) international intellectual property lawmaking”. He points out that although the UDRP is intended to produce only soft law, in the sense that the decisions under UDRP are not binding on national courts, this soft law might be hardened through different mechanisms such as the traditional public law mechanisms or through wide acceptance. He refers in this respect to the recent submission of the Australian government to the TRIPS Council in December 2000, in which it recognized that: “the UDRP has indeed become the international standard for resolution of cybersquatting disputes”. Moreover, “the practical structure of the soft law mechanism might cause it to possess more enduring force than would first appear”. The relatively few cases of UDRP panel decisions that were challenged before national courts in comparison to the total volume of the settled cases prove the worldwide acceptance of the UDRP settlement mechanism.\footnote{See Dinwoodie, supra note 89, at 1000-3.}

**Conclusion**

In conclusion one may say that in its earlier stages intellectual property may be described as mainly an
individual concern. The pre-history forms of intellectual property were mainly identity related symbols or marks and secrets. At that time, trade-related advantages were of less importance in comparison with other kinds of gains such as the acquiring and preservation of power, especially in political, military and religious settings. The protection of intellectual property rights was probably depending on customs and the self-imposed rules that governed each sector of commerce. The interference of the ruler or sovereign could be traced back to the Roman era, which knew a kind of public prosecution against anyone who took the name of another for profit and that the purchaser of falsely marked goods had a right to bring an action based on injury or deceit.

The commercial value of intellectual property became clear in the Middle Ages especially the patents, which were considered as an important tool for the industrial and economic progress of each country. To secure more inventions and thus more industrial and economic progress, different incentives were offered to inventors to encourage
them to exert more efforts. These include gifts, prizes and patent privileges. The protection was confined mainly to the nationals of each country. Foreigners were only awarded protection if there was need for their works in the receiving country. Copyright protection was affected by the discovery of the printer, which facilitated making of copies and paved the way for fraudulent re-print. Privileges of printing were given to publishers. The authors were given only the amount of reward they agreed upon with the publishers. The authorities found a means of control of publishing in granting privileges of printing to publishers. The granting of privileges, therefore, acquired a political function, as it became the most efficient means of censorship.

In the 1850s or thereabout the modern intellectual property law emerged as a discrete area of law. The expansion of trade between states necessitated the protection of foreigners’ intellectual property rights. This was first secured by bilateral treaties and later on evolved into multilateral system of protection. The main multilateral conventions in this respect are the Paris Convention for the Protection of Industrial Property in 1883 and the Berne Convention for the
Protection of Literary and Artistic Works in 1886. However, due to the massive increase in exports, especially in the field of technology in the last quarter of the 20th century, the traditional multilateral system of protection was considered by the major industrial countries, especially the US, as insufficient means of protection due to the increase of piracy of their products. This new trend has resulted in the conclusion of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). This agreement is considered as a major milestone codifying for the first time minimum standards of adequate intellectual property protection and enforcement mechanism on international scale. It is seen as a transformation from the traditional multilateralism to a new universalism.

The emergence of electronic commerce has rendered TRIPS outdated. It has driven for further globalization of trade and triggered the move towards more strengthening and internationalization of IPRs under the name of international harmonization of IPRs. The international intellectual property lawmaking process is becoming increasingly complicated. Different forums are participating in this lawmaking process, including multilateral and bilateral treaties, regional arrangements, international governmental and non-governmental organizations, and public and private litigation institutions. The final form of this international intellectual property
lawmaking has not yet been articulated. Nevertheless, it has raised much controversy, especially from the part of developing countries, as to where the on-going 'race to the top' international harmonization is going to rest and what are its impacts on developing countries.
Chapter 2
The Nature, Purpose and Scope of Modern Intellectual Property Rights

Introduction

There is no standard definition for the term ‘intellectual property’. Traditionally, it was used to describe and distinguish copyright from industrial property. Later on it has been used as a general term to describe copyright and rights relating to it as well as industrial property. Generally, copyright includes the rights of authors in their scientific and artistic works and the rights relating to them, such as the rights of producers, performance, producers of phonograms and broadcasting organizations in their performances, phonograms and broadcasts respectively. Industrial property includes patents, utility models, trademarks and service marks, trade names, industrial designs and integrated circuits, geographic indications, trade secrets and the protection against unfair competition.

This chapter studies in brief the nature, purpose and scope of intellectual property. It is divided into four parts. Part 1 defines and

explains the meaning, purpose and scope of intellectual property in general. Part 2 studies copyright and the rights relating to it. Part 3 examines industrial property. Part 4 discusses the justifications of granting intellectual property rights.

1. Definition

In the Collins Dictionary of Law, ‘intellectual property’ is defined as “a convenient term to describe various parts of the law that have the effect of protecting the product of the imagination and intellect”.108 Broadly speaking, intellectual property can be defined as “the legal rights that result from an activity of the mind in the fields of industry, science, literary and artistic works”.109 One writer defines intellectual property as a “product of the human intellect that has commercial value”.110 Another writer describes intellectual property law as “a complex mix of law dealing with rights associated with ideas, information, innovation and commercial reputation and goodwill”.111

The purpose of intellectual property law is to safeguard the rights of creators and other producers of intellectual goods and services, by granting them certain time-limited rights to control the use made of their products.\textsuperscript{112} According to one writer, although the concept of intellectual property may be derived from recognition that it is desirable to prevent unfairness in business, putting such basic idea into effect is complex. This complexity, according to that writer, emanates from the fact that:

\textit{The law must provide a balance between granting too much protection to the extent that fair competition is stifled, and providing insufficient protection so as to discourage investment in new technologies or high quality branded products and the like. Because of the diverse nature of intellectual property, ranging from technology-related rights to purely artistic rights, from marketing tools such as trademarks and trade names to plant breeders’ rights, there is no common theme running through all, other than the basic recognition that unfair competition or unfair exploitation should not be tolerated.}\textsuperscript{113}

\textsuperscript{112}WIPO Publication, supra note 3, at 3.
One of the features of intellectual property is that it is a form of property, albeit intangible, and as such it can be owned, disposed of by way of license or assignment, used as a security for a loan or a subject matter of investment. Moreover, the existence of the intellectual property rights is distinct from the physical objects that contain them, i.e.; those rights are applicable to the intellectual creation as such.

A central element of protection common to all kinds of intellectual property rights is the concept of an exclusive right of protection. This central element is affected by other common elements relating to the mechanism of its creation, scope, duration and enforcement subject to the supervening public interest. This exclusive right of protection has driven some writers to describe protection of intellectual property as a monopoly. For instance, Cornish states that “exclusive rights to prevent other people from doing things are at least monopolistic in a legal sense, if not necessarily in an economic one”. He goes on to say that such exclusivity is necessitated by the desire to prevent the competitive imitators from taking the fruit of the inventors and creators. He added that the only way to get out of this dilemma is to

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114 Bainbridge, supra note 5, at 1
make a balance between the dangers that unjustified monopoly may generate and the degree of dissipation of investment to produce ideas or convey information if such exclusive right is not granted. According to him, the negative impacts of monopoly, such as the reduction of output or rising of prices may be mitigated by measures such as direct price control or compulsory licensing.\textsuperscript{118} Other writers argue that the exclusive right granted to intellectual property proprietors should not be described as a monopoly because this right is subject to exceptions and limitations determining its scope and duration and restricted by the supervening public interest.\textsuperscript{119}

Article 2(viii) of the Convention Establishing the World Intellectual Property Organization (WIPO) 1967 provides that intellectual property shall include rights relating to:\textsuperscript{120}

- \textit{Literary, artistic and scientific works}.
- Performances of performing artists, phonograms, and broadcasts.
- \textit{Inventions in all fields of human endeavor}.
- \textit{Scientific discoveries}.
- \textit{Industrial designs}.
- Trademarks, service marks, and commercial names and designations.

\textsuperscript{118} See Cornish; ‘Intellectual Property’, supra note 1, at 17-8.
\textsuperscript{119} See Sherwood, supra note 10, at 28-37.
\textsuperscript{120} WIPO Publication, supra note 3, at 3.
- Protection against unfair competition.

Intellectual property law is growing and developing continuously so as to accommodate new technologies and other forms of innovations and human creativity. The creation of new intellectual property rights can be achieved either by way of accretion or emulation. Accretion involves re-defining an existing right so as to accommodate the new subject matter, whereas emulation requires the creation of a new and distinct right based on eclectic analogy from the existing rights. Different factors affect the choice between accretion and emulation, such as the suitability of the existing rights to the emerging material and the acceptability of a sui generis form of right.\footnote{See Cornish, ‘The International Relations of Intellectual Property’, supra note 11, at 54, 55.} Traditionally, intellectual property is divided into two main categories, namely, copyright and industrial property.

2. Copyright and Neighboring Rights

i) Copyright:

The term copyright is interpreted under section 3 of the Sudanese Copyright and Neighboring Rights Protection Act 1996 as “all or any of the rights mentioned in section 8, and includes other similar rights”. By reference to sections 5(1) and section 8 of the same Act, copyright

\footnote{See Cornish, ‘The International Relations of Intellectual Property’, supra note 11, at 54, 55.}
may be defined as the moral and financial rights of an author in his original literary and artistic works. The term ‘author’ is interpreted under section 3 of the 1996 Act as “any natural person who devises the work”. For copyright purposes, this definition may be described as narrow since it confines authorship to creators only, whereas an author may be the creator of the work or any other entity that pays for its creation in an employment or hire contract.122

The definition of the term ‘author’, adopted by section 3 of the 1996 Act, may be acceptable when dealing with the moral rights of an author in his work because in this case, only the natural person who devises the work is allowed, not only to claim authorship but also to object to any distortion, mutilation, modification of, or any other derogatory action in relation to the said work, which would be prejudicial to his honor or reputation.123 The economic rights of an author include rights of reproduction, translation, public recitation, public display, distribution and other forms of commercial utilization.124

ii) Neighboring Rights:

122 See Elias, supra note 4, at 82
124 See section 8(b), of 1996 Act.
Neighboring rights are referred to as the rights of producers, performers, and producers of phonograms and broadcasting organizations in their performances, phonograms and broadcasts respectively.¹²⁵

iii) Scope of Protection:

Copyright protection does not need formalities such as registration or deposit.¹²⁶ Broadly speaking, any type of original non-functional expression fixed in a tangible medium and having some degree of creativity, is eligible for copyright protection. The ideas underlying a copyrightable work need not be new but the form, be it literary or artistic, in which they are expressed must be an original creation of the author. Typically, copyrightable works include literary works, audiovisual works, computer software, graphic works, musical arrangements and sound recordings.¹²⁷ However, copyright protection is confined to the way or form in which the work is expressed, and does not extend to the facts, ideas or concepts underlying that

¹²⁶ See Article 5(2) of the Berne Convention.
¹²⁷ See Elias; supra note 4, at 95. See also, WIPO Publication, supra note 3, at38.
work. Therefore, if the idea is inseparable from the expression, copyright on such expression will be denied, according to what is known as the 'merger' doctrine.

It is worthy to point out here to a controversial area of copyright protection, viz., copyrightability of computer software, which has raised a great controversy that has not been finally settled. This may be due to the fact that a computer program, from a programmer perspective, is a kind of writing expressed in a language that resembles in some respects the ordinary human languages. It involves the personal style of the author associated with other forms of writing. As such, copyright rather than patent, would seem to be proper for its protection. But on the other hand, a program is similar to a machine part as soon as it is executed by a computer. The program controls the operation of the computer. From this perspective it is a functional object. Thus patent protection seems to be more suitable.

Internationally, the matter seems to be settled in favor of copyrightability of computer software, as reflected in Article 10(1) of the


\[\text{See Helbert Rosenthal Jewelry Corp. v. Kalpian , 446 F. 2nd 738, 170 U. S. P. Q. 557 (9th Cir. 1971), where an American court held that “when an idea and its expression were inseparable, copying of the expression would not be barred, since protecting expression in such circumstances would confer monopoly of the idea”. [in] Goldstein; supra note 22, at 600.}\]

the Agreement on Trade-Related Aspects of Intellectual Property Rights 1994 (TRIPS Agreement), and Article 4 of the WIPO Copyright Treaty 1996 (WCT) which provide for the protection of computer programs as literary works, and that such protection should be the same as that granted to such works under the Berne Convention, provided that other requirements for copyrightability be satisfied.131

However, at present, the trend in industrial countries, especially the United States of America, is towards the patenting of software-related inventions. This trend started in the United States since the decision of the US Supreme Court in Diamond –v- Diehr132. There are many factors behind this transformation, including the pressure of interest groups. Moreover, the move towards the patentability of software-related inventions has been enhanced by the reluctance of the US courts to extend copyright protection to the functional aspects of computer programs. Since the decision in Computer Associate Int’l. v. Altai133 in 1992, the American courts started to adopt what is known as the filtration approach, whereby the court separates the code’s idea and other public domain elements from its expression and then

131 See WIPO Publication, supra note 3, at


133 982 F. 2nd 693, 23U. S. P. Q. 2nd 1241 [in] ibid. at 825
extends protection only to the expression. 134 This position has been further enhanced by a recent decision of the U.S. Supreme Court supporting the exclusion of the functional aspects of a computer program from copyright protection. 135 However, even if the requirements for copyright protection are satisfied, copyright protection is not absolute because it is usually subject to some exceptions and limitations relating to its duration and scope of protection, which may be determined by the national law of each country according to the Berne Convention. 136

iv) Exceptions and Limitations:

Generally speaking, under the 1996 Act, copyright protection of the moral rights of an author extends to the lifetime of the author, whereas copyright protection of the economic rights of an author continues throughout the lifetime of the author and for a period of fifty years after his death. But there are certain exceptions to this general rule. For instance, the copyright protection of audiovisual works, works


136 See Article 2bis of the Berne Convention.
published for the first time after the death of the author, or those published under a pseudonym, anonymous or without a name, is twenty five years from the time of publication.\textsuperscript{137}

Moreover, there are certain works excepted from copyright protection, such as works that are vested in public ownership, official documents, daily news and events having the nature of news published in newspapers, magazines, periodical publications, broadcasting and television services or ideas, syllabi, and emblems and symbols of states.\textsuperscript{138} Furthermore, the national folklore is considered as public property, and as such is not copyrightable in favor of private entities.\textsuperscript{139} In addition to what has been mentioned above, national laws typically impose certain exceptions under what is known as ‘fair use’ principle, whereby a copyrighted work can be freely used for purposes, such as criticism, comment, news reporting, teaching, scholarship and research.\textsuperscript{140}

\begin{flushright}
\textsuperscript{137} See section 13 of the 1996 Act.
\textsuperscript{138} See section 6 of the 1996 Act.
\textsuperscript{139} See section 7 of the 1996 Act.
\end{flushright}
3. Industrial Property:

Article 1(2) of the Paris Convention for the Protection of Industrial Property provides that the protection of industrial property has as its object patent, utility model, industrial design, trademarks, service marks, trade names, indication of source and appellation of origin and the suppression of unfair competition.141

i) Patents

(a) Definition:

Broadly, a patent is a certificate describing an invention, granted by the concerned authority (usually a patent office of a single country or a regional patent office representing a group of countries), to an inventor enabling him to prevent others, for a limited period of time, from making, using, importing, selling or offering for sale his invention without his authorization.142 An invention is defined as a “solution to a specific problem in the field of technology”.143 As such, a patent may be defined as an exclusive right of exploitation of an invention, granted to the inventor for a limited period of time, by the concerned government authority. Unlike copyright, a patent protects

141 See the Paris Convention for the Protection of Industrial Property (1883). Available at: http://wipo.org/treaties/ip/index.html
142 WIPO Publication, supra note 3, at 13. See also Moore; supra note 34, at 4.
143 Ibid.
not only the expression, but also the idea underlying that expression and its implementation.\textsuperscript{144}

\textbf{(b) Conditions of Patentability:}

To qualify for a patent, an invention must satisfy certain requirements: Firstly, it must be a statutory patentable subject matter. A patentable invention is that which is recognized by law to be within the scope of patentable subject matters. Patentable subject matters, in turn, are defined by reference to the exceptions to patentability, i.e., subject matters not expressly excepted from patentability are patentable subject matters because the general rule is that protection shall be available for inventions in all fields of technology.\textsuperscript{145} Things often considered as exceeding the statutory boundaries of patentable subject matter or sufficiently close to those boundaries to an extent generating controversy, includes abstract ideas, principles of nature, living organisms, literary or artistic creations, printed matters, methods of doing business, computer programs and inventions the publication or exploitation of which would generally be expected to

\textsuperscript{144} Ibid.

\textsuperscript{145} See WIPO Publication; supra note 3, at 14. Under section 3 of the Patents Act 1971, any invention, which is new, results from inventive activity and capable of industrial application is patentable.
encourage offensive, immoral or anti-social behavior. In this respect, patentability of computer software has generated great controversy. This is due to the fact that software inventions consist of mathematical algorithm, which is considered as an unpatentable abstract law of nature. For example, in the case of Gottschalk v. Benson, which was decided in 1972, the U.S. Supreme Court held that phenomena of nature, mental processes and abstract intellectual concepts were not patentable, as they are the basic tools of scientific and technological work. However, since the decision of the U.S Supreme Court in the case of Diamond v. Diehr, in 1981, it has become possible in the United States of America to patent software-related inventions, provided that the patent application describes the software in relation to computer hardware and related devices, and limits the software to specific uses. This position has been further enhanced by the decision of the Court of Appeals for the Federal Circuit (CAFC) in State Street Bank v. Signature Financial Group

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146 See Cornish; ‘Intellectual Property’, supra note 1, at 138-150. See also Durham, supra note 24, at 23, 24.  
147 See Elias, supra note 4, at 289.  
150 Ibid. at 894.  
151 More than 20,000 software patents have been issued in U.S.A., as of mid-1995. See Elias; supra note 4, at 289.
(1998)\textsuperscript{152}, which further expanded the definition of patentable software and allowed patenting of business methods.\textsuperscript{153}

Secondly, the invention must be industrially applicable. An invention is said to be industrially applicable if it can be applied for practical purposes and not purely theoretical, that is, if the invention is intended to be a product it should be capable of being made, and if it is intended to be a process or part of a process, it must be possible to be used.\textsuperscript{154} Thirdly, the invention must be novel. An invention is considered new if it does not form part of the state of the art.\textsuperscript{155} The term ‘state of the art’, also known as ‘prior art’, is defined under section 4 (2) of the 1971 Act as all knowledge made available publicly anywhere, at any time whatsoever, by means of written or oral description, by use or any other way, before the date of the filing of the patent application, or the priority date validly claimed thereof.\textsuperscript{156} The question whether the determination of what constitutes prior art, should be made by reference to the knowledge made public in the protecting country or worldwide, has generated some controversy.\textsuperscript{157} However, as provided under section 4(2) of the 1971 Patents Act.

\textsuperscript{152} 149 F. 3d 1368, 47 U.S.P.Q. 2d 1596 [in] Goldstein, supra note 22, at 920.
\textsuperscript{153} For more details see Chapter 8 infra.
\textsuperscript{154} See section 6 of the Patents Act 1971. See also WIPO Publication; supra note 3, at 14.
\textsuperscript{155} See section 4 (1) of the Patents Act 1971.
\textsuperscript{156} See Elias; supra note 4, at 278.
\textsuperscript{157} See WIPO Publication; supra note 3, at 15.
Act, the Sudanese law seems to adopt the broad definition of prior art to the effect that prior art includes all knowledge made public anywhere and at any time. To qualify for prior art that may destroy the novelty of an invention, a publication must anticipate the subject matter of the claimed invention, i.e., the subject matter contained in a claim of an application under examination, should be compared element by element with the contents of each individual publication, and that such publication explicitly contains the subject matter of the claimed invention. In other words, it is not permissible to combine separate items of prior art in order to prove lack of novelty.158

Fourthly, the invention must contain an inventive step. The inventive step, also known as non-obviousness, in an invention is satisfied, according to Section 5 of the Patents Act, if the invention does not obviously follow from the state of the art, either as to the method, the application, the combination of methods, or the product which it concerns or as to the industrial result it produces. The wisdom behind this requirement is that, protection should not be extended to what is already known as part of the prior art or can be deduced as an obvious consequence of that prior art, by a person with ordinary skills in the concerned field.159 The term ‘inventive step’ as its expression

158 Ibid. at 16.
159 See Elias; supra note 4, at 257.
indicates, requires that there must be an invention, that is, something resulting from a creative activity, and that such invention must constitute a step forward, i.e., adding something new to the prior art. In some countries, the invention must be of progress or advance over the prior art.\textsuperscript{160}

When examining the nature of the differences which are relied on by the inventor as forming the inventive step, regards have to be given to the prior art as a whole, i.e., the subject matter of the claim under examination should not be compared with each publication individually or other disclosure separately, but with the combinations thereof. It is the sum of the differences that have been discovered, which must be compared with the prior art and judged as to obviousness, and not each of the new elements taken individually, unless there is no technical connection between them.\textsuperscript{161} The assessment of the differences constituting the inventive step should be made in the light of the circumstances normally preceding any invention, namely, a problem to be solved, a solution to that problem and a result guaranteed by the application of that solution. If a person with ordinary skills in the art concerned could pose the problem and

\textsuperscript{160} WIPO Publication, supra note 3, at 16.
\textsuperscript{161} Ibid.
solve it in the manner claimed and foresee the result, the inventive step is lacking.\footnote{Ibid. at 16, 17.}

In addition to the above substantial requirements for patentability, there are certain formalities, which must be complied with when submitting an application to acquire a patent. Typically, there are three formal requirements, which must be complied with when drafting a patent application. These requirements are: First, the application for a patent must relate to only one invention, or to a group of inventions connected to each other in a way that makes them form a single general inventive concept.\footnote{Ibid. at 18.} Under section 17(3) of the 1971 Act, if the applicant does not respond to the invitation of the Patent Office to restrict the original application to one invention, no patent shall be granted. Second, the application shall contain a description of the invention, which discloses the invention in a manner sufficiently clear and complete, to an extent that enables a person skilled in the relevant field to make and use the invention. Third, the application must contain claims that define the protection sought.\footnote{See sections 12 & 13 of the Patents Act 1971.} These claims are important for determining the scope of the exclusive rights to be granted by the patent; hence, they must be concise and must not
exceed the contents of the description. However, even if an invention satisfies the substantial and procedural requirements of patentability and, even though patent protection is often described as a monopoly, nevertheless such protection is not absolute and subject to some exceptions and limitations.

(c) Exceptions to Patentability:

Some countries specify certain areas within which a patentable invention must fall. For instance, under the American Patent Law, a patentable invention must fall within one of five categories, namely, process, machine, manufacture, a combination of matter or any improvement thereof. Broadly, exceptions to patentability include the following:

- Discoveries of materials or substances already existing in nature.
- Scientific theories or mathematical methods.

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165 WIPO Publication, supra note 3, at 19, 20. See also section 13 of the Patents Act 1971.
166 See Durham; supra note 24, at 23.
167 WIPO Publication, supra note 3, at 16.
- Plant or animal varieties or essentially biological processes for the production of such plant or animal varieties, other than microbiological processes.

- Schemes, rules or methods, such as those for doing business, performing purely mental acts or playing games.

- Methods of treatment for humans or animals, or diagnostic methods practiced on humans or animals (but not products for use in such methods).

In some jurisdictions, in addition to the above exceptions, inventions in areas such as agricultural chemicals, pharmaceuticals and nuclear field are temporarily excluded from patentability for reasons of public interest.168 However, under the 1971 Act, only principles and discoveries of a scientific nature are excluded from patentability, as they are not considered to be inventions.169

Generally, the grant of a patent confers on the registered owner an exclusive right, frequently referred to as a monopoly, to preclude others from making, importing, offering for sale, selling or stocking the patented product for the purpose of selling, using or applying the patented process or doing any of the above acts, with regard to a

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168 Ibid.
169 See section 3(3) of the Patents Act 1971.
product directly obtained by means of that patented process. But this right is subject to some limitations, including the following:

- The patent protection extends for a limited period of time and against acts done for industrial or commercial purposes.

- A patent is granted at the risk of the patentee, i.e., a subsequent applicant successfully claiming the right of priority can invalidate it. Moreover, in a suit for infringement the defendant may raise, as a defense, the non-compliance with the requirements of patentability, such as novelty or non-obviousness.

- A patent may be subject to compulsory license, for reasons of non-working or insufficient working of the invention or for any other reasons based on public interest.

ii) Utility Models

In some countries there are certain types of inventions, such as the inventions in the mechanical field, which are called ‘utility models’ and protected as such. The aim of this kind of protection is to encourage innovative developments. There are two main differences

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170 See section 21 of the Patents Act. See also WIPO Publication; supra note 3, at 26.
171 Under section 25(1) of the Patents Act 1971 ‘a patent shall expire at the end of the twentieth year from the date of the filling of the application, subject to the payment of the annual fees prescribed by the regulations’. See also section 23(1) of the same Act.
172 WIPO publication, supra note 3, at 21. See also Elias; supra note 4, at 244.
between utility models and inventions for which patents for invention are available: First, the technological progress required in the case of utility models is less than the technological progress (inventive step) required in the case of inventions for which a patent may be granted. Second, the maximum term of protection granted in the case of utility models is shorter than the maximum period granted in case of an invention for which a patent is available. However, the same certificates of utility models are called, in many countries, a patent. In such a case, it is recommended that these certificates should be referred to as ‘patent for utility model’ so as to distinguish it from patents for invention.\textsuperscript{174}

\textbf{iii) Trademarks and Service Marks}

(a) Definition:

A trademark is defined as “any sign that individualizes the goods of a given enterprise and distinguishes them from the goods of its competitors”. The same definition is extended to a service mark, except that a service mark distinguishes services.\textsuperscript{175} Some countries allow the registration of what are known as collective marks and

\begin{footnotes}
\textsuperscript{174} WIPO Publication, supra note 3, at 35.
\textsuperscript{175} Ibid. at 60, 61.
\end{footnotes}
certification marks. A collective mark indicates the affiliation of an enterprise. It is usually owned by an association whose members are permitted to use the collective mark to show their affiliation to that association. Typically, such association is based on compliance of its members with certain quality standards. On the other hand, a certification mark refers to identifiable standards met by the product for which the mark is used. Accordingly, any entity that complies with the standards of a certification mark may use it. However, the status is not as such in all countries recognizing certification marks. For example, in the United States of America, only enterprises authorized by the owner of the certification mark may use it.\(^{176}\) National laws vary as to the kinds of signs that may be used as a trademark. Generally, signs that may serve as a trademark include the following:\(^{177}\)

- **Words:** Such as company names, surnames, forenames, geographical names and any other names or sets of words, whether invented or not, and slogans.

- **Letters and Numerals:** Examples are one or more letters, one or more numerals or any combination thereof.

- **Devices:** This category includes fancy devices, drawings and symbols and also two-dimensional representations of goods or containers.

- **Combinations of any of those listed above, including logotypes and labels.**

- **Colored Marks:** This category includes words, devices and any combinations thereof in color, as well as color combinations and color as such.

\(^{176}\) WIPO Publication, supra note 3, at 60, 61.

\(^{177}\) Ibid. at 63.
- Three-Dimensional Signs: A typical category of three-dimensional signs is the shape of the goods or their packaging. However, other three-dimensional signs such as the three-pointed Mercedes star can serve as a trademark.

- Audible Signs (Sound Marks): Two typical categories of sound marks can be distinguished, namely those that can be transcribed in musical notes or other symbols and others (e.g. the cry of an animal).

- Olfactory Marks (Smell Marks): This is possible when, for instance a company sells its goods (say, writing paper), with certain fragrance and the consumer becomes accustomed to recognizing the goods by their smell.

- Other (invisible) Signs: Examples of these are goods recognized by touch.

However, for practical reasons, signs that are allowed for registration are only those which can be registered and published in a trademark journal to inform the public of the registration of the trademark.178 Under the Sudanese Trademarks Act 1969, only visible signs are recognized to serve as trademarks or service marks.179

(b) Requirements of Registration:

To be eligible for registration as a trademark or service mark, a sign must satisfy two main requirements, namely, it must be of a distinguishable character and must not be contrary to public interest.180 A sign is said to be distinctive for the given goods, when it is recognized as such by those to whom it is addressed.181 The distinctiveness of a sign is capable of being acquired, increased or decreased, depending on the steps taken by the user of the sign or third

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178 Doern, G. Bruce, ‘Global Change and Intellectual Property Agencies’, Pinter, London and New York, 1st ed. (1999), at 70. See also WIPO Publication; supra note 3, at 63.
179 See section 3 of the Trade Marks Act 1969.
180 See Article 6quinquies of the Paris Convention.
181 See WIPO Publication; supra note 3, at 64.
Generally, fanciful and coined trademarks are usually distinctive. Likewise, the arbitrary use of common words and other corresponding devices as trademarks is considered as distinctive.\footnote{Ibid. at 65.}

A sign is said to lack distinctiveness when it is a generic term defining the category or type, to which the goods belong or if it is a descriptive sign serving in trade to designate the kind, quality, purpose, value, place of origin, time of production or any other characteristics of the goods. However, a descriptive sign may be registerable if it has acquired a secondary meaning, to an extent that it has become recognized by the consumers as indicating the source of the goods for which it is used.\footnote{See section 8 of the Trade Marks Act 1969. See also WIPO Publication, supra note 3, at 65, 66.}

Other examples of signs, which are considered as unregistrable for lack of distinctiveness include those which consist of shapes or forms imposed by the inherent nature or the industrial function of the goods for which they are intended to be used, or those referring to the geographical origin of such goods.\footnote{See section 8 of the Trade Marks Act 1969.}

Also a sign may be denied eligibility for registration as a trademark, if it infringes rights of third parties or is contrary to the rules for the prevention of unfair competition or is contrary to public interest. These include signs resembling already filed or registered marks or
those which constitute a reproduction in whole or in part, an imitation
or translation or transcription of marks well known in the country
belongs to third parties, or those which are of deceptive nature or
contrary to public morality, e.g., consisting of obscene pictures or
reserved for use by the state or public or international organizations.186

(c) Scope of Protection:

The protection of trademarks may be based on use or registration or
both. However, full protection can be secured only through
registration.187 Under the 1969 Act, registration of a trademark is a
prima facie evidence of ownership and all other subsequent
assignments and transfer of that trademark.188 The registered owner of
a trademark is granted an exclusive right to exploit his trademark. This
includes the right to use it by himself and the right to exclude others
from using it. The right of use includes the right of the owner of a
trademark to affix it on goods, containers, labels, packaging, etc. or to
use it in any other way in relation to the goods for which it is
registered, and the right to introduce the goods to the market under the

186 Doern, supra note 72, at 70. See also section 8 of the Trade Marks Act 1969.
187 WIPO Publication, supra note 3, at 70. See also section 27 (6) (e) of the Trade Marks Act 1969.
188 Under section 7(1) of the Trade Marks Act 1969, ‘ the exclusive right to a mark conferred by this Act
shall be acquired by registration in accordance with the provisions of this Act’.
188 See section 26 of the Trade Marks Act 1969.
Moreover, it includes his right to assign or transfer his trademark independently, or with all or part of his business and in relation to all or part of the goods for which it is registered, provided that such transfer or assignment be recorded at the Register of trademarks within six months of its occurrence and that the assignee would not use the trademark in a way that may deceive or confuse the consumers.\textsuperscript{190} Also the owner of a trademark may license the use of his trademark by others, provided that such license be recorded at the Register within six months of its date and that the use of the trademark by the licensee be under the effective control of the owner, as concerns the nature and quality of the goods and that such licensing would not involve any deception of the public.\textsuperscript{191}

On the other hand, the right to exclude others includes the right of the owner of a trademark to preclude third parties from using his mark or other confusingly similar marks for goods in respect of which the mark is registered or for other goods in connection with which, the use of the mark or sign is likely to mislead the public. Moreover, the trademark owner has a right to prevent any other use of the mark or a

\textsuperscript{189} WIPO Publication, supra note 60, at 77. See also section 20 of the Trade Marks Act 1969.

\textsuperscript{190} See section 21 of the Trade Marks Act 1969.

\textsuperscript{191} See section 22 of the Trade Marks Act 1969.
sign or trade name resembling it, without just cause and in a way likely to be prejudicial to him.\textsuperscript{192}

However, the protection of a trademark owner is subject to some limitations imposed by national laws, which include the following:

- The registration of a trademark shall not prevent third parties from \textit{bona fide} use of their names, addresses, pseudonyms, a geographical name or exact indications concerning the kind, quality, quantity, destination, value, place of origin or time of production or of supply of their goods and services, provided that such use is merely for the identification or information in a way that would not mislead the public as to the source of the goods or services.\textsuperscript{193}

- The protection of a trademark does not extend to fair use by non-competitors for purposes such as the listing of the mark in a compendium of trademarks or in dictionaries or use of the trademark in newspaper articles or in books or any publication.\textsuperscript{194}

- Once a trademark owner sells the goods carrying his trademark, he cannot prevent the further sales of such goods in the course of trade.\textsuperscript{195}

\textsuperscript{192} See section 20 of the Trade Marks Act 1969.

\textsuperscript{193} WIPO Publication, supra note 3, at 83. See also section 27(4) of the Trade Marks Act 1969.

\textsuperscript{194} WIPO Publication, supra note 3, at 83.

\textsuperscript{195} Ibid. at 78.
- A registered trademark may be removed from the Register, if the owner fails to renew its registration within the prescribed period or if it has become a generic term for the goods in respect of which it is registered.\textsuperscript{196}

- The registration of a trademark may be cancelled by order of the court, on the request of the Registrar or any interested party, on the ground that the trademark has been obtained by fraud or has not been used within the five years preceding the allegation of non-use or that the trademark should not have been registered according to the applicable law, provided that grounds no longer existing at the time of the decision shall not be taken into account.\textsuperscript{197}

iv) Trade Names

The function of a trade name is to distinguish an enterprise from other enterprises, but not the source of the goods or services marketed or rendered by that enterprise, unless it is registered as a trademark or service mark.\textsuperscript{198} Distinctiveness is not a pre-requisite for the registration or subsequent use of a trade name. A distinctive trade name is protected even if it is not registered. But if it is not distinctive,

\textsuperscript{196} Under section 19 of the Trade Marks Act, ‘the registration of the trademark must be renewed after ten years of the original registration or last renewal, with a period of grace of six months’. See also WIPO Publication, supra note 3, at 77.
\textsuperscript{197} See section 24 of the Trade Marks Act.
\textsuperscript{198} WIPO Publication, supra note 3, at 89, 90.
protection can be afforded to it only if it has become distinctive by use. Distinctiveness in this context means that the trade name has become well known by the public as a reference to a certain trade source.\textsuperscript{199} A trade name or a business name may be registered as a trademark or a service mark. In such a case, it will be subject to the rules and regulations applicable to trademarks and service marks.\textsuperscript{200}

v) Industrial Designs and Integrated Circuits

(a) Industrial Designs:

Industrial design refers to the right of protection granted to the creator of the original and non-functional features of an industrial article or product.\textsuperscript{201} The subject matter of protection of industrial design is the abstract conception or idea that is applied or embodied as a design in an industrial article or product.\textsuperscript{202} The conception or idea that constitutes the design may be something which can be expressed either two-dimensionally, i.e., refers to something embossed, engraved

\textsuperscript{199} Ibid.
\textsuperscript{200} See, Elias, supra note 4, at 412.
\textsuperscript{201} See Durham, supra note 24, at 173, 174. See also WIPO Publication, supra note 3, at 106.
\textsuperscript{202} WIPO Publication, supra note 3, at 106.
or placed upon an article for the purpose of its decoration, or three-
dimensionally, i.e., signifies the form in which an article is made.\textsuperscript{203}

The requirements which qualify an industrial design for protection,
include the following:\textsuperscript{204}

- It must be possible to be applied to utilitarian articles, i.e., it must be capable of being used in industry or in respect of
  articles produced on a large scale.

- It should have a visual appearance capable of being realized.

- It must not be necessitated by the very nature of the article, in which
  it is applied, i.e., it must be non-functional.

- It must be novel.

Generally, the right of protection in respect of industrial design is
granted to the person who created that design, whether independently
or with the assistance of a computer. But, if the creator is an employee
or a commissioned contractor, the protection will be conferred on the
employer or the person that commissioned the design. The proprietor
of a design is granted exclusive right to make, import, sell, hire or
offer for sale, for industrial or commercial purposes, any of the articles
in which the design is applied.\textsuperscript{205} Usually the protection for industrial
design is provided pursuant to a procedure for the registration of the
design. The term of protection varies from country to country.

\textsuperscript{203} ibid.,

\textsuperscript{204} Durham, supra note 24, at 173- 176. See also WIPO Publication, supra note 3, at 108, 109.

\textsuperscript{205} ibid., at 111.
Typically, the maximum period of protection ranges from 10 to 25 years.\textsuperscript{206}

However, in some countries, rights in designs may be acquired by the act of creation and fixation of the design in a document or by embodying the design in an article, without need for formal registration procedure.\textsuperscript{207} In such a case, the right in the industrial design may be protected under the law of copyright, provided that it satisfies the requirements of copyrightability viz., original, non-functional creative work, fixed in a tangible medium.\textsuperscript{208} But the question which arises here is whether the protection of the right in the industrial design can be claimed cumulatively, i.e., both the law of industrial property and the law of copyright to be applied cumulatively and simultaneously, or whether such protection can only be available in a co-existence form, i.e., the choice of either branch of the law excludes the other? The majority of countries choose the co-existence form of protection, but some countries such as France and Germany apply the cumulative form of protection.\textsuperscript{209}

The difference between protection under copyright law and protection under industrial design law is that industrial design law

\begin{footnotesize}
\begin{enumerate}
\item[] \textsuperscript{206} ibid.,
\item[] \textsuperscript{207} ibid.,
\item[] \textsuperscript{208} See Elias, supra note 4, at 97.
\item[] \textsuperscript{209} WIPO Publication, supra note 3, at 112, 113.
\end{enumerate}
\end{footnotesize}
protects the expression as well as the idea underlying it and prevents even an independent creation of a similar design. But it is difficult to be obtained, as it must be registered and its term is proportionately short, whereas copyright protection lasts for a long period extending to the life of the creator and fifty years after his death and, moreover, it is easy to obtain as it does not require formalities such as registration. But, it protects only the literal expression of the design and does not extend to the idea underlying that design nor prevent independent creation of a similar design.\textsuperscript{210}

(b) Integrated Circuits:

Recently, the lay-out design, (topographies), of integrated circuits has become a subject matter of intellectual property protection. In 1989, a Diplomatic Conference was held in Washington D.C., which adopted a ‘Treaty on Intellectual Property in Respect of Integrated Circuits (Washington Treaty), which has been incorporated in the Agreement on Trade-Related Aspects of Intellectual Property (TRIPS Agreement) of the World Trade Organization (WTO)1994.\textsuperscript{211}

Under Article 2 of the Washington Treaty 1989, the term integrated circuits is defined as a product in its final form or intermediate form,

\textsuperscript{210} Elias, supra note 4, at 97, 98. See also WIPO Publication, supra note 3, at 113.

\textsuperscript{211} WIPO Publication, supra note 3, at 113, 114.
in which the elements, at least one of which is active element, and some or all of the inter-connections are integrally formed in and/or on a piece of material, and which is intended to perform an electronic function. Also the same Article defines lay-out design (topography), as the three-dimensional disposition, however expressed, of the elements, at least one of which is an active element, and some or all of the interconnections of an integrated circuits, or such a three-dimensional disposition prepared for an integrated circuits intended for manufacture.\textsuperscript{212}

The Contracting Parties to the Washington Treaty are obliged to provide protection against unauthorized reproduction of the lay-out design and the importation, sale or other distribution for commercial purposes, of a lay-out design or an integrated circuit in which the lay-out design is incorporated. However, acts performed for private purposes or for the sole purpose of evaluation, analysis, research or teaching may be freely permitted.\textsuperscript{213} Moreover, the Contracting Parties are allowed to make the protection of lay-out designs dependent on their commercial exploitation or on the filing of an application for their registration or on their actual registration. Furthermore, each Contracting Party may grant, for public interest, non-voluntary

\textsuperscript{212} Ibid., at 114.

\textsuperscript{213} Ibid.
licenses for the commercial exploitation of the lay-out design or the integrated circuits in which such lay-out designs are incorporated.214

**vi) Geographical indications:**

The term ‘geographical indications’ is relatively new in the field of intellectual property. In the Paris Convention there is no reference to geographical indications as such; instead, the Paris Convention Article 1(2) considers indications of source or appellations of origin as objects of protection of industrial property law.215 The difference between indications of source and appellations of origin is that indications of source refer to any expression or sign used to indicate the place of origin of a product, whereas appellations of origin mean that the products originating from a certain place, carry specific characteristics imposed by natural or human factors relating to that place.216

The term ‘geographical indications’ has been chosen by WIPO so as to be used in its widest possible meaning, which includes all existing means of protection of names and symbols, including the geographical origin of a product, regardless of whether they indicate that the qualities of a certain product are attributable to its geographical origin (appellation of origin) or they merely indicate the place of origin of a

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214 Ibid., at 114, 116.
215 See Article 1 (2) of the Paris Convention.
216 WIPO Publication, supra note 3, at 115.
product (indications of source). 217 The protection of geographical indications may be achieved by preventing the use of the geographical indications for goods not originating from the place indicated or not complying with the quality standards of that place, and by preventing the use of the geographical indications as a generic term for the goods originating from them. Such protection may be carried out by the public authorities as well as private entities. In this regard, collective marks and certification marks may provide an effective means of protection of geographical indications, independent of statutory or judicial measures. 218 Therefore, protection of geographical indications may be based on general legislative provisions or principles of jurisprudence, such as the law of unfair competition or through a special action to be taken by the competent government authority or by a private initiative through registration of collective marks or certification marks. 219

At the international level, there are three multilateral treaties administered by WIPO, which contain provisions for the protection of geographical indications, namely the Paris Convention for the Protection of Industrial Property 1883, 220 the Madrid Agreement for

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217 Ibid., at 116.
218 Ibid., at 117, 118.
219 WIPO Publication, supra note 3, at 118, 119.
220 See Articles 1, 9, 10 and 10ter of the Paris Convention.
the Repression of False and Deceptive Indications of Source on Goods (Madrid Agreement) 1891 and the Lisbon Agreement for the Protection of Appellations of Origin and their International Registration (Lisbon Agreement) 1958.221

vii) Protection against Unfair Competition:

The free competition in the marketplace between industrial and commercial enterprises, which is adopted in the market economy systems, is considered by its supporters as the best means of satisfying supply and demand in the economy and serving the interests of consumers and the economy as a whole. But the smooth performance of such free competition requires that all participants act in accordance with specific basic rules. Violation of these basic rules is considered as against honest practices and thus, prejudices the consumers as well as law-abiding competitors.222

The specific laws on the protection of industrial property, such as the patent law, provide protection for the rights therein, but there are wide varieties of unfair practices in the marketplace, such as misleading

222 WIPO Publication, supra note 3, at 124, 125.
advertising and violations of trade secrets that are not dealt with by such laws. Therefore, the repression of unfair competition is considered by Article 1(2) of the Paris Convention as one of the objects of industrial property protection. Unfair competition is defined under Article 10bis of the Paris Convention, as any act of competition contrary to honest practices in industrial and commercial matters. In addition to this broad definition, Article 10bis(3) of the same Convention, specifies three types of acts to be prohibited in particular. These acts are:

- All acts of such nature as to create confusion by any means whatever with the establishment, the goods, or the industrial or commercial activities of a competitor.

- False allegations in the course of trade of such a nature as to discredit the establishment, the goods, or the industrial or commercial activities of a competitor.

- Indications or allegations the use of which in the course of trade is liable to mislead the public as to the nature, the manufacturing process, the characteristics, the suitability for their purpose, or the quantity of the goods.

Generally, unfair competition law is considered as the legal umbrella that governs any commercial activity that tends to confuse, mislead or deceive the public about the sale of products or services.\footnote{See, Elias, supra note 4, at 415.} Moreover, even within the field of industrial property rights, there are some rights, which are not covered by the laws for the protection of
industrial property, such as the protection against unauthorized use of
a trademark that has not been registered, or the unauthorized
exploitation of a patent disclosed to the public but has not been
patented or in respect of which the patent has expired. Thus, unfair
competition law is necessary not only as a means for the protection
against unfair practices in the marketplace, but also as a supplement to
the laws for the protection of industrial property rights. Therefore, in
order to respond to the various challenges, unfair competition law
must be flexible and adapting to all new forms of market behavior and
moreover, protection thereunder must not be subject to formalities,
such as registration.224

viii) Trade Secrets:

There is no standard definition of a trade secret. It may be defined
shortly as information of a commercial value that has been kept
confidential.225 Broadly, it may be defined as “any information that
can be used in the operation of a business or other enterprise, and that
is sufficiently valuable and secret to afford an actual or potential
economic advantage over others”.226 Section 53 of the Patents Act
1971 provides that manufacturing processes or knowledge concerning

224 For more details see WIPO Publication, supra note 3, at 124 – 155.
225 See Elias, supra note 4, at 16.
226 Moore, supra note 34, at 6.
the use and application of industrial techniques may be freely used by any person. But if such processes or knowledge have not been published or made available to the public, they shall be protected against unlawful use, disclosure or communication by third parties, provided that the person who has developed them has taken the necessary steps to preserve their secret character.

Generally, any information that provides its owner with a competitive advantage and has been kept secret by that owner may be considered as a trade secret. This may be information of a technological character such as any formula, process of manufacturing, a method of treating or preserving materials, a pattern for a machine, a pile or other devices, or it may be commercial secrets such as sales methods, distribution methods, list of customers, advertising strategies, business schedules, details of price agreements or consumer profiles. However, when determining whether a particular information qualifies as a trade secret, regard has to be given to the extent to which the said information is known publicly or within a particular trade or industry, the amount of money and effort expended by the owner to develop such information, the value of the information to the business, the measures taken by the trader for

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227 See WIPO Publication, supra note 3, at 145. See also Moore, supra note 34, at 6. See also Elias, supra note 4, at 16.
preserving the secrecy of the said information and the difficulty of getting such information by others.\textsuperscript{228} Any information, which satisfies the requirements of being considered as a trade secret is eligible for protection against misappropriation or disclosure by third parties. But, such protection does not extend to cases where the said information is legitimately acquired or independently invented, discovered or developed by third parties.\textsuperscript{229} Owners of trade secrets have exclusive rights to make use of them either by using them by themselves, licensing or even selling them to others.\textsuperscript{230}

4. Justifications of Intellectual Property:

The need for private property rights in information goods, as intangible objects, is considered as more pressing when compared with the need for protection for tangible objects. This is because, absent property rights, the producer of information will not be able to appropriate the value of information once it is exposed in the marketplace since it can easily be freely replicated and sold by his competitors at prices lower than the prices which should have been charged by the first producer in

\textsuperscript{228} WIPO Publication, supra note 3, at 145
\textsuperscript{229} See section 55 of the Patents Act. See also WIPO Publication, supra note 3, at 145.
\textsuperscript{230} See section 56 of the Patents Act.
order to recoup his investment in producing it. But, on the other hand, the fact that information is intangible means it is indivisible, i.e., an unlimited number of users can consume it without depleting it. Take, as an example, a motion picture: if one person or one million sees it, it will remain as it is. This means that ‘once information has been produced, it can benefit an indeterminate number of users without adding any additional cost on the producer’. Since the intellectual property law enables information producers to charge users for accessing to their information, this will necessarily result in depriving those who could not pay or do not want to pay for the use of such information, even though giving them free access will harm nobody else.

These unique characteristics of intellectual goods have led to much controversy, mostly of philosophical nature, about the moral foundations for granting private property rights in intellectual goods. Many writers base their justifications for defending the private property rights in intellectual goods on the traditional principle of natural rights; especially the labor theory, which was principally defended by John Locke, as a justification for the acquisition of unclaimed land to the effect

231 Goldstein, supra note 22, at 6.
232 Ibid., at 7.
233 Ibid.,
that each person has a natural right in the fruit of his labor, provided that enough and as good is left to others.\(^{234}\)

One writer criticizes the utilitarian justifications of intellectual property adopted by the Anglo-American systems on the ground that justifying the grant of intellectual property rights to authors and inventors merely on the desire to promote the progress of science and the useful arts means that what is granted is in fact not a right but something less; something dependent solely on considerations of the overall social good. He calls for robust rights to property, be it tangible or intangible property. He sees that this can be achieved by reference to the natural law theory. He states that as far as the intellectual goods are inexhaustible in amount, this satisfies the Lockean proviso ‘enough and as good for others’, more than in the case of real property.\(^{235}\) Another writer justifies his defense for granting private property rights in intellectual goods on principles, such as privacy and sovereignty of individuals, especially with regard to the private property rights in trade secrets. According to this writer, “if a person has any right with respect to her ideas, surely it is the right to control their initial


\(^{235}\) Ibid. at 81 -103
disclosure”. A third writer grounds his defense for private property rights in intellectual goods on a combination of both, the labor theory of John Locke and the personality theory of Hegel. After analyzing both theories, he concludes:

Earlier, I suggested that the personality theory might justify the right to protect one’s private property without justifying rights to alienate that property. I must add, as a possible corollary, that the labor justification, with its emphasis on value maximization, might legitimate alienation and value exchange, without safeguarding rights to keep particular objects merely as “possession”. In this way, the two theories may compensate for each other's weakness.

However, these traditional justifications of private property rights in intellectual goods have been criticized by another group of writers on different grounds. One writer states that inventions, writings and thought, generally do not come from vacuum, but are built on the previous human endeavor. Thus, considering the final producer of an intellectual product as having the exclusive natural property right in

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the market value of the resulting product ignores the contribution of others. 238  Another writer criticizes the utilitarian thesis adopted by the Anglo-American systems, as well as the natural law theory adopted by the Civil Law countries. He bases his criticism on the ground that the assessment of intellectual property had not been considered before it was entrenched as an institution and only when questions about its efficacy surfaced (from mid-19th century), as a result of academic curiosity rather than pressing practical concern. He says that the history of intellectual property showed that protection had not been based on the fact that it was a right, but as a privilege granted by the sovereign or the concerned municipal authority in exchange for payments. 239  He criticizes the natural law thesis on the ground that it did not explain why the state should be needed to intervene in granting a natural right or imposing restriction on its term or non-use. Moreover, he criticizes the incentive thesis on the basis that originally, state measures at their earliest periods were aimed at generating revenue for the state not for promoting the industrial activity, less to say intellectual creativity. He adds that even at the present time, it is doubtful whether the incentive thesis can operate in the industrial countries as an instrument for individual stimulation. This is due, as he

sees it, to the fact that inventions in industrial countries are often owned by large corporations, especially multinational corporations (MNC). These large corporations have their own considerations as concerns the decision whether or not to innovate, and whether to get a patent for their inventions or to keep them as trade secrets. He states that, on the contrary, these large corporations are often accused of suppressing inventions by practices, such as the shelving of an invention which others would like to manufacture or use, or getting patents just for postponing the application of inventions that might lead to scraping of their equipment before becoming physically obsolete, or just to protect themselves from the potential threat of their competitors. One of effects of these practices, he says, is a delay in the development of new inventions. He concludes that “the view of intellectual property as something other than a legal arm of the economic-technical structure in the industrial countries, has no basis in history nor is it supportable in theory”.

**Conclusion**

Although the intellectual creativity in trade and service marks, trade names, geographical indications and the various forms of unfair

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240 Ibid., at 91, 92.
241 Ibid., at 94.
competition may not be as prominent as in the case of inventions, literary and artistic works, industrial designs and integrated circuits, the term intellectual property has acquired international acceptance as a term describing the rights relating to all of these activities. The fields of intellectual property protection are widening in number and scope so as to respond to new technologies, and other forms of inventions and human creativity. The protection of a new subject matter may be achieved either by re-defining an existing right so as to be adaptable to accommodate the new subject matter or through the creation of a new and distinct right by way of analogy from the existing rights.

A common element of all forms of intellectual property protection is the right of exclusivity. This right enables the owners of intellectual products to prevent others from exploiting their products for commercial purposes. But this exclusive right is subject to public interest, which determines its creation, scope, duration and enforcement. Moreover, this public interest seems to be the main factor behind granting intellectual property rights in essence, especially with regard to patents system.
Chapter 3

The Challenge of the Internet

Introduction:

The emergence of the Internet as a means of communication surpassing all other means of communications has created a great challenge for the international community. This challenge lies in the ability of the international community to get use of the benefits of the Internet and avoid its negative effects. The unique features of the Internet have complicated the resolution of the conundrum of its governance. Under the traditional legal system, jurisdiction is defined by reference to a physical territory. Moreover, although the traditional private international law rules witnessed important transformations relating to the stringent territorial requirements embodied in the rules *lex loci contractus* and *lex loci delicti*, in favour of a more flexible system based on what is described as “interest analysis”, due to the fact that transborder events and
transactions became commonplace in the twentieth century, nevertheless, the essential requirement of some nexus between the concerned jurisdiction and the persons or transactions intended to be subject to it, has not been abandoned.

However, it is thought that the Internet has not only weakened the significance of physical locations, but also destroyed them all together in three senses: first, the Internet ignores the existence of physical borders to an extent that events happening on the Internet may be described as taking place “everywhere if anywhere”. Second, even though the presence of a server in one location may give special interest to that locality in regulating the content of that server, nonetheless, there are many events and transactions that may be described as having no physical locality in particular but taking place only on the network itself, which by its very nature is not a “localizable phenomenon”. For example, Usenet discussion groups, which consist of continuing changing collection of messages that are routed from one
network to another across the global net, with no centralized location at all, may be considered as occurring everywhere, nowhere in particular. Third, locations on the Internet can be conceived of only in a virtual sense by reference to the addresses of machines between which information and messages are routed. These addresses are independent of the physical locations in which those machines are located. These unique features of the Internet have generated controversial legal issues.

Different approaches have been advanced in relation to the governance of the Internet. Broadly, there are four approaches in this respect. One approach argues that no territorial state is capable of regulating the Internet and that the Internet should be left to regulate itself in a separate jurisdiction, independent of real space jurisdiction. The second approach contends that the existing legal system is competent to resolve the problems generated by the Internet. The third approach sees the solution in a form of interplay
between law and technology. The fourth view suggests a hybrid form of regulation.

This chapter studies the phenomenon of the Internet, its potential evolution and expansion, its impact on the international society and the approaches for its regulation. The chapter is divided into three parts. Part 1 studies the emergence of the Internet, its evolution and potential expansion. It includes the definition of the term Internet and other related terms, how it works and its potential evolution and expansion. Part 2 discusses the positive and negative aspects of the Internet. Part 3 examines the approaches advanced for the regulation of the Internet. It discusses four approaches relating to the governance of the Internet viz., self-governance approach, regulation by means of the traditional legal system, governance through the control of the architecture of the Internet and hybrid regulation approach.
1. What is the Internet? How does it Work?

i) Definition of the Term Internet and Other Related Terms:

The emergence of the Internet has generated many new terms and abbreviations connected with its work and uses. These terms are so numerous that some commentators describe it as a second language and label it as cyberlanguage.242 The knowledge of these terms and their abbreviations is a precondition for better understanding of the nature of the Internet and how it functions. Hereunder are definitions and explanations of the term Internet and some other related terms:

(a) Internet: Generally, the term Internet refers to a network of computers all over the world speaking the same language.

242 See Dachelet, Jaime ‘Cyberlanguage and How it is Affected by Trademarks, Domain Names and Generic Words’, Available at: www.ukans.edu/cybermom/clj/dachelet/dachelet.html, visited February 2002, at 1.
It is often described as the network of networks. Some commentators see this short definition as incomplete. They state that a comprehensive definition should include the physical parts of the Internet as well as its various applications. Kahn and Cerf prefer the definition adopted by the American Federal Networking Council in its Resolution of October 24, 1995, which defines Internet as follows:

\[
\text{Internet refers to the global information system that:}
\]

- Is logically linked together by a globally unique address space based on the Internet Protocol (IP) or its subsequent extensions/follow-on;

- Is able to support communications using the Transmission Control Protocol/Internet Protocol (TCP/IP) suite or its subsequent extensions/follow-ons, and/or other IP-compatible protocols, and

\[243\] See Gringras, Clive ‘The laws of the Internet’ Butterworth, London (1997) at 1

\[244\] See Smith, Graham J.H. ‘Internet law and Regulation’ 2nd - FT Law and Tax, London (1997) at 1
- Provides uses or makes accessible, either publicly or privately, high level services layered on the communications and related infrastructure described herein.^{245}

According to Kahn and Cerf the above definition is the best definition currently in existence because “it defines the Internet as a global information system and include in the definition, not only the underlying communications technology, but also higher level protocols and end users applications, the associated data structures and the means by which the information may be processed”. It is worthy of note to mention that the term ‘cyberspace’ is used, especially in the US, to describe the Internet and other computer networks. The term cyberspace was first used by the American science fiction writer William Gibson in his novel ‘Neuromancer’ to refer to a “near computer network where users mentally travel through matrices of data”. It has been also described as “the conceptual space where words, human

relationships, data, wealth and power are manifested by people using CMC (computer mediated communications) technology”. However, in contrast to the publicly accessible Internet, there are other forms of private Internets commonly known as intranets.

(b) Intranets: these are internal company networks connected to the Internet but are not accessible or should not be accessed from the public Internet due to the use of a protective devise known as ‘firewall’. These private intranets use the tools of the Internet Protocols and other Internet-compliant software. There are five categories or levels of intranets tailored according to the needs of each organization. The choice of a specific level is determined by the needs and scope of the concerned organization. These five levels are known as: Basic, Publishing Library, Collaboration, Transaction and Extranet. The last level “Extranet” is the largest evolutionary version of intranets. It is a big internal...
network designed to “manage and coordinate the operations and information of large organizations on a global scale”.247

(c) E-mail: It is short for the phrase “electronic mail”. It is a means of communications through the Internet. It is the oldest application of the Internet. An e-mail message can be sent from computer to another using an e-mail address. The basic structure of e-mail addresses is username@domain. The word mail should be understood at its widest meaning. Actually, any material that can be created and stored in a computer may be sent as e-mail. This includes messages, picture, sound, software, etc. Unlike its physical counterpart, what is sent in case of the e-mail is a copy of the material created by the sender. The original material remains in the computer of the sender.248

(d) Pseudo-Anonymity: This is a special computer program enabling Internet users to remain anonymous by sending their e-mails through an “anonymous re-mailer”. This program

248 See Gringras, supra note 2, at 4,5.
strips any incoming e-mail from its header and re-sends it to the intended recipient.\textsuperscript{249}

(e) Bulletin Boards: Like a physical bulletin board, a digital bulletin board produces the e-mails sent to it in a readable format accessible to any user of the bulletin board. The reader has the option to reply privately to the sender or send a reply to be stored in the bulletin board accessible to any user of the board. Also, like its physical counterpart, digital bulletin boards are often moderated by someone who stores the messages in equipment under his control.\textsuperscript{250}

(f) Forum: These are kinds of bulletin boards provided by some of the Internet Service Providers (ISP) for their members. Each forum carries a distinguishable title indicating the nature of conversation threads and files that can be found on the board. These boards are usually moderated by the Service Providers who provide them.\textsuperscript{251}

(g) Usenet: This is a collection of bulletin boards known as newsgroups, which can be accessed by anyone connected to

\textsuperscript{249} Ibid., at 4-9.
\textsuperscript{250} Ibid., at 6.
\textsuperscript{251} Ibid.
the Internet. Unlike forums, members of different Service Providers participate in newsgroups. Each Service Provider is responsible for messages posted by its members on the relevant newsgroups, but has no control over messages posted by other members of the newsgroups other than denying access by its members to a specific newsgroup.252

(h) Telnet: This is a means through which a user connected to the Internet can gain access to a remote computer. Once that user logs on into such remote computer he or she can easily run programs and view data stored on that computer and, moreover, from that remote computer the said user can log on to another computer and so on.253

(i) Transmission Control Protocol/Internet Protocol (TCP/IP): These are set of standards that govern how computers communicate with each other via Internet.254

(j) World Wide Web (www): This is a system of joining documents to each other via Internet using hypertext links or the address of a web site. By using programs that browse the

252 Ibid., at 6-7. See also Smith, supra note 3, at 293.
253 See Gringras, supra note 2, at 7-8.
254 Ibid., at 7. See also Smith, supra note 3, at 293.
web, such as Hybertext Transmission Protocol, a user can retrieve information stored in remote computers.\textsuperscript{255}

(k) Uniform Resource Locator (URL): This is a system that tells the computer what type of protocol is being used, where the site is located and what type of site it is.\textsuperscript{256}

(l) Hybertext Markup Language (HTML): This is a system of additions to plain text, which acts as instructions to web browsers or other HTML-compliant programs. Acting on the instructions, the browser converts a marked up text into formatted pages including hybertext links.\textsuperscript{257}

(m) Hybertext Transmission Protocol (HTTP): This is the Internet protocol that is used to link and transfer hybertext documents.\textsuperscript{258}

(n) Hybertext: A hybertext document includes embedded hyperlinks to other sites. A hyperlink is easily distinguishable from the other parts of a text on the page as it appears in a different color or format e.g., blue underlined text. Once a

\textsuperscript{255} Gringras, supra note 2, at 8. See also Smith, supra note 3, at 293.
\textsuperscript{256} See Smith, supra note 3, at 293.
\textsuperscript{258} See Smith, supra note 3, at 290.
hyberlink is clicked by a mouse, the computer is instructed to
go to the address embedded within that link and retrieve the
material stored there.\(^\text{259}\)

(o) File Transfer Protocol (ftp): This is the protocol used to
transfer or download a software program or file from an
Internet site (ftp server) to the user’s computer (the client).\(^\text{260}\)

(p) Browsers: These are programs which facilitate navigation
of the World Wide Web and interpret the data found in other
web sites into a collection of text, picture and sound. They
enable users to visit other web sites by typing the intended
web site’s address. Moreover, they provide navigation
buttons enabling a user to return back to where he came from,
in addition to their ability to store favorite pages or sites.\(^\text{261}\)

(q) Domain Name: This is a name assigned for an entity with
an address on a network.\(^\text{262}\)

(r) Top Level Domain (TLD): This refers to the suffixes
found at the end of web addresses. There are several types of

\(^{259}\) See Johnston, supra note 16, at 3.
\(^{260}\) See Smith, supra note 3, at 3.
\(^{261}\) See, Gringras, supra note 2, at 9.
\(^{262}\) See, Dachelet, supra note 1, at 3.
TLD. For example, “.com or .co” for commercial organizations, “.edu or .ac” for educational institutions, “.int” for international organizations, “.mil or .ml” for military (especially US military organizations), “.net” for networks, “.org” for nonprofit organizations, “.gov” for governments (especially US government). Other governments use certain codes to distinguish themselves e.g., “.uk” for United Kingdom, “.fr” for France, etc.263

(s) Server: Strictly, a server is software that delivers data from the computer on which it resides or is stored across the network (the host), in response to instructions from elsewhere. For example, a web server delivers web pages, a domain name server (DNS) delivers IP address in response to domain name requests, and so on. The term server may refer to the computer hosting the required data as well as the software facilitating the delivery of that data.264

ii) How does the Internet Work?

263 Ibid., at 4. See also, Johnston, supra note 16, at 5.
264 See, Smith, supra note 3, at 293.
(a) The Infrastructure for the Internet Work:

Different communication standards, procedures and computational facilities have been used to make possible the global interconnection of millions of otherwise independent computers, communication entities and information systems. The basic infrastructure that facilitates the communication of computers with each other is a set of standards or procedures called “Protocols”. These protocols are supported by “a set of architectural concepts and data structures for heterogeneous information systems that render the Internet a truly global information system”. Interconnection of computers is a digital matter. Computers understand only the numbers one and zero. Thus, computers use a mathematical binary of ones and zeros to communicate with each other i.e., they process and exchange digital information. For communication purposes, “such information is mapped into continuous electrical or optical waveforms”. The term

265 See, Kahn and Cerf, supra note 4, at 3.
computer referred to herein includes not only the traditional computers but also other “devices that can be controlled digitally over a network, information resources such as mobile programs and other computational capabilities”.266

Typically, computers “send out brief but intensive bursts of data then remain silent for a while before sending out the next burst”. These bursts are communicated in forms of packets. The packet switching style is found more suitable for digital communication than the circuit-switched voice network used in telephone system, which “makes limited use of the communication facilities and takes too long to set up connections”.267 The way in which the Information is transmitted through the Internet is similar to the international postal system. The packets in which information is transferred are much like electronic postcards. The packets are relayed from computer to another till they reach their destination. There are special computers known as packet-switches or routers, configured to carry out this work. Just

266 See, Gringras, supra note 2, at 1. See also Kahn and Cerf, supra note 4, at 3-4.
267 See Kahn and Cerf, supra note 4, at 4.
like postcards, Internet packets can get lost, delivered out of order or delayed and even may be duplicated. Internet Protocols are responsible for putting these packets in order and resend them to their destination.268

(b) Applications of the Internet:

The materials accessible by the end-users are generally divided into real-time and downloadable contents. Real-time contents include materials that can be viewed or heard when accessed by the user. The amount of data that can be accessed by the user and the speed at which such data can be accessed is affected by the capacity or bandwidth pipes carrying the Internet traffic. Examples of real-time materials are audio (speech or music), video, animation, video-conferencing and voice telephony. Downloadable materials are typically files capable of being copied from an Internet site to the users’ computers. Examples of downloadable materials range from simple text files, graphics and video to

268 Ibid.
computer programs.\textsuperscript{269} The content providers may be the same owners of the hosts or servers in which the content is stored or may be other parties using these hosts for free or for reward as commercial services. The owner of the host may take part in placing the materials stored in his server, such as providing web design and HTML coding, or may just provide storage area, bandwidth and URL for others without participating in the selection or design of the materials.\textsuperscript{270}

The access to the Internet may be through computers connected directly into high bandwidth elements of the Internet, such as those used by academic institutions, or may be by means of high capacity leased lines or ISDN (Integrated Service Digital Network) connections often used by business, or simply via a modem and an ordinary telephone line through Internet Service Providers, as used by individual home users.\textsuperscript{271} The first access providers were academic institutions or government bodies with high capacity Internet-compliant links, who provided access to

\begin{footnotes}
\item[269] See, Smith, supra note 3, at 5.
\item[270] Ibid., at 7.
\item[271] Ibid., at 5.
\end{footnotes}
their students and staff. However, the main access providers at present are commercial organizations selling Internet access to home and commercial users. Network providers often have contractual arrangements between them known as (peering agreements), regulating the exchange of traffic between the concerned networks. If there is no direct physical connection and peering agreement in place between the two networks, the traffic has to find another route. Routers may contain instructions not to pass traffic to or from certain networks. In such cases messages use the Internet Protocols to route around gaps and blockage. This may not only diffuse the responsibilities of safe delivery of messages among different networks, but also make the identities of those networks unpredictable in advance.\footnote{Ibid., at 4, 8.}

The Internet access providers, commonly known as Internet Service Providers, frequently assume roles more than the mere connection to the Internet. Some of them store web pages for their customers or host Usenet newsgroups etc. This
means that an Internet Service Provider may be content provider and host as well as access provider. So the term Internet Service Providers (ISP) may sometimes be misleading, as it does not distinguish the underlying roles of content providers, access providers and hosts. Therefore, it has to be interpreted within the context in which it comes.\(^{273}\)

Moreover, due to the expansion of the Internet and the huge quantity of data available on-line, it may not be easy to find out quality content or to know where it is. So, a new category, known as navigation providers, has emerged in order to facilitate for the Internet users the access to on-line quality content. Navigation providers may take many forms. For example, umbrella sites for specializing activities such as shopping malls, law, medicine etc., where customers are attracted to such sites as they expect to find collection of content providers. At present, search engines and directories are considered as the most important navigation providers. These sites may produce their own content or agree with

\(^{273}\) Ibid., at 9.
other content providers. The content sifted by navigation providers may be stored in hosts owned by third parties.274

iii) The Evolution and Potential Expansion of the Internet:

(a) The Emergence of the Internet:

The Internet has passed through different stages before reaching its present status. The first stage was launched in 1969 when the US Defense Advanced Research Project Agency (ARPA) commissioned a wide area computer network called ARPANET. This network applied the packet-switching methods for connecting computers together. The computers linked at the beginning were those of universities and other research institutions in the United States and other selected NATO countries. In the late 1970s the Internet addressing system TCP/IP was developed. In 1980 TCP/IP system was formally adopted as a standard by the US Department of State. In 1983 it was applied in ARPANET as its standard host protocol. The application of the TCP/IP

274 Ibid., 10, 11.
protocols on the ARPANET and other networks led to the rapid growth of the Internet to an extent that the addressing system applied at that time, which associated the names of host computers to Internet addresses was found impracticable. Efforts for finding a more practical addressing system resulted in the development of what is known as the Domain Name System (DNS). The system of Domain Names allow hundred of thousands of “name server” to maintain small portions of a global database of information associating IP addresses with the names of computers on the Internet. However, only after the application of the World Wide Web in 1994 did Internet become publicly accessible.275

(b) The Evolution and Potential Expansion of the Internet:

Since its invention and up to now the evolution and expansion of the Internet is beyond the expectation of its designers. Kahn and Cerf, who participated in designing the architecture of the Internet, state that: “As we struggle

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275 See, Kahn and Cerf, supra note 4, at 5-15.
to envision what may be commonplace on the Internet in a
decade, we are confronted with the challenge of imagining
new ways of doing old things, as well as trying to think of
new things that will be enabled by the Internet, and by the
technologies of the future”.276 The use of small and cheap
computer chips as web servers is expected to revolutionize
the spread of the Internet at rates more than its present rates.
In addition to the traditional laptop and desktop computers,
devices such as cell phones, fax machines, household
appliances, hand-held organizers, digital cameras and all
other “devices connected to the Internet will be Internet
enabled appliances”.277 Information may be accessed through
digital objects of all kinds. The networking speed has been
developed from 50,000 bit-per-second ARPANET to 2.4
billion bit-per-second of today’s commercial networks.
Experiments are going on to raise the networking speed to
trillions of bits-per-second. Some of these ultra-high speed

276 Ibid., at 18.
277 Ibid., at 18, 19.
systems may be used in the future to carry data from other planets.\footnote{278}

The exponential growth of the Internet has resulted in the vast expansion of the users of the Internet from the forty or so computers of ARPANET in the seventies of the twentieth century to more than 60 million host computers by 1999 serving more the 200 million users in over 200 countries.\footnote{279}

The rate of the growth of the Internet is estimated at 33\% every six months since 1988. By the end of the year 2001, the population of the Internet jumped to 529 million.\footnote{280}

\footnote{278} Ibid., at 19.
\footnote{279} Ibid., at 2. See also Gringras, supra note 2, at 3.
\footnote{280} See, Kahn and Cerf, supra note 4, at 2. See also the website: http://www.glreach.com.globstat’s/index.
2. The Impacts of the Internet on the International Community:

i) The Importance of the Internet:

The great role of the Internet is manifested in its ability to integrate the communications technologies with the computing capabilities of computers to provide an efficient system of instant connectivity and global information services to all its users at very low cost.\(^{281}\) In the words of one writer:

_The Internet, the precursor of the Information Superhighway, heralds the beginning of a new age in communications, commerce and entertainment and is a tremendous vehicle of economic growth. It is probably not an exaggeration to say that the Internet has had, in one way or the other, an impact on all stratusms of society and radically altered the_

\(^{281}\) See, Kahn and Cerf, supra note 4, at 2.
way communications may be made and business
may be conducted worldwide.\textsuperscript{282}

As a communication means, the Internet has provided its
users with various means of communications. Once
connected to the Internet, a user has various options of
communications, including real-time communications, one-
to-one messaging and retrieval of information from remote
computers. The first and most popular means of one-to-one
communications is the act of sending messages via the
Internet, commonly known as electronic mail or e-mail, for
short. The e-mail function is not confined in simple sending
of text messages. Anything that can be created and stored in a
computer can be sent as e-mail. This includes pictures, sound,
software etc.\textsuperscript{283} Among other forms of communications are
those called digital bulletin boards. Bulletin boards may be
closed for a certain group of members, often specializing in
particular activities, or may be open for access by any person

\textsuperscript{282} See, Anil, Samtani ‘An Overview of the Law of the Internet Commerce and an Introduction to the
\textsuperscript{283} See, Anonymous Author, ‘Keeping Secret in Cyberspace: Establishing Fourth Amendment
Protection for Internet Communication’, Harv. L. Rev. Vol. 110 No. 7 (May, 1997), at 1592. See also
Gringras, supra note 2, at 4, 5.
linked to the Internet. The closed forms of bulletin boards are known as “forums”. These forums are run by Internet Service Providers for their members and often moderated by them. The open forms of bulletin boards are called Usenet. These are described as collection of over 15000 boards known as newsgroups. Unlike forums, all the subscribing Service Providers maintain and store the conversation threads of the newsgroups. Each Service Provider participating in a Usenet is able to display the content of messages sent by all other members but responsible only for messages posted by its own members. A third form of communication is called Tenet. This is a method by which a computer linked to the Internet is enabled to access another remote computer and runs programs and data stored in that remote computer. 284 Yet, the most important applications of the Internet up to this moment is the World Wide Web (the Web) and its supporting browsers, which facilitate the access, retrieval, downloading and uploading of information by the computers linked to the

284 See, Gringras, supra note 2, at 4-8.
Internet. The Web is described as a powerful tool for the acquisition and dissemination of information that epitomizes the Information Age more than any comparable communication innovation. The growth of on-line commerce is premised on the Web. However, the other side of the coin is something different.

ii) The Negative Aspects of the Internet:

The positive aspects of the Internet are confronted with negative ones threatening the smooth use of the Internet. These negative aspects are represented in the different kinds of problems generated by the Internet. The problems created by the Internet vary from criminal activities to civil wrongs, harmful content and further complications for the rules of conflict of laws. The Internet has been exploited by some in the commission of different kinds of crimes, either directly or indirectly. Direct crimes are those fully committed in cyberspace e.g., pornography, theft of copyrighted materials,

gambling, intrusion and damage of computer systems and programs etc. In indirect crimes the Internet is used as a facilitating factor for the commission of the crime e.g., killing, kidnapping, hate crimes, forgery, illegal drugs sale etc.\textsuperscript{286} Also the Internet is exploited for the commission of other wrongful acts such as the violation of privacy rights, infringement of intellectual property rights, defamation etc. Moreover, the use of the Internet in commercial transaction has resulted in civil disputes relating to the interpretation and performance of contractual obligations.\textsuperscript{287} However, although most of the problems generated by the Internet are not new, the multiple jurisdiction nature of the Internet has rendered the existing legal measures inappropriate for settling them in the views of many commentators. The fluid nature of the Internet has added new dimension of complexity and confusion to the conflict of law rules.\textsuperscript{288} Like any other tool, the Internet can be exploited for good or for evil. Therefore, efforts have been exerted to obtain the optimal benefits of the

\textsuperscript{286} See, anonymous author, supra note 42, at 1591.
\textsuperscript{287} See, Anil, supra note 41, at 3.
\textsuperscript{288} Ibid.
Internet and avoiding or at least mitigating its negative aspects. In this respect different approaches have been advanced for the control and governance of the Internet.
3. The Governance of the Internet

i) Separate Virtual Space:

The proponents of separate jurisdiction for cyberspace believe that the global computer-mediated communications have created a virtual status undermining the feasibility and legitimacy of applying laws based on geographical boundaries. They believe that “while these electronic communications play havoc with geographic boundaries, a new boundary made up of screens and passwords that separate the virtual world from the ‘real world’ of atoms, emerge”. This separate virtual world refers to a distinct cyberspace, which should be governed by new legal institutions applying new sets of laws. They expect the emergence of new rules in the various online spaces, separated from doctrines built by reference to territorial jurisdictions, to govern the new phenomenon. “These new rules will play the role of law by defining legal personhood and property, providing a mechanism for resolving disputes,

and crystallizing a collective conversation about core values”. Territorially based law-making and law-enforcing authorities may have no choice other than deferring to the self-regulatory bodies of cyberspace who are deeply concerned with this new digital dealing in ideas, information and services.290

Johnson and Post argue that cyberspace is a distinct place and should be treated as such. It is not a homogenous place. It consists of different groups and activities with unique characteristics, but the boundaries between these groups are as clear as the borders in real space, if not more.291 Each of these Net groups form a distinct community composed of users and Service Providers. These communities are capable of developing their own effective legal institutions. In the view of those writers the process of the formation of law merchant (lex mercatoria), which regulated border-crossing trade of the Middle Ages, may be taken, by analogy, as an example for the possibility of making separate law for

290 Ibid.
291 Ibid., at 14.
cyberspace.\textsuperscript{292} Moreover, the doctrine of comity along with the principles applicable when territorial sovereigns delegate authority to self-regulatory organizations such as church, clubs and social organizations may be applied by analogy as bases for non-interference of territorial sovereigns in the affairs of cyberspace communities. In other words, a territorial sovereign should not interfere unless there is a vital threat to its interests.\textsuperscript{293} The two authors summarized their argument as follows:

\textit{Global electronic communications have created new spaces in which distinct rule sets will evolve.}

\textit{We reconcile the new law created in this space with current territorially based legal systems by treating it as a distinct doctrine, applicable to a clearly demarcated sphere, created primarily by legitimate self-regulatory process, and entitled to appropriate}

\\textsuperscript{292} Ibid., at 22.
\textsuperscript{293} Ibid., at 24-25.
deference— but also subject to limitations when it oversteps its appropriate sphere.\textsuperscript{294}

Moreover, some supporters of virtuality even go further by viewing the Internet as the “last frontier”, i.e., the Internet is viewed as a big limitless space with much uncharted territory and that who claims first will have the right to control. This approach is similar to virtuality approach in excluding the public role in regulation, but it differs from it as concerns the issue of regulation. The virtual separate space approach anticipates a form of self-regulation depending on normative structures, whereas, the “last frontier” approach sees no role for normative structures. In the same line there is another approach, which views the Internet as a “commons” or “green space”. This approach calls for the preservation of the public nature of the Internet at all costs. It ignores the roles of the private sector in constructing the technical information

\textsuperscript{294} Ibid., at 34.
infrastructure, and the rules of law relating to private rights.295

However, the “last frontier” and “commons” approaches have not found much support and are described as myths and unrealistic.296 But the issue of separate virtual communities having their own laws and mechanism of enforcement has raised much debate. Some writers have elaborated the concept of virtual communities. For example, one writer believes that the mere availability of a common interest is enough for the formation of a virtual community around the globe. According to this writer, the real world of today has been shattered in the Networld into thousands of overlapping, fragmented and specialized communities in almost every field of interest. These communities include fantasy communities, ethnic communities, topical discussion communities, professional groups, game playing communities etc. Each community is defined by reference to

296 Ibid.
its boundaries and its respective netizens intend to stay within it. He argues that the contents of the rules applicable in cyberspace are based on pragmatism and reasonableness. He considers customary law as the origin of the norms governing cyberspace communities. The approach of self-normative regulation of the Internet envisions a series of dominant private rights vis-à-vis information access and control based on freedom of contracting.

The Internet groups that have found wide acceptance as virtual communities so far include: bulletin boards systems (BBS), conferencing systems, Internet Relay Chat, Usenet, e-mail lists and Multi-User Dungeons (MUDs). Moreover, the governance of these communities in the views of many writers “varies so far, from unwritten norms, to moderation of discussion and regulation of conduct by system operators (sysops) to formally enforced rules”. However, some commentators have cautioned against hasty assumptions of a

298 See Lipinski, supra note 54, at 25.
299 See, anonymous authors, supra note 44, at 1591.
300 Ibid., at 1592.
fixed nature for the Internet or its communities. The argument underlying this caution is that cyberspace is still at its first steps and as such, it is better to see first the impact of forces such as technology, markets and other extra-legal forces in shaping the evolving cyberspace before discussing the law’s role in shaping these communities. In this respect there are three factors expected to affect the future classification of cyberspace communities: first, the way in which the debate about public and private spaces will be settled in the future; second, to what extent the Internet will be tailored, through filtering for example, to meet individual preferences; third, for how long the mystery of cyberspace will continue in the light of other technologies such as web televisions and Internet videophones i.e., when the Internet becomes more integrated into familiar technologies it will no longer be convincing to classify “this” as cyberspace and “that” as real space.301

301 Ibid., at 1593-96.
The opponents of separatism describe the call for separate jurisdiction governed by different rules as puzzling, since it ignores the fact that cyberspace interactions ultimately refer to humans and, moreover, disregards previous international solutions of trans-border problems generated by earlier communication technologies such as the telephone and telegraph which, by analogy, may be applied to trans-border problems resulting from the use of the Internet. 302 Reviewing a book written by Curtis E.A. Karnow, under the title: Future Codes: Essays in Advanced Computer Technology and the Law, Kelly described the call for separate jurisdiction as “separatism fallacy”. He believes that “the separatism fallacy must be rooted from cyberspace writings because it posits (and often assumes) a situation that does not exist- a parallel world where current understandings have no legitimate claim”. 303

Moreover, the virtuality approach is described by one writer as a myth because, the paradigm of the Internet regulation

303 Ibid.
that is going on to this moment, for better or worse, is based on existing legal maxims.\textsuperscript{304} Also the self-normative regulation through dominant private rights based on freedom of contracting has been criticized on different grounds. First, this approach is considered as an attempt to exclude the public law from regulation of contracts in the way that serves the public interests. Secondly, this approach assumes parity of contracting parties, which is not the case on the Internet. The mechanism of private contracting in the sense viewed by self-regulation proponents may result in what are known as contracts of adhesion because of the uneven distribution of bargaining power between information owners and end users. As a result, a new term ‘information adhesion’ is “used to describe the process of market-based information alignment and control, that, in the present discussion is expressed through the mechanism of private contracting, favors those with a dominant bargaining position, and results in

\textsuperscript{304} See Lipinski, supra note 54, at 25.
information inequity”. 305 This information adhesion may occur in dealings between private parties in different countries or between private parties within a particular country. It is believed that without a system of public laws that reserve and protect public interests, new communications technologies may be exploited by powerful private interests for more subjugation of the weaker parties instead of liberating media. 306

Furthermore, one commentator even goes further by objecting even to the use of the term “cyberspace” or “the law of the Internet”. He premises his objection on the argument that very few bodies of law are defined by their characteristic technologies and that modern informatics technology should not be an exception. He believes that no cyberlaw exists and that it is dangerous to pretend that it does. According to this commentator, a tendency to define the future may be very dangerous when there is no agreement even on the present. Moreover, a tendency to define the law

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305 Ibid., at 26.
306 Ibid.
of the future is worse because the law normally evolves through “an inductive accretion of experience”. He believes that “it is much safer to extract first principles from a mature body of law than to extract a dynamic body of law from timeless first principles”. According to him, “an overly technological focus can create bad taxonomy and bad legal analysis, at least, and at worst, it can lock us into bad law, crystallizing someone’s idea of a future that will never be”.307

The opponents of separatism argue that most of the legal issues posed by the Internet are not new and even with regard to the few issues, which may be considered as new, most of the existing legal doctrines are flexible enough and can be adapted to accommodate new social practices.308

ii) Adaptation of the Traditional Legal System:

The exponents of governance of the Internet through traditional legal principles argue that the exiting law is competent for the resolution of the problems generated by the

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308 Ibid., at 3. See also Kelly, supra note 61, at 413.
Internet either directly or through the adaptation of its rules to accommodate new issues. In his attempt to refute the arguments of the supporters of self-governance of Internet communities and prove the adequacy of the traditional legal system to accommodate the legal issues generated by the Internet, Sommer numerated most of the problems posed by the Internet at present, and concludes that few of these problems may be considered as novel. Moreover, although he concedes that the new informatics technologies are, by definition, new and may generate novel social practices, which may, in turn, result in novel law nevertheless, he argues that much novel law should not be expected. According to him there are, at least, two reasons for this: first, new technologies often facilitate existing social practices rather than making new ones and, second, even new social practices can often be accommodated in the traditional legal devices. He points, as an example, to the statute of frauds, which has been available since the days of Hammurabi ready for being applied whenever needed. However, he
acknowledges that sometimes, substantial changes in law may occur and this may be as a result of new technologies but, he argues, this process is likely to be slow as law is often a conservative practice, drawing heavily on analogy and history. He states that the first “cyber-statute” might have been Article 4A of the American Uniform Commercial Code (UCC) 1989, codifying the practice of bank wire transfers, which has been practically applied for more than a century. According to him, the value of the Internet may be that it illuminates old controversial legal issues and may help in forming better understanding. It is described as no more than another battleground for old wars.309

Sommer discusses many issues considered as new challenges for the existing legal system, especially those relating to electronic commerce, sovereignty, intellectual property and privacy. He believes that the traditional legal system has already dealt effectively with most of these issues and has enough space to accommodate even the remaining

309 Ibid. at 3.
issues, which may be considered as novel. For example, as concerns electronic commerce, he discusses issues such as electronic authentication and data integrity, embodied-rights versus account-based system, contracting with machines through what are known as electronic agents and licensing of information. He argues that only the notion of electronic agency may be described as a new development. 310 With regard to sovereignty, he believes that some of the issues posed by borderless media and borderless communities in a world of multiple territorial sovereigns are old and insoluble, and others are old and have been successfully solved. 311 As concerns intellectual property, he states that the concept of commodification of culture may be considered as “very significant technology mediated transformation affecting the core, salience and meaning of intellectual property law driven by very old information technology before the emergence of the Internet”. However, he concedes that the process of digital rights management may be considered as a novel

310 Ibid., at 10-24.
311 Ibid., at 35.
development connected with the emergence of the Internet.\textsuperscript{312} He concludes his argument by stating that there are no unique characteristics of cyberspace more than any other social practice or set of social practices. He sees no structural difference between cyberspace and any other social practice of transnational nature. For example, he argues that there is no difference between sovereignty and cyberspace or sovereignty and the international banking system or sovereignty and globalization. All are based on the same political theory and many of the same legal sources. He believes that the significance of informatics revolution is that it stimulates the re-examination of many legal practices.\textsuperscript{313}

One commentator states that although human beings are experiencing radical transformations in the conceptions of how they interact due to the increasing power of digital communications, it is not clear that the legal problems posed by cyberspace are truly new. This is because, he adds, other previous communication technologies, such as the air travel,
telephony, telegraphy, radio, motion pictures and television “have posed the same types of challenges to relatively moribund legal regimes built on assumptions that the technologies obviated”. He argues that the attempts to distinguish those previous technologies from computers, depending on the great malleability of computers, are unavailing as they concentrate on the machines rather than on humans who operate them or the purposes for which they are used. He believes that the response of law to any technology should be based on careful analysis of the most likely uses of that technology, not on automatic assumptions that “transformational technologies will become the dominant ones around which law, as regulator of human behavior should orient itself”. According to him, it would be more fruitful to find out the most likely applications of those technologies and their expected transformations and how the law will respond to the resulting changes. In this respect, returning to history and studying the previous responses to transformative technologies may offer good bases for
analogy. He argues that the history of transformative technologies showed that societies repeatedly adapted to changing notions of time, distance and interconnectedness over the world. In the view of this commentator, the protection of issues such as privacy, access and liability concerns may be achieved by means of a careful study of the constraints imposed by dominating factors like social norms and market forces so as to come out with an intelligent structuring of direct regulation that takes into account privacy-protecting incentives, rather than attempting to create an entirely new legal entity, as suggested by the supporters of separatism approach.314

In the view of one writer, although the problems posed by the Internet may be described as unique, the settlement of these problems does not necessarily require separate law for the Internet. But he believes that there is a vital need for uniform substantive and procedural rules on a global level. He argues that although political reality may require

314 See; Kelly, supra note 61, at 413-15.
compromises that may be far from the best scholarly or practical solution, nonetheless, scholarly thoughts are indispensable in determining the means of creating uniform rules that can tame the Internet “beast”. Typically, the proponents of the application of the traditional legal principles often cite the present efforts for the settlement of the Internet controversies, exerted by local and international entities including courts, legislatures, regional and International bodies, such as the European Directives, UNCITRAL Model Law and OECD Guidelines, as rebuttal of the separatism approach. However, they acknowledge that the law of the Internet is still at its first stages and in a state of flux and uncertainty at times, but cyberspace is still developing under the umbrella of the existing legal information infrastructure.

However, in the view of Professor Lipinski the attempts to extend traditional property rights and other information controls and regulations to the Internet have been

316 Ibid. See also Lipinski, supra note 54, at 25.
accompanied by calls for harmonization, globalization and amelioration. Moreover, the legal development concerning information ownership and control has passed through different themes such as iteration, redaction, reaction and marginalization. The first term ‘harmonization’ refers to the process of the conformity of national laws to some basic international standards. For example, the recent treaties of WIPO, such as the WIPO Copyright Treaty 1996 and the WIPO Performance and Phonograms Treaty 1996, are considered as guidance for the member countries for the protection of copyrighted materials in digital environments.\textsuperscript{317} Harmonization of the rules governing the Internet internationally may be a good mechanism of fairness and efficiency in a sense that it will result in uniform rules all over the world and as such, facilitate the agreements between information sellers and information buyers, which may result, in turn, in the growth and expansion of the Internet. But in another sense it may be detrimental if it means forcing a

\textsuperscript{317} See http://www.wipo.org/eng/iplex/indexhtml
particular country to harmonize its information infrastructure to external standards not fitting to its internal circumstances. This is the case especially when the decision-makers or those who set the external standards are the First World countries “information rich” and those who have to harmonize their laws are the developing countries “information poor”\(^\text{318}\).

Harmonization in this sense ignores individual uniqueness of each country for the sake of inter-operability. This, in turn may “result in debasement of the cultural information heritage of a country in the name of economic progress”\(^\text{319}\).

The second term ‘globalization’, “refers to the natural trend in information access and control that is developing through market factors”. The trend in recent years is directed towards what is known as commodification of information. This trend has result in the globalization of information products, whereby the market factors are playing the main role in the access and control of information. For example, the decision of a multinational company to invest in information products

\(^{318}\) See Lipinski, supra note 54, at 4.

\(^{319}\) Ibid.
in a certain country will not be based on the information needs or equity of that country’s citizens, but on the demands for its products or services in the said country. Thus, globalization is viewed as a means for the domination of external economic forces upon weaker parties. Therefore, the dilemma facing policy-makers, especially in developing countries is how to strike a balance between establishing a climate that will attract investment in information infrastructure and at the same time preserving the public interest.  

The third term, ‘amelioration’, is considered by professor Lipinski an alternative for globalization and harmonization. Amelioration is described as a positive concept that recognizes the connected and interrelated nature of post-national era and envisions international agreement in the fields of international intellectual property or international commercial development, for example, which preserve the uniqueness of each sovereign country, instead of dismissing

320 Ibid., at 6, 7.
such peculiarities on grounds that they are primitive or unworthy. In order to achieve the economic justice, the concept of amelioration favors the application of what is known as Rawlsian distributive justice in any international agreement or law, otherwise, it dictates the application of what is known as Pareto optimization. Pareto optimum concept to harmonization or globalization stipulates that no law, international treaty or agreement should be adopted unless all of the parties are not worse off by the activity and at least the position of one party improves. Rawlsian distributive justice suggests that no international agreement or treaty would be adopted or implemented unless the least advantaged party (namely, the developing country) is placed in a better position as a result of such agreement or treaty.321

Moreover, the development of legal responses to information ownership and control has passed through themes such as iteration, redaction, reaction and marginalization, which characterize the recent information

321 Ibid., at 8.
warfare disputes. The emergence of new information technologies, such as the Internet, drives the traditional rules governing information to adapt to these new environments. “Iteration occurs when existing legal concepts are applied with less convincing results to web environments”. There are many examples of iteration in the decisions of the US courts. For example, in the case of Reno-v-ACLU322, the US Supreme Court assimilated the web to a vast library containing millions of readily available and indexed publications and sprawling mall offering goods and services. It is said that although this decision is considered by free speech advocates as a victory, the analogy used by the court “does not seem to comport with how library collections are actually built and constructed by library professionals”.

Furthermore, the US courts have “struggled to apply traditional ‘photocopying’ scenarios to Internet copying and browsing with less than convincing articulation”. For example, in one case the court decided that an Internet

Service Provider was not responsible for posting of others on its system. The court reasoned its decision by analogy to the responsibility of the owner of a copying machine. In another case the court ruled that browsing was equivalent to reading in a library, which did not implicate copyright infringement and need no permission from the copyright owner. These decisions led some to say that if courts cannot adequately characterize new information disputes with consistency, the digital environment may threaten existing legal mechanisms of information altogether. As a result, some resort to legal doctrines, such as misappropriation, which have not been traditionally applied in case of copyright infringement. It is argued that misappropriation is ill-suited for situations involving public rights, such as fair use right. Likewise, the US courts have reached disparate conclusions with regard to the issue of jurisdiction over Internet transactions.323

Furthermore, trademark law is unable to adapt to the web environment, especially with regard to the disputes between

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323 See Lipinski, supra note 54, 11-13.
trademarks proprietors and domain names owners. The stretch of the traditional information boundaries to adapt to the resolution of the problems generated by the Internet has resulted in breakdown in traditional information boundaries. Information owners and users are not sure of their rights and obligations. This leads, in turn, to what is known as redaction. The term ‘redaction’ is often referred to as the legal response to the ‘newness’ of Internet as a medium. That is, “current legal ‘solutions’ to the so-called information harms or wrongs are edited or redacted, to commit principles that, in the analog world, would simply not apply or extend”.324 For example, 47 U.S.C. s.230(c) was originally drafted to protect Internet Service Providers from tortious liability when their attempts to prevent defamatory materials posted on their servers are unsuccessful. Before the enactment of this law the courts used to hold the Internet Service Providers responsible when they asserted to the users of their systems that they protect them from defamatory postings. However, after the

324 Ibid., at 14-17.
enactment of this law the courts extended the protection not only to defamatory cases, but also to litigations involving other negligent postings of harmful or injurious materials. The state of flux that resulted from the inadequate application of traditional legal norms to cyberspace ‘iteration’ and the expansion of legal norms to cover situations not originally intended ‘redaction’, has paved the way for a third trend known as ‘reaction’. As a response to the uncertainty of the law’s ability to “preserve the information status quo, policy-makers with support from information owners have reacted by seeking alternative measures to protect their interests”. This reaction has resulted in self-protection information environments that aim at filling the gaps left by iteration and redaction movements. An example of official reaction in the EU is the sui generis database protection legislation. An example of private measures is the digital rights management.\textsuperscript{325} The implementation of digital rights management means that the users of copyright materials have

\textsuperscript{325} Ibid., at 17-19.
to pay for every use, even if such use falls within fair use exception. This will result in loss or decrease in the available information public space and, hence, lead to the so-called marginalization of information. Marginalization happens when the “commercial interests supercede cultural or educational information interests”. Professor Lipinski concludes his analysis of the legal response to the Internet challenges as follows:

Sovereign states or multi-states entities will continue to respond through law to the challenges of the digital environment. While the application of law to cyberspace is under development, there is the potential that a loss of information access and equity will occur. This loss may result as when traditional information boundaries breakdown (i.e., iteration) and new meta-information boundaries arise (i.e., redaction). There is no longer a check vis-à-vis the legal infrastructure on the private stakeholders

326 Ibid., at 21-23.
whose interests may be in opposition to the public good. Furthermore, sovereign states or multi-states entities should resist the tendency to adopt self-protection measures under a reaction approach that may restrict the flow and access of information, and should also be weary of the marginalization of the public interest or of particular stakeholders whose interests may not otherwise be protected.327

iii) Governance through Architectural Modifications:

A third group of writers sees the solution of the Internet problems in controlling the architecture of Internet infrastructure. The supporters of this approach argue that the problems generated by the Internet such as children access to harmful materials, invasion of privacy, unauthorized exploitation of intellectual property etc., could not be resolved by legal measures alone, which may not be able to adapt to the rapid and continuously changing medium.

327 Ibid., at 32.
Moreover, they contend that the Internet in essence refers to interconnection of computers all over the world. Computers in turn, are no more than machines that read and execute instructions or “code”\(^\text{328}\) Some kinds of codes carry out basic functions, some enable the processing of words, music or visual images, and some facilitate the interconnection of computers together. In short, “code defines the architecture of cyberspace”. The architecture of cyberspace is described as open and malleable because anyone who understands how to read and write code is capable of rewriting the instructions that define the possible. This malleability of code may be manipulated to eliminate the problems of cyberspace by altering its architectural code to achieve that end.\(^\text{329}\)

The supporters of code architecture state that code architecture is intended to enhance regulation by law. That is, the law may regulate directly where this is possible and effective, otherwise, it may enforce its values indirectly by tailoring the architecture of cyberspace to meet that

\(^{328}\) See, anonymous authors, supra note 44, at1634-35.

\(^{329}\) Ibid., at 1635.
purpose.\textsuperscript{330} Professor Lessig argues that cyberspace is not inherently unregulable because “its regulability is a function of its design”. Governments have the ability to influence the design of cyberspace in a way that serves their goals. But, there are limits on the power of regulation by governments. He thinks that the power of governments to regulate depends on their control on those who own the code. As far as code is owned by private entities capable of being tracked or owned by the government itself, the power of the government to regulate is enhanced. But, if it is owned in “commons” the government’s power of control is reduced. By “private” he means that the code is designed and sold as a complete package, as most commercial code is presently designed, without giving the licensee the source code or allowing him to modify it. The product is sold as is and has to be used as is. It is the property of the seller who maintains an exclusive right over its design and development. Therefore, Professor Lessig encourages private ownership of code because he

believes that it enables the government to influence the owners of the code to write or modify it in the form preferred by the government. He disfavors the call for the design of “open source” where software is distributed with its source code and the end users are entitled to modify it. He argues that this form of “open source” produces commons code i.e., no single person exercises an exclusive right over the code. This may reduce the ability of the government to regulate. However, he cautions that the issue of cyberspace architecture should be dealt with carefully for, at least two reasons: first to avoid the side effects of what he calls over-inclusiveness, because sometimes a code solution which targets one issue may transcend to other unintended issues and produce unintended results. For example, the device enabling digital rights management, which is known as “trusted systems” for the protection of copyright, may result in absolute or unlimited protection for the targeted copyrightable material, thus removing the balance made by copyright law such as fair use and limited period of
protection. This form of over-inclusiveness protection often results from what he calls “bottom-up” control. This form of control frequently stems from bottom-up structures, such as contract-like or property-like systems. This may be labeled as the political economy of the Internet’s self-regulation. “As with any political economy, some interests gain more individually from a particular structure than do others”. In the view of Professor Lessig, this form of bottom-up behavior “highlights a weakness in the potential for Internet self-regulation”. Secondly, he calls for careful dealing with the issue of cyberspace architecture because of the lack of transparency in case of regulation through code design. He attributes this to the fact that ‘it is a feature of people’s experience of cyberspace that they are unlikely to associate any particular constraints with a choice made by a coder”. He argues that in real space transparency is a value that constraints the promulgation of statutes and regulations. So, he asks these questions: “should our belief in the value of transparency steer us away from regulations through code
that hide their policy? Should we demand that the state announces its purpose or makes plain its hand?” He answers by saying that although at present there are no constitutional principles obliging the US government to do so, the government should adhere to transparency.\textsuperscript{331} He concludes by recommending that when the law uses code to achieve its ends, that code should be narrowly tailored to serve only legitimate state ends and that the structure of code should not be allowed to displace values implicit in the law. Moreover, he believes that if “bottom-up aggregation of preference won’t produce the ideal mix of regulation, we should check the aggregation made through bottom-up design of code”.\textsuperscript{332} One writer states that the assumption that legal decisions about the Internet be based on property rights look sound but, according him, a regime of an absolute property rights may result in assigning liability to all uses of the Internet. This, in turn, may result in chilling the effective use of the Internet, whose efficiency is derived from its open nature. Therefore,

\textsuperscript{331} Ibid., at 538-48.
\textsuperscript{332} Ibid.
the law must make balance between property rights on one hand and open access to the Internet on the other, premising on the assumption that connection to the Internet “implies some willingness to permit others to interact with one’s computer”. According to this writer, in order to determine which interactions are permissible and which constitute bases for liability, the law must resort to metaphor i.e., treats the Internet as if it were a physical place and hence, get use of the function of fences in real space.\(^{333}\) The role of fences in real space is that they indicate an assertion of property rights. He believes that exclusionary technical measures in cyberspace should play the same role. In other words, liability should be confined to those who circumvent these exclusionary technical measures.\(^{334}\) He believes that the consequences of applying cyberspace fences metaphor are that; first, it will allow the law to adapt current rules of privacy and computer security in real space to be applicable to the problems of

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\(^{334}\) Ibid., at 4.
cyberspace in a way that ensures the function of property rules in cyberspace and second, “the metaphor permits the law to posit fences in cyberspace that then permit the law to define property rights in cyberspace much more precisely. Third, as in real space, property rights in cyberspace must be based on property-like interests such as privacy or actual ownership of the concerned computers or the information stored therein. Fourth, the final aspect of the metaphor is that whenever there is no property assertion in the way mentioned above, the presumption is that access is permissible. 335

However, a fourth group of writers argue that each of the proponents of separate jurisdiction and independent law for cyberspace and the supporters of regulation under the rules of the traditional legal system as well as the supporters of regulation through architectural modifications, say part of the truth. The full truth in the view of those writers may be found in a hybrid form of regulation.

335 Ibid., at 9.
iv) Governance through Hybrid Measures:

The exponents of a hybrid form of regulation share with self-governance proponents the view that the Internet has unique characteristics that defy the conventional regulatory theories and policy-making practices. But they disagree with them as concerns the proper way of regulation of the Internet. Professor Perritt describes the calls for self-governance and separate jurisdiction as well as the calls for regulation solely through traditional territorial sovereign countries as implausible. He believes that the impossibility of self-regulation stems from the fact that democratic political systems are not expected to allow a place like the Internet engaging explosively in commerce and political matters, to be entirely out of the reach of these political systems. At the same time, he argues that allowing almost 200 countries and thousands of other subordinate entities all over the world to assert extraterritorial jurisdiction over activities carried out on the Internet “risks turning the regulators into latter day King
Canutes who demonstrated the limitations of law by commanding the tide not to come in”. 336

The supporters of hybrid governance see the solution of the problems generated by the Internet in a form of hybrid international measures. However, they differ in the details of this form of regulations. For example, Reidenberg argues that the Global Information Infrastructure (GII) has undermined the geographical as well as substantive legal sovereignty. It undermines the geographical sovereignty in the sense that it ignores the existence of geographical borders altogether. It undermines substantive legal sovereignty in the sense that it obscures the traditional boundaries of substantive law. For example, the boundaries of the conventional telecommunication law are distinct from those of financial services law and the borders of intellectual property law are separate from the borders of privacy law. The Global Information Infrastructure has blurred these substantive boundaries. For instance, a packet of information may contain

electronic cash or payment instructions embedded in images of an individual. In this case the transfer of that packet of information transcends many sectoral lines, including telecommunications, financial services, intellectual property and privacy. He believes that “digitalization and the information infrastructure enable the objectives of one distinct body of law, such as privacy law, to be achieved by application of the rules of another field such as intellectual property law”. Therefore, he argues, territorial borders and substantive borders are no longer suitable as key paradigms for the regulation of GII.337

Reidenberg is of the opinion that Network communities have formed what he calls Network sovereignty. These Network communities are controlled mainly by Network Service Providers and infrastructure architecture. Moreover, governments have direct interest in governing these communities to protect public interest. He criticizes both US and European approaches for governance of Network

communities because they stick to the traditional paradigms of distinct legal fields and territorial borders and disregard the global nature of these Network communities. Reidenberg argues that the overlap of interests between real space and cyberspace necessitates a form of governance that sets rules leading to a form of separation of powers. This may be achieved by recognizing a kind of semi-sovereignty status for Network communities and apply a form of federalism for the relationship between territorial governments and cyberspace. He acknowledges that governments can and should be involved in creating norms for cyberspace, but according to him, this cannot and should not reach a stage in which a territorial government attempts to expropriate all regulatory power from Network communities. He believes that governments have many tools to induce Network communities to adopt desirable public policies. This includes architecture of Internet infrastructure, provision of incentives and allocation of liability. But these policy instruments, he adds, need to be dealt with carefully; otherwise it may turn
into a form of censorship that may result in restricting the advantages of a powerful Network.\textsuperscript{338}

Professor Perritt believes that the main legal barriers that impede full realization of Internet potentials are the uncertainty of legal remedies. One of the solutions suggested for solving the problem of uncertainty is the application of targeting. Targeting means that a market participant directs its sales or purchasing activity to particular jurisdictions. However, targeting has its disadvantages as excessive de-targeting excludes consumers in de-targeted states from the benefits of the global e-commerce.\textsuperscript{339} In the view of Professor Perritt, the uncertainty relating to the forum and applicable law can be reduced by contractual choice of forum and law. He thinks that the power of contract is reflected in its support for the emergence of new legal institutions of hybrid characters, such as the International Corporation for Assigned Names and Numbers (ICANN), credit cards chargeback mechanism, eBay’s escrow and insurance arrangements and

\textsuperscript{338} Ibid., at 88-100.
\textsuperscript{339} See Perritt, supra note 95, at 1-5.
various cyber tribunals. He argues that the geographic limitations facing public institutions exercising sovereign powers for settling jurisdictional uncertainty may be surmounted when rules are made and enforced by private rather than public institutions. But there is a possibility that private arrangements may not express the political consensus of democratic societies as concerns the values to be enforced or setting of competition balance between market participants. Therefore, according to Professor Perritt, a combination of public regulation with its great political legitimacy and the private regulation with its jurisdictional strength may be achieved by developing new hybrid frameworks. The role of public law is to set minimum and general standards of conduct and to provide enforcement support, whereas, the role of a private regulatory regime is to make detailed rules and first-level dispute settlement and enforcement machinery within this public framework. In this respect, he points to three endeavors as promising examples of hybrid approaches. The first endeavor is ICANN, which
regulates assignment of Internet domain and resolves related disputes. The second endeavor is the safe harbor mechanism for privacy protection, which allows forming of basic norms for privacy protection to be enforced by private regulatory institutions. This privacy protection mechanism has found acceptance both in US and European Union. The third endeavor is that known as credit card chargeback mechanism, which provides effective settlement for virtually all disputes relating to credit card-based Internet commerce.\textsuperscript{340}

However, Professor Perritt adds that the hybrid regulation, as well as other contractual arrangements for the solution of jurisdictional uncertainty, needs intermediaries that can develop and enforce the related rules. For example, ICANN, the new intermediary for the domain name regulatory regime, issues rules regulating assignment of domain names and solution of controversies between trademark owners and domain name holders. New dispute resolution intermediaries, such as the administrative panels under the WIPO disputes

\textsuperscript{340} Ibid., at 6,7.
resolution rules adjudicating these controversies under the ICANN rules. Credit cards issuers work as intermediaries adjusting disputes between merchants and consumers. Mail Abuse Prevention System (MAPS) works as an intermediary enabling the Internet Service Providers to exclude spam. The roles played by these volunteer intermediaries are different from those imposed on unwilling intermediaries, such as Internet Service Providers or telecommunication bodies, who are compelled to assume regulatory roles under the threat of liability for the conduct of users of their services. However, the rules made by those intermediaries or their application “may raise concerns about lack of accountability, arbitrary enforcement and anticompetitive effects”. Therefore, he recommends that the new initiatives for private self-regulation must be based on widely accepted rules connected with broadly accepted norms for privacy protection, consumer protection and respect for intellectual property and, moreover, in order to ensure effective enforcement and compliance with these rules, the works of these private bodies
must be subject to a form of audit by independent mechanism so as to assure that these private self-regulatory regimes are working in compliance with the rules of their formation.341

**Conclusion**

The invention of the Internet by all means is a revolution in the field of communications in the twentieth century. Its vast abilities in performing different kinds of communication activities including real-time communications, one-to-one messaging and retrieval of information efficiently and effectively at low cost have revolutionized the interactions of humans all over the world and truly rendered the world a small village. The exponential growth of the users of the Internet proves that it is a popular medium. Its various applications facilitate almost all aspects of life. It has surpassed all previous communications means in facilitating the communications and dissemination of information. As a result, it has generated transformative social practices, which

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341 Ibid., at 7-11.
need legal response. Moreover, as a tool, the Internet can be exploited for good and for evil. Some are using the Internet for illegal practices including criminal activities, civil wrongs and infringement of rights. The transborder nature of the Internet has added further complications for the problems resulting from its use. Actions taking place on the Internet are taking place instantaneously everywhere, if anywhere. Efforts have been exerted within individual sovereign countries as well as at the international level to find solutions for these legal controversies.

Different approaches have been advanced for the governance of the Internet. Some take extreme sides and some are in between. Four approaches have been discussed herein. The first approach calls for separate virtual space to be governed by independent rules. The supporters of this view argue that the Internet Service Providers and users have formed separate virtual communities capable of creating their own normative rules. Individual countries cannot and should not control cyberspace, because actions on the Internet take
place everywhere instantaneously, not in any place in particular. The trend adopted by this approach has been described as illogical and unrealistic, simply because it ignores salient facts such as the presence of the dealers in Internet activities in the physical world and the direct positive and negatives impacts of the Internet on various aspects of life in real space. The second approach calls for the application of the existing legal system. The supporters of this approach contend that most of the problems generated by the Internet are not new and that the traditional rules of the existing law are flexible enough and can be adapted to accommodate even the problems, which may be considered as new. The critique directed at this approach is that it ignores the peculiarities of the Internet. The third approach adopts what is known as code solution. The exponents of this approach argue that the resolution of the Internet controversies lies in interplay of law and technology. They believe that the governance of cyberspace can be achieved through modifications in the architecture of the Internet
infrastructure supported by the power of law, i.e., the law can enforce its values through imposing the designing or modification of the architecture of the Internet infrastructure in a way that serves its values. The criticism directed at this approach is that code solution may not be perfect and it may be circumvented. Moreover, even if it is perfect, it may transcend to other activities not intended and bring negative results. The fourth approach suggests a hybrid form of regulation taking into account the Internet peculiarities as well as the direct concerns of the real world with its activities. The hybrid form of regulation approach may offer a good solution if it considers not only the peculiarities of the Internet, but also its connections with the physical world and moreover, within the physical world it must take account of the economic, social and political peculiarities of each sovereign country, especially the developing countries.
Chapter 4

Regulation of Electronic Commerce

Introduction:

In spite of the fact that the Internet innovation has been accompanied by a perception that it is a tool for scientific and academic exchange, nevertheless the capabilities of the Internet have proven to be beyond the expectation of its designers as it has become involved almost in all everyday life activities. Among these everyday life activities the economic activities have taken the lion’s share. The main vessel for these economic activities is trading via the Internet, namely electronic commerce. The application of the World Wide Web has facilitated the interaction between businesses as well as businesses and consumers. Moreover, international trade is no longer confined exclusively to big businesses. The international nature of the Internet and the easy and low cost of access to it have enabled small and medium sized enterprises to participate in the international trade.
of the Internet is said to lie not only in facilitating transaction for tangible goods, but also in revolutionizing commerce in the field of intangible goods and services. This is because, in addition to promoting electronic contracting for intangible goods and services, the Internet has enabled online delivery of these goods and services. Therefore, the Internet is expected to be the main medium for contracting and delivery of goods and services such as computer software, entertainment products, information services, technical information, products licenses, financial services and professional services. It has been stated that the emergence of electronic commerce has generated dramatic developments for the digital economy reflected in financial markets and trade flows, innovative models for business and new opportunities for consumers. The size of these developments is so big that electronic commerce has become a subject of economic, policy and social importance.

However, the growth and expansion of electronic commerce are facing impediments of different kinds. In the legal field
electronic commerce is confronting lack of predictable legal environment due to legal uncertainty as concerns the formation and security of electronic transactions, jurisdiction, the applicable law and enforcement, in addition to other related legal issues such as the protection of consumers, intellectual property and privacy. Moreover, there are fears from intensive government intervention through imposing of extensive regulation on the Internet and electronic commerce, especially in fields such as taxes, customs duties, restriction on types of information to be transmitted, licensing requirements and the extent of responsibility of Service Providers.

Different theoretical approaches have been advanced for the regulation of electronic commerce including calls for an international uniform law via treaties, model laws, law merchant (lex mercatoria) and a hybrid form of regulation. However, currently there are many legislative attempts nationally and at the international level addressing issues pertaining to the regulation of electronic commerce. The aim
of these legislative endeavors is to secure trustworthy digital transactions based on legal principles and technical capabilities so as to promote reliable digital authentication and specify the rights and obligations of the parties involved. Amongst these attempts are the works of the United Nations Commission on International Trade Law (UNCITRAL), including UNCITRAL Model Law on Electronic Commerce 1996 and UNCITRAL Model Law on Electronic Signature 2001, the International Chamber of Commerce (ICC) Guidec I (1997) and Guidec II (2001) on General Usage of International Digitally Ensured Commerce, the European Union Directive on Electronic Signature 1999, the works of the Organization for Economic Cooperation and Development (OECD), in addition to national legislation such as the US Uniform Computer Information Traction Act (UCITA).

This chapter examines some of the legal aspects relating to the regulation of electronic commerce. It is divided into six main parts. Part 1 discusses the opportunities and challenges
of electronic commerce. It is divided into three subtitles including the definition of the term electronic commerce, its potential growth and the impediments confronting its future growth and expansion. Part 2 studies the theoretical approaches advanced for the regulation of electronic commerce. It is divided into four subtitles discussing the different approaches suggested in this respect. Part 3 studies the formation of electronic contracts. It is divided into four subtitles involving definition of related terms and examining the necessary elements for the formation of contracts such as offer, acceptance, consideration and intention to create legal relation. Part 4 examines the validity of electronic contracts in the light of the formalities required by law. It is divided into three subtitles discussing some formalities frequently required by law in paper-based environment and whether these formalities can be satisfied in a data message. Part 5 discusses the authentication of electronic documents. It is divided into two subtitles including definition of related terms and a study of the approaches concerning the methods of
authentication of electronic documents. Part 6 discusses the admissibility and the evidential value of electronic documents. It is divided into two subtitles discussing the admissibility of electronic documents as evidence and the weight accorded to such evidence.

1. Opportunities and Challenges of Electronic Commerce

i) The Emergence and Growth of Electronic Commerce

(a) Definition:

To date, there is no internationally accepted definition for the term ‘electronic commerce’ (e-commerce). Generally, electronic commerce refers to transactions by means of communications that can be labeled ‘electronic’.\(^{342}\) The use of electronic means for the conclusion of transactions is not new. It could be traced back to the time of the invention of the telegraph in mid-nineteenth century. Other electronic

means include telex, facsimile, telephone, Electronic Data Interchange (EDI) and the Internet.\textsuperscript{343} For the purpose of this thesis, the term electronic commerce refers to trading by means of the Internet. In this context the definition of electronic commerce proposed to OECD by the British Department of Trade and Industry (DTI) may be described as comprehensive. DTI proposed the following definition:

\textit{Using an electronic network to simplify and speed up all stages of the business process, from design and making to buying, selling and delivery e-commerce is the exchange of information across electronic network, at any stage in the supply chain, whether within an organization, between businesses and between businesses and consumers or between the public and the private sectors, whether paid or unpaid.}\textsuperscript{344}

The subject matter of electronic transactions may be intangibles data products or tangible goods. In either case the


\textsuperscript{344} See Basu, supra note 1, at 2.
physical presence of the parties is not required and where the goods or services are processed in digital form, even delivery can be carried out online.\textsuperscript{345} The WIPO Primer on Electronic Commerce and Intellectual Property defines the phrase ‘electronic commerce’ through dividing it into two words ‘electronic’ and ‘commerce’ and defines each word separately. The term ‘electronic’ refers to “the global infrastructure of computer and telecommunication technologies and networks upon which the processing and transmission of digitalized data takes place”. The word ‘commerce’ in this context “refers to an expanding array of activities taking place on the open networks – buying, selling, trading, advertising and transactions of all kinds – that lead to an exchange of value between two parties”. The WIPO Primer has pointed to two important features of commerce taking place over the digital networks. First, the international dimensions of the electronic means referred to above reflect the transnational nature of electronic commerce. In other

\textsuperscript{345} Ibid.
words, the mere establishment of a web site enables small and medium sized enterprises to offer their goods or services worldwide. Secondly, the interdisciplinary nature of electronic commerce has rendered the traditional lines between business sectors, which have been premised on the different physical forms of the goods or services offered and the different physical means of their distribution, less clear. This transformation has resulted in new competitive pressures for business necessitating processes of restructuring within and across industries, so as to respond to the opportunities and challenges posed by this transformation.346

(b) Growth and Expansion of Electronic Commerce:

The speed at which e-commerce is growing has proved to be more than that predicted by market forecasts. For instance, markets forecasts made in 1996-97 turned out to be less than the actual performance.347 According to M/s Forrester

347 See Basu, supra note 1, at 3.
Research Inc., a leading US consulting firm in e-commerce, the Internet commerce will jump from $55-$80 billion in 1998 to $1.4-$3.2 trillion in 2003.\(^{348}\) The vast majority of this growth comes from business-to-business commerce. Even business-to-consumers transactions are growing exponentially regardless of consumers’ precautions relating to security of payment, potential for fraud and intrusion of privacy.\(^{349}\) For example, business-to-consumers online shopping of the European websites is expected to grow from 111 million Euros in 1997 to nearly 5 billion Euros in 2002. However, there are great disparities between countries concerning the growth and expansion of electronic commerce. The leading countries in this respect to date are the USA, EU, and Australia. Other countries, such as Malaysia, Mexico, Singapore and India are striving to lead their way in this field by evolving mechanisms and technologies enhancing their business environment.\(^{350}\) It is believed that the smooth growth of electronic commerce

\(^{348}\) Ibid.
\(^{349}\) See WIPO Primer, supra note 5, at 4.
\(^{350}\) See Basu, supra note 1, at 4.
requires the removal of the barriers constraining its potential growth and expansion.
ii) Barriers Constraining the Growth of Electronic Commerce

Different factors affect directly or indirectly the potential growth of electronic commerce. Broadly, these factors may be classified into three categories including financial issues, legal problems and market access impediments.

(a) Financial Obstacles:

These are mainly related to customs duties, taxation and security of electronic payment systems. There are fears that countries, in their search for new sources of revenue, may resort to levy tariffs on global electronic commerce and impose new taxes on it. Moreover, the cautions of consumers as concerns security of online payment may drive governments to impose inflexible and highly prescriptive regulations and rules that may constrain the ongoing evolution of online payment systems. On July 1, 1997 the USA government issued a ‘Framework for Global Electronic
Commerce’ in which it calls for the declaration of Internet as free-tariff environment, when used to deliver goods or services, and that no new taxes should be imposed on Internet transactions. 351

It has been stated that in the light of the peculiarities of the Internet such as the potential anonymity of transacting parties, the value of multiple small transactions and the difficulty of locating the transacting parties on the physical world, there should be an international coordination concerning taxation of the Internet transactions, which must be consistent with existing established principles of international taxation, avoid inconsistent tax jurisdictions and double taxation. 352 With regard to the development of electronic payment systems, it is recommended that governments should “work closely with the private sector to inform policy development and ensure that governmental

352 See Basu, supra note 1, at 21-2.
activities flexibly accommodate the needs of the emerging marketplace".353

(b) Barriers to Market Access

Barriers to market access include issues relating to telecommunication services, such as pricing of access to the Internet, service delivery options or technical standards, and issues concerning the regulation of Internet content and the freedom of access to Internet materials. For example, the US government calls for broadest possible free flow of information across international borders. Some countries tend to restrict content of and access to information on the Internet because they fear that the free flow of information may affect negatively their cultural, social and political systems. According to U.S. government, internationally collective efforts should be exerted to regulate issues relating to public policy such as hate speech, violence, sedition, pornography and other content so as to ensure that “differences in national

regulation, especially those undertaken to foster cultural identity, do not serve as disguised trade barriers”.

(c) Legal Obstacles:

There are many factors which contribute in the generation of challenges for electronic commerce. Among these are the peculiar characteristics of the Internet, including the non-physical existence of digitalized data, the difficulty of designating the physical places of the transacting parties, especially the place of business, and the instantaneous availability of content to users around the globe, in addition to formalities required by traditional legal system for the conclusion of contracts. These unique features of the Internet have created uncertainty in law as regards the legal issues they raise. As a result, there is uncertainty in relation to, for example, the formation and validity of electronic contracting, authentication of electronic messages and admissibility and value of electronic evidence, consumer protection and

354 Ibid., at 14-9.
intellectual property protection, in addition to conflict of laws implications such as the competent jurisdictions to settle disputes relating to electronic transactions, the applicable law and enforcement of judgments.

It is believed that the resolution of these legal problems necessitates the creation of uniform global substantive and procedural rules that can address the various legal problems facing the growth and expansion of electronic commerce. Such uniform law must secure the save dealings of the contracting parties. For example, it must provide adequate protection for the intellectual property rights of the transacting parties from fraud, theft and piracy, so that sellers or licensors are confident that their intellectual property will not be stolen and buyers or licensees are sure that they obtain authentic products. Moreover, such uniform rules should provide protection for privacy as concerns the misuse of personal data and unsolicited advertisements (spam), as well as ensuring secure and reliable telecommunications networks that can provide effective means for protecting the
information systems attached to them, in addition to providing effective means, which can authenticate and ensure confidentiality of electronic information so that data can be protected from unauthorized use.\textsuperscript{355}

2. Theoretical Approaches for the Regulation of Electronic Commerce

Different approaches have been advanced for the legal regulation of electronic commerce. Some of these approaches are connected with the regulation of the Internet generally and have been discussed above. However, the approaches discussed hereunder are focusing on electronic commerce in particular. The common aim of these approaches is to create legal certainty with regard to the legal problems impeding the potential growth of electronic commerce. Despite the wide consensus as concerns the need for uniform global law to govern the Internet transactions, different approaches have been suggested as to the best entrance to this uniform law.

i) **Global Uniform Law through International Treaties**

International treaties are described as the classical means for creating uniform law applicable to international transactions. The supporters of regulation of electronic commerce via an international convention point to the Convention on the International Sale of Goods (CISG) 1980, as the “most successful convention having regard to the number of contracting states and its acceptance in practice”. The advantages of an international convention are that such convention, as the case in international conventions generally, is expected to be based on compromises that take into account the political and cultural differences of its participants, so that it can find way to be applied in the member countries. This could result in “supranational rules in different equally authentic languages”. Moreover, usually international conventions only allow for minor deviations
from the applicable rules so that similar rules exist in all member countries.\textsuperscript{356}

However, at the same time, international conventions have their disadvantages. One of the disadvantages is that the conflicting interests of the participating states usually impede the quick promulgation of such treaties so that it may take many years to come to consensus on a final form of a convention. Moreover, with regard to the Internet transactions, it is believed that even if an international convention succeeds in achieving certainty of law, practically this may not provide solution for small value transactions concluded by consumers. This is because “the transaction costs of adjusting disputes through conventional judicial institutions are too high for many of the low-value transactions that represent the Internet’s greatest potential”.\textsuperscript{357}

\textbf{ii) Uniform Rules through Model Laws}

\textsuperscript{356} See Diedrich, supra note 14, at 6.

It has been argued that the objective of uniform global rules applicable to electronic transactions may be achieved through model laws to be drafted by international bodies such as the United Nations Commission for International Trade Law (UNCITRAL), the International Chamber of Commerce (ICC), the Organization for Economic Cooperation and Development (OECD) and UNIDROIT. Unlike treaties, model laws are not binding on states or individuals unless they are incorporated in the internal law of the concerned country. States have the option to adopt the model law. However, there are many reasons that may drive states to adopt a certain model law e.g., its convincing legal standard or because of the desire to be party to supra-nationally uniform rules. A successful example of international model law is the UNCITRAL Model Law on International Commercial Arbitration.358

The distinctive features of model laws are that they are flexible and do not require rigid formalities for their drafting.

358 See Perritt, supra note 16, at 7.
Therefore, unlike treaties, model laws can be drafted in a short time in order to respond to emergent problems. Of course, draftsmen usually take into account the political, economic and legal differences of states when drafting a model law so as to secure wide acceptance for it. However, model laws also have their disadvantages. One of these disadvantages is that model laws usually do not exclude the rules of conflict of laws, i.e., a court has to use the conflict of laws rules to find out the applicable state version of the model law. This may result in differences in the application of the model law, due to disparate interpretations given to its provisions in different jurisdictions or as a result of the deviations made pursuant to the provisions of the model law itself.359

iii) The Law Merchant (lex mercatoria)

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359 Ibid.
Lex mercatoria is defined as “the customary law that is binding upon merchants dealing in a specific trade”. Historically, lex mercatoria refers to a body of law developed during the medieval ages by merchants of Europe and Middle East. The source of this body of law was based on trading fairs and the practices of the merchants at that period. This body of law had developed into sets of commercial customs applicable to merchants wherever they move. “Gradually over time, these customs gained the force of law as governments recognized that merchants should be able to resolve their disputes by their own rules”. However, by the end of the Middle Ages and due to the emergence of modern states, the uniformity of lex mercatoria was diluted as it was incorporated into national legal systems. Lately, the rules developed by lex mercatoria have been collected so as to form a coherent set of rules. For example, INCOTERMS,

360 Ibid.
362 Ibid.
which have been collected and regularly updated by the ICC, are considered as an example of *lex mercatoria*.\textsuperscript{363}

However, *lex mercatoria* rules have been much contested by developing countries on the ground that they are unsuitable for them and that they should not be imposed on them because they had not participated in their creation. Moreover, it is contended that such rules have not reached the stage of being considered as constituting an independent legal regime.\textsuperscript{364} Furthermore, it is believed that the disadvantages of the application of these rules to the Internet transactions surpass their advantages because; first, the emerging rules will not be considered as forming customary law unless they have found constant common acceptance and this usually takes a long time of usage. Secondly, the participants in Internet transactions are not only merchants of equal bargaining powers, but also include consumers and other weak parties. “So it is very likely that one-sided rules in favor of the more powerful global players would emerge”. Thirdly,

\textsuperscript{363} See http://www.iccwbo.org. See also Diedrich, supra note 14, at 7.

in some jurisdictions, e.g., Germany, the customary law is considered as a matter of fact that needs to be proved before the court. This will be “costlier and riskier than relying on statute law”.

iv) Mixed Form of Regulation

In the view of some commentators a mixture of the above approaches has to be made to form a unified body of law for the regulation of electronic commerce. This process is considered as possible and there is an existing example for such possibility represented in the UNIDROIT Principles for International Commercial Contracts. The provisions of the UNIDROIT, which is an international convention, have been based on the rules of *lex mercatoria* in international commercial contracts. Therefore, it is believed that the same can be applied to the Internet transactions by codifying the usages and practices of Internet users in an international

365 See Diedrich, supra note 14, at 7-8.
366 Ibid., at 8.
367 For the text of UNIDROIT see [http://www.hcch.net/e/conventions/unidoit/html](http://www.hcch.net/e/conventions/unidoit/html). See also Diedrich, supra note 14, at 8.
convention or putting them in a global model law. However, once again all the disadvantages of the above approaches i.e., the difficulty of concluding an international convention, the non-binding nature of model laws and the long time needed for creating customary law converge here. Therefore, even a mixture of the above approaches is not ideal for harmonizing or unifying essential legal rules.\textsuperscript{368} However, regardless of these theoretical approaches there are many practical endeavors, which have dealt with the issue of regulation of electronic transactions, especially as concerns the formation and validity of electronic contracts, authentication of data messages and admissibility and value of electronic documents.

3. Formation of Contracts Online

i) Definition:

(a) Electronic Contracting

\textsuperscript{368} See Diedrich, supra note 14, at 9.
The term electronic contracting is defined by Guidec II of the ICC, as “the automated process of entering into contracts via the parties’ computers, whether networked or through electronic messages”. The Uniform Computer Information Transaction Act (UCITA) of the U.S., refers to this form of contracting as the ‘automated transaction’ and is defined under s.102(7) thereof as “a transaction in which a contract is formed in whole or part by electronic actions of one or both parties, which are not previously reviewed by an individual in the ordinary course”.  

(b) Electronic Message

This term is defined under s. 102(28) of UCITA as “a record or display that is stored, generated or transmitted by electronic means for the purpose of communication to another person or electronic agent”. It is referred to under Article 2 of the UNCITRAL Model Law on Electronic

371 Ibid.
Commerce as ‘data message’ and it is defined as “information generated, sent, received or stored by electronic, optical or similar means including, but not limited to, electronic data interchange (EDI), electronic mail, telegram, telex or teletype. 372

(c) Electronic Agent

This term is defined under s. 120(27) of UCITA as:

A computer program or electronic or automated means, used independently to initiate an action or to respond to electronic messages or performances, on the person’s behalf without review or actions by an individual at the time of the action or response to the message or performance. 373

ii) Offer

373 See s. 102 (27) of UCITA, supra note 29.
Generally, under contract law an effective offer that can turn into contract when met by acceptance, must comprise a definite promise to be bound if certain specified terms are accepted.\textsuperscript{374} An offer may be made to a particular person or to the public at large. In case an offer is made to the public at large, the offeree need not communicate his acceptance to the offeror. The mere performance of the required action is enough as it was held in the famous case of \textit{Carlil v. Carbolic Smoke Ball Co.}\textsuperscript{375} However, the law distinguishes offer from what is known as invitation to treat. In case of invitation to treat a party often offers to negotiate or provokes an offer from the other party. For example, actions such as advertisements to promote goods or services by showing their features or calling for auction or displaying goods in a shop-window or on the shelves have been treated as invitation to treat.\textsuperscript{376} Moreover, an offer can be revoked at any time before being considered by law as accepted. Also “it may lapse, it may be subject to a condition that fails to be satisfied or it may be affected by the death of one of the parties”.\textsuperscript{377}

Before applying the above mentioned general rules to online contracts, it is worthy to point out that formation of contracts via the

\begin{footnotesize}
\begin{enumerate}
\item (1892) 2 Q. B. 484.
\item For more details see Cheshire, Fifoot and Furmston, supra note 33, at 24-48.
\item Ibid., at 46.
\end{enumerate}
\end{footnotesize}
Internet has been endorsed as valid in legislation dealing with this matter nationally and internationally. For example, under Article 11 of UNCITRAL Model Law, unless the parties agreed otherwise, “an offer and the acceptance of that offer may be expressed by means of data messages”. However, when applying the general rules of law of contract within the context of Internet transactions, a court may need to determine whether a web advertisement is like a shop display i.e., invitation to treat or to be considered an offer. The difficulty of making such classification arises from the fact that the Internet fuses advertising and shopping. It is argued that unless the court finds that the objective intention of the web site owner is directed towards making an offer, web advertisement should be treated as shop display i.e., invitation to treat. The justification of this argument is that by analogy web advertisement is similar to shop displays. This analogy is enhanced by the “presentation of some web pages as virtual shops within the Internet version of a shopping mall”. Moreover, the web site owner may not like to deal with a certain category of dealers e.g., minors or certain jurisdictions or may prefer to receive payment in advance. Furthermore, he may not have enough stock of tangible goods to meet the demand for them. Of course the latter justifications

378 See UNCITRAL Model Law, supra note 31.
will breakdown if the said goods are infinite intangible goods.\textsuperscript{379} However, it is acknowledged that there is uncertainty in this area enhanced by lack of precedent and legislation. Therefore, it is recommended that in order to remove doubt, the web site owners have to “state expressly the procedures to be followed for a binding contract to come into existence”. Moreover, they should avoid misleading statements and misrepresentation.\textsuperscript{380}

iii) \textbf{Acceptance:}

Broadly speaking, the occurrence of acceptance by one party to an offer made to him by another party is a matter of fact. It may be proved by the words or documents passed between the parties or may be inferred from their conduct. The court must find that the offeree unreservedly assents to the exact terms proposed by the offeror. Any variations in the terms proposed by the offeror may be considered as a counter-offer. Likewise, a conditional assent is not acceptance. However, the court has to distinguish counter-offers from other issues such as a request for further information. An acceptance is not considered effective until it is communicated to the offeror, unless the offeror waives expressly or impliedly the requirement of communication as in the case of unilateral contracts, for instance.


\textsuperscript{380} Ibid.
Communication of acceptance may take any form considered by law as enough for manifesting the assent of the offeree to the exact terms proposed by the offeror, unless the offeror prescribes the mode of communication. The mode of communication may be prescribed expressly or may be inferred from the circumstances. For example, it was held in one case that an offer by telegram was a presumptive evidence of a desire of prompt reply.\footnote{See Cheshire, Fifoot and Furmston, supra note 33, at 30-9. See also \textit{Kennedy v. Thomassen} (1929) 1 Ch. 426.} It has been argued that communication should be considered effective if the mode of communication is equally or more expeditious than the mode specified by the offeror, unless the offeror insists on a specific mode exclusively.\footnote{See Cheshire, Fifoot and Furmston, supra note 33, at 40.} If no particular method is designated, the mode of communication varies according to the nature of the offer and the circumstances in which it is communicated to the offeree. For example, in case of oral offer the offeree must be sure that his acceptance is heard and understood by the offeror. In other words, if the method of communication enables the instantaneous contact between the parties, the acceptance is not complete until it is received by the offeror. This rule applies equally to conversation over telephone and to messages sent by telex and fax. However, if communication of acceptance by post is found more convenient and
practicable, communication is considered effective when it is put into post according to most common law systems.\textsuperscript{383} The civil law systems apply what is known as information theory, which requires the actual receipt by the addressee of the content of the communication in case of direct forms of communication such as telephone and in case of indirect forms of communications such as telegram and telex they apply the so-called reception theory, which requires the physical receipt of the communication by the addressee or at least such communication is made available to him, even though he has not taken notice of the content.\textsuperscript{384}

Applying the above general rules to electronic contracts few may be added as regards the proof of an unequivocal acceptance by the offeree of all the terms of the offer proposed by the offeror.\textsuperscript{385} However, as far as the issue of communication is concerned, especially the time of communication of offer and acceptance, regard has to be given to the specific characteristics of the current methods of communication via the Internet. At present communications relating to electronic transactions over the Internet are conducted through electronic messages, commonly known as electronic mail (e-mail) or

\textsuperscript{383} Ibid., at 40-2.
\textsuperscript{385} See Gringras, supra note 38, at 23.
via the World Wide Web. An e-mail is similar in some aspects to an ordinary posted letter. For example, like ordinary letters, some e-mails are not directly delivered to the recipient’s desk, but delivered instead to an electronic pigeon-hole-like, called ‘inbox’, ready for collection. Also like a posted letter, an e-mail passes through many different carriers before it reaches its destination. Therefore, as sometimes happen with regard to letters, e-mails may be misaddressed, delayed by any server or router on the way, and even may not be collected after delivery. It is worthy to mention that certain e-mails systems allow for a ‘read’ and ‘received’ receipt automatically returned to the sender of the e-mail. But it is important to point out that ‘receive’ receipt indicates that the e-mail has been received by the server hosting the addressee account not by the addressee himself. The ‘read’ receipt informs the sender that the e-mail is retrieved by the addressee, but it does not show whether he reads it or not. Therefore, “it may not be proper to depend on this receipt for anything but evidence”. So it is believed that the best practice may be that the offeror specifies a definite date for acceptance. “Specifying this date in relative terms, for instance five days after receipt, poses problems unless the offeror...
provides a definition of exactly what is receipt”. A simpler and more certain method is to specify an objective date and time.\textsuperscript{388}

As explained above the main means of communication used in relation to Internet transactions are the World Wide Web and the electronic mail. As concerns the World Wide Web, the effective time of communication of acceptance may be settled by analogy to telephone and telex i.e., communication of acceptance is effective when actually received by the offeror. This is because, as in the case of telephone conversation and telex messages, the communication between a server and a client over the World Wide Web is conducted instantaneously for most purposes. Either party can realize immediately if the other party goes off-line. This is due to the fact that a digital data sent by either party is accompanied by a program known as checksum allowing the receiving computer to check that the correct information has been received. “If the client loses contact with the server, the server will ‘know’ of this situation within seconds, its checksum and ‘received data’ will not arrive”. If a client sends data to a server but for some problem it has not been received by the server, a message to the effect that ‘server not responding’ appears on the client’s computer. This means that the offeree could know

\textsuperscript{388} Ibid.
immediately that his acceptance has not been communicated to the offeror.\textsuperscript{389}

However, a difficulty arises when examining communication of acceptance via e-mail. As explained above, although there is some similarity between e-mails and ordinary letters, there are also substantial differences between them. For example, when an e-mail is sent, it is broken into chunks and sent as a collection of packets using protocols that “allow one computer to pass on information accurately to another”. But sometimes these protocols are used incorrectly and as a result, an e-mail may arrive garbled or missing some important parts. Moreover, it has been stated that sometimes e-mails may be slower than the post and that the arrival of the acceptance depends in most cases on the recipient rather than the sender. Also, e-mails are different from telephone and fax communications, as there is no direct contact between the sender and the recipient and as such, it is not easy for the offeree to know instantaneously that his acceptance is communicated to the offeror. Moreover, an e-mail must be collected and retrieved by the recipient.\textsuperscript{390}

Therefore, different opinions have been expressed as to the effective time of the communication of acceptance. Some believe that as long as e-mails are different from telephone, fax and telex, and dissimilar to

\begin{footnotesize}
\textsuperscript{389} Ibid., at 26.
\textsuperscript{390} Ibid., at 23-4.
\end{footnotesize}
postal services in some aspects, it may not be wise to recommend the slavish application either of the instantaneous rule or the postal rule. Instead, it is suggested that since the rules applicable to the previous means of communications are premised on the notion of the allocation of risk between the contracting parties, any rule that is proposed to be applicable to e-mail communications should achieve that end.\(^{391}\) Another group of writers proposes that “in case of an e-mail, the offer, acceptance, order or notice will be legally effective once it has been deposited in the recipient’s electronic post box”, i.e., once it is made available for the recipient to retrieve and read, whether he does so or not.\(^{392}\) A third group believes that the issue should be decided case by case as follows: first, the offeror has to determine at the time of making his offer, whether acceptance by e-mail is suitable. Secondly, if acceptance by e-mail is found reasonable, a subsequently sent acceptance should not be given priority over an earlier one, provided that the court makes balance of interests between the competing offerees. For example, it may not be reasonable to prefer the earlier acceptance if it was misaddressed or it was sent even though the offeree had been aware that his e-mail server had crashed. Thirdly, if the acceptance is not received due to the fault of the offeree, there is no acceptance, but if the e-mail is not received due to

\(^{391}\) See Smith, supra note 38, at 214.

\(^{392}\) See Eiselen, supra note 43, at 25.
an external factor without any fault from the side of the offeree, the court may decide that there is an acceptance from the time of sending of the e-mail, provided that in such a case the court has to strike a balance between the interests of the offeree and those of the offeror who may have already contracted with another party. Likewise, if the e-mail is not received due to the careless conduct of the offeror, e.g., not retrieving it or deleting it without reading, then the acceptance is considered effective from the moment of sending the e-mail. Fourthly, since an e-mail may arrive garbled or missing some of its content and as long as the offeree has no means to discover this, the offeror should not be allowed to consider the acceptance of the offeree as a counter-offer, provided that he has not specified an alternative method of acceptance.393

However, it is believed that the good practice is that the offer should contain as many details as possible in relation to the mode of acceptance and how it is to be communicated and the time and place of its receipt.394 It is worthy of note that under Article 15(1) of the UNCITRAL Model Law, a data message is considered as dispatched when it enters an information system out of the control of the originator or that of a person acting on his behalf. Article 15(2) of the same Model Law provides that unless otherwise agreed between the

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393 See Gringras, supra note 38, at 24-5.
394 See Smith, supra note 38, at 215. See also Gringras, supra note 38, at 25.
originator and the addressee, a data message is considered received when it enters the information system of the addressee if he has not designated a specific information system for receipt or when it enters the information system designated by the addressee for receipt. But if the data message is sent to an information system of the addressee that is not the designated information system, receipt of that data message occurs at the time when it is retrieved by the addressee.\textsuperscript{395} It has been noticed that the Model Law has not dealt with the issue of when a data message is considered effective, but focuses instead on the issue of when a data message is received. This approach, it is added, “may suit the contract regimes in civil jurisdictions but it makes little sense in those based upon the common law”, because the common law concentrates on when a message is effective not on when it is received.\textsuperscript{396}

Finally, it is important to point out that the Internet also provides telephone services for its users. This service has found wide response due to its low cost in comparison with traditional telephone services. The question poses itself here is: what is the legal status of an acceptance communicated through the telephone services via the Internet? It is suggested that “where the service is full duplex (i.e. both parties can speak without cutting the other off) and in real-time, the

\textsuperscript{395} See Article 15 of UNCITRAL Model Law On Electronic Commerce, supra note 31.
\textsuperscript{396} See Anil, supra note 20, at 18.
position should not differ from that where a more traditional telephone service is used”, i.e., the communication is effective when heard and understood by the offeror.\textsuperscript{397}

iv) **Consideration**

Generally, under the common law system in order to be actionable, a promise made by the defendant must either be contained in a document under seal or supported by consideration. Consideration is defined as the price paid by the plaintiff for the defendant’s promise. For consideration to be effective, it must be sufficient, adequate and pass from the promisee. Consideration may be executory or executed. It is executory when the “defendant’s promise is made in return of a counter-promise from the plaintiff”. Executed consideration is that which is made in return for the performance of an act. In both cases the mutual promises of the plaintiff and defendant must constitute one single transaction. Subsequent promises for past consideration are not effective for lack of consideration, that is, past consideration is not effective consideration.\textsuperscript{398}

Applying the above general rules to Internet transactions, it is generally argued that contracting via Internet does not affect the doctrine of consideration. The mere promise by one party to deliver

\textsuperscript{397} See, Smith, supra note 38, at 215.

\textsuperscript{398} For more details see Cheshire, Fifoot and Furmston, supra note 33, at 57-95.
goods or services in exchange of the other party’s promise to pay for this is enough consideration.\textsuperscript{399} However, there are certain practices of Internet users which need to be subjected to analysis in the light of the doctrine of consideration, for example, whether the so-called web-wrap contract is supported by consideration or not. This form of contract happens when a viewer of a web site is asked to click on a link labeled ‘I agree to the terms above’. These terms often aim at protecting the intellectual property of the web site owner and exempting him from responsibility for any damage caused by the site. It is argued that the promise of the viewer to abide by the terms of the license in exchange of the promise of the web site owner to allow him to view the content of the web site constitutes enough consideration for a binding contract.\textsuperscript{400}

v) Intention to Create Legal Relations

Intention to create legal relation is considered as an independent element in the process of formation of contracts. Typically, the law differentiates between social, family or other domestic agreements on one hand, and commercial agreements on the other hand. In case of social, family or other domestic agreements, “the presence or absence of an intention to create legal relations depends upon the inference to

\textsuperscript{399} See Gringras, supra note 38, at 28.
\textsuperscript{400} Ibid.
be drawn by the court from the language used by the parties and the
circumstances in which they use it”, whereas in case of commercial
agreements “the presence of this intention is presumed and must be
rebutted by the party denying it”.\textsuperscript{401}

The elements of intention to create legal relation may be of special
interest in electronic contracting due to the fact that in electronic
contracting at least one party is an individual acting for himself or on
behalf of another and the other party is a programmed software
(electronic agent) acting on behalf of its owner. This fact raises the
issue of how a contract can be formed without direct intention. It has
been stated that contracting with machines is not a new issue. For
example, in 1971 Lord Denning ruled in one case that the automatic
reaction of the car park turning a light from red to green and thrusting
a ticket was enough to create a contract.\textsuperscript{402} It is commented that in the
above case the court looked objectively to whether a contract can be
considered as being concluded, that is to say, whether the user has
been induced to believe that a contract is made or offered. It is argued
that the same rule should apply to computer programs. However, the
question is whether the presence of bugs, for example, in these
programs negatives the owner’s intention. It is believed that in such a

\textsuperscript{401} For more details see Cheshire, Fifoot and Furmston, supra note 33, at 97-105.
\textsuperscript{402} See Thornton \textit{v. Shoe Lane Parking} (1971) 2 Q. B. 163 at 169. See also Gringras, supra note 38, at 29.
case, if as a result of a bug in the contracting program an offer is accepted in error, the court should presume the presence of the requisite intention and it is on the website owner to rebut the presumption of intention to create legal relation.\textsuperscript{403}

4. Validity of Electronic Contracting and Formality Requirements

i) Writing:

In a paper-based environment, writing plays a pivotal role. The law may require, for different legal purposes, that a contract must assume a written or printed form so as to acquire validity and be enforceable. Likewise, requirement of writing may be imposed by law or stipulated by the parties themselves. Examples of contracts required by law to be in writing are those relating to real estate. Moreover, tax formalities often require certain types of contracts to be in a written form. Some official documents relating to commerce are required to be in a specific paper format so as to meet the legal requirements, for example, those relating to customs, accountancy, taxation, transport, payment, and public administration documents. Even the contracting parties themselves often insert in their contracts a standard clause to

\textsuperscript{403} See Gringras, supra note 38, at 29.
the effect that any amendment of the contract will not be valid unless it is in writing and signed by both parties.404

The question, which poses itself here is: how can a data message pass the obstacle of writing formality so as to gain validity? Article 6 (1) of the UNCITRAL Model Law answers this question by providing that “where the law requires information to be in writing, that requirement is met by a data message if the information contained therein is accessible so as to be usable for subsequent reference”. Paragraph (2) of this Article explains that the requirement of paragraph (1) is applicable “whether the requirement therein is in the form of an obligation or whether the law simply provides consequences for the information not being in writing”.405 The remark of UCITRAL on this Article showed the difficulty the drafters faced when they drafted it. The drafters found that the traditional functions of writing in a paper-based environment include, amongst others: first, assurance by tangible evidence of existence and nature of the parties’ intention to bind themselves; secondly, works as warning for parties as regards the consequences of their action; thirdly, provides an unalterable permanent record of a transaction; fourthly, facilitates reproduction of a document; fifthly, allows authentication by means of signature; sixthly, ensures that a document is in a form acceptable by public

404 See Mitrakas, supra note 2, at 38-41. See also Eiselen, supra note 43, at 35.
405 See UNCITRAL Model Law, supra note 31.
authorities and courts; seventhly, indicates finality of the parties’ intent and provides a record of that intent; eighthly, facilitates storage of data in a tangible form; ninthly, provides control and subsequent audit; tenthly, ensures validity for transactions required to be in writing.\textsuperscript{406}

The drafters of UNCITRAL Model Law found that “it would be inappropriate to adopt an overly comprehensive notion of the functions performed by writing”. In order to adopt a functional equivalent approach, the drafters prefer to adopt a narrow definition for the term ‘writing’ so as to avoid satisfying the long list of functions traditionally attributed to writing and often confused with more stringent requirements such as “signed writing”, “signed original” or “authenticated legal act”. For example, concepts relating to ‘evidence’ and ‘the intention of the parties to bind themselves’ should be connected with other distinct notions concerning reliability and authentication of data rather than being included in the definition of ‘writing’. Therefore, Article 6 concentrates on basic requirements that the information shall meet in order to fulfill the requirement of writing. These basic requirements are that information must be reproducible and readable. It has been stated that these requirements

\textsuperscript{406} Ibid. paragraph 48 of the UNCITRAL remarks on the Model Law.
are formulated in an objective way providing that the data message must be accessible so as to be usable for subsequent reference.407

ii) **Originality**

Wherever ‘writing’ is required, it is often accompanied by a requirement of being ‘original’. This is particularly relevant within evidence issues and in relation to documents of title and negotiable instruments. Examples of other documents that might be required to be in original form include “trade documents such as weight certificates, agriculture certificates, quality or quantity certificates, inspection reports, insurance certificates etc.” The traditional definition of ‘original’ stipulates that information must be preserved in the medium in which it was fixed for the first time. If this definition were to be adhered to in relation to data messages, it would be impossible to speak of ‘original’ data message as far as what will be received by the addressee of a data message is always a copy.408 Therefore, when treating the obstacle of ‘originality’ facing electronic commerce, UNCITRAL Model Law refers to the functional equivalent of originality. Article 8 (1) (a) and (b) thereof considers information to be original if “there exists a reliable assurance as to the integrity of the information from the time when it was first generated in its final form,

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407 Ibid. paragraphs 49 and 50.
408 Ibid. paragraph 62 and 63.
as a data message or otherwise” and is capable of being presented and displayed when required. Paragraph 3(a) of the same Article clarifies the criteria for assessing integrity by emphasizing that additions such as endorsement or any change happens in the normal course of communication, storage and display will not affect the integrity requirement as long as the information has remained complete and unaltered. 409

### iii) Signature

As in the case of ‘originality’ requirement, wherever ‘writing’ is required, it is frequently required to be signed by the authorized person. Amongst others, there are essentially two functions for signature in a paper-based environment, namely to identify the signatory of a document and to attribute the content of the document to him. In other words, signature is used in paper-based environment as a method of authentication.

Therefore, in order to meet the requirements of signature, the method used for signing a data message must at least be capable of identifying the signatory and indicates his approval of the information contained in that data message and is reliable as was appropriate for the purpose for which the data message is generated or communicated in the light

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409 Ibid. Article 8.
of all relevant circumstances, including any relevant agreement. A
data message authenticated in the above way shall not be denied
validity merely because it was not authenticated in a manner peculiar
to paper documents.\textsuperscript{410} As it is clear from the formulation of Article 7
of the UNCITRAL Model Law, the reliability of the electronic method
of authentication is a prerequisite for its acceptability. Therefore, the
issue of electronic authentication has attracted much attention
nationally and internationally.

5. Authentication of Electronic Documents

i) Definition

(a) Authentication

The act of authentication of documents denotes in the American usage
the process of identifying oneself with a message, whereas in the
European usage it is associated with the verification of a signature.
The ICC Guide\textsuperscript{II} defines the term ‘authenticate’ as the act of
recording or adopting “a digital seal or symbol associated with a
message, with the present intention of identifying oneself with the
message”.\textsuperscript{411} However, different approaches have been adopted as
regards the method of authentication of electronic document. So far

\textsuperscript{410} Ibid., Article 7.
\textsuperscript{411} See ICC Guide\textsuperscript{II}, supra note 28, at Part XI, paragraph 2.
the main technical method of authentication is the so-called electronic signature.

(b) Electronic Signature

The term ‘electronic signature’ is defined under Article 2 of the UNCITRAL Model Law on Electronic Signature as “data in electronic form in, affixed to, or logically associated with a data message, which may be used to identify the signatory in relation to the data message and to indicate the signatory’s approval of the information contained in the data message”. The term ‘electronic signature’ is sometimes confused or used interchangeably with another term known as ‘digital signature’, although technically the two terms are distinguished. Actually, the term ‘electronic signature’ is a wide concept, which refers to all technologies for replacing hand-written signature in an electronic environment, including ‘digital signature’.

(c) Digital Signature

This term is defined by paragraph 8 of Part XI of ICC Guidec II as to refer to:

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A transformation of a message using an asymmetric cryptosystem such that a person having the authenticated message and the signatory’s public key can accurately determine: (a) whether the transformation was created using the private key that corresponds to the signatory’s public key, and (b) whether the signed message has been altered since the transformation was made.\(^{414}\)

ii) Approaches to the Methods of Electronic Authentication

The legislative attempts nationally and internationally have, so far, led different ways as concerns the methods of electronic authentication. There are at least three approaches in this regard. One approach focuses on a certain technology such as ‘digital signature’ technology, considers it as adequate for the purposes of authentication and adopts it in legislation. Another approach put a general framework based on functional equivalent analogy. A third approach consists of a hybrid of the other two approaches.

(a) The digital Signature Approach

This approach is described as a technology-dependant approach because it solely concentrates on one kind of electronic authentication,

\(^{414}\) See ICC Guidec II, supra note 28.
namely digital signature, and builds its regulation on it. Moreover, it focuses on the establishment of a Public Key Infrastructure (PKI) so as to ensure the reliability of the digital signature in performing its authentication and identification roles.\footnote{See Aalberts and Van Der Hof, supra note 72, at 16.} The legislation and regulations adopting this approach often share the following characteristics: adoption of asymmetric cryptography for the creation of a digital signature; regulation of the duties of certificate authorities (CAs) and key holders; and the limitation of cases under which reliance on an electronic signature is justified.\footnote{See Kuner, Chris and Barcelo, Rosa and Baker, Stuart and Greenwald, Eric ‘An Analysis of International Electronic Signature Implementation Initiatives’ ILPF (September 2000) at 4-5. http://www.ilpf.org/groups/analysis_IEDSIL.htm .} Generally, civil law countries are tending to the adoption of this approach e.g., Germany and Italy.\footnote{Ibid., at 5.} The advantages of this approach are that it gives a kind of certainty and trustworthiness as concerns the legal issues relating to electronic authentication, but it is criticized as being technology-dependant and as such, its certainty and trustworthiness may not last for long as technology is continuously developing and the “devices adopted may become obsolete or adjustable at any given time”, a matter that may lead to instability in legislation.\footnote{See Aalberts and Van Der Hof, supra note 72, at 29.}
(b) Functional Equivalent Approach

This approach is also referred to as the minimalist approach. It aims to facilitate the use of electronic signature by prescribing a general framework for the process of electronic authentication. It is based on observing and analyzing the roles played or functions performed by particular existing requirements in paper-based environment e.g., signature, for the purpose of seeing whether those functions can be performed by any electronic method, whereby the same rules applicable to those requirements will be extended by analogy to the electronic method. The role of the legislator in such a case is to set in a general way the circumstances under which an electronic method of authentication will fulfill any such requirements, with the purpose of setting a standard of proof.

In an analysis made by the Internet Law and Policy Forum (ILPF) in September 2000, it has been found that the traditional common law countries such as United Kingdom, Canada, Australia, New Zealand and the United States have tendency towards the application of the functional equivalent approach. For example, in the United States although some states adopted initially different approaches, e.g., Utah Digital Signature Act of 1995 adopted the digital signature approach,

\[419\] Ibid. at 24. See also Kuner, Barcelo, Baker and Greenwald, supra note 75, at 5.


\[421\] See Kuner, Bacelo, Baker and Greenwald, supra note 75, at 4.
yet the recently adopted Electronic Signatures in Global and National Commerce Act 2000, has unified the U.S. law relating to electronic signature under the umbrella of the functionalist approach.\textsuperscript{422} This approach also has been adopted in the UNCITRAL Model Law on Electronic Commerce 1996.\textsuperscript{423} The advantages of this approach are that it is technology-neutral and as such, its application will lead to legislation stability. Moreover, it provides quick resolutions for the problems confronting electronic commerce as it is based on existing principles and does not seek to establish new ones as long as there is a functional equivalent in the physical world for the problems facing electronic commerce.\textsuperscript{424} However, the main criticism directed at it relates to its national character in contrast to the international character of electronic commerce in the light of the uncertainty concerning the conflict of law rules relating to Internet transaction.\textsuperscript{425} The opponents of the functionalists approach argue that a coherent approach to the regulation of electronic commerce should begin “with identification and application of first principles rather than the transference of rules applied in analogous context”.\textsuperscript{426}

\textsuperscript{422} Ibid., at 5.
\textsuperscript{423} See UNCITRAL Model Law on Electronic Commerce, supra note 31.
\textsuperscript{424} See Aalberts and Van Der Hof, supra note 72, at 30.
\textsuperscript{426} Ibid., at 128-29.
(c) The Two-tier Approach

This approach is also referred to as ‘two-prong’ approach or hybrid approach.\textsuperscript{427} It is based on the idea that the two approaches mentioned above are not necessarily mutually exclusive and as such, they may be combined to form a hybrid approach taking the advantages of both approaches and avoiding their disadvantages. “This consolidated approach generally takes the form of enacting laws that prescribe standards for the operation of PKIs, and concomitantly take a broad view of what constitutes a valid electronic signature for legal purposes”.\textsuperscript{428} This approach has been adopted in the EU Directive on Electronic Signature 1999, the UNCITRAL Model Law on Electronic Signature 2001 and Singapore Electronic Transaction Act 1998.\textsuperscript{429} To achieve its goals, the two-tier approach allows two levels of authentication: the minimal level, which receives a certain minimum legal status and based on the functional equivalent approach, and maximum level, which is based on more strict security measures, as in the case of digital signature approach. In other words, the maximum level of the two-tier approach prescribes in details the rights and responsibilities of the parties and liability allocation between them, in

\textsuperscript{427} See Aalberts and Van Der Hof, supra note 72, at 19. See also Kuner, Barcelo, Baker and Greenwald, supra note 75, at 4.
\textsuperscript{428} See Kuner, Barcelo, Baker and Greenwald, supra note 75, at 5.
\textsuperscript{429} Ibid. See also Aalberts and Van Der Hof, supra note 72, at 20. See also UNCITRAL Model Law on Electronic Signature, supra note 71.
addition to establishing PKI and Certification Authorities. However, it
differs from the digital signature approach in that it does not specify a
particular technology as it leaves room for future technologies. The
maximum level of authentication receives greater legal effect such as a
presumption of integrity of the authenticated electronic document, a
presumption of attribution of that document to the person it purports to
be associated with and a presumption of the intention of the signatory
for signing the document and approving its content. This maximum
level referred to in the EU Directive as the ‘advanced electronic
signature’ and in the UNCITRAL Model Law on Electronic Signature
as ‘reliable electronic signature’ and in Singapore Act as ‘secure
electronic signatures’.\(^{430}\) The critique for the two-tier approach is that
although it leaves room for future technology, it “often deals with
issues and situations (e.g., CAs, liability, qualities that focus mainly on
certain techniques) which have not yet been determined and thus, may
well need adjustment once they have”. Moreover, like the digital
approach, the two-tier approach focuses on signature ‘as such’ and not
on form requirements as a whole.\(^{431}\) Furthermore, all these regulatory
efforts are described as premature, especially in the light of the lack of
enough judicial precedents supporting any of the approaches. In the

\(^{430}\) Ibid.
\(^{431}\) See Aalberts and Van Der Hof, supra note 72, at 30.
Policy proposals are being debated before the nature or full potential of the information technologies that may provide the foundation for electronic commerce in the future is known. While certainly it is appropriate for policy-makers to anticipate and encourage economic and technological development by establishing legal ‘rules of the road’, the danger is that a rush to legislate will impose legal analogies and formalistic structures that constrain rather than promote the development of the Internet and other computer-based communication systems as media for commercial transactions.432

However, regardless of these critiques, the current trend is directed towards the acceptance of the two-tier approach.433

6. Admissibility and Evidential Value of Electronic Documents

One of the obstacles facing electronic commerce is the admissibility and evidential value of data messages. In a paper-based environment, a document must satisfy the formal requirements prescribed by law e.g., originality, as a first step, before being admitted by the court and hence, as a second step, it must meet the

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432 See Murray, supra note 84, at 128.
433 See Kuner, Barcelo, Baker and Greenwald, supra note 75, at 5.
substantial requirements necessary for its credibility to accord it the suitable evidential value.

i) Admissibility of Data Messages

Article 9(1) of the UNCITRAL Model Law on Electronic Commerce 1996, provides that:

In any legal proceeding, nothing in the application of the rules of evidence shall apply so as to deny the admissibility of a data message in evidence: (a) on the sole ground that it is a data message; or (b) if it is the best evidence that the person adducing it could reasonably be expected to obtain, on the grounds that it is not in its original form.434

Paragraph (1) of Article 9 deals with the formal requirements for the admissibility of a data message as evidence. However, It has been stated that the reference to the term ‘best evidence’ in this Article, which is applicable in common law jurisdictions, may result in a great deal of uncertainty in legal systems in which this rule is not known. Therefore, it is recommended that states, which do not apply such rule may disregard it when enacting the Model Law.435 Typically, the formal requirements of evidence are provided for in civil procedures legislation, which set the means of evidence admissible by law.

435 Ibid. paragraph 70 of the UNCITRAL remarks on the Model Law.
However, this should not be confused with the formalities required by law for certain documents, because “the admissibility of a document as evidence is independent of the format that a document takes and the medium that is used”. It is noticed that national legislation in many countries have not yet explicitly considered the technological development as regards the admissibility of electronic evidence in all cases. It is recommended that efforts should be exerted worldwide to lift the ambiguity and uncertainty relating to the admissibility of electronic documents as evidence.\footnote{See Mitrakas, supra note 2, at 56, 57 and 112.}

ii) Evidential Value of Data Messages

In order to be effective evidence, a data message must not only be admissible, but also of evidential value. The evidential value of a data message is intimately connected with the reliability of its source. The trustworthiness of the security measures applied with regard to the generation, transmission and storage of a data message play a pivotal role in the evidential weight that will be accorded to it. It is recommended that when the required security procedures are used, electronic documents should at least be accorded the same evidential
value as paper-based documents.\textsuperscript{437} Paragraph (2) of Article 9 of the UNCITRAL Model Law on Electronic Commerce provides that:

\begin{quote}
Information in the form of a data message shall be given due evidential weight. In assessing the evidential weight of a data message, regard shall be had to the reliability of the manner in which the data message was generated, stored or communicated, to the reliability of the manner in which the integrity of the information was maintained, to the manner in which its originator was identified, and to any other relevant factor.\textsuperscript{438}
\end{quote}

\section*{Conclusion}

The potential opportunities offered by electronic commerce are numerous. Every conceivable economic activity can be carried out wholly or partially via the Internet. The communication facilities provided by the Internet at virtually minimal cost have opened great opportunities for various kinds of commercial practices. Yet the greatest transformation in this respect is

\textsuperscript{437} Ibid., at 64, 112. See also paragraph 71 of the UNCITRAL remarks on the Model Law, supra note 31..

\textsuperscript{438} See Article 9 (2) of the UNCITRAL Model Law on Electronic Commerce, supra note 31.
manifested in the field of intangible goods and services. The Internet has not only facilitated the communications for conclusions of transactions concerning intangibles but, furthermore, worked as a carrier for transferring the intangible goods and services, almost instantaneously, to their destination at wherever point in the globe reached by the Internet. However, these vast opportunities are confronted with obstacles impeding their potential. There are different kinds of barriers; financial, legal and in relation to market access. The legal barriers vary from direct impediments such as legal uncertainty and lack of predictability of legal consequences, to indirect barriers resulting from fear of negative impacts of unregulated commerce on other rights such as intellectual property rights and privacy, which may discourage participants in electronic commerce to proceed in this activity.

Different efforts have been exerted all over the world to pave the way for electronic commerce. As far as the legal efforts are concerned, there are the contributions of the
legal writers represented in legal writings analyzing the legal problems and suggesting legal solutions and theoretical approaches. Moreover, there are the legislative endeavors nationally and internationally. The legal issues discussed in this chapter are in relation to the formation of electronic contracts and their validity in the light of the formalities required by law or the parties to a contract in paper-based environment such as writing, originality and signature, in addition to issues relating to the authentication of electronic documents and their admissibility and evidential weight. However, as shown in the analyses there are still many controversial areas. For example, as regards the formation of electronic contracts, issues concerning communication of offer, acceptance and related notices have not been settled yet. Rules determining the effective time of communication should be clearly prescribed. Also, terms such as dispatch, delivery and receipt should be clearly defined. Moreover, the controversy about contracting by means of
programmed software (electronic agents), especially the allocation of responsibility of the related parties in case of alleged error or mistake resulting from a defect in the programmed software, should be definitely specified. As concerns formalities, the functional equivalent approach applied for lifting formality impediments is still debatable and needs much analysis. Likewise the issues relating to authentication of electronic documents and their admissibility and evidential value are far from being settled, especially in the light of lack of judicial precedents supporting any of the legislative endeavors made to this moment.

The growth and flourishing of electronic commerce need more collective efforts. These efforts should be of international nature so as to cope with the international dimensions of electronic commerce. These efforts should not be selective or targeting the interests of a particular group on the account of others. Moreover, for such efforts to succeed due regard has to be given to the social, cultural and political divergences. Scholars from all related specializations should participate in these efforts, without of
course, ignoring the roles of policy-makers and the public opinion at large. Any hasty endeavors may result in negative consequences.
Chapter 5

Conflict of Laws Implications for Electronic Commerce and
Intellectual Property

Introduction

As explained in the previous Chapter, the Internet has proven its potential as a useful medium for commercial activities of different kinds. As any other activity involving interaction of different entities, the possibility of disputes is unavoidable. Disputes may arise from contractual relationships or may result from infringements of rights. The unique features of the Internet have added a new dimension of complexity and confusion to the traditional rules of private international law. For example, traditionally, jurisdiction is defined by reference to a physical territory and although the traditional private international law rules witnessed along their evolution important transformations relating to the stringent physicality requirements embodied in the rules lex locus contractu and lex locus delicti, in favour of a more flexible system based on what is described as “interest analysis”, nevertheless; the essential requirement of some nexus between the concerned jurisdiction and the persons or transactions intended to be subject to it, has not been abandoned. The difficulty facing the traditional conflict of laws in this respect is that
the Internet has not only weakened the significance of physical locations, but destroyed them all together in three senses: first, the Internet ignores the existence of physical borders to an extent that events happening on the Internet may be described as happening simultaneously in every place reached by the Internet. Secondly, there are many events and transactions that may be described as having no physical locality in particular but taking place only on the network, which by its very nature is not a “locatable phenomenon”. For example, Usenet discussion groups, which consist of continuing changing collection of messages that are routed from one network to another across the global net, with no centralized location at all, may be considered as occurring everywhere, nowhere in particular. Thirdly, locations on the Internet can be conceived of only in a virtual sense by reference to the addresses of machines between which information and messages are routed. These addresses are independent of the physical locations in which those machines are located, that is, it is impossible to designate the physical location of users or resources merely by reference to the Internet’s addresses. This geographic indeterminacy is simply part of the network normal operation, without recourse to technological devices such as cryptography or anonymous re-mailers. Moreover, users of the Internet may not always be aware of the physical jurisdictions they visited while navigating the World
Wide Web through hyperlinks. So, due to the differences in the substantive laws of different countries, those users may be oblivious to the fact that they may violate laws of different jurisdictions while navigating the Internet.

**However, even if the above difficulties have been surmounted, the application of the traditional private international law rules to the Internet transactions and infringement of rights via the Internet is controversial, especially with regard to transactions or infringements that take place completely online. For example, where there is no clause for choice of forum or the applicable law in case of transactions completely performed online, determining the place of performance is controversial. Likewise, in case of infringement of rights online such as downloading of an allegedly infringing copy of a copyrighted work from a foreign web site, a question arises as to where the alleged tort takes place. Is it in the place where the user’s computer is located or in the place where the server hosting the downloaded material is**
situated? Similar difficult questions arise in case of infringement of other intellectual property rights. Even where there is a contractual choice of forum and applicable law, the application of the traditional mandatory rules relating to consumer protection to the Internet transactions has raised much controversy. Add to what is mentioned above, performance of transactions is another difficulty, especially in relation to small sized transactions.

This chapter studies the conflict of laws implications for electronic commerce. The focus will be on electronic commerce in intellectual-property-based products because these products can be transacted for and delivered online and much of the difficulties arise from the fact that the performance of electronic transactions and occurrence of infringing acts often take place completely online, a matter that adds further layer of complexity and confusion to the conflict of law rules. The complexity arises from the fact that protection of
intellectual property is traditionally based on territoriality whereas electronic commerce has international dimensions. The chapter is divided into three main parts. Part 1 deals with issues relating to jurisdiction. It is divided into two main subtitles discussing the general jurisdiction of courts, which is based on the domicile of the defendant, and the various cases of specific jurisdiction including jurisdiction on tortious acts, choice of jurisdiction, jurisdiction where there is no choice and jurisdiction on disputes involving consumers. Part 1 discusses the governing law. It is divided into four subtitles studying the applicable law where there is choice of law and where there is no choice of law and the limitations on the choice of law, in addition the study of the law applicable for infringements cases. Part 3 discusses the enforcement of rights. It is divided into four subtitles studying the need for effective enforcement in the Internet era, the difficulties relating to detection of infringements and identification of
wrongdoers, the insufficiency of the traditional means of enforcement and the attempts made to date in relation to enforcement including technical devices, alternative disputes resolution and direct enforcement.

1. Jurisdiction

In a dispute involving foreign elements, the first question a court has to answer is whether it has jurisdiction to settle it. The term ‘jurisdiction’ refers to the competence of courts and other tribunals to settle disputes with authority that makes the decisions binding and enforceable within their own system and capable of being recognized and enforced by courts and tribunals of other jurisdictions. Jurisdiction is classified into two broad categories viz., criminal jurisdiction and civil jurisdiction. The focus here will be on civil jurisdiction because most of the disputes relating to electronic commerce and intellectual property fall within this category. Generally, although there are some regional conventions harmonizing the conflict of laws of their members, in principle each sovereign state determines its own conflict of law rules. However, lately the Hague

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Conference on Private International Law issued a Preliminary Draft Convention on Jurisdiction and Foreign Judgments in Civil and Commercial Matters, which was adopted by the Special Commission on 30 October 1999. The goals of this draft Convention are to harmonize jurisdiction rules among member countries, limit competent fora and simplify and expedite the recognition and enforcement of judgments.\textsuperscript{440} Due to the lack of an international convention in this respect some concentration will be made on the provisions of the draft Convention together with the European Commission Regulation on Jurisdiction and Enforcement of Judgments 1999\textsuperscript{441}, which is intended to replace the Brussels Convention of 1968, for the discussion of issues of jurisdiction in relation to electronic commerce and intellectual property.

Broadly, jurisdiction may be divided into general jurisdiction and special or specific jurisdiction. General jurisdiction involves the cases where a court is competent to see all the claims against the defendant irrespective of their nature. Special or specific jurisdiction refers to cases in which jurisdictional rules are applied to certain areas prescribed by law such as contract, tort or exclusive jurisdiction.\textsuperscript{442}

\textsuperscript{440} For the text of the draft Convention, see http://www.hccp.net/e/conventions/draft36e.html

\textsuperscript{441} For the text of the European Regulation, see http://www.europa.eu.int/com/justice_home/pdf/com1999-348-en.pdf

i) General Jurisdiction

A court is said to have general jurisdiction when such jurisdiction is based on the domicile or habitual residence of the defendant not on the cause of action. In this respect Article 3(1) of the draft Hague Convention provides that “subject to the provisions of the Convention, a defendant may be sued in the courts of the State where that defendant is habitually resident”. The same rule has been provided for under Article 2 of the Regulation proposed by the European Commission, but the term used here is ‘domicile’ instead of ‘habitual residence’. The draft Hague Convention emphasizes that general jurisdiction should be based only on the habitual residence of the defendant, therefore, it prohibits under Article 18(1) the exercise of general jurisdiction by the courts of a Contracting State where the defendant is not habitually resident in that State. Paragraph 2 of this Article enumerates the cases in which a Contracting State is prohibited from assuming general jurisdiction solely on one or more of them. Among these cases is the case provided for under Article 18(2)(e), which prohibits general jurisdiction solely on the ground that the defendant carries on commercial or other activities. However, in such a case the court may assume specific jurisdiction if the dispute is directly related to those activities. It has been commented that this
provision would alter the longstanding practices of the USA courts, which assume general jurisdiction solely on the ground that the defendant is doing business in a systematic and continuous way in a particular jurisdiction. Under the US law the courts are authorized to assume general jurisdiction if the defendant is physically present in the forum state or if his “contacts with the forum are systematic and continuous enough that the defendant might anticipate defending any type of claim there”. However, in certain cases, general jurisdiction may not be exercised e.g., when the jurisdiction to settle a certain dispute is exclusively reserved by law for a certain jurisdiction. In this respect and as far as intellectual property is concerned, Article 12(4) of the draft Hague Convention provides that:

In proceedings which have as their object the registration, validity, [or] nullity, [, or revocation or infringement,] of patents, trademarks, designs or other similar rights required to be deposited or registered, the courts of the Contracting State in which the deposit or registration has been applied for, has taken place or, under the terms of an international convention, is deemed to have taken place, have exclusive

443 Ibid.
jurisdiction. This shall not apply to copyright or any neighboring rights, even though registration or deposit of such rights is possible.

It has been observed that in addition to copyright and neighboring rights, common law trademarks, which require no prior registration, are not covered by paragraph 4 of Article 12 of the draft Convention. The provision of Article 12(4) is viewed as broadening the scope of exclusive jurisdiction for certain proceedings of industrial property rights to include the exclusion of not only the grounds of general jurisdiction depending on domicile or habitual residence of the defendant, but also the grounds for specific jurisdiction such as the place of the occurrence of a tortious act. However, the exclusion by paragraph 5 of Article 12 of the proceedings concerning patents infringement from the rule under paragraph 4 has been debatable as the justification of differentiating between patents and trademarks in this respect is seen as inadequate. Therefore, the Special Commission of the Hague Conference indicated that a group of experts, including intellectual property specialists would be convened to address these issues.445

As far as jurisdiction over disputes relating to activities via the Internet is concerned, general jurisdiction poses no new difficult legal

445 See WIPO Primer, supra note 4, at 8-9.
questions since it is based on the domicile or habitual residence of the defendant. The important factor, therefore, is to prove the domicile or habitual residence of the defendant. It has been stated that domicile has nothing to do with other complicated factors such as the location of a server. The ownership, control or access of a web site anywhere in the world is wholly irrelevant for determining the domicile of the defendant.\footnote{446} However, difficulties arise in cases of specific jurisdiction where a defendant is haled to a jurisdiction other than the forum of his domicile or habitual residence.

ii) Specific Jurisdiction

(a) Infringement of Intellectual Property Rights: Torts or Delicts

The easiness with which intellectual property materials can be uploaded on and downloaded from Internet web sites almost at no cost make them vulnerable to unauthorized exploitation all over the world. This unauthorized use constitutes infringement of the rights of intellectual property owners that falls under the category of torts or delicts. The draft Hague Convention dealt with

jurisdiction over tort or delict cases under Article 10, whereby it provides for non-exclusive special jurisdiction for this category. Paragraph 1 of Article 10 provides that:

A plaintiff may bring an action in tort or delict in the courts of the State: (a) in which the act or omission that caused injury occurred, or (b) in which the injury arose, unless the defendant establishes that the person claimed to be responsible could not reasonably have foreseen that the act or omission could result in an injury of the same nature in that State.

It has been commented that the results of the application of Article 10 to disputes relating to infringement of rights via the Internet are not clear. The difficulty arises from the fact that traditional private international law rules have been premised on physical “points of attachment”. This fact is reflected in the terms used in this Article such as “the State in which the injury occurred” or “in which the injury arose”. This approach may not be easily reconciled with the virtual de-localized nature of the Internet. For example, the localization of the occurrence of a tortious act resulting from downloading from a foreign web site of an allegedly infringing copy of a copyrighted work may be debatable. Does it occur on the user’s
forum where the infringing copy has been stored in the memory of the user’s computer or other digital device? Or does it occur on the country in which the server hosting the downloaded material is located? If the hosting on the server of the copyrighted material in the above example is not authorized and that the tortious act is considered to be occurring in the country in which that server is located, the question which arises is: can the owner of the server be sued under Article 10 (1) (b) in the forum where the injury to the owner of the copyrighted work arose i.e., the user’s forum State, unless he establishes that he could not have reasonably foreseen this?447

Moreover, the territoriality of protection of intellectual property adds a further difficulty. For example, does the use of a trademark on a web site located in a country where that trademark enjoys no protection constitute infringement of the rights of an identical trademark owner in another country in which that trademark is protected merely on the basis that the said web site is accessible in that country? Some suggest that jurisdiction should lie in the courts of the country in which the trademark is protected and in which the resulting injury arose i.e., the country where the trademark is viewed on that web site according to Article 10 (1)(b) of the draft Hague Convention. However, in this case the foreseeability test may be in favor of the web site owner unless the

447 See WIPO Primer, supra note 4, at 5-6.
trademark owner succeeds in showing that the web site owner knows or should have known that his acts will cause injury in the country or countries where it is viewed.448

In the period from 2 to 4 September 1999, The Hague Permanent Bureau organized in Geneva a Round Table on the issues of private international law raised by electronic commerce and the Internet. It has been reported that Commission II, which discussed the application of Article 10 of the draft Hague Convention to torts online had not come to consensus on this issue. Some felt that Article 10 could not be used for torts online, and suggested instead “making a forum at the place of the habitual residence of the plaintiff, who is usually the victim”. Others accepted the wording of Article 10 but proposed to be accompanied by two presumptions: “(1) the ‘place of the act or omission’ causative of the injury would be situated at the place of habitual residence of the defendant or author of the act; (2) the ‘place where the injury arose’ would be situated at the place of habitual residence of the plaintiff or victim, or at the place where the most significant injury occurred”.449

The Internet Law and Policy Forum (ILPF), which is a non-profit organization of twenty-five companies, most of them multinational

448 Ibid.
449 See Kessedjian, Catherine, ‘Electronic Data Interchange, Internet and Electronic Commerce’ Available at: ftp://hecp.net/doc/gen_pd7e.doc at 22.
companies engaging in Internet-related businesses, submitted its views about the applicability of the draft Hague Convention to electronic commerce to the expert meeting organized by The Hague Conference in Ottawa in the period from February 28 to March 1, 2000 to examine the issues raised by electronic commerce in relation to the international jurisdiction of the courts. As concerns Article 10 of the Convention, the ILPF argues that the foreseeability condition for conferring jurisdiction on the court of the plaintiff forum under Article 10 (1) (b) could not be avoided in the light of the global accessibility of web sites and as such the risks from the draft Convention jurisdictional rules for business interests that use the Internet outweigh any of the other associated benefits. Therefore, according to IPLF, Article 10 should either be deleted from the Convention or otherwise be narrowly applied e.g., “rules to allow claims and enforce judgments for physical harm to natural persons – can and should be explored”. 450 Yet, the Ottawa experts meeting discussed the applicability of Article 10 of the draft Hague Convention and concluded that due to the difficulty of determining the location of the defendant, it would be necessary to have an alternative forum to the defendant’s forum. Therefore, Article 10 (1) (b) and (4) which conferred jurisdiction on

the plaintiff’s forum courts were found to be suitable for online
torts.451

However, the study of the practices of US courts in this respect may
be useful. Traditionally, “the Due process Clause of the 14th
Amendment of the United States Constitution allows a court to require
a non-resident defendant to stand trial only in the forum state where
the court properly exercises personal jurisdiction over the defendant”.
The Due Process Limitations require that specific jurisdiction on a
non-resident defendant should be exercised only where the defendant
has ‘minimum contacts’ with the forum state to an extent that he
foresees or should have foreseen that he may be haled into court in the
forum state. Therefore, the minimum contacts test must comply with
the Due Process and the traditional notions of ‘fair play and
substantial justice’. To qualify for this, the minimum contacts test
must satisfy three elements: first, the defendant must purposefully
avail himself of benefits with the forum state. Secondly, the claim
must arise of his activities with a forum state. Thirdly, the exercise of
jurisdiction must be reasonable. “Factors in determining
reasonableness include the burden placed on the defendant, the forum
state’s interest in the outcome, the plaintiff’s interests in obtaining
relief, the judicial system’s interest in a most efficient resolution, and

451 See Kessedjian, Catherine, ‘Electronic Commerce and International Jurisdiction, Ottawa 28
furthering social policies shared by the states”. As far as jurisdiction on a non-resident defendant for a tortious act is concerned, the effect of the tortious act must be felt in the plaintiff’s forum state, in addition to some type of activity in the forum state such as solicitation of business, persistent contact, reasonable expectation of the possibility of occurrence of an injury within the forum state or obtaining substantial revenue from interstate business. The ‘effect test’ developed by the American Supreme Court in the famous authority of Calder v. Jones has been followed in many subsequent precedents.

In this case, a publisher in Florida published in its magazine an allegedly libelous article about an actress who lived in California. The Supreme Court found that the exercise of jurisdiction in California was proper, as the defendant knew that the plaintiff was in California and that he made telephone calls to collect data for the article from California and published the article in a magazine of a large circulation in California, intending to cause injury to the respondent in California.

Generally, when extending the above general rules to jurisdiction over online activities the US courts differentiate between passive web

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452 See Dearing, supra note 6, at 2. See also Burk, supra note 6, at 7.
455 Burk, supra note 6, at 7-8.
sites and interactive web sites. In cases of passive web site the courts often tend to refuse the exercise of jurisdiction when there is no interactivity between the web site and the Internet users. For example, in *Cybersell Inc. v. Cybersell Inc.*, the Arizona-based plaintiff, the owner of a registered trademark ‘Cybersell’ sued the defendant in Arizona for trademark infringement based on the use by the defendant at his web site of a trademark identical to the plaintiff’s trademark ‘Cybersell’. The court found that the defendant did not encourage Internet users in Arizona to access his web site, there were no ‘hits’ by Arizona residents to the defendant web site (except by the plaintiff), there were no contacts, telephone calls, sales or messages exchanged or income derived from Arizona residents, therefore, the court concluded that the actions of the defendant lacked “purposeful availment” of the laws of Arizona and held that extension of specific jurisdiction merely on the basis of passive contact would be improper. In *Bensusan Restaurant Corp v. King*, the plaintiff operated a jazz bar in New York City called ‘Blue Note’ and had a registered trademark for that name. The defendant operated a jazz bar carrying the same name in Missouri and had a web site advertising for the bar and including contact information for it in Missouri. The web

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456 No. 96-17087 (C.A. 9th 1997).
457 See Burk, supra note 6, at 7-8.
site contained no interactivity with Internet users and provided no means for purchasing ticket other than referring to the appropriate contact for those interested. The plaintiff sued the defendant in New York alleging trademark infringement, dilution and unfair competition. The defendant moved for dismissal for lack of jurisdiction. The court held that personal jurisdiction did not exist. The court justified its decision by saying that “the mere fact that a person can gain information on the allegedly infringing products is not the equivalent of a person advertising, promoting, selling or otherwise making an effort to target its product in New York”. It went on to say that the defendant had not availed himself of the benefit of New York and that advertising products on a web site was like placing products into the stream of commerce, which might have been felt nationwide, but without more it would not be considered as purposely directed toward the forum state.\footnote{See Dearing, supra note 6, at 6.}

On the other hand, in many cases the courts construed the interactivity between a web site and users from the state forum as indication of purposeful availment of the privilege of doing business. For example, in CompuServe Inc., v. Patterson\footnote{89 F. 3d 1257 (6th Cir. 1996).}, Patterson and CompuServe contacted solely via the Internet, whereby Patterson made a contract with CompuServe so as to distribute software

\footnote{See Dearing, supra note 6, at 6.}
\footnote{89 F. 3d 1257 (6th Cir. 1996).}
belonging to him through CompuServe web site. The contract provided that Ohio law was applicable. Later Patterson discovered that CompuServe was distributing software of its own under a name similar to his product. He contacted Patterson accusing it of infringing his common law trademark and claimed for damages. CompuServe, the Ohio-based plaintiff sought a declaratory judgment against Patterson, the Texas-based defendant, that it had not infringed Patterson’s trademark. Patterson pleaded lack of jurisdiction. The court ruled that it had jurisdiction to see the case. It justified this by saying that the defendant satisfied the requirement of purposeful availment of the privilege of doing business in Ohio, as he had been a party to a contract governed by Ohio law and exchanged multiple Internet communication with CompuServe. 461 CompuServe has been criticized on the ground that the contract and the contacts made had no relation with the dispute before the court and should not have been taken into account. The mere relevant contact was the letter sent by Patterson to CompuServe accusing it of infringement of his trademark. If such letter would be considered enough for exercising jurisdiction, this would mean that a plaintiff would surrender jurisdiction any time he notified another party of a dispute. 462 In Zippo Manufacturing Co.

461 Ibid.
462 See Burk, supra note 6, at 9.
v. Zippo Dot, Inc., a Pennsylvania plaintiff sued in Pennsylvania a
California defendant for trademark infringement and dilution. The
court found that the defendant had entered into contracts with at least
three thousand via the Internet with forum state residents and
concluded seven agreements with service providers there. After
reviewing the previous precedents the court concluded that it had
jurisdiction to see the case because the defendant purposefully availed
itself of benefits from association with Pennsylvania, thus permitting
personal jurisdiction to that forum, as his acts were not mere
advertisements but electronic commerce.

However; a recent case, Pavlovich v. Superior Court, decided on
August 7, 2001, disregarded the differentiation made by other
American courts between passive and interactive web sites for the
exercise of personal jurisdiction on non-resident defendants. In this
case the defendant published on his passive web site a computer
program enabling decryption of DVD CCA’s encryption-based copy
protection system used to protect copyrighted movies contained on
digital versatile disc (DVDs). The interested party, DVD Copy
Control Association, Inc., sued the defendant and others for
misappropriation of its trade secrets in California state court. Although
nothing was proved against the defendant other than the posting of the

allegedly infringing software on his passive web site the court, following the ‘effect test’ applied in Calder case held that it had jurisdiction to see the case. It based its decision on the following:

Because that Pavlovich knew that California is commonly known as the center of the movie industry, and knew that Silicon Valley in California is one of the top three technology ‘hot spots’ in the country, he knew or should have known, that the DVD republishing and distribution activities he was illegally doing and allowing to be done through the use of his Web site, while benefiting him, were injuriously affecting the motion picture and computer industries in California. The question is whether Pavlovich’s lack of physical and personal presence in California incapacitates California courts from jurisdictionally reaching him through its long-arm statute. We hold it does not.465

(b) Disputes Involving Contracts between Businesses where there is no Choice of Forum:

In respect of contracts involving supply of goods or provision of services or both, Article 6 of the draft Hague Convention permits a

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plaintiff to bring an action in contract in the courts of the state where the goods are supplied wholly or in part in case of supply of goods, or where the services are provided in case of provision of services, or where the performance of the principal obligation took place in whole or in part if the contract involves both supply of goods and provision of services. Article 5 of the European Regulation provides that for matters relating to contracts, a person may be sued in the courts of a Member State of the place of “performance of the obligation in question”. The place of performance in relation to goods and service is defined as the place where the goods or services are delivered or provided or should have been delivered or provided respectively. However, with regard to goods or services delivered or provided offline, even if contracting for them takes place online, the existing rules of private international law remain relevant as it is easy to designate the place of performance in the physical world. But the difficulty arises where both the contracting for and delivery or provision of goods or services take place online. Where is the place of performance in such a case? Is it the place of the purchaser’s computer where the goods or services are received (e.g., in form of downloadable software) or in the seller’s system (e.g., the sale of
securities, which performed through computing processes take place in the seller’s system)? 466

In its study of the issues raised by electronic commerce, the Ottawa expert meeting noticed on its analysis of Article 6 of the draft Hague Convention that the traditional distinction between goods and services is not realistic for electronic transactions. Moreover, putting in mind the European Directive on Electronic Commerce, which treated the subject matter of electronic exchange as equivalent to services, all the participants agreed that such subject matter of electronic exchange is primarily information and that its classification as equivalent to services is not important, since the need for such qualification for the purpose of the Convention is not certain. Some experts expressed the opinion that “for purposes of jurisdiction, the actual nature of what is exchanged by the parties to the contract is unimportant, provided it is made clear that the present Article 6 does not apply to a contract performed online”. However, a majority of the experts were of opinion that a supplementary clause for Article 6 may be needed, though no consensus was reached as to the content of any future supplementary rule. Yet all the participants agreed that a special care is required when coordinating the existing Article 6 of the draft Hague Convention with any future supplementary clause for contracts.

466 See WIPO primer, supra note 4, at 7.
performed online. Moreover, it has been noticed that “all the proposals made were based on the idea that a rebuttable presumption would suffice for the place of performance or, more precisely, the place of delivery of the information”. In this regard it was recommended that the drafting of the supplementary clause could be premised on Article 15 (4) of the 1996 UNCITRAL Model Law, which makes a presumption that, in the absence of agreement between the parties, a data message is dispatched at the place where the originator has its place of business and received where the addressee has its place of business.467

Furthermore, the experts meeting acknowledged the difficulty of identification and location of the parties to online contracts. Therefore, it is recommended that freedom of contracting should be respected and that each party should exert efforts to get enough information from the other party and verify that such information match with the reality. Each party will be bound by the information he supplies to the other party as concerns his identity and location. Moreover; the court may, according to Article 22, refrain from exercising jurisdiction under Article 6. It is recommended that this should extend to the case

467 See Kessedjian, ‘Electronic Commerce’, supra note 13, at 5.
where the co-contractor gave false information solely in order to confer jurisdiction on a particular court. 468

(c) Contractual Choice of Forum:

Choice of forum raises no difficulties for electronic commerce and it is welcome and encouraged as it lifts many of the obstacles facing the parties to an electronic contract. Many international conventions respect the principle of party autonomy and allow freedom of contracting except in specific areas prescribed by law such as the case where the law confers exclusive jurisdiction on certain court or courts. For example, Article 4 (1) of the draft Hague Convention provides that:

If the parties have agreed that a court or courts of a Contracting State shall have jurisdiction to settle any dispute which has arisen or may arise in connection with a particular legal relationship, that court or those courts shall have jurisdiction, and that jurisdiction shall be exclusive unless the parties have agreed otherwise. Where an agreement having exclusive effect designates a court or courts of a non-Contracting State, courts in Contracting States shall decline jurisdiction or suspend proceedings.

468 Ibid., at 5-6.
unless the court or courts chosen have themselves declined jurisdiction.

It has been commented that paragraph 2 of Article 4 adopts a liberal approach as concerns the formalities required for the validity of an agreement, conferring jurisdiction on a certain court. All that is required is a minimum degree of reliability of the document containing the agreement.469

(d) Consumer contracts

Typically, consumers are considered by legislators as the weak party and granted special status. For example, both the draft Hague Convention and the European Regulation stipulate that a consumer can sue the other party, in relation to trade or professional activities the other party has engaged in or directed to the consumer’s forum, particularly the cases of soliciting business by means of publicity, at the court of habitual residence or domicile of the consumer or the court of the domicile or habitual residence of the other party and that a consumer can be sued only at the court of his domicile or his habitual

469 See WIPO Primer, supra note 4, at 7.
residence. No departure from these provisions is allowed except an agreement made after the dispute has arisen.470

In an Internet environment, the place from which a consumer contacts an interactive web site may be difficult or impossible to determine and may not be relevant for connecting the consumer’s state with the contract he makes with that web site. Therefore, aware of the difficulties presented by electronic commerce, the European Regulation, unlike the draft Hague Convention, omits the requirement that a consumer takes the necessary steps to conclude the contract in his state. It has been stated that the focus should be made of the business that “pursues commercial or professional activities in the Member State” or directing, by any means, such activities to that Member State.471

The mandatory rules in the draft Hague Convention for the protection of consumers, which invalidate any contravening term in a contract with a consumer, has raised much controversy especially from the side of business. For example, the ILPF contends that the Convention should emphasize and strengthen the party autonomy, which is a fundamental principle of private international law and trade. Therefore, the ILPF recommends that the jurisdictional rules provided

470 See Article 7 of the draft Hague Convention, supra note 2. See also Articles 15, 16 and 17 of the European Regulation supra note 3.
471 WIPO Primer, supra note 4, at 8.
for under Article 7 of the Convention may be premature and they “must be allowed to evolve further under national law before being ‘hardwired’ into an international convention that seeks widespread acceptance and certainty of interpretation”. The ILPF refused the concept of ‘jurisdictional avoidance’ proposed by some as a means by which business can avoid the provisions of the Convention in relation to transactions with consumers within a national boundary, such as disclaimers, non-targeting etc., because the consequences of applying such measures are not secured. Likewise, the International Chamber of Commerce (ICC) argues that the aggressive assertion of jurisdiction could subject companies to the courts and laws of any country in the world in which their web sites can be accessed and this will result in legal uncertainty for business as concerns the basic legal paradigm of consumer shopping on the Internet. As a result, businesses may be forced to limit their markets and products. Thus consumers may be deprived of competitive goods or services merely because of their residence. Within the context of showing the difference between offline and online commerce the ICC puts, in bold type, this debatable question: “has the merchant created a virtual storefront in the buyer’s jurisdiction to make a sale, or has the purchaser virtually traveled to the seller’s jurisdiction to make a purchase?” To avoid the legal

472 See ILPF Statement, supra note 12, at 3.
473 Ibid.
uncertainty to businesses and the difficulty of execution of judgments both for businesses and consumers, the ICC recommends an approach for solution which consists of three steps: step one is represented in reasonable attempts for utilization of a company’s internal customer satisfaction mechanism; step two involves utilization of alternative dispute resolution (ADR), such as online settlement of disputes; step three is a legal action to be resorted to only if the dispute persists after applying the other two steps. If a legal action is needed, governments should “avoid expansive jurisdictional claims by applying principles of ‘country-of-origin’ and party autonomy”. In the light of these contentions both of Geneva expert meeting and Ottawa expert meeting recommended for the freedom of parties to a consumer contract if the consumer is habitually resident in a country recognizing the validity of such contracts. Thus, a clause should be added to Article 7 (3) of the draft Hague Convention providing that “if the contract is concluded by a consumer who is habitually resident in a State which has declared that these contracts are valid as against consumers”.

2. The Governing Law

i) Choice of the Applicable Law

The parties to a contract may choose expressly or impliedly the law governing their contractual relationship. At common law the parties are free to choose the law to be applicable to their contracts. The leading case in this respect is the case of Vita Food Products Inc. v. Unus Shipping Co Ltd., 476 which established that the parties were free to select any law to govern their contract, regardless of the connection of the chosen law with the contract, provided that such choice was bona fide, legal and not contrary to English public policy. This position has been confirmed by the Rome Convention on the Law Applicable to Contractual Obligations 1980, which provides under Article 3(1) thereof that a contract shall be subject, wholly or in part, to the choice of its parties. This choice may be express or demonstrated with reasonable certainty from the terms of the contract or the circumstance of the case. Both at common law and under the Rome Convention, the law chosen by the parties need not be connected with their contract. However, if such a contract is wholly connected with a single country, the mandatory rules of that country cannot be derogated from under the Rome Convention even if the

476 (1939) AC 277; 1 All ER 513. [in] O’Brien, supra note 1, at 328
parties choose another legal system to be applicable to their contract.\textsuperscript{477}

The express choice happens when the parties insert a clause in their contract specifying the applicable law or do this in a separate agreement. In such a case the clause or the separate agreement must indicate a particular territorial legal system; otherwise this may result in confusion, which needs to be removed by other means. For example, a choice of a multi-systems forum such as British law or American law as such, may need further localization; especially in case of difference in the legal provisions within this multi-systems forum. Moreover, incorporation of certain provisions of a legal system into a contract will not be considered as choice of that legal system within the meaning of Article 3(1) of the Rome Convention. In such a case those provisions will be treated as additional contractual terms and the governing law has to be determined by reference to the provisions of the Convention. However, the incorporation of certain provisions from a legal system is viewed by some as an implied choice of that legal system.\textsuperscript{478}

The implied choice of law occurs when the intention of the parties to a contract can be demonstrated with reasonable certainty from the conduct of the parties and from other surrounding circumstances. It

\textsuperscript{477} See O’Brien, supra note 1, at 329.
\textsuperscript{478} Ibid., at 330, 333.
has been stated that there are certain cases from which a choice of law might be inferred. Examples of such cases include: first, the use of a particular standard form contract may give indication that the parties chose impliedly a particular legal system as was held in the case of Amin Rasheed Shipping Corporation v. Kuwait Insurance Co.,\(^ {479}\) where the House of Lords construed the use of Lloyd’s marine insurance policy as implied choice of English law. Secondly, where there was an express choice of law in previous dealings between the parties, an implied choice of that law may be inferred in a subsequent contract between the same parties, especially if the subsequent contract was similar in character to the previous dealings. Thirdly, a choice of forum may imply the choice of the law of that forum. Fourthly, an express choice of law may imply a choice of that law in a related transaction. For example, “where a contract between A and B contains an express choice of English law, it may be possible to imply a choice of English law where C undertakes to guarantee the obligation of A”.\(^ {480}\)

The same above rules can be applied to a choice of law in a contract concluded via the Internet.\(^ {481}\) However, some provisions may need to be amended to cope with the peculiar nature of the Internet. For

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\(^ {480}\) O’Brien, supra note 1, at 331-32.

\(^ {481}\) See Gringras, supra note 8, at 45.
example, the Uniform Commercial Code (UCC) of the US provides that “when a transaction bears a reasonable relation to this state and also to another state or nation, the parties may agree that the law either of this state or of such other state or nation shall govern their rights and duties”. A reasonable relation has been found where the contract is made or a significant part of it is performed. This provision is considered as unsuitable for online contracts, as it may not be easy to determine the place of contracting or performance. Therefore, the proviso of ‘reasonable relation’ has been omitted in the UCITA which provides under s. 109(a) that other than in consumer contracts, the parties to a contract may choose the law applicable to their contractual relationship.\textsuperscript{482} However, the right of the parties to choose the governing law is not absolute but subject to some limitations.

\textbf{ii) Limitations on the Choice of the Applicable Law}

Under Article 3(3) of the Rome Convention, where all the other elements relevant to the situation at the time of the choice are connected with a single country, the parties to a contract cannot derogate from the mandatory rules of that country by choice of a foreign law to govern their contract. For example, if the parties to a contract are nationals of a certain country and their contract should be

\textsuperscript{482} See WIPO Primer, supra note 4, at 8-10.
performed in that country and all other relevant contacts are with that country, the choice by the parties of a foreign law, whether or not accompanied by a choice of forum, will not exclude the mandatory rules of their country to which their contract is wholly connected. A mandatory rule is that which cannot be derogated from by contract. Examples of the mandatory rules are those relating to unfair contractual terms, where their enforcement will be contrary to the public policy of the concerned country such as contracts of adhesion, consumer contracts and employment contracts.483

As far as online contracts are concerned the mandatory rules are reflected mainly in the area of consumer contracts. In this respect the EU Directive on Unfair Terms in Consumer Contracts 1993 may give a good example.484 Under Article 3 (2) a term is unfair if “1) it has not been individually negotiated; and 2) it causes a significant imbalance in the parties’ rights and obligations arising under the contract, to the detriment of the consumer. The provisions of this Directive are applicable to online contracts. According to this Directive the court may remove the unfair terms and enforce the rest of the contract if it is enforceable without those terms, otherwise the entire contract is

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483 See O’Brien, supra note 1, at 335-6. See also Gringras, supra note 8, at 47.
voided. The Uniform Computer Information Transactions Act (UCITA) 1999 of the US, provides for similar provisions under s. 111, but they may not be applied as under s. 104 the parties may choose not to subject their contract to UCITA.486 Another example is the EU Directive 97/7/EC on Distance Contracts487 This Directive sets mandatory rules aimed at the protection of consumers especially as regards pre-contract information given to a consumer about the identity of the seller or the supplier, the characteristics of the goods or services and their prices and the way of payment etc. Also there must be a written confirmation to be sent to the consumer not later than the time of delivery and in such a case the consumer has the option to withdraw within 7 working days. If no written confirmation about the information was given to the consumer, the option of the consumer to withdraw extends to 30 days.488

iii) The Applicable Law where there is no Choice of Law

Under the common law rules where there was no choice by the parties to a contract of the governing law, the court should apply the system of law with which the contract was most closely connected.

488 Ibid. Articles 4 and 7.
The factors need to be considered for determining the most closely connected legal system include: the place of contracting, the place of performance, the language of the contract, the money of the account, the personal law of the parties and all other circumstances surrounding the contract. This position has been confirmed by the Rome Convention, which provides under paragraph 1 of Article 4 that in the absence of choice, the contract shall be governed by the law of the country with which it is most closely connected. Under paragraphs 2, 3 and 4 of Article 4 there are three rebuttable presumptions for determining the country, which is most connected with the contract: (1) it is the country in which the party who carries the characteristic performance has his habitual residence, its central administration, its principal place of business or a place other than the principal place of business if performance is to be effected through that other place. (2) Where the contract relates to a right in immovable property, it is the country in which that immovable property is situated. (3) Where the contract is for carriage of goods and the country in which the carrier has his principal place of business at the time of contracting is also the place of loading, discharge or the principal place of business of the consignor, that country is presumed to be the most connected country with the contract. However, paragraph 5 of the same Article provides that “paragraph 2 shall not apply if the characteristic performance
cannot be determined, and the presumptions in paras 2, 3 and 4 shall be disregarded if it appears from the circumstances as a whole that the contract is more closely connected with another country”.

The Rome Convention has not defined the term ‘characteristic performance’. It has been stated that the doctrine of characteristic performance is “a novel and somewhat controversial aspect of the Rome Convention 1980 deriving from Swiss law”. The familiar concept at common law is that of the place of performance (lex loci solutionis). But the difficulty here is that in case of an ordinary bilateral contract for the sale of goods, for instance, there may be two places of performance; one place for the delivery of the goods and another for the payment. Some commentators identified the characteristic performance as the one “which usually constitutes the center of gravity and the socioeconomic purpose of the contractual transaction”. In such circumstances it is believed that in case of sale of goods or service, the characteristic performance is the work done rather than the payment for it. Therefore, the applicable law is that of the seller’s place of business. This difficulty has been compounded in case of online contracts because it may not be clear in an electronic contract in a digital form which party carries the characteristic performance. S. 109 (b) of UCITA sorts out three groups of

489 See O’Brien, supra note 1, at 339-44.
490 Ibid., at 340.
contracting and the applicable law for each group where there is no enforceable choice-of-law term. The first group involves access contracts or contracts for electronic delivery of copies. The applicable law to this group, in absence of choice, is the law of the jurisdiction in which the licensor is located at the time of contracting. The Official Comment on UCITA clarifies that the aim of this provision is to create certainty for online vendors, large or small, in the context of digital networks that makes access available to the entire world via the Internet. It is believed that in the absence of such provision an online vendor may need to know the laws of countries all over the world and comply with all of them, as it may not be clear or even knowable where a contract is formed or information sent. The second group includes consumer transactions that require delivery of a copy on a tangible medium e.g., CD-Rom. The governing law, in absence of choice, is the law of “the jurisdiction in which the copy is or should have been delivered to the consumer”. The justification here is that the vendor knows the physical place of delivery and has to comply with the mandatory laws of the consumer’s forum. The third group includes all other cases. The law that governs this group, in absence of choice, is “the law of the jurisdiction with the most significant relationship to the transaction”. It has been stated that by referring to the ‘most significant relationship’, UCITA codifies the traditional principles of
law to give the court “some flexibility in weighing the various factors that might be relevant in the online environment”.491

iv) The Applicable Law in infringements Cases

Generally, there are many theories as concerns the law applicable in respect of a foreign tort. One of these theories is the *lex fori*, where the court can apply the law of the forum. Another theory is *lex loci delicti commissi*, where the court can apply the law of the place in which the tort was committed. A third theory is the proper law theory where the court can apply the “law which, on policy grounds, seems to have the most significant connection with the chain of acts and circumstances in the particular situation”. The American courts have followed the proper law theory.492 Traditionally, the English common law since the decision in *Phillips v. Eyre*493 in 1870, adopted the so-called double actionability rule, which is a mixture of *lex fori* and *lex loci delicti commissi*, where an English court would not accept a suit for a wrong alleged to be committed abroad unless that wrong was actionable if committed in England and not justifiable by the law of the place where it was committed. Although since the decision in *Boys v. Chaplin*494 in 1971, the double actionability rule might be departed from in exceptional cases depending on the factual links of each case,

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491 See UCITA, supra note 48. See also WIPO Primer, supra note 4, at 10.
492 See O’Brien, supra note 1, at 378-80.
493 (1870) LR 6 QB 1. [in] ibid. at 383
yet it remained effective until it was abolished by the Private International Law (Miscellaneous Provisions) Act 1995. This Act establishes a general rule in favour of the lex loci delicti, with room for the application of the proper law in exceptional cases.495

Different views have been advanced as concerns the law applicable in cases of tort committed via the Internet. For example, in the Geneva expert meeting the experts had been divided into groups. One group suggested the application of the lex fori, on the ground that “the conflict of jurisdiction ‘absorbs’ the conflict of laws”. A second group preferred that a victim should be given the option to choose the law of the country where the tortious act was committed or the law of the country where it was sustained. According to this group the injurious act is presumed to occur in the country in which the defendant has his habitual residence and the country where the injury is sustained provided that it is the country in which the victim has his habitual residence. However, observing the complexity of the system proposed, the latter group suggested that “the applicable law should be defined by a conflict rule based on the center of gravity or the test of the closest connection”.496

In case of alleged infringement of copyright, Article 5 (2) of the Berne Convention provides that “the extent of protection, as well as

495 O’Brien, supra note 1, at 380–405.
496 See Kessedjian, ‘Electronic Data Interchange’, supra note 11, at 22.
the means of redress afforded to the author to protect his rights, shall be governed exclusively by the laws of the country where protection is claimed". The interpretation of this provision has raised controversy. Is it a choice-of-law rule, or a mere principle of nondiscrimination, or both? A further complexity is added by the ambiguity of the phrase “the country where protection is claimed”. It has been commented that although this may be construed to refer to the law of the forum where the infringement suit is commenced, the majority of commentators prefer a reading in which this phrase is to be construed as to mean the country in which protection is sought from an infringing act takes place there.\textsuperscript{497} However, if the latter view is to be adopted, in the light of the multiplicity of forums that may result from infringement via the Internet, the question which arises is whether the Berne Convention “requires strictly territorial approach, applying successfully the law of each country of receipt, or will it suffice to apply the law of the country of the initiation of the infringement”? If the answer is that the law of each country should be applied the person who seeks protection may either refer to the courts of each country where the infringing act takes place or commences a comprehensive suit in one forum where the court will need to assess the scope of rights, the alleged

\textsuperscript{497} See WIPO Primer, supra note 4, at 11.
infringement and the appropriate remedies country-by-country.\footnote{498 Ibid.}

Bearing in mind the impracticality of applying a territorial approach as concerns the law applicable for infringements, some commentators point to the experience of the European Commission with satellite transmissions. Like the Internet, the satellite transmissions have the capability of instantaneous dissemination to multiple countries. The satellite Directive of the European Commission provides that “the copyright-triggering act of ‘communication to the public’ occurs in the country from which the satellite signal is up-linked”. Applying this to online copyright infringement, the country from which the alleged multi-country infringements are initiated will be the “country where protection is claimed’ within the meaning of Article 5 (2) of the Berne Convention. Although such approach will simplify choice of law in multi-jurisdiction infringement, there are fears that certain countries may turn to be havens for copyright infringement. In addition, there is the difficulty of locating the source of communication in certain cases e.g., where the source is anonymous or where a server is located in a place different from that of its owner. It has been acknowledged that “the choice of law issues raised by electronic commerce and digital communications will remain complex and difficult in relation to the protection and exploitation of intellectual property”. Therefore, it is
recommended that a further study and work are needed so as to trigger new international responses.\footnote{Ibid. at 11-2.}

3. Enforcement of Rights

i) \textbf{The Need for Effective Enforcement}

Intellectual property rights are of no value without enforcement. The fact that intellectual property rights are traditionally territorially-based rights has complicated the international enforcement of these rights. The last two decades had witnessed international upsurge in counterfeit and pirated goods. Many factors have led to the growth and expansion of these illegal practices including: “the dramatic increase in international trade, the dismantling of certain borders controls, the difficulties experienced by national enforcement agencies in keeping up with the speed of development and volume of traffic, and the formidable expansion of technologies”.\footnote{Ibid. at 12.}

Moreover, a new challenge has been posed by the emergence of the Internet and electronic commerce. The capabilities of the Internet have rendered the uploading and downloading of intellectual property materials an easy task. Software, text, music and images are reduced
in digital form and transmitted immediately to any place in the world reached by the Internet. It is believed that piracy threatens all intellectual-property-based industries and creative individuals, and clouds the future of legitimate electronic commerce.\textsuperscript{501} However, even legitimate dealings via the Internet may result in disputes requiring effective response for their resolution, especially disputes involving consumers. These new challenges require further efforts to combat infringements of rights and settle disputes in efficient, cost-effective and fast way. It is believed that the “traditional forms of international legal redress (recognition and enforcement of judgments) are too costly and cumbersome. Injunctive relief, electronic access to out of court settlements (arbitration) and the duty of service providers to identify themselves and their place of business are the truly relevant legal issues”.\textsuperscript{502} Different views have been advanced and various practical attempts have been made to achieve those objectives. Yet, there are many barriers impeding the achievement of these objectives such as the difficulty of detecting infringements, and identifying the wrongdoers in the light of privacy requirements.

ii) \textbf{Barriers to Effective Enforcement}

(a) Difficulty of Detection of Infringements

\textsuperscript{501} Holleyman, Robert, ‘The Impact on Intellectual Property: Jurisdiction, Enforcement and Dispute Resolution’, at 2. Available at \url{http://ecommerce.wipo.int/meetings/1999/papers/holleyman.html}

Detection of infringements on the Internet is not an easy task. The big number of Internet web sites and the different ways of duplication and manipulation of data in perfect, instant and infinite forms coupled with the difficulty of being detected or traced, have encouraged infringing activities all around the globe. “Given the reach of the Internet, content in digital form can be disseminated instantaneously worldwide, thereby vastly increasing the ease with which intellectual property can be infringed, either inadvertently or through piracy and counterfeiting”. 503 Moreover, the international dimension of the Internet renders enforcement a difficult job of uncertain results. In addition, the transient nature of the digital data has compounded the difficulty of detection, whereby infringing material on the Internet may be removed from web sites or server after a short period of its posting, thus making the tracing of these infringing materials a daunting task. Sites closed here may reopen there under a different name or mirror across multiple jurisdictions thereby frustrating the effects of local enforcement proceedings. The difficulty of detecting and tracing infringing materials has stimulated specialized entities to assume the profession of policing the Internet searching or tracing infringing materials on behalf of their owners in consideration of a

503 See WIPO Primer, supra note 4, at 12.
certain charge. Once an infringement has been detected, the next step is to identify the wrongdoer.\textsuperscript{504}

(b) Identification of Wrongdoers and Privacy Requirements

The peculiar features of the Internet make identification of Internet’s users very difficult if not impossible, especially if a user uses technical devices for hiding his identity. Tools for anonymous dealings, such as anonymous remailer programs and encryption technology, are available in the market. Despite the efforts of many service providers, such as domain name registrars, bulletin board operators and commercial web page hosts, to get personal data from their customers for future contact, they often discover that the information they got was false and as such they would not be able to take any action against non-complying customers.\textsuperscript{505} Different reasons lie behind anonymity. Some view it as a means of protecting personal privacy. Others find in it a means for free speech. Further others may want “to transact anonymously because they are involved in criminal activity and do not want to leave a trail of their dealings or because they want to evade tax”. Of course those using the Internet for criminal activities or civil

\textsuperscript{504} Ibid., at 13.

\textsuperscript{505} Ibid.
wrongs use anonymity so as not to be traced.\textsuperscript{506} Lately, the issue of anonymous communication has gained legal support in a recent judgment issued by a New Jersey court in November 2000, where the court held that “a software company is not entitled to learn the identities of two ‘John Doe’ defendants who anonymously posted critical comments on a Yahoo message board”.\textsuperscript{507} The right of privacy has raised great controversy due to the different international perception of this right. It has attracted more attention in the era of the Internet due to the commercial value of personal data. The collection and exploitation of personal data for commercial purposes have become a business in itself. The European Directive on Data Protection 1998 “prohibits the flow of personal information about E.U. citizens to countries outside the E.U. that are not in compliance with its stringent privacy protection rules”. This prohibition has resulted in tension with the US, which argues that it may result in future block of US e-commerce.\textsuperscript{508} Therefore, the two parties started negotiation and the problem seemed to be solved by the suggestion of US Commerce Department in March 2000 that “the E.U. grants the US


\textsuperscript{507} The decision is available at: \url{http://www.citizen.org/litigation/briefs/dendrite.pdf}

businesses receiving personal data from the E.U. ‘safe harbor’ status if they voluntarily accept a given set of principles addressing the safeguarding of personal information”.\(^{509}\) However, it is acknowledged that legitimate interest of the holders of intellectual property rights in identifying the source of infringing acts should be put into account in any regulation aiming at protecting privacy.\(^{510}\)

iii) **Insufficiency of Traditional Legal Measures**

Traditionally, intellectually property rights are territorial creatures depending on the protection afforded to them by national authorities. Each country determines the scope of the IPRs it grants, and the effect and protection of these rights are, in principle, confined in the territory of the concerned country. Even the international treaties concluded later on to regulate these rights, such the Berne Convention, the Paris Convention and TRIPS, have confirmed the territorial foundations of the enforcement of intellectual property rights. The national judicial and customs authorities are considered by these treaties as the main bodies responsible for the enforcement of these rights.\(^{511}\) It has been stated that although the “Paris Convention and the Berne Convention address certain enforcement aspects, these treaties are primarily aimed

\(^{509}\) Ibid. See also WIPO Primer, supra note 4, at 13.

\(^{510}\) See WIPO Primer, supra note 4, at 13.

\(^{511}\) Ibid., at 14.
at the codification of substantive norms”. However, the upsurge of piracy practices in the 1970s and 1980s had drawn the attention of those concerned for the need of international mechanism for the effective enforcement of intellectual property rights. This awareness to the danger threatening intellectual property rights has led to the conclusion of TRIPS Agreement, “which for the first time at the international level, created a comprehensive scheme for the enforcement of the intellectual property rights”. Yet when TRIPS was concluded the impact of the Internet had not been considered because the Internet at that time was at its infancy and no one thought it would bring the effects now it is bringing. Therefore, although TRIPS provided for comprehensive enforcement mechanism, it adhered to the territorial nature of intellectual property rights. However, these territorial rights are facing presently a non-territorial medium threatening their effective enforcement. It has been stated that the “effective enforcement presupposes an underlying legal framework that is conducive to the enforcement of the rights concerned on the medium where enforcement is sought”. The enforcement of intellectual property rights, at present, lacks a legal framework that takes into consideration the international dimensions of the Internet. Thus, the challenge confronting intellectual property is how to secure effective enforcement of the intellectual property rights via the
Internet by adopting measures less dependant on the notion of territoriality.\textsuperscript{512}

iv) \textbf{Approaches to Effective Enforcement}

The threat of the Internet for the traditional mechanism of management of intellectual property is more than the threat for the rights of the intellectual property owners. The international dimensions of the Internet necessitate the construction of a new method of creation, exploitation and enforcement of intellectual property that conforms to the peculiar characteristics of that medium. Although no single comprehensive mechanism of enforcement has been reached to date, different attempts have been made for creating effective enforcement means.

(a) Technological Measures of Enforcement

The difficulty of achieving effective enforcement of rights associated with the digital flow of data via the Internet through the traditional legal means has driven those concerned to think of alternative means. Technology has played a pivotal role in this respect. Various technological measures of protection are available on the market and have received legal recognition nationally and internationally. The WIPO Internet Treaties 1996 and the US Digital Millennium

\textsuperscript{512} Ibid.
Copyright Act 1998 are just examples of the legal instruments recognizing the technical measures of protection.\textsuperscript{513} There are many technical devices at present, such as encryption and watermarking, applied so as to create effective means that can help the right-holders to manage their rights on the digital networks. Encryption enables the transmission of data via the Internet in an illegible scrappy format, which can only be decrypted through a decryption key kept with the right-holder who can only release it at his own conditions, e.g., on payment. Watermarking is a device through which right-holders can embed identifying marks in legitimate copies of their works that connect the work with its author and prevent its modification.\textsuperscript{514}

(b) Alternative Dispute Resolution (ADR)

The term alternative dispute resolution refers to a set of procedures for the settlement of disputes by means other than the traditional litigation. Examples of the ADR include arbitration, mediation and conciliation. These forms of ADR have evolved throughout the twentieth century to meet the needs of litigating parties who were displeased with the traditional litigation. The attractive features of

\textsuperscript{513} Ibid., at 14, 16.
\textsuperscript{514} For more details see chapter 6 infra.
these procedures are that they are expeditious and cost-effective.\textsuperscript{515} The emergence of the Internet with its transnational dimensions and its expanding use in commercial transactions has necessitated the use of ADR as an effective means of settlement of disputes. The trend now in the countries where there is an extensive use of electronic commerce such as Europe and USA, is toward the enhancing of online cross border alternative disputes resolution, especially in relation to consumers’ transactions.\textsuperscript{516} “Online dispute-resolution procedure may serve to enhance access to dispute settlement mechanisms, while increasing the speed and efficiency with which the proceedings are conducted and reducing the corresponding costs”.\textsuperscript{517} However, the online dispute resolution mechanisms also have disadvantages such as lack of face-to-face contact and the potential for breach of confidentiality.\textsuperscript{518}

There are many online dispute-resolution private entities to date, especially in the US, such as the American Arbitration Association (AAA), CyberTribunal, On-line Ombuds, ClickNsettle, SettleOnline, Cybersettle etc., offering online mediation and arbitration services.\textsuperscript{519}

\textsuperscript{517} See WIPO Primer, supra note 4, at 15.
\textsuperscript{518} See Vande Garde, supra note 77, at 1.
\textsuperscript{519} Ibid., at 1-5.
However, the online dispute-resolution mechanism has raised legal questions that need to be answered. For example, whether the decisions through this mechanism are going to be recognized and enforced by national courts?. Likewise, questions need to be answered for purposes of statutes and treaties such as the New York Convention include: “where an on-line arbitration takes place, and where the award be considered to have been made? How can an online proceeding be classified? Is it ‘ational’, ‘delocalized’ or floating in regard to the application of a lex arbitri? How will an online arbitration meet the formalities required by national laws and by the New York Convention?” All these questions must be answered so as to give integrity and effectiveness to these emergent mechanisms.\(^\text{520}\) It is submitted that a legal framework is needed for the regulation of this process. In this respect “The existing arbitration rules can provide a foundation for any adaptations to the online environment that may be required”.\(^\text{521}\)

c) Direct Enforcement

According to this approach, effective enforcement may be achieved by the development of legislative frameworks or administrative systems providing for the direct enforcement of rights through the


\(^{521}\) See WIPO Primer, supra note 4, at 16.
entities having technical control in relation to content and access to the Internet such as domain names registrars and Internet service providers. Examples of legislative frameworks and administrative systems respectively are the Digital Millennium Copyright Act 1998 of the US, which adopts the so-called notice and take-down provisions, and the administrative domain name dispute-resolution system recommended in the WIPO Internet Domain Name Process and implemented by the Internet Corporation for Assigned Names and Numbers (ICANN).522

Conclusion

As explained in this chapter, the Internet has added a further dimension of complexity to the traditional rules of private international law, which have been premised on the presence of different physical territories. The Internet ignores the presence of these physical territories.

Therefore, the challenge facing the traditional conflict of laws rules is how to adapt to this new environment. To date, no consensus has been reached as to the proper way for dealing with the legal issues posed by the Internet. The ongoing attempts of The Hague Conference to revise its

522 Ibid.
draft Convention on Jurisdiction and Foreign Judgments in Civil and Commercial Matters 1999 to accommodate disputes relating to electronic commerce and the infringement of intellectual property rights should be supported and encouraged.

As explained, most of the problems in relation to jurisdiction and the governing law arise when there is no agreement between the parties as concerns the competent jurisdiction and the applicable law. The difficulty in this respect emanates from the fact that the traditional private international law based its rules, in absence of agreement, on physical points of attachments. The absence of these physical points of attachment in an Internet environment has resulted in confusion as regards the designation of the place of contracting or the place of performance, for example. Therefore, in order to solve this problem the parties must always include in their contract as much details as possible as concerns the jurisdiction and the applicable law. In absence of such agreement, whether in relation to contractual disputes or infringement of rights, there should be clear rules determining the competent court and the applicable law by designating a specific place instead of referring to that place by reference to other connecting factors, such as the place of performance or the place of contracting,
which are difficult to be determined in case of online dealings. Also there must be specific and clear rules as regards consumers’ contracts and privacy issues.

As concerns enforcement of rights the traditional rules must be adapted to accommodate the emergent challenges. The law should interfere in the regulation of the technical measures of enforcement so as to provide effective enforcement within the limits of the law. Likewise, the alternative dispute resolution mechanisms, including online settlement of dispute and direct enforcement should be recognized and regulated by law so as to reach their potential.
Chapter 6

The Impacts of Electronic Commerce on the Protection of Copyright and Neighboring Rights

Introduction

Traditionally, copyright and related rights protect the economic and moral rights of authors in their creative works. The economic rights of an author include rights of reproduction, translation, public recitation, public display, distribution and other forms of commercial utilization. The moral rights include the right of an author to claim authorship and object to any distortion, mutilation, modification of, or any other derogatory action in relation to the said work, which would be prejudicial to his honor or reputation.

The subject matter of copyright and related rights protection extends to cover a wide array of human creativity. On one hand, copyright protection covers literary and artistic works. The term ‘literary and artistic works’, in turn, includes a variety of creative works such as writing, both fiction and non-fiction, including scientific and technical texts and computer programs; databases that are original due to the selection or arrangement of their content; musical works; audiovisual works; works of fine art,
including drawings and paintings; and photographs. On the other hand, neighboring rights protection encompasses the works of those who add value to the creative works through the presentation of literary and artistic works to the public. It covers performing artists, such as actors, dancers, singers and musicians; the producers of phonograms, including CDs; and broadcasting organizations. However, the scope of the economic rights of authors is subject to certain exceptions and limitations in favor of public interest. The exceptions and limitations include the duration of the rights and the permission of free fair use of the protected works especially in relation to education, research and access to information.

This traditional system of copyright has faced a challenge represented in the susceptibility of most of the copyright materials for being transformed into digital form and transmitted over digital networks to any place in the world reached by these networks. Digitization blurs the boundaries between the different categories of copyright and neighboring rights. Images, words and sounds once digitized are transformed into a binary form of ones and zeroes. Digitized information can be manipulated in different ways. It can be stored, retrieved and transmitted electronically. Digitization makes possible the combining of different copyrighted works in a single
medium such as CD-ROM, creating what is known as multimedia works. Moreover, the emergence of digital networks has led to the convergence of the media of communication of copyright and related rights. The new digital networked environment, commonly known as information superhighway, permits the communication of data, text, audio, video and images at high speed and high fidelity. Information can be uploaded, downloaded and retrieved on demand.

It is believed that the global information infrastructure (GII), with its digital distribution systems and multimedia works, has blurred the distinctions between the rights of authors, producers and performers and thus undermined the basis for the separation of copyright and neighboring rights. This transformation is problematic for the traditional copyright system, which is built on different level of protection for the different categories of copyright and neighboring rights works. In addition to issues relating to the administration and enforcement of the protected rights, the said transformation has raised a lot of queries: how can the scope and limitations of exploitation rights is determined for works disseminated over digital networks? How do the various acts of network communication (digitization, transmission, uploading, downloading, browsing, viewing, etc.) fit into the current copyright
system? Is there any imminent need for redefinition or clarification of exploitation rights? What is the scope of copyright exemptions on digital networks? Whether the temporary copies made on computers and other devices when accessing works online constitute reproduction of those works and if so, whether this is permissible or not? Whether making a work available online for individuals to access at times and places chosen by them constitutes an act of communication to the public? Are the traditional exceptions and limitations suitable for being applied literally on digital environment? What is the effect of giving rights’ holders complete control over their works online through technical measures supported with legal provisions, on the traditional copyright exceptions and limitations such as duration, fair use and first sale doctrine? How can infringements be detected and prevented in order to safeguard effective protection for copyright and related rights materials? Who in the chain of dissemination of infringing material can be held responsible for infringement, which court is competent and which law is applicable?

Copyright and related rights materials are expected to form an important part of electronic commerce over digital networks. This chapter discusses the impacts of electronic commerce on the international protection of copyright and related rights and whether the
existing legal system can be adjusted to respond to this technological challenge effectively and efficiently, so as to safeguard the furtherance of the guiding principles of copyright and related rights. The chapter is divided into three main parts. Part 1 studies the scope of the rights of authors on digital networks. It is divided into two subtitles discussing the exclusive economic and moral rights of authors. Part 2 studies the protection of copyright and related rights works disseminated over digital networks. It is divided into four subtitles discussing the infringement of copyright and neighboring rights and the legal status of the Internet Service Providers, the private international law aspects for copyright and related rights, the protection of copyright and related rights through technical measures and the legal protection for those technical measures. Part 3 examines the future of the traditional copyright exceptions and limitations on digital networks. It is divided into two subtitles studying the scope of the traditional exceptions and limitations and the impacts of the electronic rights management systems on those exceptions and limitations.

1. The Scope of Authors’ Rights in Works Disseminated on Digital Networks

   i) Exclusive Economic Rights
Different approaches have been adopted as concerns the definition of exclusive exploitation rights of authors. Some countries adopt a detailed media-based list of exclusive rights. For example, the Sudanese Copyright and Neighboring Rights Protection Act 1996 enumerates under s. 8 (b) detailed financial rights of authors. Other countries apply broader abstract notions of reproduction, distribution and communication to the public. Whatever methods adopted, the final aim is to enable copyright owners to exploit exclusively the financial returns of their works. But the question is whether the traditional paradigm of exploitation rights can be extended to copyright works on digital networks? It has been stated that “the digital networked environment of the information superhighway represents a radical change in the way copyrighted works are exploited. Mass distribution of copies or signals carrying identical information is replaced by transmission on individual demand of customized information”. Thus, the dissemination of works over digital networks may not necessarily fit the traditional exploitation rights. However, as far as digital networks are concerned, the focus is on two broad notions of exploitation namely, the right of reproduction and the right of communication to the public.

(a) Right of Reproduction

Traditionally, reproduction right is considered as one of the core prerogative of copyright. Article 9 (1) of the Berne Convention provides that “authors of literary and artistic works protected by this Convention shall have right of authorizing the reproduction of these works, in any manner or form”. Within “the context of copyright and related right, ‘reproduction’ refers to copying, not to performance or some other acts which bring a work to perception other than in a tangible copy”. It has been stated that although the Berne Convention has not defined the term ‘reproduction’ and thus more or less member countries are left free to put their own interpretation, nevertheless “the mainstream interpretation stresses that reproduction requires some form of fixation in material form”.

Historically, copyright laws focused on protection against exploitation that involved a certain scale of copying through writing or engraving. Later, the right of publishing extended to other new methods of fixation regardless of the number of copies. “Even hand made single copies, if made for profit, were held to infringe. This was especially relevant where single copies of paintings or musical scores

were involved, since such copies were often made by hand at that time”. Moreover, the scope of what was considered as infringing activities was widened to cover other areas such as translation and other forms of adaptations. All this, in turn, led to the adoption of an abstract and encompassing notion to the effect that any form of copying for profit was considered infringing. Furthermore, as technology brings new methods of exploitation of copyright materials, the right of reproduction has been extended to cover these new areas. For example, phonorecords were classified as reproduction even though they contained performance. Likewise, the scope of reproduction was extended to include works, which could only be perceived with the aid of a machine or device. However, the so-called ancillary copies were first considered as not amounting to an act of reproduction but later on they have been treated as reproduction. For instance, in “the German Gottfried Keller case, which was decided in 1923, a publisher had made printing plates and galley proofs in preparation for an edition which he intended to publish as soon as Gottfried Keller’s novels would fall in the public domain”. The court held that this was not an act of reproduction, as the plates in general could not be used to enjoy the work. But since the promulgation of the

527 Ibid., at 71.

528 German Supreme Court, judgement of 7 November 1923, RGZ 107, 277. [In] Spoor, supra note 4, at 72.
German Copyright Act 1965, the situation has changed and ancillary copies have been treated as reproduction. The essential element is the embodiment of the work on a tangible medium; not its actual exploitation.\textsuperscript{529} National legal systems responded in different ways to the emergence and development of end-user accessible reproduction technology such as photocopying machines and audio and video home taping instruments. For example, while in 1955 the German Federal Supreme Court ruled in the case of Gema v. Grundig\textsuperscript{530} that the private audio copying by magnetophone threatened the interests of the copyright owners and could not benefit from the exception of personal use, the U.S. Supreme Court came to a different result in 1984 when it decided in the Betamax case\textsuperscript{531} that videotaping of TV programs for time-shifting purposes fell within the fair use exception and thus permissible. However, the decision of Gema v. Grundig has been overruled since the promulgation of the 1965 Copyright Act whereby home taping for private use is no longer an infringing act.\textsuperscript{532}

Copying technologies have freed the end-user from the constraints of place and time and from the control of right holders. It has been argued that an author must have control over copies being made in

\textsuperscript{529} See Spoor, supra note 4, at 72.
\textsuperscript{530} German Supreme Court, judgment of 18 May 1955, GRUR 1956, 492. [in] Spoor, supra note 4, at 73.
\textsuperscript{532} See Spoor, supra note 4, at 74.
order to benefit from his work. This can be achieved by making reproduction right adaptable to any new technology enabling the reproduction of copyrightable works. However, the present status of reproduction right, as summarized by one writer, is as follows:

*Today, the reproduction right may more or less cover any fixation, no matter how technically sophisticated and ephemeral, provided it is durable enough to enable some form of use or further communication of the work, so as to give the right owners as much control as possible over the exploitation and use of their works. Over and again, control is the key word, and any fixation, no matter how ephemeral, may be considered relevant if to label it ‘reproduction’ can help right owners to stay in command; especially if such copies enable the user to access the work.*

As concerns digital networks, virtually all Internet operations require continuous copying of documents from one computer to another. Copying may be permanent as in cases of uploading and downloading of data, and may be temporary or volatile as in cases of temporary storing of the transmitted documents on intermediate computers such as the access providers’ servers and RAM memories of end users’

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533 See Spoor, supra note 4, at 76-77.
computers. The process of making an artistic or literary works available on-line usually requires two steps: first the work must be digitized; and secondly, it must be stored into the memory of a computer connected to the network. Both acts are considered as reproduction subject to the right holder authorization. For example, the European Commission’s Green Paper on Copyright and Neighboring Rights in the Information Society provides that “the digitization of works or other protected matter should generally fall under the reproduction right, as should such things as loading on to the central memory of a computer”. However, it has been observed that the decisions of the courts in the European Union, especially in France, so far have not distinguished between the two types of reproduction. “They ruled that digitization constitutes an act of reproduction but it seemed that they used the term ‘digitization’ to refer either to digitization proprio sensu or to be the subsequent installation of digitized work on a server”. For instance, the Paris Court of First Instance decided on May 5, 1997 in the first Queneau case, where the defendant had digitized and installed on his web site a copyrighted work without the authorization of the copyright owner, that the act of the defendant constituted reproduction of the work.

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subject to the authorization of the copyright owner. This decision has been criticized on the ground that “the court sees the act of reproduction in the digitization itself; it should probably have seen it in the digitization and making available on-line; the judge could have used the phrase ‘transmission’ or ‘digital broadcasting on the Internet’ to refer to both actions as one”. It is conceded that the two acts are closely linked together particularly in the light of the fact that a work can only be stored on a server after it is being digitized. Yet, the distinction between the two types of reproduction should be maintained as long as the two acts may be carried by different persons on the one hand and on the other hand a work stored on a server may not have been digitized, at first, for that purpose.\(^{537}\) It is worthy to note that the WIPO Copyright Treaty (WCT) 1996, has not provided in its main text for the application of the right of reproduction on digital networks due to lack of consensus but the WIPO Performance and Phonogram Treaty 1996 provides under Article 7 that “performers shall enjoy the exclusive right of authorizing the direct or indirect reproduction of their performances fixed in phonograms, in any manner or form”. Moreover, the Agreed Statements concerning Article 1 (4) of the WCT provides that:

\(^{537}\) Ibid., at 33.
The reproduction right, as set out in Article 9 of the Berne Convention, and the exceptions permitted thereunder, fully apply in the digital environment, in particular to the use of works in digital form. It is understood that the storage of a protected work in digital form in an electronic medium constitutes a reproduction within the meaning of Article 9 of the Berne Convention.538

However, the legal value of the Agreed Statements is uncertain, but at least they serve as an element of interpretation of the WCT.539

Moreover, a controversial issue facing the right of reproduction is the transient or temporary storage on servers or end-users computers, especially RAM copies made during consultation. Is this kind of storage constitutes reproduction? If it is so, does it fall within the right of reproduction and subject to the authorization of the right holders? Many legislative provisions refer to temporary reproduction as a kind of reproduction that falls under the right of reproduction, e.g., Article 4(a) of the European Software Directive 1991 and Article 5(a) and 7 (2)(a) of the European Database Directive 1996. Likewise, s. 17(6) of the British Copyright, Designs and Patents Act 1988 provides that “copying in relation to any description of work includes the making of copies which are transient or are incidental to some other use of the

work”. Under s. 101 of US Copyright Act 1976 “a work is ‘fixed’ in a tangible medium of expression when its embodiment in a copy or phonorecord, by or under the authority of the author, is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration”. Legislatures as well as courts in US extend the definition of ‘fixation’, which has been tailored by s. 101 for copyrightability requirements, to ‘fixation’ for the purpose of reproduction. For instance, in 1974 the Congress formed the National Commission on New Technological Uses of Copyrighted Works (CONTU) to study the complex issues raised by computers and copying machines. The CONTU’s report used the definition of s. 101 of ‘fixation’ in its analysis of reproduction. The Congress adopted the CONTU’s report without comment and the courts considered it as a form of legislative history. In MAI Systems, Corp. v. Peak Computer, Inc. the US Ninth Circuit “stated clearly that copies made from a permanent storage device into a computer’s RAM constitute reproduction”. Likewise, the Working Group on Intellectual Property Rights formed by the Information Infrastructure Task Force, published in 1995 the
‘White Paper’, which “purportedly relies on the Copyright Act, its legislative history, the CONPU report, and repeated court holdings for its assessment that loading a work into the RAM of a computer constitutes reproduction under the Copyright Act”.544 This attitude has been criticized on the ground that it failed to distinguish between copies of a digital work on computer hard drive or Read Only Memory (ROM), which are permanent or semi-permanent and are fixed under the Copyright Act, and those in its RAM, which is very transient and “necessitates special analysis under the reproduction provisions”. It is suggested that the purpose of reproduction should be put in mind when interpreting the fixation requirement of reproduction. In other words, “a copy should not be an infringing reproduction unless it harms the copyright holder, and thereby deter creation”.545 Moreover, some commentators contend that: “acts of short-lived copying as mere byproducts of a technical communication process, such as the ‘store-and-forward’ mechanisms used on the Internet and other digital networks, should not be qualified as acts of reproduction”.546 Others believe that although RAM copies meet current definitions of reproduction, they do not feel like copies. Likewise, although they seem harmless, leaving them outside the

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544 Ibid., at 7.
545 Ibid., at 3, 10.
546 See Hughenholtz, supra note 1, at 89. See also Passa, supra note 12, at 46.
scope of copyright may form a severe protection gap. Some writers even went far to consider denying characterization of temporary storage as reproduction to be contrary to Article 9(2) of the Berne Convention. However, the need for the existence of the right of reproduction on digital networks is questionable as every act of communication of a work to the public necessarily involves its reproduction.

(b) Right of Communication to the Public

Communication of copyrighted works over digital networked environment may involve one or more of acts such as digital reproduction or adaptation, temporary storage, providing on-line access, point-to-point transmission, broadcasting, dissemination in closed users groups, decoding and screen display or use. However, for a right of communication to apply; two conditions must be satisfied: first, there must be an act of communication and second, that communication is made to the public. The international conventions dealing with copyright and related rights have not defined the term ‘communication’. Generally, “communication implies conveyance, and what is conveyed will be a tangible object (like a book or record)
or a representation of a work, performance or recording, in sound, light, electronic signals or some other energetic form”. Within the copyright context, “communication usually refers to the conveyance of representative signals series from one point to another” i.e., it involves the transmission and the actual or potential reception.  

In the light of the above definition of ‘communication’, does the installation of a material on a network which can be accessed and retrieved on demand by each individual for his personal use, constitute an act of communication? If it is so, does this constitute a public communication subjects to the authorization of right holders? The opponents of the application of copyright to materials disseminated on digital networks, on one hand, argue that the communication to the public subject to authorization requires a positive act of transmission i.e., the diffusion of a message towards a receiver. This is not the case on digital networks, as the uploading of a material on a web site does not involve a positive act of transmission towards the web site users who take the initiative to access the web site to download or view the material available on it. Moreover, they add that even if the act of uploading a material on a web site forms an act of communication, it is not a public communication within the meaning of copyright law since the users do not necessarily access

See Sterling, supra note 3, at 144.
such material simultaneously or in the same place. The user accesses a web site, e.g., from his home or office, i.e., a private place. Thus it must be subject to the exception of private use. The supporters of the application of the right of communication to the public to copyrighted materials disseminated on digital networks, on the other hand, reply to these arguments by saying that what matters is that the work be communicated, irrespective of the means of communication. By making a material available through a telecommunication process, the web site owner performs an act of communication despite the absence of positive emission. The communication is initiated from the act of making the material available on a web site, not from the access of that web site by end-users. The access of the end-user is a mere manifestation of that communication. Moreover, whether the work is communicated to the public at a certain time and in a given place is irrelevant. What is important is that it is destined for public access. A potential public access is enough. “Therefore the fact that all receptions are not simultaneous cannot be used to argue that communications are private and fall within the scope of the exception for representation within the family circle”.

It is worthy to mention that Article 8 of WCT and Articles 10 and 14 of the WIPO Performance and Phonograms Treaty (WPPT) 1996

551 See Passa, supra note 13, at 53-64.
seem to settle this debate. Under Article 8 of WCT “… authors of literary and artistic works shall enjoy the exclusive right of authorizing any communication to the public of their works, by wire or wireless means, including the making available to the public of their works in such a way that members of the public may access these works from a place and at a time individually chosen by them”. Likewise, Articles 10 and 14 of the WPPT provide for similar provisions as concerns the exclusive right of performers in their performances and the producers of phonograms in their phonograms respectively. Yet, as the dissemination of works on digital networks blurs the boundaries between the right of reproduction and the right of communication to the public, the co-existence of both rights online is questionable. It is argued that the application of either of them is enough for protecting authors’ rights on-line. Therefore, it is suggested that either of them may be maintained or that both rights be unified in one right, which may be called ‘right of digital transmission’ or ‘right of digital exploitation’.

(c) The Co-existence of the Right of Reproduction and the Right of Communication to the Public on Digital Networks

, html. http://wipo.org/treaties/ip/index See WCT and WPPT at:
The act of exploitation of a work on digital networks starts once it is digitized and stored on a server connected to a network, because such digitization and storage constitute reproduction. The same can be said as concerns the act of communication to the public, because the access by end-users is a manifestation of the act of public communication since the act of communication does not depend on the actual public access, a potential one is enough. As a consequence, if both rights have to be applied for authorizing the exploitation of protected works over digital networks, the operator may need to pay fees two times and may need to get authorization from two different entities if the holder of the reproduction right is different from the holder of the representation right. Therefore, a query arises as to whether it is justified to maintain the accumulation of authorizations. “Would it be possible, in order to facilitate the authorization procedure, to view the projected use of the work from the angle of only one of these two exclusive rights”?553

Different approaches have been advanced in this respect. One approach is that only the right of reproduction needs to be applied for the protection of works disseminated on digital networks. This view is based on two arguments: first the whole process from the stage of uploading into the memory of a server to on-screen display should be

553 See Passa, supra note 13, at 64-5.
considered as an act of reproduction. The screen should be treated as a medium for material fixation within the meaning of copyright law or that the output on the end-user’s computer should be regarded as a secondary result of the initial uploading on a web site accessible by public. This argument is not new, as it had been suggested in relation to the inclusion of protected works into online databases. The criticism directed at this argument is that “a computer screen is more of a means of communication of a work than a medium for reproduction. To consider on-screen display in terms of reproduction would be to deny practically all value to the concept of representation”. Moreover, in the past the displaying of pictures on cinema or television screens had never been treated as reproduction. It has been suggested that if on-screen display were to be treated as reproduction, this should be based on the ground that the end-users call up works onto their screens, which falls within the scope of the exception of private copy; unless the owner of the server is considered responsible for providing the means of reproduction.\textsuperscript{554} The second argument is “based on considering on-screen display as an act of representation but more importantly as the consequence of the uploading of a work into the memory of the server”. According to this argument, the initial authorization for the reproduction of a work

\textsuperscript{554} Ibid., at 65-6.
through storage on a server is enough for authorizing the subsequent representation on end-users’ computer screens. This view has been rejected by some on the grounds that it would be contrary to the rule adopted by some national laws such as Article L. 122-7 of the French Code on Intellectual Property, which provides that “a transfer of the right of reproduction of a work does not constitute in itself an implicit transfer of the corresponding right of representation; whoever holds the rights must authorize each form of exploitation of the work”.\(^555\)

Another approach is based on the argument that the whole process of online digital transmission should only be treated as an act of representation. In other words, the initial uploading of a work on a server should be treated as a mere technical prerequisite to the communication of the work to the public. According to this view, the initial fixation will only make sense where the work can be communicated to the public. Therefore, no payment should be made for the initial reproduction other than the payment requested for the representation. This approach is also not new. It has been invoked in relation to audiovisual works “where the transfer of the authorization right, which allows the integration of a pre-existing work into a movie, does not make sense without the authorization of the fixation

\(^555\) Ibid., at 66.
of the work on film”.556 According to the supporters of this approach, the focus should be made on the right of communication to the public, which is “conceptually linked to the essence of the economic right”, “instead of focusing on merely technical (intermediate) acts of reproduction and transmission”.557 Once again this approach is contrary to the legislation of some countries such as Article L. 122-7 of the French Code on Intellectual Property, which requires separate authorization for the act of representation as well as the act of reproduction.558

A third approach sees the solution not in the denial of either the right of reproduction or the right of communication to the public in favor of the other right but in the unification of those two rights in one comprehensive right that may be referred to as ‘the right of digital exploitation’ or the ‘right of digital transmission’. It is believed that this helps in harmonizing the legislation with the technical process by maintaining the unity of online communication on one hand and, on the other hand, simplifying the procedures of use by confining the act of authorization in one step, without prejudicing authors. The criticism directed at this view is that practically, it is believed that there is no need for such unification in the presence of authors’

556 Ibid., at 66-7.
557 See Hugenholtz, supra note 1, at 101.
558 Ibid. at 67-8.
societies such as SESAM, which introduced the so-called ‘one-stop shop’ thus facilitating the act of authorization. Theoretically, it is contended that the call for such unification tends towards giving a dominating role to the concept of economic rights in detriment for the personal rights of authors, which “will dissolve into an unspecified exploitation of their works, leading to global transfers of rights or even of legal licenses”. This may result in weakening copyright system and lead to its further dispersion. The protection of works depending on the way of their exploitation and not on the nature of the protected work, as in the case of software programs, has already been much criticized and it may not be reasonable to introduce another regime on the same basis, because this may affect negatively the unity of copyright and the efforts to make its enforcement and management more efficient. Moreover, the complications that may result from the creation of such new regime as concerns its relation with the traditional right of reproduction and right of representation and the exceptions and limitations relating to them have resulted at present in preferring the adoption or extension of the traditional copyright rules. 559

(ii) Moral Rights of Authors

559 Ibid. at 69-72. See also Ficsor, supra note 26, at 133-37.
Under Article 6bis of the Berne Convention an author “shall have the right to claim authorship of the work and to object to any distortion, mutilation or any other modification of, or other derogatory action in relation to, the said work, which would be prejudicial to his honor or reputation”. It has been argued that the scope of the moral rights under Article 6bis have been formulated as such due to the pressure of common law jurisdictions to confine the scope of moral rights to a minimalist implementation of only the right of paternity and the right of integrity recognized by them. This attitude has been supported by TRIPS, which has not recognized moral rights.\textsuperscript{560} The scope of the moral rights of authors in civil law jurisdictions is wider than those provided for under Article 6bis of the Berne Convention. For example, under French Law, besides the right of paternity and the right of integrity there are also the right of disclosure and the right of withdrawal and repentance.\textsuperscript{561}

However, the persistence of the minimum standard of the moral rights under Article 6bis on digital networks is questionable. This is because the modification and adaptation of works have never been as easy as in digital environment. This will facilitate the infringement of moral rights. For instance, digitization makes it possible to copy parts

\textsuperscript{560} See Lea, Gary ‘Moral Rights and the Internet: Some Thought from a Common Law Perspective’ [in] Pollaud-Dulian (ed.), supra note 13, at 89-92. See also Article 9 of TRIPS Agreement.

of a work and use them in creation of new material with virtually no effort or alter works of art to create an amusing web site graphics. Such acts violate the right of integrity, the right of paternity or both. Also it is possible to copy records of unreleased songs to a web site in violation of the right to decide on publication. Moreover, infringement may result not from deliberately outright malice practices but also it may result from common practices of the Internet users such as the common practice of ‘snipping’ done by newsgroups users. “Whilst this is a common practice, the fact that a message also contains the author’s identity means that careless (or, perhaps, deliberate) snipping can cause a loss of information that may result in violations of the rights of integrity, paternity or both”. 562

It has been stated that while civil law jurisdictions acknowledge the difficulty of maintaining the traditional moral rights effective on digital networks, the prevailing view at common law jurisdictions seek to keep moral rights theory and practice off the Internet altogether. Amongst the arguments put forward against the protection of moral rights on the Internet are the problems of collectivization and digitization. On the one hand, although collectivization, which refer to works produced by a group of persons working together, is not new or unique to the Internet, especially since the emergence of

562 See Lea, supra note 38, at 96-9.
cinematographic works, nevertheless, “the conceptual difficulties that it creates, and the consequent difficulties in designing a suitable legal framework for protection of creative interests, have become considerably more acute with the advent of digital technologies”. Take as an example a CD-ROM, which in addition to being a multi-authorial work in nature, a matter that complicates the identification of right holders, it is also “a multi-faceted work and, as such, may not fit neatly into existing categories of works described by relevant legislation. On the other hand, digitization blurs the lines between the different categories of works. “The result of this blurring effect explains the proliferation of the multi-faceted works described above, a proliferation which is leaving the law in an ever more desperate state of ‘catch-up’”.  

It is submitted that the preservation of the traditional moral rights of authors is incompatible with the digital technology and may stifle its progress. Therefore, to maintain the co-existence of both; a flexible moral rights concept that can adapt to the nature of the digital networks should be sought. This can be achieved either by limiting the extent of moral rights or by allowing contractual adjustment to these moral rights.  

It is believed that the moral rights protection should be reshaped in a way acceptable to all countries, as the co-existence of

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563 Ibid., at 95-6.
564 See Francon, supra note 39, at 77-85.
systems allowed by Berne Convention should no longer be maintained in an increasingly globalized culture. However, the protection of even adapted moral rights, as well as the economic rights of authors on digital networked environment has posed a challenge on those concerned with such protection.

2. Protection of Copyright and Related Rights on Digital Networks

i) Liability for Infringement of Copyright and Related Rights and the Legal Status of the Internet Service Providers

The infringement of copyright and related rights occurs when somebody exercises one or more of the exclusive rights of the copyright owner in violation of copyright law. This happens when the alleged infringer has no authorization from the copyright owner or permitted by law. All that is required from the copyright owner is to prove his ownership of the copyrighted work and that the alleged infringer uses that work. Proof of intention is not necessary. In order to defend himself the alleged infringer must prove either that he has authorization from the copyright owner or that the work is not copyrighted or no longer covered by copyright protection or that he benefits from one or more of the copyright exceptions and limitations.

565 See Lea, supra note 38, at 101.
“An infringement can be literal, using the author’s exact words, or it can be non-literal, where the author’s work is modified and claimed as a new creation”. Liability for infringement may be direct or indirect. Indirect liability, sometimes referred to as secondary infringement, is subdivided into contributory and vicarious copyright infringement. The practical difficulties of following up cases against individual end-users, such as the difficulty of locating them and the cost effectiveness of following up cases against them all over the world, have led copyright owners to seek redress from proportionately easily identifiable deep pocket defendants, commonly known as Internet Service Providers (ISP), who facilitate access and may provide content for the end-users. An ISP may run the risk of any of the types of liability for infringement.

(a) Liability for Direct Infringement

Different approaches have been adopted for determining the direct liability for infringement. For instance, in civil law countries direct copyright infringement constitutes an unlawful act in itself. However, the general rules of liability require that a degree of fault must be

567 See Meyer, supra note 44, at 327.
shown for determining liability. “For this purpose, courts generally
find that direct copyright infringers are subject to a rather stringent
duty of care, even to such an extent that they are almost strictly
liable”. Likewise, in US copyright infringement is treated as specific
tort. However, although a direct copyright infringer is strictly liable, a
court may mitigate the damages against him if he proves that he was
not aware or had reason to believe that his acts constituted
infringement. In UK the law distinguishes between the so-called
primary copyright infringement and secondary infringement. In case
of primary infringement there is a presumption of strict liability.
Alleged infringers may escape liability if they prove that “at the time
of infringement they did not know, nor had reason to believe that
copyright subsisted in the item”. On the other hand secondary
infringers, such as mere distributors and organizers of performances,
may not be held liable for copyright infringement unless it is proved
that they knew or had reason to believe that they contributed to an
infringement.\textsuperscript{568}

Acting on the basis of these general rules; the courts in US, before
the enactment of the Digital Millennium Copyright Act 1998
(DMCA), adopted different approaches for determining the direct
liability of ISP for copyright infringement. At first, a rather rigid trend

\textsuperscript{568} See Koelman, Kamiel and Hugenholtz, Bernt ‘Online Service Provider Liability for Copyright
(2000), at 9 http://www.wipo.int/pil-forum/en/document.pdf\textsuperscript{Infringement}. Available at:
had been adopted. For example, in Playboy Enterprises v. Frena, although the Bulletin Board Service operator (BBS) had not uploaded the work and was unaware of the infringement, the Court found him liable for direct copyright infringement because, according to the Court, intent or knowledge is not an element of direct copyright infringement. However, since the decision of Religious Technology Center v. Netcom Online Communication Services, the US courts began to mitigate the strictness of the direct liability for copyright infringement for ISPs. The common features of the new approach are that “if an intermediary does not initiate the infringement nor create or control the content of its service, he cannot be considered to have caused the infringement and therefore not a direct infringer”. However, since the promulgation of the DMCA the liability of ISPs is determined by reference to the provisions of the DMCA, provided that the activity in question falls under the provisions of DMCA. In Europe, to date, proportionately few cases dealt with ISPs’ liability for direct copyright infringement. For example, a Dutch court “found that a hosting service provider does not directly infringe copyright and

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may only be held liable if he knows or has a reason to know of the actual wrongful act taking place over its installations”.

It is worthy to note that the Agreed Statement concerning Article 8 of WCT provides that “it is understood that the mere provision of physical facilities for enabling or making a communication does not in itself amount to communication within the meaning of this Treaty or the Berne Convention”. This provision has been construed as to mean that, as long as the right of communication to the public is concerned, an intermediary cannot be held liable for direct infringement, but this does not extend to exempting him from direct liability for infringement of the right of reproduction nor the indirect liability for copyrights infringement in general. It has been noticed that the absence of a similar provision for the right of reproduction in WCT may be due to the fact that the Contracting Parties had not reached agreement as concerns the right of reproduction and thus it has not been included in the Treaty. The only mention for this right is made in the Agreed Statement concerning Article 1(4). This does not, however, clarify the status of the transient copies, which are by-products of the ‘store and forward’ transmission. Yet, in countries like the EU countries and Australia, ISPs are exempted from direct

574 See Koelman and Hugenholtz, supra note 46, at 13-15.
liability for copyright infringement resulting from transmission services.\textsuperscript{575}

(b) Liability for Indirect Infringement

Liability for indirect copyright infringement arises when the acts or omissions of a person contribute to the occurrence of the infringement. Indirect infringement includes vicarious and contributory liability. “Vicarious liability concepts evolved out of the common law principle of \textit{respondeat superior}, where an employer is liable for the unlawful actions of his employees”. However, the concept has been elaborated to cover cases where a person has a right and ability to control the infringing activity and has a direct financial interest in such activities. Contributory infringement, on the other hand, “originates in tort law and stems from the notion that one who directly contributes to another’s infringement should be liable”. A person is said to be contributorily liable for copyright infringement when he participated in the infringement by inducing, causing or materially contributing to the occurrence of an infringing activity although he knew or had reason to know it was an infringing activity. The difference between contributory and vicarious liability is that while contributory liability focuses on the knowledge and behavior of

\textsuperscript{575} Ibid.
a third party towards the alleged infringement, vicarious liability depends on the relationship between the direct infringer and the defendant. Lack of knowledge is not a defense in case of vicarious liability.576

Under US law, although the US Copyright Act 1976 has not expressly provided for liability for indirect copyright infringement, the US courts have settled the issue of the liability for indirect copyright infringement. The leading case in this respect is the decision of the Supreme Court in Sony Corp. v. Universal Studios, Inc.577, in which the court stated that: “the absence of such express language in the copyright statute does not preclude the imposition of liability for copyright infringement on certain parties who have not themselves engaged in the infringing activity”. However, since the promulgation of the DMCA, the contributory and vicarious liability of ISPs for copyright infringement is determined by reference to its provisions.578

Both the DMCA and the EU Directive on e-commerce have set rules regulating online intermediaries liability. Title II of the DMCA creates four limitations on the liability of ISP for copyright infringement.

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These limitations are considered as safe harbor for ISP and cover areas relating to transitory communications, system caching, storage of information on systems or networks at direction of users and information location tools, provided that certain conditions are fulfilled. However, US courts seem to be reluctant to give the DMCA safe harbor protection for ISP. In this respect, it has been observed that after five years of the promulgation of the DMCA, only one service provider has been able to qualify in court for safe harbor protection from copyright infringement. 579

The battle between copyright owners and new technologies, however, seems to last for ever. The recent digital file-sharing systems based on the so-called peer-to-peer (P2P) technologies have once again waged the war between copyright owners and new technologies. In 1999, a college student named Shawn Fanning created a file-sharing program called Napster. The program facilitates the transfer of MP3 music files over the Internet. This software enabled Napster users to download and share an unprecedented amount of free MP3 files, most of which were copyright works. By December 1999, the recording industry brought a case against Napster. In February 2001, the court charged Napster with contributory as well as vicarious copyright infringement.

liability and decided, at last, to shut it down.  

It has been commented that legal actions that seek to circumscribe these technologies are premature because, in addition to the fact that they have other substantial non-infringing uses, these technologies may help benefit copyright owners in the future. Moreover, the shut down of Napster may not solve the problem, as its users may find other alternatives. This is clear from the fact that once Napster was shut, the public found dozens of file-swapping services, such as KaZaA, Morpheus and Grokster, based on the proprietary ‘FastTrack’ technology. “A FastTrack network relies on a collection of ‘supernodes’ to provide listing and searching functions to users (like the old Napster central server). Unlike Napster, actual users run supernodes, and not a ‘FastTrack’ company”. Once again, the recording, music publishing and motion picture industries filed suits against the companies responsible for KaZaA, Morpheus, Grokster and FastTrack in 2001.

Generally, the arguments of the defendants revolve around the allegations that they have no control over the supernodes and do not know what is going on between these supernodes, because the communication between them are encrypted. Moreover, the

581 See Fessenden, supra note 57, at 408.
defendants added, even if they cease to operate or their servers became inoperative, the searching, indexing, transferring, downloading and other functions would continue unaffected. The arguments of the plaintiffs, on the other hand, concentrate on disproving these allegations and attempting to prove the contributory and vicarious liability of those companies for copyright infringement.583

It has been commented that the copyright owners may succeed in their litigation against the FastTrack companies, but this may not be an effective way for combating copyright piracy, as new generations of P2P technologies adapting to the legal and technological hurdles may appear. In this respect, mention is made to a developing technology known as ‘Freenet’. “Freenet is a P2P architecture designed to be secure, efficient and built to withstand virtually any legal or technological challenge”.584 Therefore, it has been recommended that, instead of seeking to circumscribe newly emergent technologies believed to be threatening copyright protection, it is better for copyright law to adapt to these technologies, as it did throughout its history.585

583  Ibid. at 6-7.
584  Ibid. at 1.
585  See Fessenden, supra note 57, at 408. See also Cheval, supra note 56, at 16.
ii) Private International Law Aspects of Copyright and Related Rights

(a) Historical Background

Generally, the main three treaties in the field of intellectual property viz., the Paris Convention, the Berne Convention and TRIPS focus on harmonization, both in terms of substance and procedure, and on principles such as national treatment for solving problems resulting from cross-border legal relationships. However, as far as private international law is concerned, although the said treaties have not excluded it altogether, they contain few provisions that can be characterized as rules of private international law. An example of a private international law rule is Article 5(2) of the Bern convention, which provides that “the extent of protection, as well as the means of redress afforded to the author to protect his rights, shall be governed exclusively by the laws of the country where protection is claimed”. Likewise, the recent WIPO negotiations during the Diplomatic Conference on the Protection of Audiovisual Performances (December 7 to 20, 2002) relating to the international recognition of the transfer of rights of audiovisual performers referred to private international law to bridge the differing positions among the
However, while there is no comprehensive private international law regime for intellectual property at the international level, several general principles relating to jurisdiction and the applicable law can be found in national and regional systems, in addition to the provisions of the Draft Hague Convention.

(b) Jurisdiction and Enforcement of Judgments

Jurisdiction has two aspects: first, a court must determine whether it has jurisdiction over the defendant. This is known as ‘personal jurisdiction’. Second, the court must determine whether it has jurisdiction over the subject matter of the dispute. This is referred to as ‘subject matter jurisdiction’. Traditionally, common law courts were reluctant to accept jurisdiction on disputes involving foreign intellectual property rights. This reluctance is due to the understanding that intellectual property rights are territorial creatures based on sovereignty and public policy and the interference by foreign courts may impinge upon the sovereignty of the states granting them. It is believed that the understanding of territoriality of intellectual property

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rights in that way, which led to the exclusion of the application of foreign law, is wrong and contrary to Article 5(2) of the Berne Convention, which involves a conflict rule by providing for the application of the law of the country where protection is claimed.\textsuperscript{590} However, the trend of the US and UK courts, at present, is towards accepting disputes involving foreign intellectual property law, particularly in disputes relating to allegation of infringement of foreign copyright.\textsuperscript{591} For example, the English Court of Appeal held in the case of Pearce v. Ove Arup\textsuperscript{592} that “there was no per se objection to the application of Dutch Copyright Laws by an English Court”. Likewise, the US Second Circuit in Boosey & Hawkes v. Disney\textsuperscript{593} reversed the dismissal by the District Court of a claim requiring it to apply the copyright laws of 18 foreign countries on the ground of forum non conveniens. The appellate court justified its decision on the basis that “disinclination to apply foreign law did not justify dismissing the case, especially when the forum was the only court before which all territorial infringement claims could be consolidated”. Since that decision, US lower courts have more often


\textsuperscript{591} See WIPO Survey, supra note 64, at 12.


recognized and assumed jurisdiction over claims involving violation of foreign copyright laws.\(^{594}\)

The compliance with the legal requirements for assuming personal as well as subject matter jurisdiction is a precondition for the recognition and enforcement of foreign judgments. The compliance or non-compliance with these requirements is to be determined by the court, which is required to recognize and enforce a judgment according to the law of the forum. That means assumption of jurisdiction in accordance with rules of the country rendering the judgment alone will not suffice.\(^{595}\)

(c) Applicable Law

Determination of the law applicable to copyright disputes is often settled by reference to national systems of private international law, as convention law in this respect is somewhat lacking. Different approaches have been adopted depending on the issue in dispute. The emergence of the digital networks as a medium for dealing in copyrighted works has added a further complication. In this respect the possible applicable laws include *lex contractus*, personal law of


\(^{595}\) For more details see Chapter V, supra. See also Austin, supra note 66, at 11.
the author, lex fori, the law of the country of protection and the law of the country of origin.

*Lex contractus*: the application of the *lex contractus* has raised considerable controversy. This is because, in addition to the fact that in case of material goods; *lex contractus* is subject to the mandatory rules of *lex situs* and *lex fori*, the very nature of intellectual property rights poses further limitations. Intellectual property rights are granted by national systems according to the public policy in each national system. Therefore, it is argued that matters such as the existence and validity of such rights should be determined by the legal system granting them, regardless of the presence of a contract between the parties. However, there is a great uncertainty in this respect. It is believed that imposing more restrictions on *lex contractus* would negatively affect the freedom of contracting and hinder the evolution of electronic commerce. So, it is recommended that this matter should not be left to fluctuating case law and divided doctrine and must be regulated “within a framework of an international convention dealing with the private aspects of copyright and related rights, to clarify the situation by setting out a number of guidelines”. This can be achieved by laying down a principle to the effect that all hypothesis where the nature and content of the right as copyrighted work were not concerned should be governed by the *lex contractus*, subject to “a
limitative list of exceptions in which recourse would be left to the law of the right, subject to those cases, also exceptional, in which the States would be free to apply the reservation of directly applicable regulations or that of international public policy”.596

Personal law: this refers to the law of the nationality of the author or his place of residence or domicile. The resort to such law is recommended in case of unpublished works due to the impossibility of localizing on the basis of publication. However, the application of personal law to copyright and related rights has not found much support, especially from those who call for exclusive application of the law of the country of protection. Moreover, the application of the personal law may be difficult in case of participation of more than one writer from different legal systems, a phenomenon that has the potential to increase in the digital environment and that “it would have no justification with respect to related rights, particularly those of an economic nature, afforded to producers and broadcasting organizations”.597

Lex fori: The traditional role of the law of the forum as concerns the procedural matters as well as provisional measures is undisputed.598

But the question is whether it is the law referred to by Article 5(2)

596 See Lucas, supra note 68, at 5-8.
597 Ibid. at 8.
598 Ibid.
when it designates that the law applicable for determining the extent of protection and means of redress afforded to the author is the “law of the country where protection is claimed”. In this respect although different opinions have been expressed, the dominant view is that the country of protection referred to in Article 5(2) is the country where the infringing act takes place.\(^\text{599}\)

*Law of the country of protection*: this refers to the law of the country where the infringement occurs. One commentator argues that: “no one denies that this law has a part to play. The controversy concerns the scope of that part, certain maintaining that the ownership, or even the existence of the right, must remain subject to the law of the country of origin, an attachment that we must now look into”. He went on to say that: “the concept of the application of the law of the country of protection to the whole of the right does not create an insecurity as great as has been claimed”. \(^\text{600}\)

*The law of the country of origin*: it is often understood to be the law of the country of first publication. The supporters of the application of the law of the country of origin argue that at least that law should determine the existence and ownership of a right, as that right originates from it. Some even go further by contending that the application of the law of the country where protection is claimed,

\(^{599}\) Ibid. at 8-9. See also WIPO Survey, supra note 64, at 19.  
\(^{600}\) See Lucas, supra note 68, at 9-11.
provided for by Article 5(2) of the Berne Convention, should be applied only to determine the sanction in case of infringement. In this respect they construe Article 14bis(2)(a) of the Berne Convention, which provides that “ownership of copyright in a cinematographic work shall be a matter for legislation in the country where protection is claimed”, as to stipulate in the negative that “in other hypotheses it should be a matter for the law of the country of origin to govern the issue of ownership of the right”. The opponents of this view argue that the expression ‘extent of protection’ under Article 5 (2) “cannot be read, without artifice, as referring solely to the consequences of infringement of the exclusive right, and even less with its spirit, since everything would indicate, despite unhappy drafting, that it is indeed a general rule of conflict that had been intended by the drafters”. Moreover, defining the country of origin as the country of first publication raises practical difficulties as concerns distribution of copyrighted works over digital networks, since the simple making of a work available on a website cannot constitute publication within the meaning of Article 3(3) of the Berne Convention, which defines publication as the “manufacture of a sufficient number of copies to satisfy the reasonable requirement of the public”.  

601 Ibid.

602 Ibid. at 10-11.
There is a general agreement between the legal writers that in case of infringement, “a choice of law rule that designated the law of a single country to govern the ensemble of the Internet copyright transactions would considerably simplify the legal landscape, and thus promote Internet commerce”. However, the problem is that in the light of the significant substantive differences between national copyright laws, “a choice of law rule that designates a single applicable law risks vesting legislative competence in laws that are either relatively underprotective or, for that matter, relatively overprotective (depending on the choice of forum and its choice of law rules) compared with the laws of other affected countries”. In an attempt to overcome this obstacle, Professor Ginsburg recommends that in order to choose the law of a certain country to govern the full territorial extent of the claim, the domestic law of the country must be consistent with the Berne Convention, TRIPS and WCT. As far as online copyright infringement is concerned, the applicable law may be the law of the country where the operator of the website resides or has his principal place of business, or the law of the country where the server that hosts the alleged infringing material is located respectively, depending on the consistency of the chosen law with the Berne Convention, TRIPS and WCT. However, in case there is a third

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603 See Ginsburg, supra note 71, at 11.
country with more significant relationship with the alleged infringement, e.g., where there is targeting, then the applicable law should be the law of that third country, provided that its domestic law compatible with the Berne Convention, TRIPS and WCT. Otherwise, the applicable law should be the law of the forum, so long as the forum is a member of the Berne Convention or WTO or WCT. 604

Furthermore, the difficulty facing the application of choice of law rules for copyright infringement on the Internet is the determination of the locality of the infringing act. For example, if an allegedly infringing content was made available on a website by a person in country A, on a server located in country B, and downloaded by persons all over the world, where can it be said that the infringing act took place? Is it in the country where the content was uploaded, or where it was hosted or in each country where it was downloaded? 605

These difficulties have forced some copyright owners to seek the protection and enforcement of their rights in the application of technical measures and have succeeded in getting recognition and legislative protection for those technical measures.

604 Ibid. at 11-12.
605 See WIPO survey, supra note 64, at 19.
iii) Use of Technical Measures for the Protection of Copyright and Related Rights

Dissatisfied with protection afforded by law and contract, many right holders resort to technological measures, as supplementary mechanisms for the protection of their rights. The supporters of the use of technology argue that elimination of the threat posed by new technologies, such as the Internet, can be achieved by the use of technology itself. In this respect, reference is often made to the famous phrase of Charles Clark: “the answer to the machine is the machine”. Different technological devices have been used by content providers, some are specially designed for the protection of copyright and related rights works disseminated over digital networks and others are designed to protect content online, whether copyrighted or not. It is not easy to enumerate the technologies currently in use or being developed or to predict the future of these technologies. However, it may be possible to classify these technologies on the basis of their function or purpose. Within this context, four broad categories may be distinguished including those measures, which are efficiently used to protect copyright and related rights, systems used

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to control access, watermarking and identification tools, and electronic rights management systems.\textsuperscript{607}

(a) Technologies Protecting Copyright and Related Rights

These are devices used to control unauthorized exploitation of copyright and related rights on digital networks. In other words, these devices allow the initial access and view of the copyrighted works, but unauthorized uses, such as copying or modifying of a work, are disabled. Examples of these technologies are dongles, which are used mainly in software sector, and smart cards, which may be used for a variety of works available for the public. Likewise, there are other devices such as the Serial Copy Management System, which is used mainly in US for the protection of audio-digital recording.\textsuperscript{608}

(b) Access Control Tools

These are technical measures that make the initial access to the online content conditional. In other words, access to the content is only allowed when certain conditions, such as payment of a fee, are fulfilled. The protected content may be a work or collective works and may be a service including, among other things, copyrighted works.


\textsuperscript{608} Ibid.
Technologies used for controlling access include cryptography, passwords, set-top boxes, black boxes, digital signature and digital envelope.\textsuperscript{609}

(c) Watermarking and Tattooing Tools

Tattooing and watermarking technologies are used to identify and mark works. There are different applications for these technologies serving various purposes. One of their main uses is that they are used for inserting visible or invisible information about the work, such as the title of the work, the name of its creator, the copyright holder or the terms of use of the work. The inserted information may help in proofing counterfeit of a work or as means of authentication.\textsuperscript{610}

(d) Digital Rights Management Systems

Digital rights management systems (DRMS), also known as electronic rights management systems (ERMS), are technologies enabling rights management on digital networks by making it possible to license and control the utilization of works online. They often consist of a combination of tools and technologies designed to perform several jobs. “Thus, a cryptography tool blocking access to

\textsuperscript{609} Ibid. at 19-20.
\textsuperscript{610} Ibid. at 20-21.
the work may be associated with an anti-copying system prohibiting the reproduction of the work”.

iv) Legal Protection of Technical Measures

Although technological measures used for the protection and management of copyright and related rights may be effective in relation to ordinary users, they may not stand against qualified users who, if they so like, may find a way to circumvent these technical measures. Thus, technological measures may be neutralized or ‘hacked’ and a market for illicit devices facilitate decryption and other forms of circumvention of such measures, has the potential to grow. “No matter how ingenious the technology used to protect works against unauthorized use, equally ingenious ways may be developed to circumvent it”. Therefore, right holders seek legal protection for these technical measures against illegitimate use, impairment or destruction. In 1996 the WIPO Internet Treaties, namely WIPO Copyright Treaty (WCT) and WIPO Performance and Phonogram Treaty (WPPT), set the framework for the national legislative endeavors that followed. In this respect Article 11 of WCT provides that:

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611 Ibid. at 21.
612 Ibid. at 24. See also WIPO Survey: Issue III ‘Copyright and Related Rights, supra note 64, at 5.
Contracting Parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this treaty or the Berne Convention and that restrict acts, in respect of their works, which are not authorized by the authors concerned or permitted by law.

Likewise Article 12 of WCT provides for the imposition of effective remedies against those who remove or alter electronic rights management information or dispose of works by distribution, import for distribution, broadcasting or communication to the public, knowing that electronic rights management information has been altered or removed from them without authorization, whereby they know or has reasonable ground to know that any of these acts will induce, enable, facilitate or conceal infringement of any right covered by WCT or the Berne Convention.613

Many national and regional legal systems followed the WCT and WPPT by enacting laws that counter circumvention of technological measures used by right holders. In this respect, Title 1 of the Digital Millennium Copyright Act 1998 of the United States provides for criminal and civil liability for the circumvention of digital rights

613 See WIPO Survey: Issue III, supra note 64, at 5.
management devices. Section 1201 of this Act prohibits unauthorized access to copyrighted works through the circumvention of access control measures. Moreover, it prohibits the manufacture or making available technologies, products and services used to circumvent technological measures controlling access to copyright works, as well as prohibiting the manufacture and distribution of technologies that may defeat technical measures that protect the rights of a copyright owner as provided for under the US Copyright Act. Likewise, the E.U. Copyright Directive 2001 requires its Member States to provide adequate legal protection against circumvention of effective technological measures used by copyright owners and to prohibit the manufacture or distribution of devices, products or components or the provision of services specifically for the purpose of circumvention or has only limited commercial uses other than circumvention.614

It has been observed that the circumvention provisions of both the DMCA and the E.U. Copyright Directive have gone beyond what is required by WCT because, unlike WIPO Internet treaties, they “are not directed simply against the ‘circumvention of technological measures’, but cover any activity, including preparatory activities

614 See Fellenbock, Markus, ‘On the Technological Protection of Copyright: The Digital Millennium Copyright Act, the European Community Copyright Directive and Their Anticircumvention
such as the manufacture and distribution, as well as services, that facilitate or enable the circumvention of these devices”. Moreover, the protection afforded to the technical measures in US and EU laws, especially those controlling access to copyright works, threatens the existence of the exceptions and limitations and thus disrupt the copyright balance.  

3. The Status of Exceptions and Limitations on Digital Networks

i) The Extension of the Traditional Copyright Exemptions to Digital Networks

Different ways have been followed by different national laws, as concerns the definition of the statutory exemptions to the authors’ exclusive rights. Some laws provide for lengthy and detailed list of copyright privileges, such as those provided for under the Sudanese Copyright and Neighboring Rights Protection Act 1996. Others provide only for minimal exemptions, using general concepts such as ‘fair use’ or ‘private use’. However, the issue of extending, adapting or excluding traditional copyright exceptions and limitations

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615 Ibid. at 38.
to copyrighted works disseminated over digital networks has generated intensive debate. Copyright interests argue that the mere uncontrolled access to copyrighted works would result in exploitations of creators’ rights in a way contrary to Article 9(2) of the Berne Convention. They add that the justifications underlying the exceptions and limitations such as fair use or private copying in the analog world viz., the market failure to provide end-users with their needs, the insignificant loss for authors’ earnings or the impossibility to control have been eliminated online. This is because it has become technically possible to control exploitation of works online and, moreover, feasible to meter every use of works disseminated online. Furthermore, the difficulty previously facing end-users in relation to contact with copyright owners is no longer existing in the digital age, where it has become possible for end-users to contact directly with copyright owners and get license to access their works online. Therefore, they claim that the traditional copyright exemptions should not be extended to digital networks and that rigorous forms of protections should be afforded for copyrighted works online through technical means, which are backed by law.617

The call for granting copyright owners exclusive control over the exploitation of their rights has been criticized by many writers on the grounds that it concentrates on the economical aspects at the account of social and cultural aspects of copyright law. It is considered as a manifestation for the current trend of using intellectual property as a mechanism for return on investment. This trend reflects a disturbing change in intellectual property rights, “which has gone from a system supposed to protect creative works to a system tending to protect investment”. Examples of this change are the sui generis right on databases, which protects basic information traditionally not covered by copyright, and the rights given to producers of phonograms and videographic recordings.\footnote{See Dusollier, Severine & Poullet, Yves & Buydens, Mireille, supra note 85, at 6-8.} It has been stated that:

Such a change in the idea of intellectual property ‘woven around the idea that it and the monopolies it thus grants are not trade-offs for enriching the collective cultural heritage, but a bonus that the law gives to companies that are able to make sizeable investments (which comes down to giving them a legal privilege as a reward for a de facto economic one)’ is particularly disturbing for developing countries and
companies in those countries which very often cannot afford to make such investments.\textsuperscript{619}

The campaign for enhancing copyright on digital networks has been accompanied by a decrease in the scope of exceptions to and limitations on copyrighted works disseminated over digital networks through the interference of different factors including legislation and a growing use of contracts and application of technological measures. Such conduct “runs the risk of causing an unprecedented break in the balance inherent in all systems of intellectual property. For copyright relies on balancing the interests of protecting created works and their creators and guaranteeing public interest and fundamental freedoms”.\textsuperscript{620} Therefore, Article 10(1) of the WIPO Copyright Treaty 1996 tries to re-strike this balance when it allows the Contracting parties to provide in their national laws for limitations of and exceptions to authors’ literary and artistic rights provided that this is confined to certain cases, which do not conflict with the normal exploitation of the work or unreasonably prejudice with the legitimate interests of the author. Under Paragraph 2 of the same Article, the Contracting Parties are required, when applying the Berne Convention, to “confine any limitations of or exceptions to rights provided for therein to certain special cases that do not conflict with a

\textsuperscript{619} Ibid., at 8. 
\textsuperscript{620} Ibid. at 5.
normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the author”. According to the Agreed Statement concerning Article 10, this Article permits the Contracting Parties to extend into the digital networks the exceptions and limitations, which are considered acceptable under the Berne Convention and that it “neither reduces nor extends the scope of applicability of the limitations and exceptions permitted by the Berne Convention”. Thus, a Contracting Party may create new exceptions or limitations deemed to be appropriate in the digital networks, on condition that the yardstick provided for under Article 9(2) of the Berne Convention and Article 10 of the WIPO Treaty be properly observed; viz., that the exceptions and limitations be confined to specific cases, not conflicting with the normal exploitation of the work and do not unreasonably prejudice the interests of the author.621

However, despite the provision of Article 10 of the WCT, the current trend seems to be supporting a reduction in both the scope and the number of exceptions and limitations on the digital networks. For example, in the case of American Geophysical Affairs v. Princeton University Press622 the court held that the existence of an entity like the Copyright Clearance System, which grants, on behalf of authors and publishers, “permission to make photocopies of articles taken

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621 Ibid. at 10-11.
622 60 F. 3d 913 (2d Cir. 1994), [cited in] Dusollier, Poullet and Buydens, supra note 46, at 11
from books or newspapers, constituted a market for photocopies of scientific articles, so that photocopies made by a company for its research department could no longer be considered as falling within the area of fair use”\textsuperscript{623}. Moreover, the US Digital Millennium Copyright Act 1998 (DMCA) prohibits not only the circumvention of rights management systems, which control every use of copyrighted works online, but also the manufacture, distribution and importation of circumvention tools. Furthermore, the mentioned Statute provides clearly that copyright exemptions will not afford a defense for the circumvention of these rights management systems.\textsuperscript{624} Likewise, although the EU Copyright Directive 2001 enumerates some exceptions and limitations including private reproduction, criticism and parody, and news reporting that member countries may enact legislation ordering copyright owners to provide users with means to take advantage of, nevertheless, the exceptions and limitations enumerated in the Directive are described as discrete and relatively narrow.\textsuperscript{625}

It has been stated that as maintaining of the exceptions to and limitations on copyright is essential for preserving the inherent copyright balance, the extension of the exceptions and limitations into

\textsuperscript{623} See Dusollier, Poullet and Buydens, supra note 85, at 11.

\textsuperscript{624} See Burk and Cohen, supra note 94, at 49. See also EU Copyright Directive, supra note 92.

\textsuperscript{625} Ibid., at 69-70.
the digital networks is an inevitable matter. In this respect it is suggested that the issue of adaptation of copyright exemptions to the digital networks “can be solved only through a fresh analysis of the basis on which exemptions are granted”. Generally copyright exemptions are based on two kinds of considerations: “either the exception is required for practical or economic reasons, or it is justified by concerns of general interest or fundamental rights or freedoms”.

According to Hugenholtz, there is merit in the arguments of both rights’ owners on the one hand and libraries, intermediaries and end-users on the other hand. Therefore, he believes that “exemptions having their origin in the market failure (i.e., the inability of copyright owners to transact directly with users) deserve critical review and, perhaps, should not survive in the new environment”. However, other exemptions, which aim at protecting human rights or basic societal needs and not merely justified by market failure “should, as much as possible, be preserved in the digital networked environment” so as to maintain the balance between property rights in information and public interest. Such exemptions include those protecting the basic academic freedoms or serve essential education purposes, in addition to other exemptions such as private copying, which protects the individual’s private sphere and the

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626 See Dusollier, Poullet and Buydens, supra note 85, at 12-3.
library privileges, archival exemptions, rights of news reporting and quotation rights, which safeguard the cultural heritage of the society and foster the free flow of information.\(^{627}\) In other words, the decision on whether to recognize or deny a certain exemption should be made by reference to the justification underlying that exemption and not merely to the technological or economic possibility that an author has for granting his permission to use his work.\(^{628}\) It has been argued that if the authorial rights would be increased, e.g., if the digital exploitation right would apply, the scope of copyright exemption must be increased to the same extent so as to strike the copyright balance.\(^{629}\)

However, the application of technical measures by rights’ owners, which prevents all kinds of use unless authorized by them through contract or other kinds of license, threatens not only the uses authorized by copyright law in form of exceptions and limitations but also the use of works not covered by copyright protection or fall in the public domain.

**ii) The Impacts of Electronic Rights Management Systems on Copyright Exemptions**

The easiness of copying and distribution all over the world of materials disseminated on digital networks at high quality level and

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\(^{627}\) See Hugenholtz, supra note 1, at 94-5.

\(^{628}\) See also Dusollier, Pouillet and Buydens, supra note 85, at 15.

\(^{629}\) Ibid. at 14. See also Hugenholtz, supra note 1, at 95.
virtually at no cost has posed a great challenge on the protection of copyrighted works on digital networks. The response of right holders to this challenge is the application of technical measures enabling them to control the access to and use of their works. These technical measures, which are commonly referred to as electronic rights management systems (ERMS), include a combination of many tools ensuring rights management over digital networks by making it possible to license online utilization of works and to control such use.\textsuperscript{630} Moreover, these technical measures have been backed by national and international legal provisions, which prevent their circumvention. However, the protection provided by these technical measures exceeds the extent of protection required by copyright law as they “padlock and block access to works that are not, or are no longer, under copyright or to prevent the normal exercise of a legally recognized exception”. This implies that end-users could not exploit such protected works, even within the limits of the legally recognized exceptions and limitations, except through a contract with the right holders or by finding a way around the technological barrier.\textsuperscript{631}

As far as contracts are concerned, the owner of a copyrighted work may stipulate in his contracts with end-users that certain exemptions should be exercised, e.g., a backup copy for a software program or

\footnotesize{\textsuperscript{630} See Dusollier, Poullet and Buydens, supra note 85, at 21. \textsuperscript{631} Ibid. at 21-2.}
quotation from a scientific article. The validity of such contracts depends on whether exceptions and limitations are matters of public policy and hence mandatory or default provisions that can be amended or excluded by the parties’ will. In this respect it has been pointed out that so far no national law has ruled definitely on the imperative nature of copyright exemptions except Belgian law, which recognizes all exceptions to copyright and neighboring rights as compulsory. However, “European directives on software and databases make certain exemptions compulsory, notably in the case of backup copies, decompilation and correction of program errors, normal use of a database and retrieval of non-substantial excerpts from the base content. Any contract which disallows this is therefore void”.632 Moreover, some writers; following the distinction, referred to above, between different kinds of exceptions and limitations argue that exemptions that serve the preservation of fundamental rights and those based on public interest should be mandatory and thus cannot be circumvented by a contract, but exceptions based on the practical impossibility of enforcing copyright or due to the market failure to provide end-users with their needs and do not infringe any

632 Ibid. at 17.
fundamental freedom or public interest may be “granted auxiliary status by each state”.

Different views have been expressed as regards the way of dealing with the adverse impacts of electronic rights management on exceptions and limitations in order to restore the copyright balance. One view is that the tackling of this issue should be left to the market factors. According to this view, the market elements will determine the relationship with the rights management systems in relation to “the economic benefits of these technologies, the new types of transactions likely to develop under a right-management regime, and the types of contents that are most likely to be protected by rights-management containers”.

Another view sees the solution either in the resort to the common law principles such as the principle of abuse of right or in the systems of consumers’ protection. It is conceded that “the application of these institutions to copyright is still in its early stages, but nothing prevents it from falling within its purview”. However, for practical reasons this solution may not be perfect. For example, if the prevention of exercising an exemption serving the public interest is considered as abuse of right, it may not be acceptable to blame the rights’ holder for the failure of a technological measure to analyze and recognize the

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633 Ibid. at 17-8.
634 See anonymous authors, supra note 95, at 1654-6.
often subjective terms that are imposed for the exercise of an exception.\textsuperscript{635}

A third view suggests that the solution may be found in a contractual relationship between the right holders and end-users. This may be achieved by providing certain kinds of users, such as libraries, journalists, researchers and teachers, “with a copy of the work without any technological protection or a copy whose technological protection would take into account the kind of exemption to which that user was entitled”. Likewise, this solution may not be preferable, as it deprives individual users who would not be granted such an opportunity.\textsuperscript{636}

A fourth view may be found in the alternatives proposed by Burk and Cohen. The first alternative is the programming of rights management systems so as to allow access to protected works within the limits of copyright exemptions. The difficulty facing this solution is that it may not be possible for the system designers to anticipate all uses authorized by copyright law, especially with regard to wide concepts of copyright exemptions such as ‘fair use’ concept adopted by US law.\textsuperscript{637} The second alternative is the designing of an infrastructure enabling an external decision-maker to regulate access to the protected work. At present, only human intelligence may be able to

\footnotesize{\textsuperscript{635} See Dusollier, Poullet and Buydens, supra note 85, at 22-3. \textsuperscript{636} Ibid. at 23. \textsuperscript{637} See Burk and Cohen, supra note 94, at 55-6.}
determine whether a particular use falls within the copyright exemptions. Such escrow must be a trusted neutral third party, to be funded by governments, as users may not be able to do so. It has been stated that even if it is possible to find a trusted neutral entity that can monitor this process efficiently, case by case determination of the fairness of every use may be a complicated, lengthy and costly process which may deter some uses that otherwise would have been made. Moreover, this may be to the detriment of the privacy right, as “the application to a third party is likely to compromise the sort of anonymity that users presently enjoy”.638 The third alternative is a combination of the above two alternatives. This can be achieved by programming the rights management code to enable the commonly accepted non-commercial uses of protected works. The other uses, which need a human intelligence to decide on their fairness, may be referred to the trusted third party intermediary. This combination eliminates the drawbacks of the discrete application of either of the two alternatives. “Finally, to preserve the relative anonymity of the key escrow system, the records of applicants and keys issued would need to be guarded by stringent legal protections”.639

The legislative response to the negative impacts of electronic rights management systems on exceptions and limitation, least to say, is not

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638 Ibid. at 58-65.
639 Ibid. at 65-8.
commensurate with the threat posed by these technical measures on exceptions and limitations. This is because, although Article 11 of WIPO Copyright Treaty and Article 18 of WIPO Performances and Phonograms Treaty “seem to limit the sanction to cases where a violation of copyright is performed after deactivating barrier (…), national laws are less clear on this point”. 640 For example, in the United States when the DMCA was enacted in 1998, two fears have been expressed: that by affording copyright owners the power of authorizing access to creative works “the public domain will be inaccessible, and use of creative works will be subject to a pay-per-view system”. Therefore, the Librarian of Congress was charged with the job of sorting out what classes of works, if any, should be exempted from circumvention of technical measures protecting copyrighted works. After extensive consultations two classes of works were declared as entitled to be exempted from the application of the provisions preventing circumvention. These are: “compilations consisting of lists of websites blocked by filtering software applications” and “literary works, including computer programs and databases, protected by access control mechanisms that fail to permit access because of malfunction damage or obsoleteness”. As concerns the impact of pay-per-view system on access to protected works, the

640 See Dusollier, Poullet and Buydens, supra note 85, at 27.
Librarian stated that it had not been revealed “that ‘pay-per-view’ business models have, thus far, created the adverse impacts on the ability of users to make non-infringing uses of copyrighted works that would justify any exemptions from the prohibition on circumvention”. However, although a hint was made to the effect that “if such adverse impacts occur in the future, they can be addressed in a future rulemaking proceeding”, in US, so far, only limited exemptions are allowed as concerns the prohibition of circumvention of access control measures. Likewise, the European Union follows similar procedures as concerns prohibition of circumvention of technologies preventing access to protected works and the application of ‘pay-per-view’ business model. This is because, although the Copyright Directive 2001 provides for a list of exceptions and limitations under Article 5, nevertheless, the exercise of these exceptions and limitations is subject to Article 6(4), which provides that:

*Notwithstanding the legal protection provided for in paragraph 1, in the absence of voluntary measures taken by rightholders, including agreements between rightholders and other parties concerned, Member States shall take appropriate measure to ensure that rightholders make available to the beneficiary of an exception or*
limitation provided for in national law in accordance with article 5.2a, 2c, 2d, 2e, 3a, 3b or 3e the means of benefiting from that exception or limitation, to the extent necessary to benefit from that exception or limitation, where that beneficiary has legal access to the protected work or other subject matter concerned.642

This means that the E.U. Copyright Directive differentiates between the use and access control. While circumvention of technologies preventing access to protected works is absolutely prohibited, the beneficiaries who have legal access to a work must be assisted to overcome controls preventing the exercise of an exception.643 Moreover, the Directive recognizes the ‘pay-per-view’ system, as it is apparent from the provisions of Article 6(4) itself. Furthermore, Recital 60 of this Directive provides that the application of the Copyright Directive should be without prejudice to the other legal provisions of the Community including conditional access.644 The Conditional Access Control Directive, which has been promulgated as part of the EU electronic commerce framework, extends legal protection to access control technologies used in conjunction with many services including “services becoming more widespread in the

643 See Waelde, supra note 119, at 9.
online environment, such as pay-per-view, video-on-demand, electronic publishing and music-on-demand. To gain protection under the Conditional Access Directive, any such service must be offered for remuneration”. Therefore, it has been recommended that in order to maintain the balance on which copyright law is premised, “any legal protection regime for technological measures must be carried out with due regard for access to information and to the public domain, and must permit the legitimate exercise of copyright exemptions”.

Conclusion

Electronic commerce offers opportunities to traditional copyright system, as well as posing challenges on it. The careful dealing with the phenomenon of the Internet is a precondition for getting its benefits and avoiding its adverse impacts. Things need to be put into consideration when dealing with such phenomenon include: first, Internet is an international medium that disregards altogether the traditional geographical borders. Second, it offers unprecedented opportunities of copying and distribution of copyright and related rights works all over the world at higher quality and speed. Third, this


646 See Dusollier, Poullet and Buydens, supra note 85, at 28-9.
medium can be exploited by pirates to deprive right holders of their economic as well as moral rights. Likewise, it can be exploited by right holders themselves to deprive the ordinary end-users of their legal rights under copyright law, a matter that will disrupt the balance on which copyright and related rights are premised. In order to strike the copyright balance, careful analysis of the problems and the proposed solutions must be done at the international level.

This requires that, on the one hand, the scope of the rights of copyright owners must be specifically determined. Likewise, the ways of enforcing these rights must be clearly stated. This necessitates first, solving issues relating to the responsibility of the Internet Service Providers for the infringement of copyright and related rights occurring on their websites. Second, agreeing on private international law aspects of copyright and related rights and the geographical locations of infringement occurring on digital networks. Third, specifying the extent of the legal protection to be afforded to the technical measures used by copyright and related rights holders for the protection of their rights on the digital networks.

On the other hand, the scope of copyright exceptions and limitation on digital networks must be determined at an international level, putting into consideration the rights of developing countries in the dissemination of knowledge and transfer of technology. Specifically,
exceptions and limitations that are based on public interest considerations must be preserved on digital networks. Likewise, the ways of enforcement of these exceptions and limitations online must be clearly stated. This requires that: first, right holders must be forced to allow the exercise of copyright exemptions online. Second, technical measures blocking the exercise of these exceptions and limitation should not be afforded legal protection. Third, contracts depriving end-users from their rights in copyright exemptions should be denied validity.
Chapter 7

Protection of Trademarks on Digital Networks

Introduction

Traditionally, a trademark is defined as any visible sign used or proposed to be used upon, in connection with or in relation to goods or services of a certain person for the purposes of distinguishing them from those of others. As such, trademarks play a pivotal role in commerce because on one hand they enable consumers to differentiate between the competitive goods and services available in the market. On the other, the exclusive right granted to right holders, which may be for indefinite time, enable them to establish goodwill and reputation in their business so that it becomes difficult for their competitors to mislead consumers by making false associations with certain enterprises with which they have no connection.

This traditional role of trademarks in the off-line world may be needed to the same extent or even more in cyberspace. This is because in cyberspace, where face-to-face contact is lacking and where the opportunity for the inspection of goods or services is little, much dependence will be placed on trusted sources offering such goods or services. This fact may be extracted from the proportionately short experience of electronic commerce, which has shown the reluctance and hesitation of consumers in dealing with online enterprises, mainly for lack of trust. Therefore, online businesses are striving to build recognition and goodwill so as to inspire confidence in their business and brands on digital networks in order to remain competitive.

However, in addition to the traditional challenges that face trademarks protection in the real world, new challenges have emerged in the virtual world. The

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647 See s. 3 of the Trademarks Act 1969.
challenges confronting trademarks online range from the difficulty of tailoring the conventional trademark law to fit the traditional forms of infringements that have been extended to cyberspace, to the difficulty of dealing with new practices that may not be easily conceptualized within the traditional forms of infringements, but affect trademark rights in a way or another. First of all, although there is a general international consensus that trademarks concepts such as the requirement of use, the likelihood of confusion and the definition of infringement should be extended to the Internet practices; the issue of determining what constitutes use, confusion and similarity online has proven to be problematic. Moreover, Internet users have developed new forms of practices that have been found detrimental to trademarks owners even though it may not always be easy to conceptualize the injury resulting from such practices under the rules of the traditional trademarks law. These practices include the registration of trademarks as domain names or in linking and framing.

The peculiarity of the Internet has rendered even the invisible use of trademarks harmful, e.g., the use of trademarks as meta tags and keywords or in the so-called pop-up advertisements or mouse-trapping. Furthermore, other peculiarities of the Internet, such as its borderless nature and the fact that a domain name, for example, can only be registered in the name of one person at a time in a certain general Top Level Domain (gTLD) or a country code Top Level Domain (ccTLD), have inflicted a further blow on the traditional trademarks law, which has been based on territoriality and co-existence of identical or confusingly similar trademarks for different categories of goods or services even in the same country and, the co-existence of identical or confusingly similar marks for similar goods or services in different territories.
Many attempts have been made in order to find solutions for the problems generated as a result of the use of trademarks on digital networks. The fact that the traditional trademarks law may not properly fit for the current problems have led some to give more flexible or extended meanings to concepts such as ‘use in the course of trade’ or the concept of ‘confusion’ so as to satisfy the requirements of the traditional trademarks law and unfair competition rules. Even solutions contrary to the principle of territoriality, on which the traditional trademarks law is based, such as the grant of global injunction, are found acceptable in some cases in order to cure the injury suffered by trademarks owners as a result of the unfair use of their marks by others on the Internet.

This chapter discusses the current problems facing the protection of trademarks rights on digital networks. It is divided into three main parts. Part 1 studies the registration of trademarks as domain names. This part is sub-divided into six titles comprising the definition of domain names, the problems generated by the registration of trademarks as domain names, the role of the Internet Corporation for Assigned Names and Numbers (ICANN), the recent developments relating to domain names, the future of ICANN, and the settlement of disputes between domain names holders and trademarks owners. Part 2 discusses other forms of
practices on the Internet that proved to be detrimental to trademarks rights. This part is sub-divided into five titles dealing with use of trademarks as meta tags or keywords or in framing and linking, pop-up advertisements and mousetrapping. Part 3 clarifies the difficulty of adapting the traditional trademarks law to the Internet environment, particularly the clash between the principle of territoriality, upon which traditional trademarks law is based and the global nature of the Internet. It is divided into four subtitles discussing the requirement of ‘use’ for the acquisition and maintenance of trademarks rights on the Internet, the co-existence of trademarks on digital networks, jurisdiction over infringements online and the extent of remedies in infringement actions.

1. Registration of Trademarks as Domain Names

i) What is a Domain Name?

An Internet Address is composed of a numeric address known as ‘Internet Protocol’ (IP) and a corresponding alphanumeric address known as ‘domain name’. In other words, a domain name may be defined as “unique set of words, or a combination of words, generally
separated by periods, that identifies each entity on the Internet”. A domain name is divided into two levels. One is known as the ‘Top Level Domain’ (TLD), which may either be a ‘generic top level domain’ (gTLD) such as .com, .net, .org etc., or a geographic or ‘country code top-level domain’ (ccTLD) such as .fr (for France), .za (for South Africa) etc. The other is known as the ‘Second Level Domain’ (SLD), which appears directly before the (TLD) suffixes. As the numeric addresses are too long and difficult to remember, users usually refer to the more user-friendly alphanumeric addresses.649

ii) Problems Generated by the Registration of Domain Names

In addition to their function as Internet addresses, domain names play functions of identifiers of businesses and goods or services on the Internet. These additional characteristics give domain names an economic value, a fact that gives rise to “a great many ownership disputes with other signs that existed prior to the advent of the Internet and were protected by intellectual property rights, such as trademarks”.650 The disputes result mainly from the fact that the Domain Name System (DNS) was developed without concern for the

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649 Ibid.
future trademarks ramifications. The system was essentially based on first come first served policy. It was created by a voluntary association of engineers (ISOC) in association with the American National Science Foundation (NSF) and Defense Advanced Research Project Agency (DARPA). “The NSF granted the ISOC the authority for domain naming, which in turn created the Internet Authorized Naming Authority (IANA)”. In 1992 NSF and IANA assigned the job of domain naming to a private company called Network Solutions, Inc. (NSI), which continued the first come first served policy applied by IANA. This policy resulted in the registration of famous trademarks as domain names by trademarks pirates commonly known as ‘cybersquatters’. Trademarks owners turned to NSI, which adopted an ad hoc dispute policy in July 1995, which was subsequently revised many times. Likewise, trademarks owners resorted to courts and in many cases NSI was named as a defendant. The policy adopted by NSI had raised much controversy and criticized by domain name holders as well as trademarks owners. Proposals for reform had been submitted by different entities including IANA and the US Department of Commerce represented in the National Telecommunications and Information Administration (NTIA). These efforts resulted finally in the formation of the Internet Corporation for Assigned Names and Numbers (ICANN) in November 1998, a non-
profit organization incorporated under the laws of the State of California in the United States of America.651

iii) The Role of ICANN

According to a Memorandum of Understanding signed between ICANN and US Department of Commerce, ICANN was entrusted with the following functions: “(i) set policy for and direct allocation of IP number blocks to regional Internet number registries; (ii) oversee operation of the authoritative Internet root server system; (iii) oversee policy for determining the circumstances under which new TLDs are added to the root system; and (iv) coordinate the assignment of other Internet technical parameters as needed to maintain universal connectivity on the Internet”652.

Immediately after its incorporation ICANN started its efforts to ameliorate the DNS by, first; increasing the number of registrars and, second; adopting on August 24, 1999 the Uniform Domain Name Dispute Resolution Policy (UDRP). Moreover, on November 16, 2001 ICANN authorized the inclusion of seven new gTLD in the DNS. The new gTLD are: .biz (for business), .aero (for aeronautical industry), .coop (for accredited cooperatives), .info (for various activities),

652 Ibid., at 5. See also WIPO Primer, supra note 4, at 54.
.museum (for museums), .name (for personal names) and .pro (for professional entities). The registrars for the new gTLDs have taken measures to protect intellectual property rights, either through preventive means by giving trademarks owners a sunrise period to register their marks as domain names or by adopting the UDRP and include its provisions in the agreements they make with the registrants or both. Different views have expressed as concerns the step taken by ICANN to increase the gTLD. The supporters argue that this step was made in response to overseas criticism that ICANN is blatantly U.S. centric. The critics of this step have been divided into two groups; one argues that the increase will not be a solution because it imposes a further burden on trademarks owners to register domain names in all the new gTLD or run the risk of registration of their trademarks as domain names by others. The other group believes that ICANN has been too slow to create new suffixes and that the seven new gTLDs are insufficient. ICANN responded to these criticisms by stating that the creation of new gTLDs has no precedent and that the seven new general top level domains will be evaluated as a ‘proof of concept’ before other new TLDs are made available.

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653 See Cheney, supra note 5, at 5. See also WIPO Primer, supra note 4, at 49.
iv) Recent Developments Relating to DNS

Amongst the recent developments in the DNS is the issue of multilingual domain names. The trend at present is towards the registration as domain names of characters other than the current Roman script or ASCII characters, such as Arabic, Chinese, Japanese or Korean. In this respect the Internet Engineering Task Force (IETF) formed in January 2000 a Working Group on the Internationalization of Domain Names to “specify the requirements for internationalized access to domain names and to specify access and a standard track protocol based on the requirements”. Likewise, this issue is under discussion in various fora including ICANN, WIPO and the International Telecommunication Union (ITU) so as to study the issues that may be raised as a result of the internationalization of domain names, whether it is technically possible, and its repercussions on intellectual property.655 Another issue relating to domain names is the use of keywords as identifiers instead of domain names, in an attempt to relieve the growing pressure on the DNS. However, it is feared that the increase in the use of keywords as identifiers may be “accompanied by a growing risk of intellectual property violations,

655 See WIPO Primer, supra note 4, at 50
exacerbated by the internationalization of the DNS”. A third important development is the putting, by the Internet Engineering Task Force (IETF) in September 2000, of the Enum Protocol, which “makes it possible to convert telephone numbers into domain names and to relate them to communication services through what is known as Uniform Resources Identifiers (URIs)”.

v) The Future of ICANN

Historically, the structure of DNS has been built on a single central root. This central root is now under the control of ICANN. The importance of a single central root is that it permits reliable universal communications on the Internet. “ICANN has reaffirmed its commitment to a single, authoritative public root for the Internet Domain Name System (DNS) and to the management of that unique root in the public interest according to policies developed through community processes”. However, the authority of ICANN is now facing a serious challenge. Although there are many TLDs, known as ‘alternate roots’, working outside the authority of ICANN for years and cannot be reached by ICANN’s root server, yet they are of marginal importance. The significant challenge to ICANN authority is

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656 Ibid., at 52.
657 For more details see WIPO Primer, supra note 4, at 55.
coming from a newly emergent company called New.net. It offers twenty TLDs such as .shop, .kids, .law, .med, etc. Moreover, New.net has recently signed BulkRegister.com, the fourth largest domain name registrar and a major ICANN-accredited registrar, as a reseller of New.net domain names. It has been stated that “the signing of such a major registrar by New.net may open the floodgates and further undermines ICANN’s already murky authority”.

ICANN has criticized New.net for daring to function outside its contractual structure. Moreover, some fear that such developments may undermine the universal character of domain names and, thus, jeopardize their stability and reliability. Likewise, it is feared that as these multiple roots “are outside the contractual system established by ICANN, there is nothing to insure that their operators will apply or even adopt the UDRP, and thereby protect intellectual property rights”. To dissipate these fears New.net has introduced a Model Domain Name Dispute Resolution Policy.

It is worthy to note that some have commented that: “these challenges to ICANN’s authority reflect the criticism that ICANN exerts too much control over the Internet and it is too bureaucratic”. Moreover, it has been observed that, although the functions and authority of ICANN are of technical nature, the performance of these

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658 Ibid., at 52-3. See also Radcliffe, supra note 8, at 3-5.
659 See WIPO Primer, supra note 4, at 5.
functions by ICANN sometimes raises public policy issues, some of which relate to intellectual property. Thus, the question that has been raised is whether ICANN, as “a private sector organization subject to the laws of one particular country, can legitimately address those public policy issues without the additional involvement of public authorities, including intergovernmental organizations”. To address this question, ICANN recently has undergone a reform process. But still some are expressing their doubt as to the ability of ICANN to address this question satisfactorily and definitely.  

vi) Settlement of Disputes between Domain Names Holders and Trademarks Owners

(a) National Endeavors

Disputes relating to domain names may be classified into two main categories. The first category involves disputes relating to the registrants who have legitimate interest in their domain names, which appear to be identical or similar to trademarks or personal names of others. The second category includes disputes involving registrants who, in bad faith, register domain names identical or similar to distinctive signs, especially trademarks owned by third parties, mainly

\[^{660}\text{Ibid., at 54. See also Radcliffe, supra note 8, at 5.}\]
for the purpose of selling or licensing these domains to the corresponding right holders or using those domains for commercial purposes.\textsuperscript{661} However, some commentators classify the disputes relating to domain names into three categories by dividing the second category into two sub-categories; one includes those who are commonly known as cybersquatters or cyberpirates, who register famous brands or trade names for the sole purpose of selling or licensing them to their corresponding holders, and the other includes registrants who abusively register the distinctive signs of others for the purpose of using them in their business (so-called ‘parasites’). The activities of the latter group take different forms. The most prevalent include: famous names registered by others, marks that are similar to each other and common mistyped versions of famous names or marks. The parties that are involved in parasites disputes may include: “direct competitors, competitors in similar lines of business and those who wish to ‘trade off’ of the name’s fame”.\textsuperscript{662}

Many national courts have dealt with disputes relating to domain names and trademarks. They have often applied traditional trademarks laws, unfair competition and common law passing-off rules. Moreover, some countries have enacted new laws that cover the area of domain names and trademarks disputes. For example, the U.S.

\textsuperscript{661} See WIPO Primer, supra note 4, at 48.
\textsuperscript{662} See Waxer, supra note 2, at 6-7.
enacted the Federal Trademark Dilution Act of 1995 (FTDA)\textsuperscript{663}, and the Anti-Cybersquatting Consumer Protection Act 1999 (ACPA)\textsuperscript{664}. However, in their attempts to do justice and in the absence of specific legal provisions covering the forms of disputes facing them, the courts sometimes gave arbitrary interpretations for the legal provisions so as to satisfy the legal requirements for concepts such as confusion, dilution, commercial use, bad faith etc. In U.S., for example, in Actmedia, Inc. v. Active Media Int'l,\textsuperscript{665} an Illinois federal court decided that: “the mere reservation of someone else’s famous trademark as a domain name constitutes trademark infringement and dilution”. However, other U.S. cases decided after this case have suggested limitations on this extreme view. In this respect, although there are many cases in which the courts found that the registration of another’s mark as a domain name constituted infringement of trademark rights, these cases often involved more than mere registration.\textsuperscript{666} For instance, in Intermatic Inc. v. Toeppen\textsuperscript{667}, the defendant registered the trademark of the plaintiff as domain name. The court found that the requirement of trademark infringement and unfair competition were not met, because as concerns the likelihood of

\textsuperscript{666} See Abel, supra note 19, at 17.
confusion the court found that “there was no similarity between the products and services; that there was no evidence of any relationship in the use, promotion, distribution or sales between the goods and services, there was no evidence of actual confusion; and that Toeppen’s intent was a question of fact”. The court concluded that there was no trademark infringement. However, it found Toeppen liable for the dilution of a famous mark. It construed the offer of Toeppen to sell the domain name to the plaintiff as constituting commercial use within the meaning of the new Federal Trademark Dilution Act. In another case against Toeppen, the Ninth Circuit upheld the judgment of the lower court against the defendant and concluded that the registration of domain names for the purpose of preventing the rightful trademark owners from doing business on the Internet under their trademark unless they pay for the registrant constitutes commercial use of the mark. In its interpretation of 15 U.S.C. s 1127, which defined dilution as “the lessening of the capacity of a famous mark to identify and distinguish goods and services”, the court emphasized that it need not depend on traditional notions of dilution such as ‘blurring’ or ‘tarnishment’. It went on to say that depriving a trademark owner of the power to use its mark as its domain name lessen its capacity to identify and distinguish its goods.

and services by means of the Internet within the meaning of the Dilution Act, because potential customers commonly try to find a company’s web site by using its famous trademark followed by the ubiquitous .com.

Since the promulgation of the ACPA, the U.S. courts have considered a number of factors to prove the presence or lack of bad faith. On one hand the factors that may be considered to prove bad faith include:

(i) the person’s intent to divert customer’s from the mark owner’s online location – either for commercial gain or with the intent to tarnish or disparage the mark; (ii) whether or not the person has offered to transfer, sell or otherwise assign the domain name to the mark owner; (iii) the person’s provision of material and misleading false contact information; or (iv) the person’s registration or acquisition of multiple domain names which the person knows are identical or confusingly similar to existing trademarks\(^{669}\).

On the other hand, factors that may be considered to establish the lack of bad faith include:

\(^{669}\) See Radcliffe, supra note 8, at 17.
(i) the person’s trademark or other intellectual property rights in the domain name; (ii) the extent to which the domain name consists of the legal name of the person or a name that is commonly used to identify that person; (iii) the person’s prior use of the domain name in connection with the bona fide offering of goods and services; (iv) the person’s bona fide noncommercial or fair use of the mark; (v) the extent to which the mark incorporated in the person’s domain name registration is or is not distinctive and famous within the meaning of the Lanham Act Section 43(c)(1).\textsuperscript{670}

The ACPA has been applied numerous times. For example, in Sporty’s Farm L.L.C. v. Sportsman’s Market, Inc.,\textsuperscript{671} Sportsman had been using the trademark ‘Sporty’s’ to sell products to pilots and aviation enthusiasts through a mail order catalogue since 1960 and obtained registration for it in 1998. Omega Engineering Inc., (Omega) sold scientific process measurement and control instruments through a mail order catalogue. The owner of Omega was a pilot who used to receive the Sportsmen’s catalogue. In 1994 or early 1995 the owners of Omega decided to enter the aviation catalogue business whereby they registered the domain name ‘sporty’s.com’ and formed a

\textsuperscript{670} Ibid.

\textsuperscript{671} 202 F. 3d 489 (2d Cir. 2000), [cited in] Radcliffe, supra note 8, at 18.
subsidiary company to which they sold the domain name. The Second Circuit acknowledged that this case did not fit into any of the categories described in the ACPA, nevertheless it found that the mark ‘sporty’s’ was distinctive and that Omega “intended to enter the market in direct competition with Sportsmen’s in the pilot and consumer aviation market. As recipients of the Sportsmen’s catalogue, the Omega owners were fully aware that sporty’s was a very strong mark for aviation products”. The court rejected all the defenses of Omega and upheld the decision of the lower court in favor of Sportsmen.

The United Kingdom courts have dealt with cases involving cybersquatters in ways similar to those of the U.S. courts. For instance, In Harrods Ltd v. Network Service Ltd, the defendant registered the domain name harrods.com, but had not created a website linked to that domain name or offered it for sale, nevertheless the court held that the potential use of the domain name by the registrant constituted trademark infringement and passing off. This decision has been criticized by many commentators in England, as being at odd with the precedents dealing with passing off cases, as it

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ignored one of the important elements of passing off viz., the misrepresentation must be made by a trader in the course of trade.\textsuperscript{673}

The German courts seemed to adopt different approaches. For example, in one case\textsuperscript{674} the Mannheim court held that the assignment of the domain name Heidelberg.de to a private party infringed the City of Heidelberg’s superior rights, whereas in another case\textsuperscript{675} of similar facts, whereby a private party register the name of Kerpen city as a domain, the Koln court held that the registration of the domain name kerpen.de did not represent usage of the name of the city.

Whatever the experience of the national courts may be, it remains to be limited as those courts are national courts applying national law to problems, in most cases, bearing international dimensions. Although the courts in some countries such as the U.S and Germany sometimes assume jurisdiction beyond their territories, yet this still remains limited and controversial. Therefore, the Uniform Domain Names Dispute Resolution Policy (UDRP) adopted by ICANN has found wide international acceptance as a means for the settlement of domain names disputes.

(b) UDRP

The Uniform Domain Name Dispute Resolution Policy adopted by ICANN on August 24, 1999 to settle the disputes relating to the bad faith abusive registration of trademarks as domain names in the generic top-level domains (gTLDs). The UDRP applies mandatory administrative procedures similar to arbitration. All ICANN’s accredited registrars are required to insert in their contracts with

\textsuperscript{673} See Hutchinson, supra note 26, at 6.
domain names registrants a clause providing for the acceptance of UDRP for the settlement of disputes. To succeed in his claim for the transfer or cancellation of a domain name; the complainant must prove that the domain name is identical or similar to his registered trademark, the registrant has no rights or legitimate interest in the domain name, and registered and used that domain name in bad faith. The registration of a domain name is deemed to be made in bad faith where the registrant is primarily registering it for the purpose of selling or licensing it to the owner of a similar trademark or otherwise preventing the owner from the use of his trademark as a domain name, or to disrupt the business of a competitor, or to attract Internet users to his web site by creating a likelihood of confusion. Either party may elect to litigate before, or appeal to, a court of competent jurisdiction before the commencing of the mandatory proceedings or after such proceedings have been concluded. In case the Panelist(s) decided to transfer or cancel a domain name, the UDRP provided for ten business day period in which the defendant may bring a lawsuit in an appropriate court to prevent the implementation of the decision.676

Following the adoption of the UDRP, ICANN has accredited a number of institutions to administer complaints filed under the Policy,

676 See Radcliffe, supra note 8, at 6-7. See also Hancock D, 'An Assessment of ICANN's Mandatory Uniform Dispute Resolution Policy in Resolving Disputes Over Domain Names', Refereed article, The Journal of Information, Law and Technology (JILT) Available at: 2001 (3) http://elj.warwick.ac.uk/jilt/01-3/hancock.html>., at 5-6.
among which the WIPO Arbitration and Mediation Center (WIPO Center) is today the leading provider. By December 2002, more than 4,254 complaints have been brought before the WIPO Center involving parties from 105 countries. However, the most difficult issue under the UDRP is the determination of the presence or lack of bad faith. For example, in a dispute involving the domain name americanvintage.com, the complainant, American Vintage Wine Biscuits Inc. (AV), filed a complaint against the respondent Big Daddy’s Antiques (BDA) for the registration of its trademark as a domain name. The facts of this dispute may be summarized as follows: in 1991 AV registered its trademark AMERICAN VINTAGE, which was based on a first use date of October 1, 1989. When AV discovered that its trademark had been registered as a domain name by BDA in 1998, it filed a complaint before Network Solution Inc. (NSI) in early 1999. Upon learning of the complaint BDA asked AV if they would like to purchase the domain name. AV declined, stating that since they (AV) owned the trademark they would “prefer to see what NSI recommends or decides”. BDA replied: “well, you will probably have to sue me”. AV filed a complaint before the WIPO Center under the UDRP on January 4, 2000. BDA did not respond to AV’s complaint with the WIPO Center. The Panel decided

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677 See WIPO Primer, supra note 4, at 56. (D2000-004), [in] Radcliffe, supra note 8, at 9-10 www.wipo.int
678 See
in favor of AV. It has been commented that the finding of bad faith by the panel is not convincing, because the record of the case included facts that work against this finding. For example, the representative of AV stated that he was not sure that the registration was primarily made in bad faith. Moreover, the Panel noted that “‘American Vintage’ is an apt descriptive or suggestive term for antiques, the apparent business of respondent…,” and that “it is not clear from the allegations regarding respondent’s offer to sell the domain name whether the domain name was registered or acquired primarily for the purpose of selling the domain name for valuable consideration in excess of the documented out-of-pocket costs”. The Panel justified its finding of bad faith on the ground of lack of contrary evidence, the offer of BDA to sell the domain name, its failure to use it and its failure to defend itself before the WIPO Center.

As has been noted before, the UDRP does not apply to TLDS not administered by ICANN such as the ccTLDs and New.net TLDS, unless expressly adopted by the administrators of those top levels domains. Likewise, it is applied only to domain name disputes involving trademarks. To fill the gap, WIPO has extended the services of the WIPO Arbitration and Mediation Center to include resolution of other disputes concerning the new gTLDs, ccTLDs, internationalized domain names and keywords. Moreover, in the Second WIPO Internet
Domain Name Process, WIPO has drawn the attention to disputes relating to bad faith, abusive, misleading or unfair registration as domain names of other identifiers such as (i) the International Non-proprietary Names (INNs) for pharmaceutical substances; (ii) the names of intergovernmental organizations; (iii) personal names, (iv) trade names; and (v) geographical indications, geographical names and indication of source. Moreover, WIPO initiated in August 2000, a cooperation program for the benefit of the administrators of ccTLDs.\footnote{For more details see WIPO Primer, supra note 4, at 55-64.}

2. Other Internet Practices Relating to Trademarks

i) Meta Tags and Keywords

(a) Meta Tags

Meta tags or meta data may be defined as a keyword or phrase embedded in the Hyper Text Markup Language (HTML) code of a website, describing the contents of that web site so as to be identified and categorized by search engines.\footnote{See Doellinger, Chad J. ‘Trademarks, Metatags, and Initial Interest Confusion: A look to the Past to Re-conceptualize the Future’, 41 J.L. & Tech. (2001). Available at: http://www.idea.piercelaw.edu/articles/41.pdf note 4, at 32.} Although they can be made
visible together with the source code of the page, meta tags are usually not visible to normal users of the website itself. A search engine seeking particular keywords or phrases will find and list all web sites that contain these keywords or phrases as meta tags.\(^{681}\) Since trademarks used as meta tags are not visible to ordinary users, this means that their use as meta tags is not intended to perform the primary jobs of trademarks, i.e., to distinguish goods or services, but to divert customers looking for those trademarks to the websites of those who used these trademarks as meta tags. Although this particular fact has complicated a finding of trademark infringement against the defendant in meta tags cases, the courts in many jurisdictions have found these practices, especially when done by competitors, as unfair and applied different legal principles to invalidate them. For example, in the Indian case of Tata Sons ltd v. Bodacious Tata\(^{682}\), the court found that the use of a trademark as meta tag by a competitor constituted unfair competition. Anand commented on this and other similar cases by saying that: “it would, therefore, appear that the peculiarities of the Internet have made even the invisible use of another’s trade mark actionable”. The same result has been reached by

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\(^{681}\) See WIPO Primer, supra note 4, at 32.

\(^{682}\) An unreported ex parte interim injunction order of the Delhi High Court dated January 25, 1999 (Suit No. 159/99 in the Delhi High Court), [cited in] Anand, Pravin Trademarks on the Internet Workshop. Available at: http://ecommerce.wipo.int/meeting.html
an Italian court in the case of Genertel SpA v. Crowe Italia Srl. Moreover, in Brookfield Communication Inc. v. West Coast Entertainment Corp, where the defendant, West Coast, used the plaintiff’s trademark ‘MovieBuff’ as meta tag to market a database containing entertainment industry related information similar to that of the plaintiff, the U.S. Ninth Circuit regarded the practice of meta tagging as potential trademark infringement. The court based its decision on the so-called ‘initial interest confusion doctrine’.

The application of the doctrine of ‘initial interest confusion’ to meta tags has been criticized as inconsistent with the fundamental principles of trademarks law because there is no confusion on the part of a consumer at the moment of dealing with a competitor. The supporters of this doctrine argue that while this doctrine has attracted much attention within the Internet context, its applicability is fairly well settled law and has its roots in the brick and mortar world (real world). In this respect they point to the case law in the real world context. According to them “a likelihood of initial interest confusion is analogous to a likelihood of confusion and necessitates a finding of trademark infringement”.

\[683\] See International IT and New Media Update, Freshfields Bruckhaus Deringer, (Summer 2001).[in] WIPO Primer, supra note 4, at 33.


\[685\] See, for example, Grotrian, Helfferic, Schultz, The Steinweg Nachfahren v. Steinway & Sons, 523 F. 2d at 1333-34, 186 U.S.P.Q. at 438, [cited in] Doellinger, supra note 34, at 177.

\[686\] See Doellinger, supra note 34, at 194.
determine the level at which the confusion occurs so as to result in a finding of trademark infringement. For example, within the Internet context: Should the doctrine of initial interest confusion apply even when the likelihood of confusion has dissipated at the level of the search engine results page? The supporters of the doctrine answer this question in the affirmative, saying that this is what was intended by Brookfield court and is supported by policy considerations as well.687

However, the application of the initial interest confusion doctrine within the Internet context is still perplexing. For example, in Playboy Enterprises Inc. v. Welles688, the court considered the use of the plaintiff’s trademark as meta tag by a former playmate of the year, in order to enable consumer to locate her web site, as fair use. The court rejected the application of the initial interest confusion noting that Brookfield “held that a finding of initial interest confusion can be a basis for a finding of likelihood of confusion, but the presence of initial interest confusion does not necessarily support a finding of likelihood of confusion.”689 Even the subsequent courts that followed Brookfield precedent in the application of the initial interest confusion doctrine, understood it to be applicable when the confusion of a user had not been dissipated at the level of search engine results page but

687 Ibid. at 212-25.
689 See WIPO Primer, supra note 4, at 33. See also Doellinger, supra note 34, at 186.
extended to the stage of opening the web site of a competitor. For instance, in a recent case\textsuperscript{690} the court noted that: “the brief descriptions of the retrieved web sites that many search engines include in their results lists, potentially dissipate initial interest confusion”.

Generally, the courts may allow the use of trademarks as meta tags where such use is not misleading or unfair. This result is apparent from the decisions of the courts in different jurisdictions. For instance, the Austrian Supreme Court held in one case\textsuperscript{691} that “it was legitimate for the defendant to use the plaintiff’s trademark as a meta tag on its website, because such use enabled the public to be informed about products the plaintiff produced under patent, and because the average user would not be confused as to the ownership of the trademark”. Likewise, the Regional Trial court in the Philippines held that the “defendant’s use of meta tags on a parody site clearly used to criticize the plaintiff’s business schemes and raise public awareness of political issues, was not likely to confuse or mislead users and therefore did not amount to trademark infringement”\textsuperscript{692}

(b) Keywords

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\textsuperscript{691} See Numtec Interstahl, OGH, December 19, 2000, 4 Ob 308/00 y, [cited in] WIPO Primer, supra note 4, at 33.  
\textsuperscript{692} See Philippine Long Distance Telephone Company, Inc. v. Philippine League for Democratic Telecommunications, Inc. and Gerardo B. Kaimo, Republic of the Philippines Regional Trial Court, National Capital Judicial Region, Quezon City, Branch 90, Civil Case No. 99-38800, [cited in] WIPO Primer, supra note 4, at 33.
As explained above, meta tags may be made in form of keywords embedded in HTML code. Likewise, keywords may accompany the Uniform Resource Locators (URLs) for the purpose of describing the contents of the web site. Users of the Internet are “increasingly resorting to search engines to locate information online, as an alternative to relying on domain names to navigate the web”. Users often request search engines to locate specific terms or keywords. Once receiving the order, a search engine applies a mixture of manual and automated methods in order to locate these keywords, whether they be in form of meta tags, URLs, keyword listing or based on a history of visits. Web sites’ owners, on the other hand, seek to attract visitors to their sites for different purposes. For example, for those who exercise the business of advertising, the higher the volume of visitors the higher the potential advertising revenue. Some retailers pay to ‘search engines’ so as to connect their banner advertisements with certain keywords referring to specific trademarked products in which they deal; so that once the concerned trademarks are entered in the search engine, an advertisement appears with any search result.693 Within the real world context; practices similar to those exercised currently by retailers online, were described by some as ‘nominative fair use’. For example, in the case of New kids on the block v. News

693 See WIPO Primer, supra note 4, at 34.
America Publg. Inc., the court concluded that: “where the defendant uses a trademark to describe the plaintiff’s products rather than its own, we hold that a commercial user is entitled to nominative fair use defense”. Trademarks owners have challenged these practices of retailers on the ground that they divert customers from their own websites or from the websites of their preferred or authorized retailers. However, the legal treatment of these practices within the Internet context is still developing. In the case of Playboy Enterprises Inc., v. Netscape Communications Corporation, “the court denied preliminary relief stating that the ‘Playboy’ and ‘Playmate’ keywords sold by the defendant were used by searchers as common or generic words, not the marks”.

ii) Linking and Framing

(a) Linking

One of the easiest ways of navigating web sites may be through the use of the so-called ‘hyperlinks’. While viewing websites; the users often find hyperlinks, which may appear as an underlined or highlighted phrase or image. Once a user clicks a hyperlink, the web browser software automatically retrieves the corresponding web document and creates a copy thereof displayed on the user’s screen.

695 C.D. Calif., No. SA CV 99-320 AHS (Eex) (June 24, 1999), [cited in] WIPO Primer, supra note 4, at 34.
Through the use of linking technology, Internet users are able to retrieve information from files in the same or other websites. Generally, “linking can also raise concerns of trademark infringement if it explicitly or implicitly suggests an unwarranted association between the linking and the linked sites, and leads a user to believe that an unassociated web page is affiliated, approved or sponsored by the trademark owner”.696

There are two kinds of linking: hypertext linking and inline linking. In case of hypertext linking, on one hand, the linking site disappears once the web browser establishes a connection with the external site. This type of Hypertext linking may be less controversial if it connects the user to the home page of a web site owner. However, it is controversial when it bypasses the home page and takes the user directly to the required web document. The latter form of linking is called ‘deep link’. This type of linking has been challenged by trademarks’ owners, because it bypasses their home pages and their associated advertisements and thus depriving them of potential revenue and conflict with their contractual obligations towards other companies that had paid to link to their sites or advertise on their home pages. In the U.S. case of Ticketmaster Corp. v. Microsoft

Corp.\textsuperscript{697}, the plaintiff alleged that the deep link from the defendant’s site to events pages within its web site implied a false association that constituted unfair and deceptive trade practices and a dilution of its trademarks. However, the District Court had not discussed these issues as the case was settled out of court. In another case\textsuperscript{698}, the “Court denied the claims for alleged unfair competition and trademark dilution as a result of linking, because the defendants had not used the plaintiff’s mark in commerce, nor in connection with the sale, or advertising for sale, of any goods or services”.

Inline linking, on the other hand, enables “a web site designer to inline or ‘pull in’ a graphical image from an external site and incorporate it as part of the local onscreen display”. This form of linking is the most controversial one, especially when used in conjunction with framing.\textsuperscript{699}

(b) Framing

Generally, framing is used by websites’ owners in order to divide the user’s screen in multiple windows that display different web pages containing different materials. For instance, the main frame may be utilized in submitting services to the viewers. Other frames may

\textsuperscript{697} CV 97-3055 RAP (C.D. Cal., filed April 28, 1997). [in] WIPO Primer, supra note 4, at 35.


\textsuperscript{699} See Chan, supra note 50, at 4.
contain the website logo or trademark, advertising banners, hyperlinks etc. This form of framing is not unlawful, as it provides websites designers and viewers with an added advantage of functionality. However, framing becomes controversial when used as a means of linking. Some websites owners use the technology of inline linking so as to incorporate contents from other websites and surround them with frames from their own creation. In such a case the surrounding frames may displace the frames of the linked website together with its trademark and advertisements, and replace them with the content of the framing site. In contrast to hypertext linking, users viewing framed materials usually remain on the framing website and view content from both sites, possibly without being aware of this, as the displayed Uniform Resource Locator (URL) is the URL of the framing web site. This practice “raises concerns of trademark infringement because of its potential to mislead or confuse viewer as to the origin of the site and the goods and services it displays”. In the U.S. case of Washington Post v. Total News Inc, Total News framed content from various news sources, including Washington Post, Time-Warner, CNN, Times-Mirror, Dow Jones, and Reuters. The plaintiffs alleged that framing of their websites by the defendant

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700 Ibid. at 5.
701 Ibid. See also WIPO Primer, supra note 4, at 36.
702 No. 97 Civ. 1190 (PKL) (S.D.N.Y.), [cited in] WIPO Primer, supra note 4, at 36. See also Chan, supra note 50, at 5.
constituted misappropriation, trademark dilution and infringement, false and deceptive advertising, unfair trade practices, copyright infringement, and tortious interference with their advertising contracts. However, the case was settled out of court, whereby Total News was allowed to continue linking to the news sites provided that it would not frame the plaintiffs’ materials in association with any third party advertising or within its own URL.

iii) Pop-Up Advertisements

The pop-up ad is one of the tools used by advertisers to attract the attention of customers. It is based on “software that is designed to track users’ online activity and then deliver targeted advertising based on their preferences”. It is a window that appears automatically on the viewer’s screen on top of a content page when a site is loaded. If a user clicks on the pop-up graphic, he will be “redirected to the advertiser’s website, otherwise, and unless closed by the user, the pop-up window will close automatically after a short period of time”. In a U.S. case703, “the Court issued preliminary injunction that prohibited the defendant from enabling third-party advertising to appear on a user’s computer screen while the user was viewing websites owned or affiliated with the plaintiffs, who were 16 online news companies. The

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Court found that the software violated the plaintiffs trademarks by causing pop-up advertising to appear in proximity to them”. 704

iv) Mousetrapping

The term ‘Mousetrapping’ refers to an aggressive form of marketing whereby Internet users who visit the sites that practice such technique are compelled to remain there by disabling their browser functions or flooding them with pop-up ads. The wrongdoers who practice such behaviour catch their victims by registering misspelling or versions of legitimate domain names, and whenever a user enters one of those sites and discovers that this is not the site he intends to visit, he would not be able to leave. This is made by disabling his ‘back’, ‘forward’ or ‘close’ buttons, and instead of performing their ordinary functions, a user finds that once he clicks on one of those buttons, a new window is automatically opened that precludes the browser from leaving that site. If the user wants to exit, he has no choice than to end the task or reboot his computer. 705 In a recent U.S. case 706, the court “permanently barred the defendant from diverting or obstructing consumers on the Internet and from launching websites or web pages that belonged to unrelated third parties”. In that case the defendant was catching

704 See WIPO Primer, supra note 4, at 34-5.
705 Ibid. at 35.
consumers, who were looking for certain web sites, by registering as domain names misspelling or versions of the targeted websites and once a consumer entered into the ‘trap’ he could not exit.

3. Adaptation of the Traditional Trademarks Law to the Internet Environment

i) Satisfaction of the Requirement of ‘Use’ for the Acquisition and Maintenance of Trademarks Rights on the Internet

There is a general consensus that the traditional requirements for the establishment and maintenance of trademarks rights should extend to the Internet environment. In other words, concepts such as the requirement of use should not be affected by the fact that the Internet is a new medium. However, the difficulty lies in determining what constitutes ‘use’. Traditionally, the proof of use of a trademark may be required in different situations. This includes: first, when a trademark owner wants to register a descriptive mark, in which case he is required to prove that his mark has acquired secondary meaning through continuous use and become distinctive. Second, in many countries the registration of a trademark may be cancelled if it is not used within a certain period of time. Third, in countries where the protection of trademarks depends on use, the owner of a trademark is
required to establish use or goodwill in order to succeed in a passing off action. Fourth, in an action against the infringement of a trademark right, the plaintiff is required to prove that the use by the defendant amounts to use in the course of trade.\textsuperscript{707}

Within the Internet context the question, which arises is whether the display of a trademark on computer screens in a certain country satisfies the requirement of use? It has been stated that: “where a party asserts proprietary rights, there is a higher standard for use while relatively insignificant activity by the defendant might well be ‘use’ constituting infringement”. Therefore, on one hand, the requirement of ‘use’ for the purpose of assertion of proprietary rights may not be satisfied by the mere display of a trademark on computer screens alone. The trademark owner must prove that its trademark was actually present in the Internet market by showing, for example, actual sales or other commercially motivated dealings with customers in the concerned country. This may be difficult where the whole transaction took place on the Internet or where the goods or services were delivered for free as in the case of search engines. On the other hand, in a passing off or infringement action, the mere display on computers screens for advertisement purposes may satisfy the requirement of ‘use’. The case law supports this finding. For example, as concerns the

\textsuperscript{707} See Anand, supra note 36, at 3. See also WIPO Primer, supra note 4, at 36-7.
assertion of rights, the U.S. 9th Circuit concluded in the case of Brookfield v. West Coast\textsuperscript{708} that “the defendants’ registration of the domain name moviebuff.com and its use in their e-mail was not considered use in order to give the defendants a trademark right superior to the plaintiff”. In contrast, in relation to passing off and infringement actions minimum forms of use may be considered as enough. For instance, the Supreme Court of India held in the Whirlpool case\textsuperscript{709} that the requirement of use in a passing off action was satisfied, by mere advertising. Moreover, as explained above, U.S courts as well as UK courts have considered the registration of domain names by cyber-pirates for the sole purpose of selling them to their corresponding owners as satisfying the requirement of ‘use in the course of trade’. In the case of Marks & Spencer Plc., v. One in a Million\textsuperscript{710}, although the UK High Court (whose decision was upheld by the Court of Appeal) conceded that the defendants were not using the domain names for websites or even for their e-mails, it concluded that as “they were professional domain name dealers and as they were registering the domain names to extract money from owners, this amounted to ‘use in the course of trade’”. It has been commented that:

\begin{footnotesize}
\begin{itemize}
\item[\textsuperscript{708}] 9th Cir. April 22, 1999 [cited in] Anand, supra note 36, at 3.
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“obviously, the court stretched the meaning of ‘use’ for reasons of public policy”.

ii) Co-existence of Trademarks on the Internet

Traditional trademark rights are based on the principle of territoriality. Under this system, identical or confusingly similar trademarks may be owned by different persons in different countries. The international dimension of the Internet has made this traditional co-existence very difficult. This is because once a trademark is put on the World Wide Web it can be seen in every place reached by the Internet. Thus, a trademark owner may find himself involved in disputes in foreign jurisdictions where his rights are not recognized. Hence, “what had been co-existence of rights in the physical world becomes a conflict between rights on the Internet”. Such conflict, if left without solution, may result in stifling electronic commerce since each trademark owner may seek, with the help of his national courts, to block others who use marks that are identical or confusingly similar to his mark. The fact that each trademark owner depends on valid
reasons of ownership necessitates that this problem be addressed at its roots, i.e., in the trademark law\textsuperscript{711}.

One solution for this problem is that the traditional co-existence of trademarks in the real world should extend to the Internet under certain limitations. In court, “the fact that a defendant holds an exclusive right in the sign in another country could form a defense or a rebuttable presumption of legitimate use, the factual preconditions for which might have to be proved by the defendant”. Two limitations should be put on this co-existence so as to safeguard the interests of trademarks owners. The first limitation is that the risk of confusion should be reduced to a minimum possible level. The second limitation is that co-existence would not be appropriate if one of the users acquired the ownership of a trademark or use it in bad faith. As concerns the issue of confusion, on one hand, the WIPO Joint Recommendation provided that, once aware of conflict with other right holders, a user of a trademark should take reasonable steps to dissipate any confusion by putting a disclaimer statement, for example, explaining that his products are not available or sold in country A, B, and C or that he has no relationship with X, Y, and Z. However, if the user of a trademark is not aware of conflict, he is not required to undertake a worldwide search to see whether there are

\textsuperscript{711} See WIPO Primer, supra note 4, at 39.
other signs identical or confusingly similar to his trademark before starting the use of his trademark on the Internet, as this would be impossible and detrimental to the development of electronic commerce. Instead, a rights holder will continue to use his sign normally on the Internet until he is notified of a conflicting right. Once notified of the existence of a conflicting right, and in order to avoid any liability for the infringement of that conflicting right, the user of a trademark on the Internet should take reasonable steps to avoid causing any commercial effect in a particular country and dissipate any confusion with other right holders. These steps may be achieved by putting a clear disclaimer to that effect and refusing to deliver products to consumers in the concerned countries or to those who have indicated that they are based in those countries. “Users would, however, not be required to verify the statements made by their customers because this is almost impossible in cases where the whole transaction takes place over the Internet”. Instead, users may be required in case of transactions wholly taking place online to use technical devices, if possible, to bar access to customers from the countries where the conflicting interests exist.712

The bad faith registration or use of a trademark, on the other hand, may serve to rebut the presumption of legitimate use. The burden of

712 Ibid. at 39, 40, 42 and 43. See also Kur, Annette, “Trademarks on the Internet Workshop”, , at 6.http://ecommerce.wipo.int/meetings/1999/papers/kur.htmlAvailable at:
proving bad faith may be put on the plaintiff. Factors that may be taken into account for determining bad faith may include the case referred to in Article 4(5)(c) of the WIPO Joint Recommendation Concerning Provisions on the Protection of Well-known Marks, whereby previous knowledge or reason to know of the conflicting mark should be put into consideration. Moreover, the fact that one of the owners of the conflicting marks intends to profit from the goodwill of the other trademark should be considered as one of the factors indicating bad faith. However, “additional criteria would have to be determined in order to render the application of the bad faith exception predictable”.713

iii) Jurisdiction over Infringements on the Internet

Since the mere display of a trademark on computer screens in a country is considered as satisfying the requirement of ‘use’ in an infringement action, a question arises as to the limits of the jurisdiction of national courts in the light of the global nature of the Internet? Generally, the courts may either adopt an extensive concept of infringement or a restrictive concept of infringement. Under an extensive concept of infringement a national court may assume jurisdiction simply because a trademark is visible on a computer

713 See WIPO Primer, supra note 4, at 40.
screen where the conflicting right exists. In such a case, the exclusive right of a trademark owner would almost have international effects. “[It] could be used to block use that was neither aimed at a country, nor had an effect in that country over and above the visibility of the sign on a computer screen”, whereas under a more restrictive notion, connecting factors more than the mere visibility of a mark on computer screens in a country where a conflicting right exists may be required.714

As part of its efforts to set harmonized criteria at the international level to deal with the tension resulting from the global nature of the Internet and the territorial rights of trademarks’ owners, so that businesses may be able to foresee in which countries their activities on the Internet might be legally relevant, WIPO has issued the WIPO Joint Recommendation Concerning the Protection of Marks, and Other Industrial Property Rights in Signs on the Internet (the ‘Joint Recommendation), which was adopted by the Assembly of the Paris Union for the Protection of Industrial Property and the General Assembly of WIPO in September 2001.715

As concerns the issue of whether the use of a sign on the Internet has contributed to establishing, maintaining or infringing an industrial property right in that sign in a particular country, the Joint

714 Ibid. at 37.
715 Ibid. at 40.
Recommendation has adopted the proposition that “not each and every use of a sign on the Internet should be treated as taking place in the Member State concerned, even though it might be accessible to Internet users based in that country”. According to the provisions of the Joint Recommendation, only use that has ‘commercial effect’ in a Member State is deemed to have taken place in that Member State. The provisions point to a detailed list of factors that are neither cumulative nor exhaustive, which can help in determining whether a particular use has commercial effect in the concerned country. These factors are as follows:716:

- doing or planning to do business in a Member State;
- character and level of commercial activity carried out in a Member State;
- location of customers;
- use of a "territorial disclaimer" stating that the goods or services offered are not available or only available in particular Member States;
- actual delivery of goods or services to customers located in a Member State;
- specific language use on the Internet site;
- prices indicated in the currency of a Member State;

716 Ibid. at 41-2.
- address or contact information in a Member state;
- interactivity of the website; and
- registration of the website under a country code top level domain.

As the above provisions are applicable to rights that are protected in a commercial context, Member States, which protect certain rights in signs, such as personality right, in a purely non-commercial context, may either continue to provide such protection on the Internet without giving regards to any commercial effect or apply the present provisions.\(^7\) Moreover, unauthorized ‘fair use’ exceptions should be taken into account when dealing with trademarks infringement on the Internet. Fair use exceptions may include the use of a sign in good faith in a purely descriptive or informative manner, non-commercial use, and use that may fall under one of the fundamental human rights such as the right of expression. Therefore, in the light of the global nature of the Internet, and as there are different approaches currently adopted by different countries, it will be helpful to set an international harmonized criteria in this respect. Further, as technology is developing, such

\(^7\) Ibid. at 42.
harmonized criteria should be in form of technologically neutral general standards for distinguishing acceptable from unacceptable practices.\textsuperscript{718}

\textbf{iv) Extent of Remedies against Infringements on the Internet}

In the light of the territoriality of trademark rights and the consequential co-existence of trademarks on the Internet, a question arises as to the extent of remedies available for a plaintiff, where the court finds that the use of a sign on the Internet infringes his rights? Can the remedies extend to an injunction preventing the defendant from using the sign on the Internet? If so, such a remedy would have an effect that is as global as the Internet itself and would expand the exclusive right of a trademark owner to cover the worldwide expanse of this medium. This result would be against the principle of territoriality and co-existence of trademarks. Therefore, if traditional rules of trademarks law are to be applied in cyberspace, national courts should take into account the international nature of disputes relating to the use of trademarks on the Internet, and thus confine their remedies to the extent of ex-territorializing the use of the conflicting sign in the territory in which the plaintiff’s trademark is recognized, i.e., to the extent of excluding any commercial effect or confusion with the plaintiff’s trademark in the said territory, and it may award

\textsuperscript{718} Ibid. at 38.
damages but only for the commercial effect of the use in the concerned territory. In this respect, courts may need to introduce creative approaches so as to frame equitable relief that would oblige the defendant to avoid commercial contact with the territory in which the plaintiff holds exclusive right by using, for example, disclaimer or applying technical devices blocking the access of customers from that territory to his website. In such a case, although the sign of the defendant may be visible on computer screens in the country concerned, such use is not deemed to have taken place in that country.719

The above solution, however, may not be enough where the plaintiff’s mark, for example, is protected in more than one country and that the use of the defendant’s sign on the Internet entails an infringement of all these rights, in which case the plaintiff may have a genuine interest in obtaining, in one proceeding before a national court, an injunction preventing the use of that sign in all the concerned countries. Moreover, depending on the factual circumstances of each case, a plaintiff may have legitimate interest in obtaining a global injunction preventing the defendant from the use of the conflicting sign on the Internet, regardless of the specific country to which the message is addressed. Such global injunction is particularly relevant “in cases

719 See Kur, supra note 66, at 5. See also WIPO Primer, supra note 4, at 38-39, 43-44.
where the use of a sign on the Internet has intentionally and in bad faith targeted a trademark right”.720

It has been commented that the issue of global injunction raises concerns for the traditional trademark law as well as the private international law. In the field of trademark law, the issue of global injunction is quite unprecedented and may raise a number of difficulties. This is true even if a national court settling a dispute relating to a trademark in other countries in which that trademark is registered or otherwise protected, complies with the jurisdictional rules and take account of the law and facts in all the countries to which the ruling shall extend. If a national court has to evaluate the legal situation in each country affected by its judgment, the grant of a worldwide injunction seems to be unrealistic. Further, even assuming that the trademarks laws of the world are harmonized to an extent that would enable the court to evaluate the legal situation in every concerned country, it is not expected that trademarks owners, or only extremely few of them, would have registrations for their trademarks in every country of the world. Therefore, the defendant may still argue that the global injunction “would unduly restrict his possibilities to use

720 Ibid. at 8. See also WIPO Primer, supra note 4, at 39.
the mark in those parts of the world where no prior registration exists”.721

It has been contended that: “if taken to such extremes, however, the argument that total prohibition to use a mark on the Internet might interfere with defendant’s rights become ridiculous”. There should be situations where it is possible to issue global injunction, especially where there is abusive bad faith practices from the part of the defendant. It has been argued that, although this solution forms deviation from the traditional principles of trademarks law, it does not necessarily cause severe harm, because “a judgment prohibiting trademark use on the Internet does not impose restrictions on other forms of use in domestic trade, including use in other media”. Moreover, as global injunction is typically sought to be applied against cyber-pirates, it is not expected that a cybersquatter will be in a position that enables him to obtain a valid right in a country where the conflicting mark is protected, “either because the mark is well-known in that territory or because any registration taken out in positive knowledge of the existence of the mark would be regarded as invalid on the ground of bad faith”. Furthermore, the impact of such global injunction may be mitigated by the fact that practically, a court may not be able to evaluate the legal situation in all countries of the

721 See Kur, supra note 66, at 8.
world, and thus “it can regularly be deemed sufficient if the court primarily takes into account the legal situation in the country or counties where, according to the plaintiff, the core of the conflict lies”. Anyhow, the defendant shall be given the opportunity to establish that he has “a better right or a genuine and justified interest to use the mark, including use on the Internet, in another country or region”.722 It is worthy to mention that, although the WIPO Joint Recommendation has not precluded the imposition of Internet-wide prohibition, it specifically prohibits such injunction where a user has a right in the sign he uses and does not act in bad faith.723

However, the above “mode of procedure clashes with established principles of private international law and disrespects, to some extent, the constitutional confinements of judicial power”. Therefore, as the power to grant global injunction is contrary to the principle of territoriality governing the traditional trademarks law, and is only allowed to resort to in those exceptional cases necessitated by the peculiarities of the Internet, the competence for granting such global prohibition should be carefully examined. In principle, the competence to grant global injunction should be vested in courts having general jurisdiction, i.e., “competence to decide claims for a total prohibition of trademark use on the Internet rests primarily with

722 Ibid at 8-9.
723 See WIPO Primer, supra note 4, at 44.
the courts in the country where the defendant is domiciled/ habitually resident/legally established”. Specifically, the competence of Courts having only specific jurisdiction based on the *forum delicti comissi* should not be allowed to extend to the grant of global injunction, as this may result in arbitrary choice of fora by the plaintiff. In the latter case, the competence of a national court should be confined to the extent of ex-territorializing the use of the sign in the country where there is a conflicting interest and, where applicable, ordering the defendant to pay damages for the plaintiff to the extent of the commercial effect of the use of that sign in the concerned country.724 However, the competence of the court, where the harmful event occurs or where the victim (the plaintiff) resides, to grant global injunction should not be excluded altogether, as there may be cases where the defendant may choose as his place of resident a country which constitutes a ‘safe haven’ for infringers, without being actually doing any relevant business there. In other words, the competent court in the country where the harmful act occurs or the plaintiff has his habitual domicile should only be allowed to issue worldwide prohibition where there is abusive behavior by the defendant.725

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724 Ibid. at 44. See also Kur, supra note 66, at 9.
725 See Kur, supra note 66, at 9-10.
Conclusion

The role of trademarks in cyberspace is as important as their role in real space, if not more. The peculiarities of the Internet, on one hand, have generated new visible and even invisible uses of trademarks. As one commentator noticed, the peculiarities of the Internet have rendered even invisible use of trademarks actionable. The role of trademarks is no longer confined to their traditional function as identifiers of enterprises’ goods and services from those of their competitors. Trademarks are currently used as domain names, meta tags, keywords etc. Of course, these uses are built on the original function of trademarks, i.e., they depend on the fame and goodwill of trademarks as identifiers of goods and services. Even some of these uses, such as the use of trademarks as domain names are continuing, in most aspects, to play the role of identification. The registration of trademarks as domain names is one of the earliest problems that have faced trademarks owners. When trademarks owners became aware of the importance of the use of trademarks as domain names, they found that cyber-pirates had already discovered this fact and registered most of the well-known and distinctive marks as domain names, benefiting from the policy of first came first served, which was adopted by domain names’ registrars. Likewise, trademarks are embedded in HTML codes as meta tags and keywords, and used in linking and
framing, and in pop-up ads and mouse-trapping in order to mislead or divert customers looking for those trademarks.

There is almost general consensus that most of the above practices are unfair and harmful for trademarks owners. However, courts have found difficulty in classifying these practices under the traditional forms of trademarks infringement, because concepts such as the ‘confusing use of a trademark within the course of trade’ are not easily satisfied. Therefore, courts have resorted to giving expanded meanings to the traditional concepts or to refer to unfair competition law so as to prevent these malpractices. Moreover, within the national context, some countries have enacted laws dealing with these practices in order to help their courts to combat such acts. Within the international context, WIPO has issued the WIPO Joint Recommendation Concerning the Protection of Marks, and Other Industrial Property Rights in Signs on the Internet (the ‘Joint Recommendation), which was adopted by the Assembly of the Paris Union for the Protection of Industrial Property and the General Assembly of WIPO in September 2001, in order to guide national legislature when enacting legislation treating these new practices.

On the other hand, the traditional trademarks laws are built on the principle of territoriality, which allows the co-existence of identical or confusingly similar trademarks for similar goods or services in
different countries. This fact has clashed with the global nature of the Internet. The use of a trademark on the Internet is no longer confined to the territory in which it is registered or otherwise protected, as it can be seen worldwide in every place reached by the Internet. Under such circumstances a trademark owner may find himself involved in legal proceedings in jurisdictions where his trademark is not recognized or protected. As each trademark owner has acquired his rights in his trademark on legitimate basis, it would be unfair to prefer either right holder on the account of the other. Likewise, if left without solution, this problem would stifle the progress of electronic commerce, as each trademark owner would seek to block his competitors with the help of his national courts. Therefore, creative methods should be sought so as to solve this problem. In this respect the WIPO Joint Recommendation has provided for guidelines that can help national legal systems to reach fair results. There are different steps that should be followed to achieve these fair results. First, a trademark owner may use his trademark on the Internet in an ordinary way until he is notified of the existence of a conflicting right. When notified of a conflicting right, the trademark owner should take reasonable steps to avoid making any confusion or causing commercial effect in the territory in which the conflicting trademark is protected. Second, in order to be subject to litigation in a particular
territory, a conflicting trademark must be found to have been used in that territory. Third, a trademark is deemed to have been used in a particular territory if it has commercial effect in that territory. Fourth, the remedies to be granted by the court assuming jurisdiction should be confined to an injunction preventing the use of the conflicting mark in the concerned territory and awarding of damages to the extent of the commercial effect resulted from the use of that mark in the concerned territory. Fifth, Global injunction may be granted in exceptional cases where, for example, a user of a sign on the Internet has intentionally and in bad faith targeted a right holder in a particular territory. Sixth, in principle, only the court where the defendant is domiciled, resident or legally established is competent to grant global prohibition. Seventh, only where there is abusive behavior from the part of the defendant, a court where the plaintiff is domiciled or where the harmful act occurred may be competent to grant global injunction.

The emergence of the Internet has generated challenges and opportunities for businesses. The flowering of electronic commerce depends on the careful dealing with these challenges and opportunities. The complications brought by the Internet require careful analysis of the problems and the suggested solutions, putting into account the global nature of the Internet, the acquired trademarks
rights which are based on the principle of territoriality and the different forms of fair uses.
Chapter 8

Protection of Patents on the Digital Networks

Introduction

Traditionally, the patents system is premised on the assumption that granting exclusive right to an inventor to exploit his invention and prevent others from making, using, or selling the patented invention for a limited period of time, in consideration of public disclosure of the information relating to that invention, will work as an incentive for further inventions and innovation and hence lead to technological and economic progress and public welfare. In other words, patents represent a form of bargain or trade-off balancing the expected benefits with the expected costs. Throughout its history the patents system, like other forms of intellectual property, is responsive to new technologies in form of adjustments that stir up arguments about the underlying rationale and specific policy objectives behind these adjustments. Evolving primarily around machines and chemical processes, patents law has been adjusted continuously to absorb new emergent technologies, such as electrical engineering, computer construction, atomic
energy, microbiological techniques, biotechnology and presently the Internet and electronic commerce.

The emergence of the Internet and the electronic commerce has brought with it new challenges for the patents system. One of the hottest issues at the international level currently is patenting electronic commerce-related inventions, including software generally and methods of doing business specifically. Preceded by a pro-patent era in the industrial countries generally and the United State in particular, the issue of patenting electronic commerce-related inventions has strongly appeared on the surface. Since the decision of the U.S. Court of Appeals for the Federal Circuit in 1998 in favor of patentability of methods of doing business, which have been followed by a flood of similar patents issued by the United States Patents and Trademarks Office (USPTO), a great controversy relating to this issue has arisen inside U.S. as well as worldwide. The supporters of patenting electronic commerce-related inventions view such patents as important for creating incentives and spurring investment in new digital technologies. On the other hand, the opponents of such a step believe that patenting electronic commerce-related inventions may stifle electronic commerce through the elimination of competition and may even
undermine the patents system, which has been based on exception of patenting abstract ideas and mathematical algorithms.

Different views have been expressed as to the ways of dealing with this phenomenon. Some are resisting the idea of patenting electronic commerce-related inventions altogether, others believe that these patents have acquired a de facto position needs to be adapted with. The latter group argues that the practical solution is to try to mitigate the negative impacts of these patents on electronic commerce as well as the patents system in general. This can be achieved, in their view, by strictly adhering to the satisfaction of the other requirements of patentability, especially the requirement of non-obviousness or inventive step. However, the satisfaction of these requirements is measured by reference to the state of the art or the prior art. What constitutes prior art in cyberspace has raised many questions, which have not found definite answers yet. For instance, whether information in electronic form can be considered as prior art, especially when disclosed on the Internet for only a limited time? Whether real world prior art can be applicable to Internet activities? How can the authenticity, veracity and integrity of information in electronic form be insured? Moreover, even if it becomes possible to reconcile the different views relating to the patentability of Internet patents, the territoriality of patents rights and the international nature of the
Internet and electronic commerce have raised serious problems as to the enforceability of these rights worldwide.

This Chapter discusses the protection of patent rights on the digital networks. It is divided into six parts. Part 1 discusses the patentability of electronic commerce-related inventions. It is divided into two subtitles studying the patentability of software and business methods. Part 2 discusses the different views in favor of and against patenting business methods and software. Part 3 studies some suggested views for dealing with electronic commerce-related inventions. It is sub-divided into two titles discussing the various suggestions. Part 4 discusses the impact of the narrow application of the doctrine of equivalent on the scope of business methods patents. Part 5 examines the scope of prior art for electronic commerce-related inventions. Part 6 studies some private international law issues relating to patents law. It is divided into three subtitles discussing jurisdiction, applicable law, and recognition and enforcement of judgments.

1. Patenting Electronic Commerce-related Inventions

i) Patentability of Software
Electronic commerce depends to a great extent on various computer and network technologies, both hardware and software. The patentability of electronic hardware of computing technology is not disputed, as it is considered a natural subject of patentable inventions. However, the patentability of software has raised great controversy that has not been settled yet. The term ‘software’ covers a wide spectrum of computer programs ranging from basic algorithms capable of application in an indefinite number of more specific uses to detailed instructions for the solution of particular problems. In this study the term software refers to the instructions that tell computer hardware what to do.

Theoretically, different constructions have been given to the instructions of computer programs. “To some, even the most detailed operational programs remain nothing else than instructions for performing intellectual exercises; to others, the conversion of the operation into a technical process capable of constant repetition carries it over into the patentable sphere”. Practically, mathematical algorithms have been treated traditionally as exception to patentable subject matter. For instance, in the United States although the Patents Act has not excluded software from patentability, the earlier decisions of the U. S. Supreme Court considered software as essentially

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727 Ibid., at 213.
mathematical formulae, holding that algorithms that were merely abstract ideas with no practical application were unpatentable subject matter. Article 52 of the European Patent Convention 1973 (EPC) expressly exclude computer programs as such from patentability.

However, “the patent frontier has become increasingly significant, as the industry has discovered the limitations of copyright, contract and trade secret protection for programs and associated material”. As a result, the look to mathematical algorithm has begun to change both in U.S. and Europe since the 1980s. In 1981 the U.S. Supreme Court held in Diamond v. Diehr that “when a claim containing a mathematical formula implements or applies that formula in a structure or process which, when considered as a whole, is performing a function which the patent laws were designed to protect (e.g., transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of s. 101”. In response to this decision the U.S. Court of Customs and Patent Appeals (CCPA), the predecessor of the current Court of Appeals for the Federal Circuit

(CAFC), developed a two-step test for determining the patentability of a mathematical algorithm known as Freeman-Walter-Abele test. Step one in this test is to check whether a claim cites, directly or indirectly, a mathematical algorithm. If a mathematical algorithm is found, then step two is to analyze the claim as a whole so as to determine whether the algorithm is applied in any manner to physical elements or process steps. If the algorithm is so applied then the claim satisfies the requirements of s. 101 of the U.S Patents Act.

However, since 1994 the Court of Appeals for the Federal Circuit (CAFC) appeared to abandon the physical transformation requirement articulated in past decisions, adopting a liberalized test for the patentability of claims incorporating a mathematical algorithm. This trend was reflected in its decision in *In Re Alappat*\(^{732}\), where it “found that data transformed by a machine through a series of mathematical calculations, to produce a smooth waveform display on a digital oscilloscope, was a practical application of a mathematical algorithm or formula because it produced ‘a useful, concrete and tangible result’”. In the opinion of the court the use of software program on general-purpose computer turns that general-purpose computer into special-purpose computer i.e., a new machine. It has been stated that the willingness of CAFC to abandon the Freeman-Walter-
Abele/mathematical algorithm analysis in the machine claims format paved the way for its approach to the second hardware-software combination format i.e., ‘software as an article of manufacture’ format. The article of manufacture approach defines the invention as a ‘software program product’ consisting of a computer readable medium such as CD-ROMs, diskettes, DRAM or any comparable piece of hardware in the detailed description, which contains a software program designed to perform a particular task.\textsuperscript{733} This new trend has been reflected in the decision of CAFC in \textit{In Re Lowry}\textsuperscript{734}, in which the claim cited “a computer readable medium storing a data structure, which data structure is interrelated to the medium structurally and functionally”, commonly known as “Lowry-type claim”, and its decision in \textit{In Re Beauregard}\textsuperscript{735}, where the software-related invention was claimed as computer readable medium storing the software that performs the claimed functions, commonly known as “Beauregard-type claim”.

Accordingly, the USPTO amended its Guidelines to reflect this new trend, especially the Beauregard-type claims. To avoid classifying non-functional data as patentable subject matter the USPTO identifies

\textsuperscript{733} See Chiappetta, Vincent, “Patentability of Computer Software Instruction as an “Article of Manufacture”: Software As Such As the Right Stuff”. 17 J. Marshal J. Computer and Info. L. 89, at 17, \url{http://www.jmjs.edu/JCIT/17/vc.html} (1998). Available at:  
\textsuperscript{735} 53 F.3d 1583, 35 U.S.P.Q.2d 1383 (Fed. Cir. 1995), [cited in] WIPO primer, supra note 9, at 88.
patentable functional categories as those consisting of “data structures and computer programs which impart functionality when encoded on a computer-readable medium”. Moreover, in State Street Bank & Trust Co. v. Signature Financial Group Inc., the Federal Circuit adopted a more expansive test for the patentability of claims incorporating mathematical algorithm when it held “that a mathematical algorithm that produces numbers as its only output would constitute patentable subject matter so long as it produces ‘a useful, concrete and tangible result’”. However, the issue of patentability of computer programs as such has prompted discussion as to where to draw the line between copyright and patent law protection for computer programs. In the view of some writers, copyright and patents law play complementary roles in the protection of computer programs. Professor Karjala argues that the traditional division of labor necessitates that patent law protects the functional aspects of a computer program, whereas copyright protects the non-functional aspects. According to him “copyright, with its low threshold of eligibility, vague infringement standard, and long protection period, should not be allowed to trench upon the traditional domain of patent to protect functional aspects of works absent a

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736 See Chiappetta, supra note 8, at 24.
clearly articulated social policy basis”. However, although program code is a patentable subject matter in his view, he believes that, as most programs are simply straightforward application of well-understood computer science principles and techniques; they may not be patented for obviousness reasons. Therefore, he argues that owing to the fact that these programs are often the result of the input of vast quantities of time and money and because they are vulnerable to easy and cheap copying, they should be protected by copyright for social policy balances.738

The proposal for double protection for computer programs has been criticized by some commentators on the grounds that “patents and copyrights are mutually exclusive with no overlap in ‘abstract expression’ subject matter”.739 In Europe, the European Patent Office (EPO) amended its Guidelines in 1985 to “allow claims involving use of a computer program if overall the invention made a contribution to an art that was technical”. This technical effect has been used by the EPO and the EPO Board of Appeal to differentiate patentable from unpatentable subject matter. For example, in Koch and Sterzel,740 a claim to X-ray apparatus controlled by a computer program so as to

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secure optimal exposure without overloading the X-ray tube was held patentable by an EPO Board of Appeal. According to the Board, it was enough that the claim involved ‘technical means’ in addition to the mathematical method or algorithm, which was characterized as ‘non-technical’. It is not necessary to show that the invention lay exclusively or largely in the technical means. The same test of technical effect was applied to reject a claim involving the use of a program that “could be used in an automated market for shares and similar securities. It analyzed customers’ orders to buy and sell against given criteria; those which met the criteria were then carried out”. The English Court of Appeal held this unpatentable under the 1977 Act. The justification for this decision was that “the program could be introduced into any suitable computer in any encoding language, causing data to be acted upon so as to carry out legal transactions, rather than technical production in any ordinary sense”.741 It has been argued that the rationale behind the distinction between the above examples is to differentiate between the securing of a technical effect and the mere production and manipulation of information. Cornish commented on the technical/non-technical test as follows:

As with any attempt to define the boundaries of intellectual property at all precisely, the technical/non-technical

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dichotomy has its arbitrariness. It is being deployed to strike some compromise between a wide and a narrow interpretation of the exclusion of computer programs from patentability.742

However, the status of patentability of computer programs as such in Europe has not been settled yet. This is reflected in the fact that although the European Commission has been attempting since 2000 to amend the EPC so as to take computer programs off the list of exceptions from patentability, its efforts have not succeeded up to date owing to the resistance of interest groups mainly because of the fear that powerful U.S. companies such as IBM, which has already thousands of granted U.S. patents, may take the opportunity and file for the same in Europe, thus excluding European companies from the market.743 As far as other countries are concerned, although paragraph (1) of Article 27 TRIPS provides that “…patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application”, and that under paragraphs (2) and (3) of the same Article software has not been included in the list of exceptions from patentability, which support the argument that

742 See Cornish, supra note 1, at 215.

TRIPS provides a basis for patentability of software, actually few countries are willing to consider software as patentable subject matter.\textsuperscript{744} In U. S., as has been explained above, the patentability of software as such is no longer a controversial issue. What is controversial currently in U.S. is the ongoing wave of patenting software-implemented non-computing activities such as methods of doing business.\textsuperscript{745}

\textbf{ii) Patentability of Methods of Doing Business}

Despite the argument that the patentability of business methods may be based on Article 27 (1) of the TRIPS Agreement, there is no consistent international approach to business methods patents. In U.S., although they were not expressly excluded from patentability under 35 U.S.C. (1952), traditionally, business methods were treated as unpatentable subject matter. Until 1996 the USPTO’s Manual of Patent Examining Procedure (MPEP) contained a provision stating that: “Though seemingly within the category of process or method, a method of doing business can be rejected as not being within the statutory classes”. In 1996 the USPTO responded to the criticism from both commentators and judiciary by deleting this provision from the MPEP,

\textsuperscript{744}See WIPO Primer, supra note 9, 87.

ushering in a new era for business methods patents. Further, this trend has culminated in 1998 in the decision of the Federal Circuit in State Street case\textsuperscript{746}, which put “the ill-conceived [business method] exception to rest”. In its decision, the Court noted that: “no invention has ever been deemed unpatentable under the business method exception by either the Federal Circuit or its predecessor, the CCPA”. Moreover, added the court, “the cases where the business method exception was applied, including Hotel Security, a finding of invalidity was based on other Title 35 grounds”. According to the court, “patentability does not turn on whether the claimed method does ‘business’ instead of something else, but on whether the method, viewed as a whole, meets the requirements of patentability as set forth in Sections 102, 103, and 112 of the Patent Act”. Since then the USPTO has been flooded with patents applications covering a wide range of Internet-based business methods.\textsuperscript{747} Some of these patents raised public outcry as concerns their obviousness, and some even raised public derision with reference to the claimed subject matter. One commentator pointed to some of these patents and asked whether “patents of this sort protect the ‘useful arts’ contemplated by the framers of the Constitution”. Among the patents he pointed to are: U.S. Patent No. 6,329,919 (issued December 2001) claiming a method of providing reservations for restroom use, and U.S. Patent...

\textsuperscript{746} See State Street case, supra note 6, at 276. 
\textsuperscript{747} See Laurie and Beyers, supra note 3, at 1.

Business methods patents in U.S. have faced much criticism and the debate about whether they are patentable subject matter, the scope of business method patents, and whether they satisfy other requirements for patentability has not been settled yet. In response to this criticism, the USPTO issued a “White Paper on Automated Financial or Management Data Processing Methods (business methods)” and has taken other measures including giving special scrutiny to patent applications that classified as computer-implemented business methods. Moreover, the Congress enacted in 1999 a new “prior right” defense to patent infringements relating to “methods of doing or conducting business”. Also there is a bill under discussion before the Congress known as Business Methods Improvement Act 2001, which would require that “business methods inventions be published at 18 months; institute special opposition procedures for business methods inventions; lower the burden of proof for invalidating business methods patents; make it easier to prove that a business method invention was obvious; and force patent applicants to disclose whether
they performed a prior art search if the invention was classified as a business method”.

In Europe, business methods as such were expressly excluded from being patentable under Article 52(2) of EPC. However, if an invention has a ‘technical character’ or involves ‘technical teaching’ it may be eligible for patentability. It has been noticed by some critics that by insisting on ‘technical effect’ in the absence of any clarification of what is meant by the phrase, Europe seems to prefer “ambiguity to allow some business method patents to issue while having a political shield”. In Japan, where a business method is no more than a man-made arrangement, or a method using only such an arrangement, business methods are not patentable subject matter. In an attempt to achieve some form of harmonization, USPTO, Japan Patent Office (JPO) and EPO conducted a trilateral comparative study on computer implemented business methods, so as to facilitate consistent search and examination practices among them. The trilateral report produced the following consensus summary:

- A technical aspect is necessary for a computer-implemented business method to be eligible for patenting. (In the United

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749 Ibid., at 4-6.
751 See WIPO Primer: Issue III, supra note 9, at 86.
States of America, the ‘in the technological arts’ feature may be implicitly recited in the claim. The EPO and JPO require that the technical aspect be expressed in the claim.)

- To merely automate a known human transaction process using well known automation techniques is not patentable.\footnote{Ibid.}

However, the debate about the patentability of software generally as well as business methods has not been settled yet. Different arguments have been advanced in favor of and against patenting electronic commerce-related inventions.

2. Arguments in Favor of, and, against Patenting Electronic Commerce-Related Inventions

i) Software

The supporters of patentability of software programs, on the one hand, argue that patent law is the traditional primary source of intellectual property protection of program technology, especially non-code technology, and that “copyright was not designed for, and is indeed
ill-suited to, the protection of technology”. On the other hand, the opponents of patentability of computer programs argue that “patenting symbolic expression breaches the intellectual property premise prohibiting property interests in mere abstract ideas, by avoiding both copyright merger and patent preemption doctrines”. According to Wagner, the shift to patent protection has not been based on normative requirement but came due to the fact that those depending on copyrighted expression discovered that the protection of copyright is inadequate because “computer science ingenuity lay in the logical model, not its expressed instruction” and that “copyright provides no interest over subsequent independent development”.

Moreover, Wagner criticizes the proposal of USPTO to patent computer instructions fixed on computer readable media as an article of manufacture under the so-called ‘media claims’ or ‘Beauregard-type claims’. He believes that this new shift in U.S. law has resulted from the pressure of computer hardware manufactures, which found that software companies started to market their software separate from computer hardware. As such, he contends, “media claims provide an unjust enrichment and competitive advantage to computer manufacturers over software companies by allowing (a) a second

\[\text{See Karjala, supra note 13, at 3.}\]
\[\text{See Wagner, supra note 14, at 1.}\]
\[\text{Ibid. at 13.}\]
compensation demand for an already licensed use (i.e., two payments for one invention embodiment), and (b) hardware dominance over independent software development”\textsuperscript{756}. It is worthy of note that even the supporters of patentability of software have criticized the ‘article of manufacture’ approach for the patentability of computer programs as such, but of course on different grounds. According to Professor Chiappetta:

\begin{quote}
The ability to properly determine when software inventions should be classified as useful arts technology depends on the ability to reconstruct a dividing line between software as a language (not technology) and software as computer implementation (technology) in the patent claims context. A proper test for patentability of software related inventions must clearly and consistently draw a line separating claims to software as the specific means for computer system implementation of the contained algorithms/processes (which are patentable subject matter) from those using a software context merely to express and communicate those algorithms/processes (which must be tested on their own merit independently of
\end{quote}

\textsuperscript{756} Ibid. at 1-2.
the software context to determine if they involve patentable subject matter).\textsuperscript{757}

After reviewing the USPTO Guidelines, Professor Chiappetta concludes that: “the computer readable medium test, however, fails to draw an appropriate line between software used as language and software claimed as implementation”. As a result, according to him, the Guidelines are both over-inclusive and under-inclusive from a policy perspective. They are over-inclusive in the sense that “an idea or process becomes classified as a statutory article of manufacture per se simply by using computer software language to describe it and putting that description on computer readable media”. They are under-inclusive in the sense that they exclude software from patentability merely because it has not been put in a readable medium when claimed. He suggested, instead, a new approach based on the assumption that since it is generally accepted that the components of a patentable machine are patentable subject matter (articles of manufacture), the same rule may be applied to test the functionality of software, i.e., “claims which cover software functionality only when used as a component of a computer system implementing the task instructed by the software, are claims to machine components. Therefore, such software claims are claims to articles of manufacture

\textsuperscript{757} See Chiappetta, ‘Article of Manufacture’, supra note 8, at 36.
and are patentable subject matter as such”. The objection of the Europeans to the proposal of patenting computer programs seems to emanate from their fear of domination of the American companies in the field of software. As one commentator notices: “surely, there must be real grounds to fear that, if European companies lost out in the past because of inadequate software protection, they may now be about to lose out again, this time because of too much software protection”.759

It has been argued that the protection of software under patent law in U.S. has not achieved the expected result i.e., incentive to innovate; and that the “flaws of the American system has led to abuses (competition between software publishers is moving from the marketplace to the courts) threatening the freedom to innovate”. Moreover, although historically, software has been subject to comparatively weak form of intellectual property protection and has been a target for quick imitation in the market, nevertheless software sector is one of the most innovative of the whole economy.760 The work of a programmer may be compared to the work of an architect. In case of an architect, although the bricks (algorithms in case of a programmer) are the constituent elements of the creation, the quality of the result depends much on the logic of the work as a whole than on

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758 Ibid. at 39-49.
760 See Perchaud, supra note 18, at 2-3.
the bricks (algorithms). Software is a unique arrangement of algorithms. As in the case of bricks for architects, sharing and re-using of algorithms should be common so as to optimize the management of time in the creation of new software. In a study conducted by the Fraunhofer Institute in Germany in 2001, it was found that the re-use of code is an important element for the development of new software and that one third of new software contains more than fifty percent of existing code. This means that each new product of software builds on previous innovations and that no software was created \textit{ex nihilo}. In the light of this result and the fact that big companies like IBM are filing more than five hundred software patents yearly, most of which are obvious and make no technical contribution to the state of the art, independent developers as well as medium-sized companies may not find a chance to innovate as every attempt may infringe existing patents.\footnote{761}{Ibid. at 3-6.}

(ii) Methods of Doing Business

The main objection against patenting business methods is that patenting them may not achieve the economic goals on which patent law is based and as such the economic costs of their patenting will exceed their benefit for the society. The policy behind patents is to
increase market efficiency by replacing the “self-interest competitive motivations to innovate in a properly functioning market with the self-interested inducements of legal control”. It does not “simply reward individual creativity without any concern for the effect the reward has on the aggregate”. A patent is a form of monopoly, which is generally undesirable and, therefore, “should be carefully limited to resolving only the identified market failure and the resulting distortion of incentives to desirable innovation which justifies its existence”.762 The invention motivation theory impliedly provides that if there are other factors, which can motivate invention, there is no need for the economic role of patent law, which is “no more than a grudging exception to the preferred competitive market model”.763 It has been argued that there are many other mechanisms such as the head start advantage, trade secrets and promotional value that may provide enough incentives for inventors to create new business methods. “The head start advantage refers to the financial return an inventor of a business method enjoys exclusively as a result of being the first to invent”. In other words an inventor may reap the benefits of his invention until the moment his competitors become aware of the

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invention and succeed to develop a similar method that enable them to compete with the inventor. It is believed that the head start advantage coupled with a successful application of trade secrets techniques and promotional activities through the use of trademarks may render the patents incentive unnecessary for the invention of methods of doing business.\footnote{See Grusd, supra note 37, at 15-8.}

Other arguments against patenting Internet business methods are that patenting business method will impose heavy burden on the majority of Internet businesses who are small-sized companies that lack financial capacities to obtain patents and protect them through litigation. As a result, trade will be stifled and the market efficiency will be inhibited.\footnote{Ibid. at 18-22.} Commenting on the views objecting the grant of patents protection to business methods inventions, Smith states that:

\begin{quote}
In essence, this objection to business methods patents calls for recognition that science is different from business, and that innovation in science and innovation in business depend upon different incentive structures. Patent protection promotes invention in science because the time and resources required for scientific inventions are difficult to recover in the open marketplace without limiting the ability of competitors to appropriate and
market the new invention. Business innovations, however, provide a competitive advantage in the market, and thus by their very nature create economic incentives adequate to encourage creativity and development in business.\textsuperscript{766}

On the other hand the supporters of business method patents argue that business methods patents have enhanced creativity and innovation in the marketplace generally, and particularly in the field of e-commerce. This fact may be extracted from the big number of applications for business method patents in the recent years. Moreover, because of business method patents e-commerce Internet startup companies, such as Amazon.com, are able to develop their products and acquire a market position before being overwhelmed by larger, well-established competitors.\textsuperscript{767} The supporters of business method patents reply to the argument that business method patents limit the ability of competitors to participate in the marketplace, by saying that such an argument is built on a wrong assumption that business method patents “will not-cannot-inform and inspire other businesses to invent new business methods”. On the contrary, business methods patents encourage the market participants to be effective, efficient and creative so as to compete in the market. “Prohibiting any and all business method patents protects weak marketplace

\textsuperscript{766} See Smith, supra note 37, at 178.
\textsuperscript{767} Ibid. at 182.;
competitors and discourages innovation, both because innovative competitors know they cannot protect their efforts, and because weaker competitors know they can free ride without penalty”.

3. Suggestions for Dealing with E-Commerce-Related Inventions

i) Some Form of Protection Short of Patent Protection

(a) Software

The opponents of patenting software concede that as the Internet speeds the move towards a global economy, the international harmonization of key aspects of trade law is inevitable. Therefore, it is desirable to remove the illogicalities and difficult concepts from the law and, thus there must be a form of world harmonization providing adequate protection for computer programs in both symbolic and functional mode. But providing such protection through the patents or copyright systems is disastrous because it will result in “severe, long-term distortion and disruption of the balance between the rights of owners of existing property, and the interests of the population in general and of would-be creators in particular”.

In the opinion of Widdison, an alternative solution may be found in a form of sui
generis regime. Such a regime, according to Widdison, might broadly be similar to the sui generis protection adopted by the EU for databases albeit with a few key differences. As a start of the debate he proposes that such sui generis regime should take the following points into account:

- **Existing owners of computer programs who could demonstrate that their software was substantially their own intellectual creation would be entitled to protection. No further account would be taken of such issues as novelty, inventiveness or industrial application.**

- **Protection would extend to every aspect of programs – from initial design algorithms, to code listings, and beyond to all functional characteristics.**

- **The duration of legal protection would be appropriate to the useful life of a computer program - say a maximum of five years, renewable annually. A new version of a program that involved a substantial change might qualify for a new term of protection.**

- **During the period of protection, other would-be creators could decompile a program for the limited purpose of**
studying and understanding the concepts, processes and techniques used.

- During the period of protection, would-be creators could demand a licence of right in respect of part or all of a protected program. The fee for such a licence would then be agreed by the parties or, in default, by a suitable independent body.\textsuperscript{770}

Widdison argues that the proposed scheme would strike a fair balance between the interests of existing owners, would-be creators and the general public. However, he acknowledges that a sui generis regime for computer programs may not be a fashionable topic in the light of the presence of the TRIPS Agreement, nevertheless he believes that in time, the “growing distortions and disruptions in the global software market will force TRIPS signatory states to come together again in order to search for a software protection regime that is not only applicable world-wide, but also seen to be both even-handed and workable on that same global scale”.\textsuperscript{771}

(b) Business Methods

\textsuperscript{770} Ibid. at 17. See also Perchaud, supra note 18, at 10.
\textsuperscript{771} See Widdison, supra note 34, at 16-7.
The opponents of patenting methods of doing business acknowledge the importance of business methods for businesses not only in achieving efficiency in the delivery of goods and services, but also in optimizing the internal organization and operation of businesses. Moreover, they acknowledge the market failure in allowing owners of business methods to benefit from ‘first-to-move lead-time’ incentive and thus the need for some form of intellectual property protection. It is believed that addressing this market failure through either copyright or patent law may not be a proper solution, as the subject matter of business methods do not fit for either system unless extensive and risky modifications of either the existing patents or copyright laws are made. Professor Chiappetta argues that “a better solution lies in melding aspects of both systems to create an independent ‘competitive arts regime’ designed expressly, and exclusively, to supplement the reduced lead-time incentive while minimizing interference with desirable market forces”.

The patent law’s aspects applicable to this new regime are those relating to novelty, claiming and independent examination requirements, which will help in limiting the reach of the regime. Likewise, infringements of rights under this regime should be examined according to the patent law’s constrained, claims-based literal and equivalent approach. However, the proper functioning of

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this regime requires considerable adjustments to traditional implementation of these requirements. Among the adjustments he proposes are that the examiners must be specially trained for this kind of competitive arts and their search tools must be tailored to perform effective searches in such area. The applicant must be burdened with showing available prior art. The method should be published before issuance and the possibility for post-grant opposition must be permitted. Moreover, a higher standard of non-obviousness must be applied, so as to limit “the regime’s incentives to paradigm-shifting pioneering innovations and leaving the primary form of competitive arts advance (emulative adoption coupled with modest differentiation) to market forces.”

Determining rights and remedies under this regime according to patent law, will provide “excessive incentive, leaving the related social costs of lost competition and foregone follow-on improvements unjustified”. Therefore, “copyright law’s great willingness to tailor rights and remedies to the particular need provides a much better approach” for determining rights and remedies under the said regime. Specifically, s. 115 of the US Copyright Act gives the innovator the advantage of being first to market, thus supplementing the impaired first-to-move lead-time advantage and provides appropriate remedial

\footnote{For more details see ibid. at 26-32.}
framework. The compulsory licensing requirements provide access for other parties, including competitors, and at the same time secure suitable compensation for the innovator. Moreover, some additional refinements to the structure of the rights and remedies under this regime are required to strike some balance between the costs and benefits of this regime. Specifically, as the objective of this new regime is to supplement the first-to-lead advantage, the life of which is relatively short even in its maximum forms, and in order to avoid long term exclusion, the term of protection under this regime should be as short as possible and in any case should not exceed two or three years. Furthermore, independent creation should be recognized as complete defense.774

Alternatively, if the post-State Street Bank patenting status quo is to continue, administrative as well as judicial adjustments should be made immediately so as to mitigate the negative effects of over-protection under traditional patent law. These adjustments should begin from PTO where special scrutiny should be applied in case of application for patenting competitive arts methods. Likewise, the courts should treat competitive arts patent cases different from other patent cases. For example, preliminary prohibitive injunction should not be given to the plaintiff and even where there is strong likelihood

774 Ibid. at 32-3.
of success, the court may impose on the defendant, instead of prohibitive injunction, an interim royalty-based cost. Moreover, the protection should only be confined to patent law and should not be extended to copyright for the protection of the non-expressive aspects of the innovation.775

The approach of Professor Chiapetta has been criticized on the ground that he adopts a narrow interpretation for the term ‘technology’ so as to exclude competitive arts methods and thus be in compliance with TRIPS Agreement, which provides under article 27(1) for the patentability of ‘all field of technology’. Professor Takenaka believes that this narrow interpretation may open the door for the developing countries to object traditional intellectual property protection for new types of technology that may be developed in the future. He adds that in the light of the borderless nature of the Internet and electronic commerce, introducing a sui generis protection scheme may require renegotiation of TRIPS and thus resulting in missing the chance of protecting new technologies under traditional intellectual property regime, especially patent law, which may be imposed by the

775 Ibid. at 38-47.
World Trade Organization on all member countries, thus securing international harmonization.776

ii) Limiting the Scope of Business Methods Patents through Strict Application of Non-obviousness Requirement

Some commentators believe that the debate about the patentability of business methods as a subject matter may not be viable in the light of the decision of CAFC in State Street777, and as such the efforts should focus on how to limit the scope of business methods patents so as to avoid their negative impacts. Different proposals have been advanced, among which is the strict application of the other requirements of patentability, such as novelty and non-obviousness. However, as the requirement of novelty may relatively be easily satisfied, it is believed that concentration should be made on non-obviousness.778

Traditionally, U.S. courts looked to patents as undesirable monopoly rights, which should not be granted unless their benefits to the society outweighed their costs. In the light of this look non-obviousness

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777 Laurie and Beyers, supra note 3, at 3
requirement was used to differentiate between “inventions that would likely have been created, developed, and disclosed even in the absence of a patent and those that would not”. However, since its formation; the Court of Appeals for the Federal Circuit (CAFC) has adopted a pro-patent attitude reflected in its tendency to replace the traditional ‘patent-as-monopoly’ perspective by a simply-property perspective. The simply-property perspective has been criticized on the ground that:

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\text{If patents are not monopolies and do not generate monopoly-like deadweight losses, they are not an “embarrassment” and there seems no longer any reason to restrict them to cases where the invention would not have occurred but for the expectation of a patent. As a result, the need for some means to “weed out” undeserving inventions seems largely to disappear, leaving an individual who creates something new and useful presumptively entitled to a property right reflecting her contribution. Viewed in this way, the simply-property perspective cuts non-obviousness from its traditional}
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mooring and leaves it adrift; the words in the statute remain, but they lack any clear direction.\footnote{780}

Traditionally, the inquiry about non-obviousness was based on the decision of the U.S. Supreme Court in Graham v. John Deere Co.\footnote{781} In this case the Supreme Court directed the lower courts to start their inquiry about the obviousness by applying a three-part factual inquiry to determine “(i) the scope and content of the prior art; (ii) the differences between the prior art and the claimed invention; and (iii) the level of ordinary skill in the art”. The Court then identified other factors such as the commercial success of the invention in the market, the fact that the invention has solved a long-felt but not solved need, failure of others, etc., as secondary factors that may be taken into consideration to determine the obviousness. It has been stated that before the advent of the Federal Circuit, U.S. courts used to start their inquiry by applying the three-part inquiry and resort to the secondary factors only where the three-part inquiry did not produce a firm conclusion; in order to “tip the scales’ in favor of non-obviousness”.\footnote{782}

In line with its simply-property view of patents, the Federal Circuit has adopted some doctrinal changes that have contributed in reshaping

\footnote{780}{Ibid. at 388.}
\footnote{781}{383 U.S. 1, 17 (1966), [in] Lunney, ibid, at 375.}
\footnote{782}{See Lunney, supra note 54, at 375.}
the role of obviousness in patent litigation. For example, it reversed the inquiry adopted in *Graham* case by elevating the secondary factors to a primary level and considered their satisfaction as enough for determining non-obviousness. It has been commented that considering secondary factors, such as commercial success, as essential factors for determining non-obviousness will render all litigated inventions non-obvious, simply because patents that are not commercially successful would not have been brought to litigation. Moreover, the Federal Circuit rejected the so-called ‘synergism requirement’, which is applied in case of patents resulting from ‘combination of elements’. According to this requirement, where the elements of a combination are all available in the prior art, the combination is presumed to be obvious. “Only where some intervening consideration, such as unusual or surprising consequences from the combination, broke the logical chain would the court rule a combination patent non-obvious”. The Federal Circuit, however, applied the presumption of obviousness in a different way. According to it, obviousness presumption should be applied only where the prior art “contain some

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suggestion or reason to combine the elements in the manner set forth in the claim (the suggestion test).”

Professor Lunney argues that these doctrinal changes together with the continuing uncertainty in obviousness practice of the Federal Circuit are logical results of the simply-property perspective. In the light of the apparent adoption of this perspective by CAFC, the only way to influence CAFC’s directions on non-obviousness is to find out some sort of reconciliation between patent-as-monopoly perspective and patent as simply-property perspective. He believes that such reconciliation may be achieved by recalling that “the central purpose of any property regime, from an economic perspective, is to insure that scarce resources are allocated to their highest value use”. According to him, ‘creativity’ is the scarce resource within the patent context, and that for the patent system to make sense as a property regime it must allocate creativity to those uses which are most valuable to the society and which may not be created but for the patent incentive. “To do otherwise and grant a patent for every advance in the art, would almost certainly lead individuals to devote their creativity to less valuable uses and thereby frustrate the purpose of the patent system as property regime”. He argues that patents in a simply-property perspective are awarded where the inventive costs associated

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784 See the decision of CAFC in Robotic Vision Systems v. View Eng’g, Inc., 189 F. 3d 1370, 1377 (Fed. Cir. 1999), [cited in] Lunney, ibid.
with a new product or process represent a substantial portion of the
total costs of the invention as marketed, i.e., on investment basis.
Therefore, he has developed a simple model that measures non-
obviousness standard by reference to investment in creativity. He
believes that products involving more creativity investment are more
attractive for copying and as such, should be protected by patent.
According to his model the non-obviousness inquiry is “whether the
inventive expenditure actually present constitutes a substantial fraction
of the claimed invention’s market price”. He acknowledges that the
proposed model may face some difficulties when practically applied,
nevertheless he believes that it “should provide an objective,
consistent, and sensible guide to the non-obviousness issue in the vast
majority of cases”.785

The proposal of Professor Lunney has been criticized on the grounds
that absent empirical proof “it is very difficult to determine the
appropriateness of his assumption that products involving more
creativity investment are easier to copy than products requiring less
creativity”. For example, Internet patents are easy to copy regardless
of the creativity involved in the invention. Moreover, it is not clear
how to differentiate between creative and non-creative investments. It
has been argued that Professor Lunney’s “non-obviousness standard,

785 For more details, see Lunney, supra note 54, at 367-418.
measured by investment, is a challenge to the traditional notion of ‘inventive step’ applied by countries out of the United States and has nothing to do with the investment made by the inventor”. Furthermore, Professor Lunney’s proposal may result in discrimination between the different fields of technology, thus leading to a violation of TRIPS. For example, “Internet patents seem to demand more creativity investment than traditional innovations such as chemical or pharmaceutical inventions which require substantial investment for testing and implementation”.786

Another approach to non-obviousness inquiry is said to be through broad application of the doctrine of analogous arts, i.e., when searching the prior art in order to examine the obviousness of an invention the search should extend to knowledge from those fields, which are reasonably pertinent to the particular problem. For example, in the Internet business methods context, the search of the prior art should not be confined to the Internet and e-commerce, but must extend to cover real world business methods, because in many cases those real world business methods are merely automated and claimed as new inventions.787 The proposal for adopting broad concept of analogous arts has been criticized on the basis that the doctrine of

786 See Takenaka, supra note 51, at 4-5.
analogous arts is difficult to apply because the “scope of applicability changes when the definition of the relevant problem changes”. According to Professor Takenaka, “defining an appropriate measure for assessing the non-obviousness of business model patents or Internet patents requires redefining the hypothetical person of ordinary skills in the relevant art- properly reflecting real life inventive activities”. He recommends that USPTO should follow the guidelines of EPO and JPO where examiners are allowed to assume a group of experts in assessing non-obviousness.788

4. Limiting the Scope of Electronic Commerce-Related Patents through Narrow Application of the Doctrine of Equivalents

The doctrine of equivalents is an equitable doctrine applied by U.S. courts in order to do equity for the patentee where there is no literal infringement. “The doctrine of equivalents holds that a patentee can claim rights to inconsequential alterations to the thing patented, which are not literally covered by the original claims, but that could be achieved with little effort”. The doctrine is

788 See Takenaka, supra note 51, at 5-7.
based on the assumption that "if two devices do the same work in substantially the same way, and accomplish substantially the same result, they are the same, even though they differ in name, form or shape." As an equitable doctrine, there are limitations on the application of the doctrine of equivalents. Two of these limitations are of special concern for business model patents, viz., prosecution history estoppel and prior art obviousness. Prosecution history estoppel applies where the patentee relinquished or narrowed his claim during prosecution procedures. In a recent case the U.S. Supreme Court held that any amendment of claims during prosecution creates a rebuttable presumption of estoppel. In order to rebut the presumption the patentee must prove not only that he has not relinquished the particular equivalent in question but also he must show that the amendment was not made for patentability purposes and specifically "must show that at the time of

the amendment one skilled in the art could not reasonably be expected to have drafted a claim that would have literally encompassed the alleged equivalent."790

Some commentators have shown their fear that due to the fact that Internet-related business patents are relatively few because of real or perceived ‘business method exception’ to patentability and due to lack of printed publication in this respect, business methods and software prior art are unlikely to be cited by an examiner during prosecution. As a result, business methods patents are granted ‘pioneer’ patents status by default.791 Pioneer patents, which are considered as groundbreaking inventions that have not been performed before, are “generally given a more liberal interpretation under the doctrine of equivalents than would otherwise be accorded”. It has been argued that business methods patents should not be given ‘pioneer’ patents status because doing so would result in finding infringement

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791 See Bagley, supra note 62, at 280-2.
under the doctrine of equivalents unlimited by prosecution history estoppel, putting into consideration the fact that the relative sparseness of prior art does not actually result from the pioneering nature of business methods patents but because the USPTO is ill-equipped to search for or obtain relevant prior art to apply against the claimed inventions. Therefore, “it is incumbent on courts to take note of the examination defects inherent in Internet business model patent prosecution when applying what is, at its heart, an equitable doctrine”.792 However, where prosecution estoppel is not applicable due to lack of prior art in patent file wrapper, the application of the doctrine of equivalents may still be barred where the devices or processes are available in the prior art or would have been obvious to one who has ordinary skill in the art. This is because “the doctrine of equivalents exists to prevent a fraud on a patent, not to give a patentee something which he could not lawfully

792 Ibid. at 282-3.
have obtained from the USPTO had he tried”. Therefore, it is recommended that where defendants are able to show relevant prior arts that are not before the examiner during prosecution, the prior art/obviousness limitations on the application of the doctrine of equivalents must be rigorously enforced so as to effectively limit the scope of business model patents.\textsuperscript{793}

5. Scope of Prior Art for Electronic Commerce-Related Inventions

Prior art or the state of the art plays a pivotal role in determining whether patentability requirements, such as novelty and inventive step or non-obviousness are satisfied, because such determination is made by reference to the existing state of the art. The scope of prior art with respect to electronic commerce-related inventions raises two broad questions, first; whether real

\textsuperscript{793} Ibid. at 284.
world prior art is applicable as prior art for electronic commerce-related inventions, and second, whether prior art in electronic form, which exists only in cyberspace (cyber art) satisfies the requirements as prior art, especially in relation to its authenticity, veracity and integrity.

As far as real world prior art is concerned, Professor Bagley noticed that in granting injunction against the defendant, the district court in the Amazon.com case
never explicitly mentioned the doctrine of analogous arts.

Likewise, during prosecution procedures relating to Amazon.com patent itself before USPTO, none of the citations made reference to real world prior art. All are related to e-commerce and the Internet. He argues that: “the omission of real world prior art from the ‘1-click’ patent and the court discussion in Amazon.com is troubling because the problem facing the Amazon.com inventors was not a problem peculiar to the Internet”. He

adds: “if one approaches the issue broadly, it should be difficult to identify an art in the ‘bricks and mortar’ real world in which business methods are not used, or in which solutions to business problems are not generated”. Therefore, he believes that a narrow application of the doctrine of analogous arts in the field of business methods specifically is troubling because of the increased potential for improper expansion of patent claims.  

Determining whether information in electronic form available only in cyberspace constitutes reliable prior art is critical not only for inquiring novelty and obviousness, but also for determining the timing of disclosure and the accessibility of the cyber art to the public. Traditionally, a ‘printed publication’ is chosen to represent the public source of knowledge because it is “recorded in a legible form, accessible to the public, locatable by the public, of a non-transitory nature, and in most circumstances actually

795 See Bagley, supra note 62, at 271-3.
distributed to the public”. Today, the role of the
Internet as a source of information is increasingly
widening in all fields of knowledge. Therefore, it is
essential to determine whether information disseminated
only in cyberspace may be counted as a printed
publication. Pierotti tries to answer the question whether
information posted on the Internet meets the
characteristics of information contained in a printed
publication and as such Internet information may be
counted as a printed publication. He reviewed pre-
Internet case law and previous writings on the subject
and concluded that: “a posting on the Internet appears to
satisfy the requirements of a printed publication under
the ‘print’ theory of a printed publication”. This is
because, according to him, “information on public web
pages can be easily copied or viewed by the relevant
public. In addition, this information is embodied in a
legible form because the letters are all of uniform size and

796 See Pierotti, Neal P., ‘Does Internet Information Count as a Printed Publication?’, 42 IDEA 249,
shape. The Internet by its very nature is designed to allow
users to access information”. 797

It is worthy to note that the WIPO International Bureau has prepared
a Draft Substantive Patent Law Treaty (May 2003), which provides
under Article 8(1) that ‘…the prior art with respect to a claimed
invention shall consist of all information which has been made
available to the public anywhere in the world in any form…’. 798 The
Guidelines under Article 8 explain that: “information that has been
made available to the public through communication by electronic
means, in particular, via an electronic database or the Internet, also
forms part of the prior art”. Moreover, the Guidelines add that:

*The availability of information disclosed via an electronic
database or the Internet shall be considered in the same
manner as other forms of disclosure, i.e., whether it was
reasonably possible for the public to gain knowledge of the
information concerned or not. Accordingly, where the
information disclosed on the Internet was made available to
a limited circle of people, it is considered being made
available to the public, provided no obligation to maintain
secrecy was imposed. In order to determine whether the*

797 Ibid. at 259-78.
information disclosed on the Internet was made available on a particular date or not, the following factors, in particular, shall be taken into account: (i) public availability of the URL; (ii) possibility of search by a search engine; (iii) credibility of the web site.\footnote{799}

6. Private International Law Issues Relating to Patents

i) Jurisdiction

The territorial nature of intellectual property generally and patents in particular clashes with the international dimensions of electronic commerce. Despite the globalization features reflected in the dramatic increase in the world trade, including electronic commerce, the calls for the abolition of the territorial nature of patents are facing strong resistance; even within regions that have already achieved a degree of harmonization in their substantive patent laws, such as the European Union. However, the support for territoriality in issues relating to the validity of patents is stronger than in infringement issues. Validity issues are viewed generally as involving considerations of public policy and as such should only be determined by the courts of the state granting these rights. There is almost international consensus in this respect. For example, Article 22(4) of the European Council Regulation (EC) No. 44/2001 on Jurisdiction and Recognition and Enforcement of Judgments in Civil and Commercial Matters (Brussels II),

following its predecessor Article 16(4) of the 1968 Brussels Convention, provides for the exclusive jurisdiction of the following courts, regardless of the domicile of the defendant:

4. in proceedings concerned with the registration or validity of patents, trade marks, designs, or other similar rights required to be deposited or registered, the courts of the Member State in which the deposit or registration has been applied for, has taken place or is under the terms of a Community instrument or an international convention deemed to have taken place.

As concerns jurisdiction over infringements of patents, although the Brussels II Convention has made no reference to intellectual property, the infringements of intellectual property are generally regarded as torts, and as such covered by provisions dealing with jurisdiction over tortious liability. In this respect, Article 16(4) of the Convention provides for general jurisdiction of the courts of a Member State where the defendant is domiciled, regardless of the nationality of the defendant or the forum where the damage occurred or suffered. Article 5(3) and Article 6(1) provide for special jurisdiction. As far as patents

are concerned, Article 5(3) provides that “a person domiciled in a Member State may, in another Member State, be sued:…..in matters relating to tort, *delict* or quasi-*delict*, in the courts for the place where the harmful event occurred or may occur”. Under Article 6(1), a person domiciled in a Contracting State may be sued “where he is one of a number of defendants, in the courts for the place where any one of them is domiciled”. The European Court of Justice construed the term “place where the harmful event occurred” as to mean both the place where the event causing the damage took place and the place where the damage suffered. 801 However, in a subsequent decision the European Court of Justice restricted the scope of jurisdiction under Article 5(3) to the extent that “the courts of the place where the damage was suffered only have power to award compensation for damages suffered by the plaintiff within their own countries”. 802 Moreover, the jurisdiction over joint defendants under Article 6(1) has been criticized as encouraging ‘forum shopping’, since the plaintiff may choose any of the forums where one of the defendants is domiciled. In response to this criticism the Dutch Court of Appeal


recently ruled that in order to have jurisdiction over foreign
defendants under Article 6(1) concerning infringement of foreign
patents arising out of European bundle, it must be shown that those
foreign defendants “belong to the same group of companies and the
European headquarter of that group of companies is located on the
territory of the court”.803

However, the much controversial area as regards jurisdiction over
foreign defendants under the Brussels Convention is where, in
infringement cases, defendants raise, as a defense, the invalidity of the
foreign patent in dispute. European courts have divided into two
groups; one group, represented in the Dutch courts, adopt a narrow
interpretation for Article 16(4) relating to exclusive jurisdiction and
assume jurisdiction even where a defendant raises the issue of the
invalidity of a foreign patent; the other group, represented in the
English courts, refuse to assume jurisdiction when a defendant raises
validity issues of foreign patents. For example, in Coin Controls Ltd.
v. Suzo International (U.K.) Ltd.804 although the court acknowledged a
jurisdictional basis under the Brussels Convention, it ultimately
refused to accept jurisdiction on the foreign patent issues on the
ground that the defendants had raised invalidity issues of the foreign

803 See Expandable Grafts Partnership v. Boston Scientific et al., Court of Appeal The Hague, April
patents, which should be settled by the courts of the states granting those patents according to Article 16(4) of the Brussels Convention. Moreover, the court concluded that in such cases, Article 19 of the Convention “requires the court to decline jurisdiction over all claims, not just the invalidity issues”.

On the other hand, Dutch courts have refused the English courts’ interpretation of Article 16(4). For example, in Expandable Grafts Partnership v. Boston Scientific the defendants challenged the jurisdiction of the Court under Article 16(4) and 19 of the Brussels Convention. The Court responded to this argument by explaining that Article 16(4) could be read in two different ways: 1) that the “infringement court- which in principle has jurisdiction- has to declare itself not to have jurisdiction as soon as the invalidity of the patent is claimed as a defense” (the English rule); or 2) the “infringement court is … competent to take…. the claim but…. that it cannot give a decision on it until after the invalidity court … has given its opinion on the validity of the patent”. The Dutch Court of Appeal justified its refusal of the English courts approach on basis of public policy, as “the English approach was likely to lead to attempts by defendants to eliminate jurisdiction by bringing invalidity proceedings

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806 See Expandable Grafts case, supra note 78.
elsewhere”. It is worthy of note that European courts are currently following the interpretation of the English Patents Court in Coin Controls case for Article 16(4) to the extent that a court seeing a dispute relating to infringement of foreign patents should decline jurisdiction over all claims, including the infringement claim, when the invalidity of these patents is raised as a defense, on the ground that “issues of infringement and invalidity are closely related that they cannot be separated and each national court has jurisdiction as to validity limited to that part of the EP registered in its own country”. The Mannheim District Court applied this interpretation in a recent case.

Jurisdiction under U.S. Law is assumed when a court has jurisdiction both over the person and subject matter of a particular dispute. Subject matter jurisdiction refers to the class of cases to which the subject matter in dispute belongs. Personal jurisdiction refers to the question whether a court has jurisdiction over a certain person, being legal or natural person. Personal jurisdiction is established by reference to the degree of contact between the defendant and the forum. Depending on the degree and level of contact, a U.S. court determines whether it has jurisdiction or not, and if it has jurisdiction whether that jurisdiction is

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‘general’ meaning that the “court has jurisdiction over the defendant even for acts committed outside the forum, or merely; ‘specific’ meaning that the court only has jurisdiction over the defendant with respect to those acts committed by him inside the forum”. Within the Internet context, the personal jurisdiction issue is determined by reference to the question of whether the defendant’s website has sufficient connection with the forum for the court to exercise either general or specific jurisdiction.\textsuperscript{810}

Worldwide, the various versions of Article 12 of the draft Hague Convention relating to exclusive jurisdiction, reflects the international divide in relation to this matter. There is almost international consensus that “in proceedings in which the relief sought is a judgment on the grant, revocation or infringement of a patent or a mark, the courts of the Contracting State of grant or registration shall have exclusive jurisdiction”. However, much controversy, which has not been settled yet, arises as to whether the courts of the Contracting State in the latter case should also have exclusive jurisdiction where the dispute relates only to infringement. Another controversial issue is how a court would deal with invalidity issues that may arise as

\textsuperscript{810} For more details see Chapter 5 supra. See also Blumer, supra note 76, at 22. See also WIPO Primer: Issue IV, supra note 76, at 11.
incidental questions in proceedings before courts other than those of the country of protection/registration.811

ii) Applicable Law

The territoriality of patents, as well as other industrial property rights, is reinforced by the “fact that these classes of rights, in most instances, are required to be registered in order to benefit from protection. As such, the acquisition of the rights concerned is to be determined on the basis of the law of the countries in which registration is sought”. Likewise, the substantive law of the granting state governs all issues relating to the validity of a patent, as well as infringement actions. In other words, “the law of the state in which the patent is valid (the law of the patent territory) not only governs the grant of the patent but also the rights derived from the patent. It determines the term of the patent, the scope of protection, the remedies available in infringement actions and all other relevant issues of substantive law”.812 Within the Internet context, however, difficulties may arise with respect to the applicable law in infringement actions when a patented invention is composed of elements that are physically located in different countries. For instance, in the cases of process patents, the patented invention may

811 See WIPO Primer: Issue IV, supra note 76, at 14-5.
involve activities in several countries by several persons using computerized networks connections (e.g., the Internet). In such a case determining the applicable law as well as the competent court may be problematic.\textsuperscript{813}

iii) Recognition and Enforcement of Judgments

Generally, as in case of jurisdiction and the applicable law, to date there is no international agreement regulating the recognition and enforcement of judgments. In Europe, the Brussels Convention governs the recognition and enforcement of judgments. Article 26 of the Convention provides that a “judgment given in a Contracting State shall be recognized in the other Contracting States without any special procedure being required”. Under Article 31(1) if a judgment is enforceable in the originating State, it is enforceable in other Contracting States. However, under Article 27(1) the addressed court may refuse recognition “if such recognition is contrary to public policy in the State in which recognition is sought”.\textsuperscript{814} However, as judgments rendered by the courts of non-Contracting States are not covered by the Convention, each European country deals with such judgments according to its national law. Generally, provisions relating to recognition and enforcement of judgment in national laws may

\textsuperscript{813} See WIPO Primer: Issue IV, supra note 76, at 19.\textsuperscript{814} See Blumer, supra note 76, at 28.
either be considered part of the private international law or of the civil proceedings of the concerned country. Recognition and enforcement of judgments are generally based on comity and reciprocity. The addressed court may refuse recognition on public policy considerations. For example, the European countries as well as Japan refuse recognition and enforcement of U.S. judgments awarding non-compensatory damages on the ground that they are contrary to public policy. Public policy arguments are also made in relation to procedural law issues as well. In the United States, as there is no international agreement regarding the mutual recognition and enforcement of judgments to which the United States is a party, foreign judgments are recognized under the principle of comity. In addition to the fact that a judgment must not be contrary to public policy, the conditions for the recognition and enforcement of foreign judgments in US “include the opportunity for a fair trial abroad, a trial before a court of competent jurisdiction and a trial conducted upon regular proceedings”.815

As far as intellectual property is concerned, a U.S. court would refuse to recognize a judgment involving U.S. intellectual property rights “either because the foreign court is deemed not to have subject matter jurisdiction or because the public policy defense would be successful”. However, a foreign judgment relating to foreign intellectual property

815 Ibid., at 28-30.
rights may be recognized and enforced in U.S., provided that the conditions mentioned above are met. 816 As concerns the draft Hague Convention, it has been commented that although the Convention is intended to be applicable worldwide, the jurisdiction as well as recognition provisions are drafted in an attempt to mitigate incompatibilities between U.S. and European law. For example, the conflict relating to the recognition of the U.S. judgments for non-compensatory damages, which are usually refused by the European courts on public policy grounds, is settled under Article 33(1) of the Convention, whereby “in so far as a judgment awards non-compensatory, including exemplary or punitive, damages it shall be recognized at least to the extent that similar or comparable damages could have been awarded in the State addressed”. 817

Conclusion

As stated before, throughout its history the patents system, like other forms of intellectual property, is responsive to new technologies in form of adjustments that stir up arguments about the underlying rationale and specific policy objectives behind these adjustments. The response of the patents system worldwide to electronic commerce-related inventions is still at its first stages. It

816 Ibid., at 30.
817 Ibid.
ranges from complete denial of patentability of electronic commerce-related inventions, to almost full recognition. Proportionately, patentability of software as such is less controversial than patentability of methods of doing business. At least in a country like the United States of America, software patentability has found almost full official recognition represented in the decisions of US courts and the practice of USPTO. Although patentability of business methods is strongly leading its way to full recognition in US, they are still debatable. Few other countries are recognizing the patentability of electronic commerce-related inventions.

The extreme arguments against the patentability of software generally and methods of doing business in particular are premised on fear of preempting the whole algorithms on which these inventions are based. It is believed that owing to the incremental nature of innovation in software, access to existing programs is essential for innovation and competition. Patenting computer programs may seriously restrict access to ideas and concepts underlying these programs. Moreover, patenting business methods may entail costly litigation that may result in stifling trade and force local firms out of market. Other commentators are crying the lack of novelty and inventive step in business methods inventions.
It has been argued that most of business methods inventions are no more than the automation of business methods available in the real world.

Different suggestions have been advanced for dealing with electronic commerce-related inventions. Even those who object patenting of these inventions, acknowledge the need for some sort of protection for the efforts of innovators in this field. It is conceded that the easy and fast copying of these inventions, facilitated by digitization of data and computer networks, has serious threats on the ability of those innovators to benefit from the lead-time first to invent advantage. Therefore, some form of **sui generis** protection taking into account the needs of the society for free access to knowledge on one hand and the rights of innovators for fair form of protection, on the other hand, may provide a better alternative. For those criticizing the permissive nature of examination relating to other requirements of patentability, the solution lies in the strict adherence to other patentability requirements, especially non-obviousness requirement. It is believed that examination of non-obviousness should be extended to cover not only electronic commerce prior art but also real world prior art, through broad application of the doctrine of analogous arts. Other approaches for limiting the scope of business methods patents is through narrow application of the doctrine of equivalents. However, the application of
the other requirements of patentability, such as novelty and inventive step, is made by reference to prior art. Thus determining the proper scope of prior art for electronic commerce-related inventions is a very important issue.

Moreover, the international dimensions of the Internet and electronic commerce have posed serious challenges for the protection of intellectual property rights generally and patents in particular, which have been previously provided on territorial basis. The international divide as concerns the competent court in disputes relating to intellectual property is reflected in the ongoing discussion of draft Hague Convention, which has been continuing since 1992 and up to date. Even if jurisdictional issues were solved, the recognition and enforcement of the resulting judgments would face considerable difficulties due to the differences in substantive national intellectual property laws. As has been shown above, few countries recognize the patentability of electronic commerce-related
inventions. Therefore, judgments relating to these patents may not be recognized on public policy considerations.
Chapter 9
Internationally Harmonized Intellectual Property Rights:
Safeguards for Developing Countries

Introduction
Apart from the earliest stages of evolution of intellectual property, by the middle of the nineteenth century the industrialized countries in Europe and America had adopted, more or less, similar intellectual property legislation. In each country, the intellectual property laws were conceived of and formulated to work within the boundaries of that country and, in most cases, for the protection of intellectual property rights (IPRs) of its citizens. Few countries afforded foreigners protection similar to their own nationals and, in most cases on reciprocal basis. However, as a result of the increase in transborder trade in the second half of the nineteenth century, the exporting countries sought to protect the IPRs of their nationals abroad. The efforts in this respect culminated in the conclusion of the main two intellectual property treaties, viz.,
the Paris Convention for the Protection of Industrial Property in 1883 and the Berne Convention for the Protection of Literary and Artistic Works in 1886.\textsuperscript{818}

The Paris and Berne Conventions were basically built on the notion that Signatory Countries should afford foreigners’ IPRs protection similar to the protection they afforded their own nationals (national treatment) and that such protection should not be less than a certain substantive minimum standard (substantive minima). Basically, under the system set by the Paris and Berne conventions the sovereignty of the Contracting Countries was maintained to a large extent. There were many factors behind this, among which was the fact that the substantive minima determined by the two conventions was in most cases codifying states practice and reflecting a consensus position. Moreover, concepts such as who is an author of a copyrighted work or the patentability of certain technological inventions were left to be determined by each Member State according to its own national policies and values. This position was practically affirmed by the lack of enforcing mechanism. Moreover, regardless of these multilateral arrangements, the traditional intellectual property system remained territorial in scope and limits, i.e., protection of IPRs of foreigners had

to be sought only in the countries where they were granted. The territoriality of IPRs was a fundamental principle on which the traditional intellectual property system was built. There is no such thing as international copyright or international patent or international trademarks. National courts had very little role to play in the construction of international intellectual property law as a result of: first, the strict adherence to the principle of territoriality; second, the fact that the provisions of the international treaties were codified in the national laws of the Contracting Countries, hence national courts were interpreting and applying their own national laws; and third, the fact that disputes brought before courts were largely relating to rights within the national boundaries.819

The call for the internationalization of IPRs is not new. It was reported that during the debate preceding the adoption of the Berne Convention some delegations called for the adoption of universal copyright law, yet these attempts were aborted in favor of greater national control over the course of copyright law. Similar views, though in a less degree, were expressed during the debate leading to the conclusion of the Paris Convention. However, the transformation of the economies of developed countries, especially the United States

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and Europe, from economies depending on traditional industries and means of production to information-based economies has brought the internationalization issue once again to the surface. The last quarter of the twentieth century witnessed dramatic advances in many fields including pharmaceuticals and biotechnology, telecommunications, information and digital technologies, electronics, and the Internet. The new information technologies have facilitated the high quality copying and transmission of intellectual property materials all over the world.

Trading in pirated and counterfeit goods, which had flourished in the eighties and nineties of the last century led the US to amend in 1988 its Trade Act of 1974 to make access to its markets dependant on the adoption or implementation by its trading partners of stronger intellectual property protection than they already had. It has been stated that the US had exploited the allegations of piracy to curtail legitimate measures in intellectual property adopted by developing countries such as “the denial of protection for certain categories of inventions like pharmaceutical and chemical substances, strict standards of patentability, a shorter period of protection, the issuance of compulsory license and licenses of right over unworked inventions”. However, the major step in the move towards internationalization of IPRs was the adoption of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), which
reduced intellectual property issues to trade issues subject to measures of enforcement ordinarily conceived to resolve trade distortions.\textsuperscript{820}

It has been argued that the emergence of new technologies such as the Internet has rendered TRIPS outdated. The emergence of electronic commerce has triggered the move towards further harmonization of IPRs. The move towards internationally harmonized IPRs is taking place at different forums. In addition to TRIPS, developed countries are pressing through bilateral treaties with developing countries to raise the minimum IPRs Standards above the levels of TRIPS (so-called TRIPS plus). From its side WIPO has succeeded in fostering a number of new multilateral intellectual property treaties since TRIPS entered into force, such as WIPO Copyright Treaty (WCT) and WIPO Performances and Phonograms Treaty (WPPT) in 1996 (WIPO Internet treaties), the Patent Law Treaty in 2000 and the latest draft of the Substantive Patent Law Treaty, which is currently (2004) under discussion.\textsuperscript{821} Moreover, WIPO has formed standing committees to respond quickly to new developments and make proposals for WIPO Assemblies for adoption as non-binding recommendations. Likewise, there are many other forums working on formulating harmonized public and private international intellectual property rules. It has been commented that:

\footnote{See also Endeshaw, supra note 1, at 79-83. For the text of TRIPS see \url{http://www.wto.org} and \url{http://wipo.org/treaties/ip/index}.}
“the quest for harmonization in intellectual property rights has resulted in a ‘race to the top’ directed by the efforts and self interest of the countries which have had the strongest property rights”.

The ubiquitous capabilities of electronic commerce offer important opportunities for developing countries to improve their social and economic growth. However, there are many challenges facing developing countries, which have impeded their access to the Internet and electronic commerce. In addition to the infrastructure obstacles, the ongoing international upward harmonization of IPRs carries significant implications for developing countries because the access to content on the Internet is as important as the access to the Internet itself. As such, efforts of developing countries should not only concentrate on technical infrastructure, but also extend to the regulation of the legal environment. In this respect, the ongoing moves towards more harmonization of IPRs should be carefully studied and analyzed by the representatives of developing countries so as to acquire a comprehensive understanding of their various implications, including their impact on the access to content on the Internet, and the necessary safeguards for the protection of the interests of their countries.

This chapter discusses the potential of electronic commerce for developing countries and the ongoing move towards internationally harmonized intellectual property rights, their implications for developing countries and the strategic policies that should be adopted by developing countries to face any accompanying challenges. The chapter is divided into four main parts. Part 1 reviews the potential of electronic commerce for developing countries. It is divided into two subtitles discussing the opportunities and challenges in this respect. Part 2 reviews the arguments of the supporters and opponents of internationally harmonized intellectual property rights. It includes two subtitles

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discussing the arguments of the supporters and opponents of internationalization. Part 3 studies the implications of strengthened IPRs for developing countries. It is divided into two subtitles discussing the costs and benefits of strong IPRs in relation to development generally and access to the Internet and electronic commerce in particular. Part 4 discusses strategic policy issues for developing countries. It is divided into four subtitles examining the technical and capacity gaps in developing countries and the necessary safeguards for developing countries in order to fill these gaps. The chapter is closed by a conclusion summarizing all the previous issues.

1. The Potential of Electronic Commerce for Developing Countries

i) Opportunities

The range of opportunities and activities offered by the information technologies seem to be unlimited. The recent report of the World Summit on the Information Society (WSIS) pointed out that the applications of the information and communications technologies (ICTs) are potentially important in "government operations and services, health care and health information,"
education and training, employment, job creation, business, agriculture, transport, protection of environment and management of natural resources, disaster prevention, and culture, and to promote eradication of poverty and other agreed development goals. In the field of economic activities, broadly, ICTs have been applied to "enhance four major categories of activities: governance, growth and supply/distribution of goods and services, adding value to existing services and the creation of new products and services". As far as developing countries are concerned, information technology may assist in overcoming obstacles that impede their access to international markets such as “high transaction costs, inefficiencies in production, distribution and supply, while adding value to existing products and services and also creating new ones”. The Internet has reduced transactions costs to minimal limits. It can be used as a cheap means of communication to facilitate marketing and online conclusion of transactions, payment for tangible goods, and payment as well as delivery for intangible goods and services.

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Another aspect of great importance for developing countries is the informational and educational capabilities of the Internet. In addition to the huge volumes of informational and educational materials and resources, the Internet provides linkage to educational institutions worldwide. The educational opportunities of the Internet extend beyond formal education. “Specialized learning and ongoing informal education can take place through chat-rooms, listservs and other interactive forums enabled by the Internet”. The Internet has facilitated access to the latest information about any number of subjects. It is believed that while distance learning cannot and should not replace structured educational systems, developing and least developed countries can benefit from the Internet in updating and improving the quality of their current educational systems and materials.825

The participation of developing countries in general and Africa in particular in the access to the Internet is very poor. It was reported that by 2002 the participation of African users was: “1 user for every 250-400 persons in Africa compared to a world average of 1 user for every 15 persons, and in the United States and EU 1 user per 2 persons”. However, the participation of African countries is growing exponentially. For example, the growth of the Internet

825 See Okediji, supra note 6, at 36.
users in the Sudan between 2000-2003 increased by 180.0%. The Internet users in Sudan by 2003 were reported to be 84,000 representing about 0.2% of the population. Yet to reach levels near to those in developed countries, developing countries generally and African countries in particular need to overcome different challenges.\(^{826}\)

ii) Challenges

Some commentators have described the disproportionate level of access to the Internet between developed and developing countries as ‘digital divide’. There are many reasons for this digital divide represented mainly in the acute shortage in developing countries of the foundational infrastructure of the Internet such as computers and telecommunications, and the high barriers to access to content on the Internet. Tackling the problems of the foundational infrastructure may be easier than overcoming the barriers to access to content on the Internet.\(^{827}\)

As far as information technologies are concerned, there are many indications ushering in progress in this respect. It is expected that developing countries are going to benefit from the decreasing prices of information technology products and other related

\(^{826}\) Ibid. at 17, 52.
\(^{827}\) Ibid. 12.
complementary goods. There is evidence that high-income developing countries are achieving some progress in this respect. However, for the growth of acquiring information technology products to continue, there should be “innovative organizational models, in addition to strategies to increase overall income so that the vast majority of citizens are empowered to purchase the necessary hardware and software”. In this regard, improvement of the educational capabilities of the citizens in the field of information technology and access to the Internet is an important factor. Likewise, innovative ways that facilitate access to the Internet, such as the so-called ‘Internet Café’ is helpful.828

The other component of the foundational infrastructure is the telecommunications substructure of the Internet. A combination of services is needed for access to Internet. “In most countries, the complex relationship between telephone service providers, cable service providers and the rise of Internet Service Providers (ISPs) has given rise to a variety of pricing models to sustain differences in the market structure”. Despite the emergence of new technologies for access to the Internet, such as satellites and mobile telephones, still most individuals use the traditional telephone networks to access the Internet. Interestingly, it has been reported

828 Ibid. at 12.
that in Africa the use of mobile telephone surpassed the use of traditional fixed line for communications. The increased trend of using mobile phone coupled with the continuing evolution of mobile technology is expected to help developing countries in overcoming many obstacles impeding their access to the Internet. Moreover, the nature of the Internet has enabled firms in developing countries to benefit from access to international ISPs (host computers) in some applications such as the construction of websites. However, the price of services is an important factor in facilitating access to the Internet. It is worthy to mention that to date Internet services are monopolized by certain big businesses in developed countries, particularly the US. For example, in 2001 the top ten ISPs in the United States monopolized 66% of the market and the top four of those ten companies accounted for more than half the market. Evolution of access technologies has facilitated access to the Internet through a variety of means including mobile, cable, telephone, satellite and wireless. For developing and least developed countries to benefit from these access technologies, sound competition policies must be adopted for the regulation of competition between these services so as to ensure pricing options that are within the capabilities of consumers in these countries.829

829 Ibid. at 12-18
The third factor affecting access to the Internet are the barriers impeding access to content. To prevent unauthorized access to their materials online, the owners of digital content apply legal as well as technical measures. The legal measures revolve around intellectual property law, especially copyright, in addition to other laws such as contracts, tort, and criminal law. The technical measures range from technologies aim at facing the digital threat to copyrighted works to technologies which indiscriminately prevent any kind of access to digital content whether protected by copyright or not.\textsuperscript{830} Developed countries are seeking to apply expansive intellectual property laws and other forms of \textit{sui generis} protection to close the vast content placed on the Internet. Endeavors in this respect include the pressure through the WTO to obtain international recognition of the neutral technology language of TRIPS in order to extend TRIPS protection to digital content, in addition to efforts to prompt implementation of WCT and WPPT through their incorporation in TRIPS. New forms of protection such as \textit{sui generis} protection for database, patent protection for business methods, and copyright protection for audiovisual performances are on their way to international recognition under

the name of internationally harmonized intellectual property rights.\textsuperscript{831}

The WSIS report emphasized that bridging the digital gap requires international cooperation to: “improve access to information and communication infrastructure and technologies as well as to information and knowledge; build capacity; increase confidence and security in the use of ICTs; create an enabling environment at all levels; develop and widen ICT applications; foster and respect cultural diversity; recognize the role of the media; address the ethical dimensions of the Information Society; and encourage international and regional cooperation”. To overcome these challenges, developing countries must set “simultaneous, multi-faceted and strategic policies aimed at addressing the rules that create and sustain the access problem”.\textsuperscript{832}

\section*{2. Arguments for, and, against International Harmonization of Intellectual Property Rights}

\textbf{i) Arguments of the Supporters}


\textsuperscript{832} See WSIS report, supra note 6, at 4. See also, Okediji, supra note 6, at 13.
Regardless of the post-TRIPS dramatic changes in the international intellectual property system, the basic principle on which intellectual property law has been premised, i.e., the principle of territoriality, has largely been preserved. Intellectual property rights are protected in the country where they have been granted. The main two concepts underlying the traditional international intellectual property system, viz., national treatment and substantive minima, define the obligations of each Contracting State. The supporters of internationalization argue that the digitization of data and the convergence of information and communications technologies, resulting in the emergence of the Internet, have caused great transformations in the social and economic environment worldwide. The quantities of intellectual property products and the speed with which they move through the international commerce and international communities could never be imagined before. These facts, coupled with the fact that IPRs have become a major source of wealth in developed countries have "prompted the demands for intellectual property laws that are more global in reach, and the sometimes inconsistent demand for intellectual property laws that respond more quickly to new problems and new technologies".  

833 See Dinwoodie, supra note 2, at 999.
It is believed that within this climate of globalization of IPRs "the principles of territoriality and national autonomy over precise rules of domestic intellectual property law have come under pressure". It has been argued that the multinational nature of disputes involving IPRs requires national courts to issue decisions that may have substantial effects in many different countries. The only way for this process to reach its potential to enable national courts to develop multinational solutions through private litigation and contribute to the development of international intellectual property law is through deployment of measures that effect virtual territorialization. In the view of one commentator, "digital media have unleashed deep-running changes in the international regime of intellectual property. The patchwork of nation-states can no longer respond, with its purely territorial laws, to network imperatives of interconnectivity". Thus, the solution lies in a universal code that "would impose sufficiently uniform law worldwide that courts would not have to choose between conflicting laws on critical issues that typically arise in this field of law". Justice Jacob believes that:

As time goes on... the world will realize that at least for intellectual property the days of the nation-state are over

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and truly international courts will be created. This is not without growing precedent – the tribunals of the World Trade Organization and the increasing number of war-crimes tribunals are but a part of globalization from which intellectual property will not be able to stand apart.  836

ii) Arguments of the Opponents

The opponents of international harmonization of IPRs argue that historically the calls for harmonization often result in strengthening of IPRs. Typically, it is upward harmonization modeled on the laws of the developed countries, especially the United States and Europe. In other words, the calls for harmonization aim at providing international protection for IPRs more than what is currently prevalent under the multilateral agreements including the controversial TRIPS Agreement. Moreover, it has been contended that the calls for harmonization are no more than attempts to internationalize new standards that are controversial even within the developed countries themselves. For example, the European database protection right has not yet found wide acceptance in other developed countries. It is believed that the sui generis protection of databases “could subvert the classical

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intellectual property tradition built around patents and copyrights, with unintended consequences that could elevate the costs of research and development across the entire knowledge economy.”  

In the United States the operation of even the most established intellectual property systems, viz., copyright and patents, has never been as controversial as presently. The recent holdings of the U.S. Court of Appeals for the Federal Circuit in the field of patents, in which it expanded patent protection of computer programs to cover software per se and business methods, and narrowed the doctrine of equivalents in patent infringement, has faced wide criticism inside and outside the United States. As a result, the patent system is widely perceived to have broken down in the United States. “New proposals to reform the patent system appear frequently, and commissions to study or propose reform are operating on numerous fronts”. Professor Reichman asks: “how, under such circumstances, could it be timely to harmonize and elevate international standards of patent protection – even if that were demonstrably beneficial – when there is so little agreement in the U.S. itself on how to rectify a dysfunctional apparatus that often seems out of control?” It has been recommended that, “at least from the perspective of developing countries, it is not

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advisable to promote further international harmonization of a system that has gone far beyond its essential function: to foster and reward genuine inventiveness". Likewise, the enactment of the Digital Millennium Copyright Act 1998 (DMCA) in U.S., which is considered to be an example of national implementation of WIPO Internet treaties, has also been controversial. It has been argued that the DMCA has adopted a much more restrictive approach to copyright protection on digital networks than what is required by WIPO Internet treaties.838

Other opponents of internationalization argue that: "there are growing recognition that the regulation of patents and other IPRs cannot be reasonably made with a unique, universal standard. Different socio-economic conditions and levels of development require different intellectual property systems".839 Even though a unified international intellectual property legal system may bring more international uniformity and predictability in the light of the uncertainty created by digital networks, “nations are not willing yet to surrender their sovereignty completely on the issues of jurisdiction or

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enforcement, nor to allow other countries’ substantive law to be legitimimized when it is contrary to the home country’s law”.840

Some commentators, however, try to take a flexible position by acknowledging the efficiency gains expected from standardized supranational intellectual property laws, particularly in the field of copyright, but at the same time argue that this should not extend to deprive nations from the ability to forge intellectual property laws that suit their own circumstances. Professor Austin argues that while international intellectual property law seems by now to be a reality above all, "a reality that may in many instances serve interests and agenda pursued purely within domestic contexts", nevertheless the territoriality principle derives its viability from concerns about the importance of domestic self-determination in intellectual property laws. According to him:

The concept of self-determination is meant to capture the ability of individual nations to develop and test new intellectual property policies; it might also include the ability to calibrate the level and types of protection afforded to intellectual property proprietors in light of a nation's specific circumstances, to craft new defenses and

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exemptions and expand existing ones, and to use intellectual property laws as vehicles for molding cultural and technical policies to suit domestic circumstances.  

3. Implications of Strengthened IPRs for Developing Countries

i) Costs

The negative implications of the emergent protective measures for developing countries in relation to development generally and access to content on the Internet in particular, are believed to be tremendous. For example, the criticism directed to the *sui generis* right on database is that the only justification for protection is to enable the owners to obtain a return on their investment, not on the basis of the originality of the works. Moreover, as the *sui generis* right covers not only the non-original form of collection of data but also the whole collection of data, it actually grants monopoly over simple collection of information and threatens public access to information. As such, it jeopardizes not only “access to information by developing countries, but also prevents the non-commercial sector from taking advantage of the free flow of information. The educational and scientific communities whose work

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is inconceivable without the permanent use of available information, is particularly affected by this right”. As concerns the Internet and electronic commerce, it has been argued that “such protection will lead to even greater industry concentration and increase the costs of e-commerce by simultaneously lowering the utility and increasing the cost of search engines”. The consequences would be “reduced competition on the Internet due to heightened barriers of entry to e-markets and inhibiting second generation improvements to existing databases”.

Likewise, the extension of patents protection to business methods has raised great controversy even in the United States itself, where such protection has found the largest support. The EU and other countries such as Japan and Australia have dealt with notable caution in their respective policies about granting business method patents. The increasing number of business methods has raised concerns about their possible inhibiting role on the development of e-commerce and innovation in the online environment. As concerns developing countries, “empirical evidence does not establish that business methods patents have a singularly positive effect on innovation”. On the contrary, such patents “could facilitate the increase of anticompetitive practices by using patents as a way of limiting further

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842 See Dusollier, Poullet and Buydens, supra note 13, at 8.  
843 See Okediji, ‘Development in the Information Age ’, supra note 6, at 31.
innovation. These types of actions could limit access to new technologies”. Moreover, recognition of such patents by developing countries would add further financial burden on them in terms of administration costs and royalties.844

It has been argued that the protection under WCT and WPPT of technical measures used to prevent unauthorized access to copyrighted works on the Internet would have negative effects on developing countries. This is because, first, there are no express requirements, even permissions, for exceptions or limitations on the control of these technical measures. Second, unlike the purely copyright protection, proper technical measures would form a direct barrier to the access and use of the protected subject matter.845 The first implementation of WCT and WPPT has been the DMCA of the United States. The DMCA has been "heavily criticized as over protective and lacking in any limitations to protect legitimate uses of content protected by technological means”. Regardless of this criticism, the United States negotiated a series of bilateral agreements containing DMCA like provisions, and thus “made these inordinately high standards a de

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844 Ibid. at 26-30. See also Eugui, supra note 14, at 18.
facto model for global implementation of the WCT”. According to professor Okediji:

*The combined effect of private law mechanisms such as tort and contract law, and public law regulation through copyright and other specialized regimes like the DMCA, will lead inevitably to increased difficulty in access to content. In a situation where access to hardware is already an important hindrance to developing countries, adding another layer of impediments, and inevitably raising costs, is problematic for the interests of developing countries in utilizing information technology.*

The attempts of developed countries to obtain international recognition of the neutral technology language of TRIPS so as to extend TRIPS protection to digital content online and their attempts to incorporate by reference the provisions of WCT and WPPT in TRIPS are adding a further difficulty to the position of developing countries. On the one hand, although there is no formal definition for the term ‘technological neutrality’ either within WIPO or WTO, “in informal terms, technological neutrality tends to mean that TRIPS rules and obligations will be applied whatever technology is used. It also applies to the rules on enforcement, including any violation of IPRs

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846 See Okediji, ‘Development in the Information Age’, supra note 6, at 32.
on the Internet or as a consequence of a digital technology”. The concept of neutral technology has been used as a justification not only for the revision of existing rules in order to be adaptable to the digital environment but also to expand intellectual property protection to new subject matter such as business methods and non-original database. Developing countries are afraid that this concept might be used to expand their obligations under TRIPS. Moreover, practically the use of the concept of technological neutrality in the field of enforcement would add a further burden on developing countries which are already experiencing shortage of essential infrastructure in this aspect.847 On the other hand, the incorporation of WCT and WPPT in TRIPS will make the expansionist copyright model an enforceable global regime. For developing countries, such integration will, at least, raise the costs of access indirectly by constraining policy spaces for them to promote domestic policies that are consistent with their national interests more than what is currently allowed under TRIPS Agreement.848

The opponents of strengthened IPRs refuse the move towards international harmonization on the ground that its ultimate purpose is to strengthen the current IPRs and introduce new ones in favor of right holders, who are almost nationals of developed countries, at the expense of developing countries. Generally, strengthening IPRs has

847 Eugui, supra note 14, at 4-6.
848 See Okediji, ‘Development in the Information Age’, supra note 6, at 34.
many other costs for developing countries in addition to the previously mentioned costs of the newly emergent IPRs. Regardless of the costs of administration and enforcement of IPRs, which are in most cases foreigners’ rights, internationally strengthened IPRs will weaken a sovereign power control over its domestic innovation policies as a result of a shrinking public domain, high costs of technological input, and restriction on reverse engineering and other methods of imitative innovation. Moreover, “the growing thickets of rights will make the transfer of technology harder for those operating outside patent and intellectual property pools”. Higher standards of patent protection are unlikely to have a positive effect on local innovation in developing countries. This is because, for strengthened patent system to promote innovation, a certain level of technological development and financial capabilities must be reached so as to finance research and development (R&D). Strengthening IPRs will strengthen the monopoly of right holders and may result in higher prices for consumers because it will “improve the negotiating position of right-holders to determine the royalties to be paid and other conditions for the transfer of needed technologies, in case they agree to part with them at all”.  

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ii) Benefits

The supporters of international harmonization of IPRs, particularly patents, argue that in addition to benefits for right holders in terms of lower costs for acquiring and maintaining multinational IPRs, internationally harmonized patent system helps governments to avoid wasting financial and human resources in searching and examining applications already searched and examined by other patent offices. Moreover, as far as development is concerned, it has been observed that “the importance of IP systems in general, and patent systems in particular, to the development of countries and their economies, has grown exponentially in the last twenty years as the world’s economy has increasingly become a knowledge-based economy”.

A strong patent system will promote innovation because it guarantees exclusive rights for patentees, and as such encourages inventors to invest their time and energy in creating new products and services and enables them to obtain the needed funds from financing institutions. Likewise, the disclosure requirement stipulated by patent systems saves time as well as human and financial resources that might...
otherwise be dissipated in research and development (R&D) of the same invention and enables competitors to leapfrog ahead and create advances beyond the inventor’s contribution because they will start from where the inventor ends. “These advances continue a cycle, creating additional new products, services, jobs and further raising the economic well-being of society”. Moreover, a strong patent system provides a favorable climate for foreign direct investment (FDI) and transfer of technology. Sherwood, depending on previous as well as his own empirical studies concluded that these studies indicated that the protection of intellectual property contributes to development in different ways including technical change, knowledge diffusion, human resources expansion, technology financing, business growth and economic development. Likewise Lesser assures that the previous empirical studies as well as his own study proved, at least, the positive relationship between strong intellectual property protection and the increase in imports and FDI.851

The opponents of international harmonization, on the other hand, refuse the arguments of the supporters on the grounds that ‘one size does not fit all’. They argue that the economic history of the

developed countries, especially the United States and Europe support the view that “appropriate policies towards intellectual property are not independent of the level of development, nor of the overall institutional environment”. They add that their argument is supported by a recent report of the World Bank (2001), which assures that while the patent system may entail considerable short-term costs for developing countries in terms of administration costs and high prices for medicines and technological input, the long-term benefits seem uncertain. The said report concludes that ‘one size does not fit all’ and that developing countries should not be treated on the same footing as developed countries, and that each country should be left the flexibility to adapt the levels of intellectual property protection as its economy grows.

In the view of one commentator the reality lies somewhere in between. According to professor Maskus “the question of how intellectual property rights (IPRS) affect the process of development and growth is complex and based on multiple variables. The effectiveness of IPRS in this regard depends considerably on particular circumstances in each country”. He concedes that the empirical studies showed that countries tend to adopt more protective

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852 See Khan, supra note 5, at 58.

measures when their economies grow to higher levels and the opposite is true. He acknowledges that mere strengthening of IPRs will not lead to growth and development, first, because there are many other factors affecting growth such as “macroeconomic stability, market openness, policies for improving the economy’s technological infrastructure, and the acquisition of human capital”, and second, IPRs may have positive or negative impacts on growth. He concludes that: “the policy approach most conducive to expanding development is to implement an integrated system of both IPRS and corollary policies that strike a balance of incentives in favor of rigorous but fair dynamic competition”.

4. Strategic Policy Issues for Developing Countries

Developing countries generally and least developed countries in particular are experiencing serious technical and capacity gaps in relation to intellectual property. One commentator classified gap areas into four categories. First; developing and least developed countries are in need to fill gaps in relation to understanding the concepts, issues, benefits and risks of intellectual property protection. Second, they have to deal carefully with the issues of implementation and

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compliance with existing commitments. Third, they must fill gaps relating to their capabilities to manage and influence on-going negotiations on further commitments. Fourth, they have to adopt proper policies that enable them to develop strategies and set the agenda for the future. It is conceded that the magnitude of these gaps differ from country to country and change over time, yet developing and least developed countries are in need to identify their individual as well as collective interests in the field of intellectual property and work to “translate these interests into policies, negotiating goals and positions; situate these policies, negotiating objectives and positions into their overall development framework; and allocate resources, both human and financial, to execute these policies, negotiating objectives and positions.”

i) Understanding the Concepts, Issues, Benefits and Risks of IPRs

The importance of understanding the concepts, issues, benefits and risks of IPRs lies in the fact that it is essential for the success in the other areas i.e., understanding the concepts, issues, benefits and risks of IPRs is essential for the success in implementation and compliance.

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with existing commitments, managing and influencing on-going negotiations on further commitments, and making and developing strategies and setting the agenda for the future. It has been argued that the economic success of a country largely depends on the creation and maintenance of efficiently defined property rights. In the field of IPRs, efficiency is “generally thought to involve a balance between rules of appropriation and rules of diffusion”. It is believed that a democratic bargaining environment, locally and internationally, helps in striking balance in ways that produce efficiency. Among the requirements of a democratic bargaining are that all concerned parties are well represented and well informed. Internationally, being well informed is an indispensable prerequisite for understanding the concepts, issues, benefits and risks of entering in international obligations in the field of IPRs. It has been argued that when TRIPS was concluded most countries were in ignorance about its likely effects in information markets. “Multinationals had better information about the strategic use of intellectual property portfolios in various markets around the world than did most governments”.

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The recent report of the Commission on Intellectual Property Rights (CIPR) identified some of the issues that developing and least developed countries need to understand. These issues are as follows:

- The consequences of full implementation of TRIPS on the developing world, including the provisions relating to enforcement.

- The implications of the movement towards harmonisation and integration of patent systems at the international level.

- Impacts of patents and other IPRs in new or rapidly advancing fields of technology, such as biotechnology and software.

- The impact on access to information crucial for development on the Internet, including technological protection by publishers and other content providers, and of anti-circumvention legislation. In addition, there will be issues of how to respond when nations attempt to take legal jurisdiction over foreign servers in order to affect the way these servers distribute information over the Internet.

- Alternative models of IPR protection suitable for developing countries.
How best to build capacity for IP policymaking, administration and enforcement in developing countries – and how donors can provide support more effectively.857

To achieve these and other related developmental goals, developing and least developed countries are in need to build institutional infrastructure for evaluating and reconciling international intellectual property standards with national and regional systems of innovation. Professor Reichman suggested the establishment of a high level permanent Advisory Council on Trade-Related Innovation Policies (ACTRIPS), in each country “which could become the focal point for interagency policy making with respect to the integration into domestic law of existing and evolving international legal standards affecting innovation”. Unlike other intellectual property offices, this Advisory Council “would ideally play a supervisory and policy making role that requires inputs from intellectual property offices but that locates policy making decisions of importance to the state as a whole in a suitable oversight agency concerned with national development strategy”. Likewise, a regional or sub-regional group of developing countries should consider the feasibility of a regional ACTIPS to coordinate regional positions on matters of common

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concerns, develop regional standards concerning IPRs and enable consensus building for future IPRs negotiations. The regional ACTRIPS could benefit from the pooling of resources and expertise among its members to avoid duplicating the same inputs in all countries. He believes that the concerned developing countries may use such regional Advisory Councils, in the short and medium term, as “institutionalized focal points for future bilateral and multilateral negotiations bearing on national innovation policies, in order to ensure that governments and regional bodies, wherever possible, coordinated their positions on the relevant issues”. He adds that these ACTRIPS “would serve to institutionalize a broad-based lobbying coalition that could focus on both existing and new issues, monitor developments in different forums (WIPO, WTO, WHO), and become a vehicle for rapidly responding to pressures from developed countries in an on-going and systematic fashion”.

However, one of the acute and chronic problems facing developing countries generally and least developed countries in particular is the shortage of qualified cadres capable of dealing with complex trade and intellectual property issues. The status in Africa may well be exemplified by the speech of the Ghanaian Minister of Justice, Nana Akufo Addo who acknowledged that: “granted that we lacked the

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858 See Reichman, ‘Managing the Challenge’, supra note 20, at 5.
capacity to send competent experts to represent government at both the WTO and other multilateral negotiations, we cannot escape the necessity of having to evolve principles to improve our performance at such fora”. He added that: “we first need to build up a nucleus of trained negotiators, not necessarily drawn from government employment”. It has also been reported that the Ghanaian Minister of Trade “told a story of how the Ghanaian delegation to the recent Doha WTO Ministerial Meeting went attending cocktail parties at the invitation of powerful Asian and European delegations because they were under resourced”. He added that “whereas other countries sent big delegations, including experts, Ghana only managed a skeletal team, making it difficult for them to deliberate at other meetings”. Moreover, it has been observed that the delegates were typically drawn from the public service, and due to per diem usually accompanying such trips Directors and Chief Directors jostle for selection regardless of their qualifications. It has been observed that because of “the correlation between trade and accelerated economic growth even the developed countries see trade negotiations as a matter of life and death and would press their views at the cost of anything”.

Therefore, training of cadres capable of dealing with complex trade and intellectual property issues is an indispensable priority. It has been recommended that training should be provided both at the local level and through qualified foreign institutions. “Affiliation should be sought with leading foreign institutions, with a view to developing systematic inputs and distance-learning materials”. According to Professor Reichman, the best and most effective form of training may be obtained through training of the most qualified personnel at foreign institutions under degree granting programs such as JD and LLM. He is aware, however, of “the risk of brain drain either by defection to foreign countries or by recruitment to serve foreign interests at home”. Therefore, he recommends that: “these risks can and must be alleviated by suitable contractual agreements that mandate fixed periods of public service for the beneficiaries of the fellowship programs”. Moreover, he recommends that developing and least developed countries should strive to finance their initiatives in the field of intellectual property from their resources because the foreign aid often accompanied by high-protectionist propaganda paid for by the very coalition of interests that developing countries are seeking to resist.860

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ii) Implementing and Complying with Binding International IPRs Commitments

In order to achieve their strategic development goals, developing and least developed countries should “review their own capabilities and needs, and in the light of their findings, they should strive to tailor-make intellectual property rights and other legal and regulatory regimes to produce pro-competitive results consistent with both their own technical capacities and international legal obligations”. 861 In particular, they should “exploit the flexibility inherent in TRIPS Agreement to promote their own systems of innovation, to tilt existing intellectual property standards to promote their own investment needs, and to experiment with new forms of intellectual property protection that may stimulate local innovation at lower social costs than models familiar from current European and American practice”. 862 As concerns compliance with existing international commitments, especially TRIPS, and as least developed countries, including the Sudan, are starting procedures to amend their intellectual property laws so as to comply with TRIPS, attention should be drawn to the fact that although the minimum standards under TRIPS may result in some degree of harmonization, they have not imposed uniform law. TRIPS Agreement leaves certain flexibility for WTO member

861 Ibid. at 6.
862 Ibid. at 13.
countries to adopt different legislative policies in some respects. Least developed countries may use such flexibility to encourage competition, technology transfer, the diffusion of existing technologies and innovation.863

In the field of patents, developing and least developed countries should be aware of the fact that TRIPS has not defined what an invention is; it has only specified the requirements for patentability. This will enable member countries to determine what can be considered an invention and hence a patentable subject matter. Thus, member countries may exclude from patentability any substance, which exists in nature, if claimed as such without modification. Particularly, “DNA molecules may be regarded as building blocks of nature, which should be free for use by the scientific community and for any research or productive application. Similarly, patenting of software and business methods is not an obligation under the TRIPS Agreement”. It has been recommended that, in order to preserve and enhance competition, developing and least developed countries should apply strict standards for patentability requirements, particularly novelty and inventive step, without violating their international

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Moreover, particular concern should be given to the following issues:

Parallel imports: generally countries refer to parallel imports to encourage competition when the prices of the protected goods in the place of protection are higher than elsewhere. This practice is based on the doctrine of exhaustion of rights (in the US it is known as the doctrine of first sale). According to this doctrine the rights holder has no right to prevent the further marketing of his products once placed on the market by him or his licensee. It has been applied with respect to industrial property titles (patents and trademarks) as well as copyright. Although originally the doctrine of exhaustion of rights was limited to the domestic market, it has become increasingly applicable on international basis. The application of this principle at the international level has been recognized under Article 6 of TRIPS. Developing and least developed countries should be aware of this flexibility and leave room for it in their intellectual property laws, especially the patents. It is worthy to mention here that when South Africa included similar provision in its Medicines and Related Substances Control Amendment Act 1997, it faced enormous pressure from the US government and the international pharmaceutical industry. However, eventually South Africa succeeded in resisting this

pressure with the help of a number of international non-governmental organizations (NGOs), especially those concerned with the dramatic rise of HIV-related infection in South Africa.\textsuperscript{865}

Exceptions to patent right: Article 30 of TRIPS provides in general form for exceptions that member countries may allow. Based on comparative law, the exceptions that may be allowed within the scope of Article 30 may include the following:

- acts done privately and on a non-commercial scale, or for a non-commercial purpose;
- use of the invention for research;
- use of the invention for teaching purposes;
- experimentation on the invention to test or improve on it;
- preparation of medicines under individual prescriptions;
- experiments made for the purposes of seeking regulatory approval for marketing of a product after the expiration of a patent; and
- use of the invention by a third party that had used it \textit{bona fide} before the date of application of the patent.\textsuperscript{866}

Compulsory licensing: A compulsory license is an "authorization given by the government for the use by a third party, without the consent of the right-owner of a patent or intellectual property right".

\textsuperscript{865} See Correa, ‘M., ’Pro-competitive Measures under TRIPS to Promote Technology Diffusion in Developing Countries’, supra note 46, at 40-6.
\textsuperscript{866} Ibid. at 46.
TRIPS recognizes under Article 31 the right of each country to grant compulsory licenses under certain conditions. However, TRIPS has not specified the grounds under which compulsory licenses can be granted, but generally national laws may provide for granting compulsory license in cases of national emergencies and non-commercial governmental use, even without informing or getting the consent of the titleholder in advance. In other cases compulsory licenses may be granted whenever the titleholder refuses to grant voluntary license on reasonable commercial terms. Reference is often made to a non-exhaustive list, which includes “national emergency or extreme urgency, dependency of patents, licenses for governmental non-commercial use, and licenses to remedy anti-competitive practices”.

‘Bolar’ exception: Under this exception the competitors of the patentee of a pharmaceutical product are allowed to conduct tests in relation to the invention and obtain the approval from the health authorities before the expiration of the patent, for the purpose of commercialization of a generic version, just after the expiration of the patent. In exchange of this permission the period of the patent may be extended for some time. The purpose of this exception is to help the producers of generic drugs to place their products on the market as

867 Ibid. at 48-9.
soon as possible after the expiration of the patent. ‘Bolar’ exception is receiving growing recognition in many developed countries including the US, where the patentee may be given up to five years more for the life of its patent in consideration of the exercise of this exception, but it is still unusual in developing countries. According to a decision of the WTO Dispute Settlement Body, this exception is not against TRIPS. Moreover, “to be consistent with TRIPS requirements, this exception does not need to be linked to the extension of the life of the respective patents”.

Protection of data submitted for registration: usually, national authorities require information about the efficacy and toxicity of pharmaceutical products as a condition for the registration of these products. Whether the originators of this information are entitled to exclusive rights over such information has been a controversial issue. In the US the originator of the information is given additional five years for the exclusive use of the data. In EU the originator is given additional 10 years for the exclusive use of the data. It has been argued that this is beyond the standards prescribed by TRIPS, which gives member countries under Article 39.3 the options to decide how they wish to regulate the protection of undisclosed information submitted for registration of pharmaceutical products. It is

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868 Ibid. 47-8. See also (WTO WT/DS114/R) [in] ibid. at 48.
recommended that when choosing between granting exclusive rights or merely preventing unfair commercial use of such information, “policy makers will have to weigh the protection of the interests of originator companies against the importance of creating an environment that fosters competition and increases access to drugs”.869 The measures that should be applied by developing countries in the field of patents are summarized in CIPR Report as follows:

- *Exclude totally from patentability* diagnostic, therapeutic and surgical methods for the treatment of humans and animals.

- *Exclude from patentability* plants and animals and adopt a restrictive definition of microorganisms.

- *Exclude from patentability* computer programs and business methods.

- *Avoid patenting of new uses of known products.*

- *Avoid using the patent system to protect plant varieties and where possible, genetic material.*

- *Provide for international exhaustion of patents rights.*

- *Provide an effective compulsory licensing system and adequate government use provisions.*

869 Ibid. at 50-2.
- Provide broadest possible exceptions to patent rights including adequate research exemption exception and explicit 'Bolar exception'.

- Apply strict standards of novelty, inventive step and industrial application or utility (consider higher standards than currently applied in developed countries).

- Make use of strict patentability and disclosure requirements to prevent unduly broad claims in patent applications.

- Provide a relatively low cost opposition or re-examination procedure.

- Provide means to prevent the granting or enforcement of patents comprising biological material or associated traditional knowledge obtained in contravention of access legislation or the provisions of the CBD.

- Consider providing alternative forms of protection to encourage sub-patentable type local innovation.\(^{870}\)

It has been recommended that developing countries should benefit from the freedom left for member countries in areas of IPRs not covered by TRIPS as well as from the scope of different interpretations of existing obligations in ways that serve their developmental purposes. In this respect, it has been recommended that

\(^{870}\) See CIPR Report, supra note 40, at 122.
developing and least developed countries must extend not only traditional copyright exemptions to content on digital networks, especially those relating to fundamental freedoms and public interest, but also introduce new exceptions to facilitate access to information, research and transmission of knowledge and culture\textsuperscript{871}.

According to Professor Reichman, developing and least developed countries should depend on self-help to experiment with new forms of intellectual property protection that may stimulate local innovation at lower social costs. He argues that the hybrid forms of exclusive intellectual property rights such as utility model laws, design protection laws, plant variety protection laws and the like, which have been designed by some of the developed countries to stimulate small-scale innovation, are not suitable for developing and least developed countries because of their high social costs and numerous technical disadvantages. Instead, he argues that a growing number of legal and economic studies show that a new type of intellectual property rights known as ‘liability rules’ are better for developing countries than antiquated exclusive rights regimes such as utility model laws and the like. Unlike the hybrid exclusive property rights, the liability rules do not require second comers to get licenses from the originators but, instead, enable them to borrow technology for further improvement.

\textsuperscript{871} See Dusollier, Poullet and Buydens, supra note 13, at 15.
and follow-on applications in return of a relatively set table of royalties. The characteristic features of this regime are that it protects innovators from wholesale duplication, allow them to get reasonable compensation for follow-on applications, and give them the right to borrow back the improver’s own improvements for further innovation for similar compensation. He believes that “such regimes should stimulate investments in small-scale innovation without obstructing follow-on applications, without creating barriers to entry, and without impoverishing the research commons or the public domain, as occurs under hybrid exclusive property rights in developed countries”. To meet their international obligations, developing countries may grant foreigners the international minimum standards available for similar IPRs. Likewise, their nationals are entitled to get abroad the same international minimum standards for similar IPRs. Moreover, in relation to software, developing and least developed countries need to find alternatives to proprietary regimes. It is believed that the most important alternative available currently is the Open Source model, which is beneficial for these countries not only in “improving access to software, but also for the opportunities it offers to facilitate the

training of domestic software engineers, and the relatively low cost of complementary technologies” ⁸⁷³

Furthermore, developing and least developed countries should incorporate treaty norms into their domestic laws in ways that are sensitive to development concerns and avoid as far as possible verbatim incorporation of treaty language into their domestic laws because treaty language often reflects specific understanding that may not be supporting for their developmental purposes. Likewise, developing and least developed countries should carefully study the legal relationship between different intellectual property treaties and how to comply with their obligations in consistent and complementary way. ⁸⁷⁴ However, the legislative efforts need to be supported by competent enforcement institutions that interpret and apply the legislative rules in ways that strike a balance between public and private interests. It has been observed that one of the reasons of the success of the United States in its earlier stages of development was that its judges and legal practitioners adopted an instrumentalist approach that interpreted the law in ways conducive to economic development. ⁸⁷⁵ In this respect CIPR Report recommends that:

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⁸⁷³ See Okediji, ‘Development in the information Age’, supra note 6, at 48.
⁸⁷⁵ Ibid. at 52-4. See also Khan, supra note 5, at 54.
Developing countries should ensure that their IP legislation and procedures emphasise, to the maximum possible extent, enforcement of IPRs through administrative action and through the civil rather than criminal justice system. Enforcement procedures should be fair and equitable to both parties and ensure that injunctions and other measures, are not used unduly by IP rightsholders to block legitimate competition. Public funds and donor programmes should mainly be used to improve IP enforcement as part of broader strengthening of the legal and judicial systems.876

iii) Managing and Influencing On-going International Negotiations on Further IPRs Harmonization

Generally, it has been recommended that developing countries should participate in the on-going standard-setting exercises; otherwise their interests are unlikely to be accommodated. They should adopt a clear strategy and an articulated position to any negotiation. They should first identify common grounds of interest and/or concern among themselves and then at the broader negotiation forum. “Earlier introduction of issues of concern for development

876 See CIPR Report, supra note 40, at 147.
objectives should be an integral part of the discussions”. They should be aware of the fact that their interests tend to coincide with the interests of second comers, improvers, and value adders worldwide; therefore, they should build alliance with the members of the civil society and other interest groups in developed countries. Issues that may constitute framework/agenda for the negotiations, among others, may include the need to identify: how the major treaties under each category interact with development goals; the development losses due to multiple membership in overlapping, conflicting and superfluous agreements; and the relationship between various treaties affecting IPRs. As concerns the Internet and electronic commerce, it has been observed that developing countries did not play a significant role in the technical architecture of the Internet; however, they should not miss to “play a role in determining how access to the Internet, in all its various permutations, will enhance their capacity and opportunity for effective improvement of the quality of life for their citizens”. In particular they should work to influence the current multilateral negotiations to establish regulatory norms that result in principles encouraging competition in the Internet through balanced IPRs and how to translate the economies of scale that are made possible by information technology in the intellectual property context to assist in “(1) gains for developing countries with regard to access issues; and
(2) reducing costs of participation in negotiation, drafting and coordination between the various regional and international intellectual property offices”.  

Moreover, in order to strengthen their bargaining position, they should link the results of any negotiations in the WTO on intellectual property and electronic commerce to results in areas such as biodiversity, farmers rights, traditional knowledge, geographical indications and other areas of interest for developing countries. In order to manage effective negotiations, developing and least developed countries are in need to have "permanent representation in Geneva; appropriately staffed expert delegations able to attend meetings and negotiations; adequate technical support for policy analysis; and functional mechanisms for policy co-ordination and discussion in capitals".

iv) Developing Strategies and Setting the Agenda for the Future

While the development needs differ from country to country, developing and least developed countries are in need to identify their

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878 See Eugui, supra note 14, at 19.
879 See CIPR Report, supra note 40, at 164.
individual as well as collective interests and work collectively to translate these interests in policies, negotiating goals and positions to support their overall development framework; and allocate resources, both human and financial, to execute them. Strategies should focus heavily on areas of common interest for all developing and least developed countries so as to develop common position for any future negotiations. “There should also be some consideration given for creating alliances with some developed countries in areas where those countries might share similar concerns. This was a strategy that worked very well during the TRIPS negotiations as well as during the WCT/WPPT negotiations”.  

It has been recommended that developing countries should insist on the preservation of the balance, on which intellectual property has been premised, i.e., the balance between the interests of right holders and the interests of society in general. Some commentators summarize the requirements for achieving this purpose, particularly in relation to copyright, in the following propositions:

- That it is important that the domain of protection of intellectual property rights be confined to ‘creations’ and ‘technological innovations’ but exclude the investments made and the technological measures introduced for their protection. Any other solution would be prejudicial to

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developing countries and the non-commercial sector, particularly to libraries and institutions of learning.

- That it is useful to reassert the principles underlying exceptions to intellectual property rights, to reconsider the current list using these principles as a yardstick, or even to add new exceptions, and finally to safeguard their compulsory character. It is particularly important for UNESCO that exceptions for scientific, educational and journalistic purposes be maintained.

- That it is indispensable to safeguard the universal right to access to the ‘informational public domain’ which brings together the information essential for the citizen of a modern democratic society (statistical, regulatory, environmental and safety-related information) and which each State must control without risk of confiscation of that control by private companies.

- Finally, that, considering the development of technological measures of protection, it is urgent to recall that the intellectual property right is not designed to legitimize measures of control over access that, if these must be protected by common law, proper protection must be found, independent of copyright, in the regulation of product
distribution, i.e., the service of providing conditional access to those products, which will thus no longer be able to jeopardize the desired balance between the interests of copyright holders and societal or public interests- a balance that is at the very heart of intellectual property rights.\textsuperscript{881}

It has been observed that developing countries are often caught unaware or unprepared when developed countries submit new issues for negotiation. “As a strategic matter, it is important for developing countries to think ahead about issues that developed countries priorities/interests may later suggest as the appropriate subject of multilateral negotiations”. To circumvent such future possibilities, the representative of developing and least developed countries in both WTO and WIPO “should appreciate intellectual property as a tool for development policy, and not merely as a contentious area to be designed and redesigned in response to developed countries’ demands or political pressures”. It is conceded that it may take some time to significantly influence the course of such complex processes such as the WIPO Patent Agenda, yet, as a starting point developing and least developed countries should immediately begin a debate within WIPO about the impact of upward international harmonization of IPRs on their development prospects. “The key to such constructive influence

\textsuperscript{881} See Dusollier, Poullet and Buydens, supra note 13, at 29-30.
in WIPO clearly lies in higher levels of engagement and coordination than currently exists”.

Conclusion

The Internet has brought great social, economic and even political transformations worldwide. In addition to facilitating different ways of cheap communications, the convergence of information and communication technologies has made possible the digitalization and transfer of data in different fields of knowledge and in volumes unimaginable before. The emergence of electronic commerce has opened new horizons for commerce throughout the world. However, as far as developing and least developed countries are concerned, there are different obstacles impeding their access to the Internet and electronic commerce. Besides infrastructure barriers, represented in the shortage in computers (hardware and software) and telecommunications, the legal and technical measures applied by the owners of content on-line to prevent unauthorized access, has added a further layer of complications for developing and least developed countries.

Moreover, one of the negative ramifications of electronic commerce is the move towards further strengthening and internationalization of intellectual property rights under the name of harmonization. Different forums are participating in the lawmaking process of international intellectual property law. Harmonization, which is often modeled on the intellectual property laws of developed countries, results in strengthening IPRs in developing countries. It has been argued that while the short-term costs of strong IPRs, in terms of high prices and stifling of

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competition and innovation are definite, the long-term benefits, such as transfer of technology and FDI, are uncertain. Developing and least developed countries are in need of intellectual property systems that respond positively to their developmental objectives. In particular, they need intellectual property systems that encourage competition and innovation. In order to achieve this objective they have to participate effectively in the international intellectual property lawmaking processes.

However, developing and least developed countries are facing technical and capacity gaps in four areas. These four areas are as follows: understanding the concepts, issues, benefits and risks of intellectual property protection; implementing and complying with existing commitments; managing and influencing on-going negotiations on further commitments; and making and developing strategies and setting the agenda for the future. Developing and least developed countries are in need to identify their individual as well as collective interests in the field of intellectual property and work together to fill the above gaps by tailoring locally intellectual property systems that meet their developmental goals and unify their efforts internationally for the same purpose.
Chapter 10

Conclusion and Proposals for Reform

The roots of intellectual property are believed to refer to prehistory ages. Prehistory forms of intellectual property, however, were mainly identity related symbols or marks and secrets. The protection of these rights was probably depending on customs and the self-imposed rules that governed each sector of commerce. Although the interference of the ruler or sovereign in the protection of IPRs could be traced back to the Roman era, the commercial value of IPRs had become clear only in the Middle Ages. Different incentives were offered to inventors to encourage them to exert more efforts. This includes gifts, prizes and patent privileges. The protection was confined mainly to the nationals of each country. foreigners were only awarded protection if there was need for their works in the receiving country. Copyright protection was affected by the discovery of the printer, which facilitated making of copies and paved the way for fraudulent re-print. Privileges of printing were given to publishers. Authors were given only the amount of
reward they agreed upon with the publishers. In the 1850s or thereabout the modern intellectual property law emerged as a discrete body of law.

The expansion of trade between states necessitated the protection of foreigners’ IPRs. This was first secured by bilateral treaties and later on evolved into multilateral system of protection. The main multilateral conventions in this respect were the Paris Convention for the Protection of Industrial Property in 1883 and the Berne Convention for the Protection of Literary and Artistic works in 1886. However, the second half of the twentieth century witnessed tremendous transformations in the field of IPRs. The massive increase in exchange of goods and services worldwide has resulted in the so-called globalization of trade. The last quarter of the twentieth century, in particular, witnessed dramatic advances in fields such as pharmaceuticals and biotechnology, information and digital technologies, telecommunications, electronics, and electronic commerce. As a result, the economies of the developed countries, especially the United States, Europe and Japan, have transformed from economies depending on traditional industries and means of production to information-based economies. The new information technologies have facilitated the high quality copying and transmission of intellectual property materials all over the
world. Trading in pirated and counterfeit goods had flourished in the eighties and nineties of the last century to the extent that the US amended in 1988 its Trade Act of 1974 to make access to its markets dependant on the adoption or implementation by its trading partners of stronger intellectual property protection than they already had. The traditional multilateral system, which was based on territoriality and substantive minimum standards, was found to be insufficient for the international protection of IPRs. The first practical step towards internationalization of IPRs was the adoption of TRIPS in 1994. TRIPS has caused formidable transformation in the notion of intellectual property protection by reducing intellectual property issues into trade issues subject to measures of enforcement ordinarily conceived to resolve trade distortions. However, the emergence of new technologies such as the Internet and electronic commerce has rendered TRIPS outdated and triggered the move towards further strengthening of international IPRs under the name of international harmonization of IPRs. The international intellectual property lawmaking process is increasingly becoming more complicated. Different forums are participating in this process including a diversity of multilateral agreements, international organizations, bilateral and regional arrangements and even private entities,. Almost all these
institutions overlap in driving towards globally harmonized and strengthened IPRs. In addition to bilateral treaties between developed and developing countries, which aim to raise the minimum IPRs Standards above the levels of TRIPS (so-called TRIPS plus), the international intellectual property system has witnessed many developments. In the field of copyright two agreements were concluded in 1996, viz., WIPO Copyright Treaty (WCT) and WIPO Performances and Phonograms Treaty (WPPT). Likewise, in the field of patents, the Patent Law Treaty was concluded in 2000 and another treaty under the title ‘Substantive Patent Law Treaty’ is currently (2004) under negotiations.

The protection of IPRs nationally and internationally always requires the definition of the rights to be protected, their nature, purpose and scope. There is no specific definition for the term ‘intellectual property’. Generally, it refers to the legal rights that result from an activity of the mind in the fields of industry, science, literary and artistic works. Article 2(viii) of the Convention Establishing the World Intellectual Property Organization (WIPO) 1967 provides that intellectual property shall include rights relating to literary, artistic and scientific works; performances of performing artists, phonograms, and broadcasts; inventions in all fields of human endeavor; scientific discoveries; industrial designs; trademarks, service marks, and
commercial names and designations; and protection against unfair competition. The intellectual property law is growing and developing continuously so as to accommodate new technologies and other forms of innovations and human creativity. The creation of new intellectual property rights can be achieved either by way of accretion or emulation. Accretion involves re-defining an existing right so as to accommodate the new subject matter, whereas emulation requires the creation of a new and distinct right based on eclectic analogy from the existing rights. Different factors affect the choice between accretion and emulation, such as the suitability of the existing rights for the emerging material and the acceptability of a sui generis form of right.

The purpose of intellectual property law is to safeguard the rights of creators and other producers of intellectual goods and services, by granting them the right to control the use made of their products, subject to certain exceptions and limitations determining their scope and duration and restricted by the supervening public interest. Different approaches have been adopted as concerns the justifications for granting property rights in intellectual goods. While the Anglo-American systems adopted a utilitarian approach based on the notion of incentives, the Civil Law systems based their justifications on the theory of natural rights. It has been argued that the history of intellectual property does not support either approach and that modern
IPRs is no more than a legal arm of the economic-technical structure in the industrial countries.

Throughout their history intellectual property rights have often been affected by new technologies in a way or another. The latest technology that has brought tremendous transformations in the field of IPRs is the Internet. The invention of the Internet by all means is a revolution in the field of communications in the twentieth century. Its vast abilities in performing different kinds of communication activities including real-time communications, one-to-one messaging and retrieval of information efficiently and effectively at low costs have revolutionized the interactions of humans all over the world and truly rendered the world a small village. The exponential growth of the users of the Internet proves that it is a popular medium. Its various applications facilitate almost all aspects of life. It surpassed all previous communications means in facilitating the communications and dissemination of information. As a result, it has generated transformative social practices, which
need legal response. However, as a tool, the Internet can be exploited for good and for evil. Some are using the Internet for illegal practices including criminal activities, civil wrongs and infringement of rights. The transborder nature of the Internet has added further complications for the problems resulting from its use. Actions taking place on the Internet are taking place instantaneously everywhere, if anywhere. Efforts have been exerted within individual sovereign countries as well as at the international level to find solutions for these legal controversies.

Different approaches have been advanced for the governance of the Internet. One approach calls for separate virtual space to be governed by independent rules. The supporters of this view argue that the Internet Service Providers and users have formed separate virtual communities capable of creating their own normative rules. Individual countries cannot and should not control cyberspace, because actions on the Internet take place everywhere instantaneously, not in any place in particular.
This approach has been criticized as illogical and unrealistic, simply because it ignores salient facts such as the presence of the participants in Internet activities in the physical world and the direct positive and/or negative impacts of the Internet on various aspects of life in real space. Another approach calls for the application of the existing legal system. The supporters of this view contend that most of the problems generated by the Internet are not new and that the traditional rules of the existing laws are flexible enough and can be adapted to accommodate even those problems, which may be considered as new. The criticism directed at this approach is that it ignores the peculiarities of the Internet. A third approach adopts what is known as ‘code solution’. The exponents of this viewpoint argue that the resolution of the Internet controversies lies in interplay of law and technology. They believe that the governance of cyberspace can be achieved through modifications in the architecture of the Internet infrastructure supported by the power of law, i.e., the law can enforce its values through imposing the designing or
modification of the architecture of the Internet infrastructure in ways that serve its values. The criticism directed at this approach is that code solution may not be perfect and it may be circumvented. Moreover, even if it is perfect, it may transcend other activities not intended and bring negative results. The fourth approach suggests a hybrid form of regulation taking into account the Internet peculiarities as well as the direct concerns of the real world with its activities. The hybrid form of regulation approach may offer a good solution if it considers not only the peculiarities of the Internet, but also its connections with the physical world and, moreover, within the physical world it must take account of the economic, social and political peculiarities of each sovereign country, especially the developing countries.

As has been stated above, the Internet has revolutionized the social and economic activities all over the world. One of the economic activities that have been revolutionized is trading via the Internet, namely electronic commerce. The application of the World Wide Web has facilitated the
interaction between businesses as well as businesses and consumers. Moreover, international trade is no longer confined exclusively to big businesses. The international nature of the Internet and the easy and low cost of access to it have enabled small and medium sized enterprises to participate in the international trade. The genius of the Internet lies, not in facilitating transactions for tangible goods, regardless of the progress it brought in this area, but in revolutionizing commerce in the field of intangible goods and services. In addition to promoting electronic contracting for intangible goods and services, the Internet has enabled online delivery of these goods and services. As a result, the Internet is expected to be the main medium for contracting and delivery of goods and services such as computer software, entertainment products, information services, technical information, products licenses, financial services and professional services.

It has been stated that the emergence of the electronic commerce has fueled dramatic developments for the digital
economy reflected in financial markets and trade flows, innovative models for business and new opportunities for consumers. The size of these developments is so big that electronic commerce has become a subject of economic, policy and social importance. However, the growth and expansion of electronic commerce are facing impediments of different kinds: financial, legal and in relation to market access. In the legal field electronic commerce is confronting lack of predictable legal environment due to legal uncertainty in relation to the formation of electronic contracts and their validity in the light of the formalities required by law or the parties to a contract in paper-based environment such as writing, originality and signature, in addition to issues relating to the authentication of electronic documents and their admissibility and evidential weight. Other forms of legal uncertainty are found in the area of the applicable law and enforcement, in addition to other related legal issues such as the protection of consumers, intellectual property and privacy. Moreover, there are fears from intensive government
intervention such as imposing extensive regulation on the Internet and electronic commerce, especially in fields such as taxes, customs duties, restriction on types of information to be transmitted, licensing requirements and the extent of responsibility of service providers.

Different approaches have been advanced for the regulation of electronic commerce including calls for an international uniform law via treaties, model laws, law merchant (lex mercatoria) and a hybrid form of regulation. To date there are many legislative attempts nationally and at the international level addressing issues pertaining to the regulation of electronic commerce. The aim of these legislative endeavors is to secure trustworthy digital transactions based on legal principles and technical capabilities so as to promote reliable digital authentication and limit the rights and obligations of the parties involved. Amongst these attempts are the works of the United Nations Commission on International Trade Law (UNCITRAL), including UNCITRAL Model Law on Electronic Commerce 1996 and UNCITRAL Model Law on

However, still there are many controversial areas. For example, as regards the formation of electronic contracts, issues concerning communication of offer, acceptance and related notices have not been settled yet. Rules determining the effective time of communication need be clearly articulated. Also, terms such as dispatch, delivery and receipt have to be clearly defined. Moreover, the controversy about contracting by means of programmed software (electronic agents), especially the allocation of responsibility of the related parties in case of alleged error or mistake resulting from a defect in the programmed software, should be
definitely specified. As concern formalities, the functional equivalent approach applied for lifting formality impediments is still debatable and needs much analysis. Likewise the issues relating to authentication of electronic documents and their admissibility and evidential value are far from being settled, especially in the light of lack of judicial precedents supporting any of the legislative endeavors made to this moment.

The growth and flourishing of electronic commerce need more collective efforts. These efforts should be of international nature so as to cope with the international dimensions of electronic commerce. These efforts should not be selective or targeting the interests of a particular group at the account of others. Moreover, for such efforts to succeed due regard is to be given to the social, cultural and political divergences. Scholars from all related specializations should participate in these efforts without ignoring the roles of policy-makers and the public opinion at large. Any hasty endeavors may result in negative consequences.
Besides its opportunities, the Internet has posed many challenges for the international community. Among these challenges are the further complexities it adds to the traditional rules of private international law. The Internet has ignored the presence of the geographical territories on which private international law has been premised.

Traditionally jurisdiction is defined by reference to geographical territories and although the traditional private international law rules witnessed along their evolution important transformations relating to the stringent physicality requirements embodied in the rules *lex locus contractus* and *lex locus delicti*, in favour of a more flexible system based on what is described as “interest analysis”, nevertheless; the essential requirement of some nexus between the concerned jurisdiction and the persons or transactions intended to be subject to it, has not been abandoned.

The difficulty facing the traditional conflict of laws in this respect is that the Internet has not only weakened the
significance of physical locations, but destroyed them all together in three senses: first, the Internet ignores the existence of physical borders to an extent that events happening on the Internet may be described as happening simultaneously in every place reached by the Internet. Secondly, there are many events and transactions that may be described as having no physical locality in particular but taking place only on the network, which by its very nature is not a “localizable phenomenon”. For example, Usenet discussion groups, which consist of continuing changing collection of messages that are routed from one network to another across the global net, with no centralized location at all, may be considered as occurring everywhere, nowhere in particular. Thirdly, locations on the Internet can be conceived of only in a virtual sense by reference to the addresses of machines between which information and messages are routed. These addresses are independent of the physical locations in which those machines are located, i.e., it is impossible
to designate the physical location of users or resources merely by reference to the Internet’s addresses. This geographic indeterminacy is simply part of the network normal operation, without recourse to technological devices such cryptography or anonymous re-mailers.

Moreover, users of the Internet may not always be aware of the physical jurisdictions they visited while navigating the World Wide Web through hyperlinks. So, owing to the differences in the substantive laws of different countries, those users may be oblivious to the fact that they may violate laws of different jurisdictions while navigating the Internet.

However, even if the above difficulties have been surmounted, the application of the traditional private international law rules to the Internet transactions and infringement of rights via the Internet is controversial, especially with regard to transactions or infringements that take place completely online. For example, where there is no clause for choice of forum or the applicable
law in case of transactions completely performed online, the place of performance is controversial. Likewise, in case of online infringement of rights such as downloading of an allegedly infringing copy of a copyrighted work from a foreign web site, a question arises as to where the alleged tort took place. Is it in the place where the user’s computer is located or in the place where the server hosting the downloaded material is situated? Similar difficult questions arise in case of infringement of other intellectual property rights. Even where there is a contractual choice of forum and applicable law, the application of the traditional mandatory rules relating to consumer protection to the Internet transactions has raised much controversy. Similar difficulties are found in relation to performance of transactions and enforcement of obligations, especially for small sized transactions.

To date, no consensus has been reached as to the proper way for dealing with the legal issues posed by the Internet. The draft Hague Convention on Jurisdiction
1999 has not reached consensus on its rules, particularly in relation to electronic commerce and infringement of intellectual property rights. The difficulty in this respect emanates from the fact that the traditional private international law based its rules, in absence of agreement, on physical points of attachment. The absence of these physical points of attachment in an Internet environment has resulted in confusion as regards the designation of the place of contracting or the place of performance, for example. Therefore, in order to solve this problem the parties must always include in their contract as much details as possible with regard to jurisdiction and the applicable law. In the absence of such agreement, whether in relation to contractual disputes or infringement of rights, there should be clear rules determining the competent court and the applicable law by designating a specific place instead of referring to such place by reference to other connecting factors, such as the place of
performance or the place of contracting, which are
difficult to be determined in case of online dealings. Also
there must be specific and clear rules as regards
consumers’ contracts and privacy issues. As concerns
enforcement of rights the traditional rules must be
adapted to accommodate the emergent challenges. The
technical devices of enforcement should be regulated by
law so as to provide effective enforcement within the
limits of the law. The alternative dispute resolution
mechanisms, including online settlement of dispute and
direct enforcement should be recognized and regulated by
law so as to reach their potential.

In addition to the conflict of laws complications, the Internet and
electronic commerce have posed many challenges as well as
opportunities for IPRs, particularly copyright. It is believed that the
global information infrastructure (GII), with its digital distribution
systems and multimedia works, has blurred the distinctions between
the rights of authors, producers and performers and thus undermined
the basis for the separation of copyright and neighboring rights. This
transformation is problematic for the traditional copyright system,
which is built on different level of protection for the different categories of copyright and neighboring rights works. It has raised a lot of queries such as: how can the scope and limitations of exploitation rights be determined for works disseminated over digital networks? How do the various acts of network communication, including digitization, transmission, uploading, downloading, browsing, and viewing fit into the current copyright system? Is there any imminent need for redefinition or clarification of exploitation rights? What is the scope of the copyright exemptions on digital networks? In addition to issues relating to the administration and enforcement of the protected rights.

Controversial issues need to be settled, for example, whether the temporary copies made on computers and other devices when accessing works online constitute reproduction of those works and whether this is permissible or not? Whether making a work available online for individuals to access at times and places chosen by them constitutes an act of communication to the public? Are the traditional exceptions and limitations suitable for being applied literary on digital environment? What is the effect of giving rights’ holders complete control over their works online through technical measures supported by legal provisions for the prevention of the circumvention of those technical measures, for instance, on the traditional copyright
exceptions and limitations such as duration, fair use and first sale doctrine? How can infringements be detected and prevented in order to safeguard effective protection for copyright and related rights materials? Who in the chain of dissemination of infringing material can be held responsible for infringement and what is the competent court and which law is applicable?

The careful dealing with the phenomenon of the Internet is a precondition for getting its benefits and avoiding its adverse impacts. Things need to be put into consideration when dealing with such phenomenon include: first, the Internet is an international medium that disregards altogether the traditional geographical borders. Second, it offers unprecedented opportunities of copying and distribution of copyright and related rights works all over the world at higher quality and speed. Third, this medium can be exploited by pirates to deprive rights’ holders of their economic as well as moral rights. Fourth, the right holders themselves may use technical as well as legal measures to deprive the ordinary end-users from their legal rights under copyright law, a matter that will disrupt the balance on which copyright and related rights are premised. In order to strike the copyright balance, careful analysis of the problems and the proposed solutions must be done at the international level. This requires that, on the one
hand, the scope of the rights of copyright owners must be specifically determined.

Moreover, the ways of enforcing these rights must be clearly stated. This necessitates first, solving issues relating to the responsibility of the Internet Service Providers for the infringement of copyright and related rights occurring on their websites. Second, agreeing on private international law aspects of copyright and related rights and the geographical locations of infringement occurring on digital networks. Third, specifying the extent of the legal protection to be afforded to the technical measures used by copyright and related rights holders for the protection of their rights on the digital networks. On the other hand, the scope of copyright exceptions and limitation on digital networks must be determined at an international level, putting into consideration the rights of developing countries in the dissemination of knowledge and transfer of technology. Specifically, exceptions and limitations that are based on public interest considerations must be preserved on digital networks. Also, the ways of enforcement of these exceptions and limitations online must be clearly stated. This requires that: first, right holders must be forced to allow the exercise of copyright exemptions online. Second, technical measures blocking the exercise of these exceptions and limitation should not be afforded
legal protection. Third, contracts depriving end-users of their rights in copyright exemptions should be denied validity.

Likewise, the Internet and electronic commerce have brought challenges to the traditional trademarks law. The role of trademarks in cyberspace is not less than their role in real space, if not more. To play this role effectively, trademarks law needs to address these challenges properly. The challenges facing trademarks range from the difficulty of tailoring the conventional trademarks law to fit the traditional forms of infringements that have been extended to cyberspace, to the difficulty of dealing with new practices harmful to trademark rights and at the same time may not be easily conceptualized within the traditional forms of infringements. First of all, although there is a general international consensus that trademarks concepts such as the requirement of use, the likelihood of confusion and the definition of infringement should be extended to the Internet practices, determining what constitutes use, confusion and similarity on digital networks has been found to be problematic.

Moreover, Internet users have developed new forms of practices that have proven to be detrimental to trademarks owners even though it may not be always easy to conceptualize the injury resulting from such practices under the rules of the traditional trademarks law. The peculiarities of the Internet have generated new visible and even invisible uses of trademarks. These peculiarities have rendered even invisible use of trademarks harmful and thus actionable. The role of trademarks is no longer confined to their traditional function as identifiers of enterprises’ goods and services from those of their competitors. Trademarks are currently used as domain names, meta tags, keywords etc. Of course, these uses are built on the original function of trademarks, i.e., they depend on the fame and goodwill of trademarks as identifiers of goods and services. Even some of these uses, such as the use of trademarks as domain names are continuing, in most aspects, to play the role of identification. The registration of trademarks as domain names is one of the earliest problems that have faced trademarks owners. When trademarks’ owners became aware of the importance of the use of trademarks as domain names, they found that cyber-pirates had already discovered this fact and registered most of the well-known and distinctive marks as domain names so as to re-sell them to their owners or competitors, benefiting from the policy of first come first served, which was adopted by domain names’ registrars. Likewise, trademarks are embedded in HTML codes as meta tags and keywords, and used in linking and framing, and in pop-up ads and mouse-trapping in order to mislead or divert customers looking for those trademarks.

There is almost general consensus that most of the above practices are unfair and harmful for trademarks’ owners. However, courts have found difficulty in classifying these practices under the traditional forms of trademarks infringement, because concepts such as the ‘confusing use of a trademark within the course of trade’ are not easily satisfied. Therefore, courts have resorted to giving expanded meanings to the traditional concepts or to refer to unfair competition law so as to prevent these mal practices. Moreover, within the national context, some countries have enacted laws dealing with these practices in order to help their courts to combat such acts, whereas within the international context, WIPO issued the WIPO Joint Recommendation Concerning the Protection of Marks, and Other Industrial Property Rights in Signs on the Internet (the ‘Joint Recommendation), which was adopted by the Assembly of the Paris Union for the Protection of Industrial Property and the General Assembly of WIPO in September 2001, in order to guide national legislature when enacting legislation treating these new practices.
Furthermore, other peculiarities of the Internet, such as its borderless nature and the fact that a domain name, for example, can only be registered in the name of one person at a time in a certain general Top Level Domain (gTLD) or a country code Top Level Domain (ccTLD), have inflicted a further blow on the traditional trademarks law, which has been based on territoriality and co-existence of identical or confusingly similar trademarks for different categories of goods or services even in the same country and, the co-existence of identical or confusingly similar marks for similar goods or services in different territories. The use of a trademark on the Internet is no longer confined to the territory in which it is registered or otherwise protected, as it can be seen worldwide in every place reached by the Internet. Under such circumstances a trademark owner may find himself involved in legal proceedings in jurisdictions where his trademark is not recognized or protected. As each trademark owner has acquired his rights in his trademark on legitimate basis, it would be unfair to prefer either right holder at the account of the other. Likewise, if left without solution, this problem would stifle the progress of electronic commerce, as each trademark owner would seek to block his competitors with the help of his national courts.

Therefore, creative methods should be sought so as to solve the problem of co-existence of trademarks on the Internet. In this respect the WIPO Joint Recommendation has provided for guidelines that can help national legal systems to reach fair results. There are different steps that should be followed to achieve these fair results. First, a trademark owner may use his trademark on the Internet in an ordinary way until he is notified of the existence of a conflicting right. When notified of a conflicting right, the trademark owner should take reasonable steps to avoid making any confusion or causing commercial effect in the territory in which the conflicting trademark is protected. Second, in order to be subject to litigation in a particular territory, a conflicting trademark must be found to have been used in that territory. Third, a trademark is deemed to have been used in a particular territory if it has commercial effect in that territory. Fourth, the remedies to be granted by the court assuming jurisdiction should be confined to an injunction preventing the use of the conflicting mark in the concerned territory and awarding of damages to the extent of the commercial effect which resulted from the use of that mark in the concerned territory. Fifth, Global injunction may be granted in exceptional cases where, for example, a user of a sign on the Internet has intentionally and in bad faith targeted a right holder in a particular territory. Sixth, in principle, only the court where the defendant is domiciled, resident or legally established is competent to grant global prohibition. Seventh, only where there is abusive behavior from the part of the defendant, a court where the plaintiff is domiciled or where the harmful act occurred may be competent to grant global injunction.

As in the cases of copyright and trademarks the Internet and electronic commerce have posed challenges on the patent system. The response of the patent system to electronic commerce-related inventions is still at its first stages. It ranges from complete denial of patentability of electronic commerce-related inventions, to almost full
recognition. Proportionately, patentability of software as such is less controversial than patentability of methods of doing business. At least in the United States of America, software patentability has found almost full official recognition represented in the decisions of US courts and the practice of USPTO. However, although patentability of business methods is strongly leading its way for full recognition in US, it is still debatable. Few other countries are recognizing the patentability of electronic commerce-related inventions. The extreme arguments against the patentability of software generally and methods of doing business in particular are premised on fear of preempting the whole algorithms on which these inventions are based.

It is believed that owing to the incremental nature of innovation in software, access to existing programs is essential for innovation and competition. Patenting computer programs may seriously restrict access to ideas and concepts underlying these programs. Moreover, patenting business methods may entail costly litigation
that may result in stifling trade and force local firms out of market.

Other commentators focus on the lack of novelty and inventive step in business methods inventions. It has been argued that most of business methods inventions are no more than the automation of business methods available in the real world. Different suggestions have been advanced for dealing with electronic commerce-related inventions. Even those who object to patenting of these inventions, acknowledge the need for some sort of protection for the efforts of innovators in this field. It is conceded that the easy and fast copying of these inventions, facilitated by digitization of data and computer networks, has serious threats on the ability of those innovators to benefit from the lead-time first to invent advantage. Therefore, some form of sui generis protection taking into account the needs of the society for free access to knowledge on one hand and the rights of
innovators in a fair form of protection, on the other, may provide a better alternative.

For those criticizing the permissive nature of examination relating to other requirements of patentability, the solution lies in the strict adherence to other patentability requirements, especially non-obviousness requirement. It is believed that examination of non-obviousness should be extended to cover not only electronic commerce prior art but also real world prior art, through broad application of the doctrine of analogous arts. Other approaches for limiting the scope of business methods patents is through narrow application of the doctrine of equivalents.

However, the application of the other requirements of patentability, such as novelty and inventive step, is made by reference to prior art. Thus determining the proper scope of prior art for electronic commerce-related inventions is a very important issue.

Moreover, the international dimensions of the Internet and electronic commerce have posed serious challenges
for the protection of intellectual property rights, which have been previously provided on territorial basis. The international divide as concerns the competent court in disputes relating to intellectual property generally and patents in particular is reflected in the ongoing discussion of draft Hague Convention, which has been continuing since 1992 and up to date. Even if jurisdictional issues were solved, the recognition and enforcement of the resulting judgments would face considerable difficulties owing to the differences in substantive national intellectual property laws. For instance, as few countries recognize the patentability of electronic commerce-related inventions, judgments relating to these patents may not be recognized in other countries on public policy considerations.

As far as developing and least developed countries are concerned, the ubiquitous capabilities of electronic commerce offer important opportunities for developing countries to improve their social and economic growth. However, there are many challenges facing developing countries in this respect impeding their access to the
Internet and electronic commerce. Besides infrastructure barriers, represented in the shortage in computers (hardware and software) and telecommunications, the legal and technical measures applied by the owners of content on-line to prevent unauthorized access, has added a further layer of complications for developing and least developed countries. The fact that the Internet and electronic commerce have rendered intellectual property rights vulnerable to worldwide infringement has prompted the calls for strengthening and internationalization of IPRs under the name of international harmonization.

Different forums are participating in the lawmaking process of international intellectual property law. Harmonization, which is often modeled on the intellectual property laws of developed countries, results in strengthening IPRs in developing countries. It has been argued that while the short-term costs of strong IPRs, in terms of high prices and stifling of competition and innovation are definite, the long-term benefits, such as transfer of technology and FDI, are uncertain. Developing and least developed countries are in need of intellectual property systems that respond positively to their developmental objectives. In particular, they need intellectual property systems that encourage competition and innovation. For developing and least developed countries to achieve their objective, they have to participate
effectively in the international intellectual property lawmaking process. Therefore, efforts of developing countries should not concentrate only on technical infrastructure, but also extend to the regulation of the legal environment. In this respect, the ongoing moves towards more harmonization of IPRs should be carefully studied and analyzed by the representatives of developing countries so as to acquire a comprehensive understanding of their various implications, including their impact on the access to content on the Internet, and the necessary safeguards for the protection of the interests of their countries.

However, developing and least developed countries would not be able to participate effectively in the international intellectual property lawmaking process and hence achieve their purposes unless they fill the technical and capacity gaps facing them in this respect. Particularly, there are four areas in which developing and least developed countries are facing technical and capacity gaps: understanding the concepts, issues, benefits and risks of intellectual property protection; implementing and complying with existing commitments; managing and influencing on-going negotiations on further commitments; and making and developing strategies and setting the agenda for the future. Developing and least developed countries need to identify their individual as well as collective
interests in the field of intellectual property and work to fill the mentioned gaps so as to tailor locally intellectual property systems that meet their developmental goals and unify their efforts internationally for the same purpose.

Finally, the Internet offers innumerable opportunities for the international community. One of the greatest economic opportunities facilitated by the Internet is electronic commerce. Electronic commerce offers many opportunities as well as challenges for intellectual property rights. The international protection of IPRs in the light of the expansion of electronic commerce has become a must. Principally, the clash between the Internet and the IPRs refers to the universality of the first and the territoriality of the latter. The ownership of IPRs is not even all over the world. While developed countries are classified as exporters of IPRs and other products of intellectual property content, developing countries generally and least developed countries in particular are classified as importers. The benefits of the exporters from a strong international protection of IPRs in terms of returns from the sale of products of intellectual property contents or royalties from licensing of IPRs, on one hand, are definite.

On the other hand, while the short-term costs for importers from a strong international protection of IPRs in terms of high prices and stifling of competition and innovation, in addition to the
administration and enforcement costs are undisputed, the theoretical long-term benefits, such as transfer of technology and FDI are uncertain. The conflict of interests between the different countries generally and the developed and developing countries in particular has resulted in differences in the substantive domestic intellectual property laws. Throughout the history of IPRs, no single country has tried to run the risk of the short-term costs of a strong intellectual property protection in hope of receiving the long-term benefits. On the opposite, all the developed countries of today applied intellectual property systems suitable to their developmental stages. Of course the circumstances of the past were not as those of today. Concepts such as ‘sovereignty’ are no longer bearing the meaning they borne in the nineteenth and twentieth centuries.

The current information and communication technologies have turned the world into a small village. Within the integrated world of today, it may no longer be permissible or acceptable for individual countries to determine their internal affairs that have international dimensions, such as the intellectual property rights in isolation of the other members of the international community. At the same time a compulsory international system of intellectual property rights that works against the interests of some of the members of the international community will not find its way for enforcement. Thus, while it is
unfair to leave IPRs vulnerable to different forms of infringements worldwide, it is unfair to the same extent to impose on developing countries intellectual property systems incommensurate with their developmental goals. A successful international intellectual property system is that one, which takes into consideration the developmental concerns of developing and least developed countries as well.

Therefore, it is recommended that the international community should take into account the following proposals so as to reform the international intellectual property system in a way that serves the interests of all stakeholders:

1- In order to solve the procedural problems posed by the emergence of the Internet and electronic commerce, which are threatening the effective international protection of the IPRs, the international community is in need of an international agreement regulating all the private international law issues relating to the Internet and electronic commerce generally and IPRs in particular.

2- As far as intellectual property is concerned, a successful private international law agreement requires an agreement on the international regulation of the Internet and on a
balanced comprehensive substantive international IPRs treaty.

3- The international regulation of the Internet needs collective governance of the Internet under the auspices of the United Nations.

4- A prerequisite for a successful comprehensive substantive international IPRs treaty is the removal or at least mitigation of the territorial conflict of interests between the exporters and importers of IPRs. This requires the increase of the rate of development of the developing and least developed countries through different means including direct financial assistance, transfer of technology, encouragement of FDI and adoption of intellectual property systems promoting innovation and competition.

5- Developed countries should put into consideration that a compulsory international regime of IPRs will not succeed even if it is included in international treaties signed by developing countries and incorporated in their domestic laws, because no political system in the developing countries will be willing to run the risk of enforcing an intellectual property regime that would add a further economic difficulty to the country and may result in
political instability. Therefore, developed countries should work together with developing countries for a voluntary international IPRs system based on conviction of its benefits for all the concerned parties.

6- The current on-going race-to-the-top move towards internationally harmonized international IPRs should stop immediately and be replaced by an open international discussion, under the auspices of WIPO, for the formulation of this comprehensive and balanced substantive international IPRs regime.

7- All the concerned stakeholders, including developing and least developed countries should participate effectively in this open discussion.

8- To participate effectively, developing and least developed countries are in need of immediate technical and financial assistance so as to fill the technical and capacity gaps in this respect.

9- The technical and financial assistance should be regulated in a transparent way under the auspices of one of the specialized UN organizations such as UNCTAD, so as to be allocated efficiently.
10- The proposed substantive international IPRs regime should provide an acceptable form of protection for the international IPRs without prejudicing developing and least developed countries in relation to their essential needs for food, medicine, access to knowledge and other developmental goals. This may be achieved by providing for fair exceptions and limitations.

11- Developing and least developed countries should be assisted and encouraged to benefit from the Internet and electronic commerce. This can be achieved by providing them with the necessary infrastructure and adopting the proposed international intellectual property system in order to facilitate access to content online.

12- Meanwhile, developing and least developed countries should be allowed to benefit from the flexibility of TRIPS to forge intellectual property laws that respond positively to their essential needs as well as their developmental goals.
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