

Cambridge University Press

978-0-521-87780-0 - Driving Innovation: Intellectual Property Strategies for a Dynamic World

Michael A. Gollin

Frontmatter

[More information](#)

## DRIVING INNOVATION

*Driving Innovation* reveals the dynamics of intellectual property (IP) as it drives the innovation cycle and shapes global society. The book presents fundamental IP concepts and practical legal and business strategies that apply to all innovation communities, including industry, nonprofit institutions, and developing countries. How does IP balance the exclusive rights of innovators with public demand for access to their innovations? How can organizations manage IP strategically to meet their goals? How do IP strategies play out on the global stage? The answers draw on the author's broad experience, news headlines, and precedent-setting lawsuits relating to patents, trademarks, copyright, and trade secrets – from biotechnology to the open source movement. General readers and students will welcome the lively overview of this complex topic, while executives and practitioners can gain new insights and valuable approaches for putting ideas to work, navigating within or changing the global IP system to expand innovation.

Michael A. Gollin is a law partner at Venable LLP and a faculty member at the Georgetown University McDonough School of Business. He obtained his bachelor's degree in biochemical sciences from Princeton University and a master's degree (*Diplom*) in zoology and molecular biology from the University of Zurich, where he was a Swiss National Foundation Fellow. He received his law degree from Boston University School of Law in 1984, where he was a Tauro Scholar and Liacos Scholar and received the Faculty Award. He became a patent attorney and has worked in law firms in Boston, New York, and (since 1990) in Washington, DC, where he represents corporations and nonprofits.

Mr. Gollin teaches strategic management of intellectual property at Georgetown University. He has held many appointed and elected positions, and in 2002 he launched Public Interest Intellectual Property Advisors (PIIPA), a pro bono service for developing country clients. He has coauthored two books: *Biodiversity Prospecting* and *Innovations in Ground Water and Soil Cleanup: From Concept to Commercialization* and has published and presented about 100 law review articles, papers, and speeches. He has been interviewed by National Public Radio, Fox News Channel, *Time* magazine, and Bloomberg News on intellectual property issues.

Cambridge University Press

978-0-521-87780-0 - Driving Innovation: Intellectual Property Strategies for a Dynamic World

Michael A. Gollin

Frontmatter

[More information](#)

---

*To my family*

Cambridge University Press

978-0-521-87780-0 - Driving Innovation: Intellectual Property Strategies for a Dynamic World

Michael A. Gollin

Frontmatter

[More information](#)

---

# DRIVING INNOVATION

## INTELLECTUAL PROPERTY STRATEGIES FOR A DYNAMIC WORLD

**Michael A. Gollin**

Partner, Venable LLP

Adjunct Professor, Georgetown University

McDonough School of Business



**CAMBRIDGE**  
UNIVERSITY PRESS

Cambridge University Press

978-0-521-87780-0 - Driving Innovation: Intellectual Property Strategies for a Dynamic World

Michael A. Gollin

Frontmatter

[More information](#)

CAMBRIDGE UNIVERSITY PRESS

Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore, São Paulo, Delhi

Cambridge University Press

32 Avenue of the Americas, New York, NY 10013-2473, USA

[www.cambridge.org](http://www.cambridge.org)

Information on this title: [www.cambridge.org/9780521877800](http://www.cambridge.org/9780521877800)

© Michael A. Gollin 2008

This publication is in copyright. All rights reserved. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2008

Printed in the United States of America

*A catalog record for this publication is available from the British Library.*

*Library of Congress Cataloging in Publication Data*

Gollin, Michael A.

Driving innovation: intellectual property strategies for a dynamic world / Michael A. Gollin.

p. cm.

Includes bibliographical references and index.

ISBN-978-0-521-87780-0 (hardback)

ISBN-978-0-521-70169-3 (pbk.)

1. Intellectual property. I. Title

K1401.G65 2008

346.04'8-dc22 2007025090

ISBN 978-0-521-87780-0 hardback

ISBN 978-0-521-70169-3 paperback

*The information in this book does not constitute legal advice or opinion on the law in any particular jurisdiction as it may apply to specific situations.*

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-party Internet Web sites referred to in this publication and does not guarantee that any content on such Web sites is, or will remain, accurate or appropriate.

Cambridge University Press

978-0-521-87780-0 - Driving Innovation: Intellectual Property Strategies for a Dynamic World

Michael A. Gollin

Frontmatter

[More information](#)

## Contents

<i>Foreword</i>	<i>page</i> ix
<i>Preface</i>	xi
<i>Acknowledgments</i>	xiii
<i>Abbreviations</i>	xv
Introduction: The Invisible Infrastructure of Innovation	1
<b>PART I. INTELLECTUAL PROPERTY DYNAMICS IN SOCIETY</b>	
1 Intellectual Property and the Innovation Cycle	11
<i>Innovation and creative destruction</i>	11
<i>A brief history of innovation</i>	12
<i>The reasons for innovation</i>	13
<i>The innovation cycle</i>	15
<i>The three stages of the innovation cycle</i>	17
<i>The dark side of innovation</i>	20
2 The Rise of the Intellectual Property System	22
<i>Defining intellectual property</i>	22
<i>The rise of intellectual property</i>	24
<i>The origins of intellectual property</i>	26
<i>The Venetian innovation</i>	29
<i>Evolution of the modern intellectual property system</i>	31
3 Keeping the System in Balance: Exclusion and Access	36
<i>Intellectual property pro and con</i>	36
<i>Rationale for intellectual property</i>	37
<i>Criticism of intellectual property</i>	40
<i>The limits of the public domain</i>	45
<i>Mapping the accessible domain</i>	48
<i>Achieving balance</i>	51
<i>Tensions in the global IP system</i>	53
<i>From the past to the future</i>	56
<b>PART II. BASICS OF MANAGING INTELLECTUAL PROPERTY IN ORGANIZATIONS</b>	
4 The Innovation Tree: Intellectual Property Rights and How They Grow	63

	<i>The forest for the trees</i>	63
	<i>The innovation tree as metaphor for intellectual property</i>	64
	<i>The old and the new</i>	64
	<i>Differences from country to country</i>	65
	<i>A guide to types of intellectual property rights</i>	66
	<i>Interactions between different types of intellectual property</i>	78
	<i>An innovation forest</i>	81
5	The ABCDs of Intellectual Property: Flow and Infringement of Rights	84
	<i>What can flow?</i>	85
	<i>Infringement – the master model</i>	92
	<i>IP as a motor for the innovation cycle</i>	94
6	The Role of Communities in Innovation	97
	<i>Innovation made in communities</i>	97
	<i>Private communities</i>	98
	<i>Mixed communities</i>	106
	<i>Multinational research consortia</i>	109
	<i>Global initiatives</i>	111
	<i>Open innovation communities</i>	112
7	The Innovation Chief	115
	<i>Types of innovation chiefs</i>	115
	<i>The importance of leadership</i>	116
	<i>The innovation team</i>	119
	<i>Drucker's views on managing innovation</i>	122
	<i>Other views on corporate innovation management</i>	124
	<i>Intellectual asset management in corporations</i>	126
	<i>Managing innovation outside of businesses</i>	127
<b>PART III. STEPS TO STRATEGIC MANAGEMENT OF INTELLECTUAL PROPERTY</b>		
<b>A: Planning</b>		
8	Becoming Strategic	131
	<i>Levels of IP management</i>	131
	<i>What is strategic management of intellectual property?</i>	136
	<i>Form a strategy</i>	139
	<i>Implement the plan</i>	145
9	Strategy Tools: Policies and Practices for Managing Intellectual Property	147
	<i>The six Ps: policies and practices</i>	147
	<i>Cost management issues</i>	159
	<i>Strategic reassessment</i>	161
10	A Menu of Strategy Options	163
	<i>General goals for IP management</i>	163

Cambridge University Press

978-0-521-87780-0 - Driving Innovation: Intellectual Property Strategies for a Dynamic World

Michael A. Gollin

Frontmatter

[More information](#)

Contents	vii
<i>Generalized IP strategies</i>	164
<i>Patent strategies</i>	172
<i>Trade secret strategies</i>	178
<i>Trademark strategies</i>	179
<i>Copyright strategies</i>	181
<b>B: Assessment</b>	
11 Evaluating Internal Resources and the External Environment	184
<i>Internal evaluation</i>	185
<i>External evaluation: assessing the environment</i>	198
12 Placing a Financial Value on Intellectual Property Assets	207
<i>The importance of IP valuation</i>	207
<i>Threshold questions</i>	210
<i>Cost (sunk or replacement)</i>	211
<i>Income (net present value or discount cash value)</i>	214
<i>Market value (comparables)</i>	217
<i>Hybrid methods</i>	218
<b>C: Implementation</b>	
13 Accessing Innovations of Others	226
<i>Implementation as part of planning</i>	226
<i>Simplify, simplify</i>	227
<i>When access is readily available</i>	229
<i>When access is not readily available</i>	231
14 Acquiring and Policing Intellectual Property Rights	239
<i>Protecting innovations from inside the organization</i>	239
<i>Innovation triage</i>	240
<i>Enforcement</i>	253
15 Doing Innovation Deals	263
<i>Basic principles of IP transactions</i>	264
<i>Acquiring IP ownership</i>	265
<i>Owning intellectual property rights</i>	266
<i>Types of transfer</i>	268
<i>Pivotal terms for IP transactions</i>	278
<i>Doing deals</i>	284
<b>PART IV. STRATEGIES ON A GLOBAL STAGE</b>	
16 Organization-Specific Strategies	289
<i>Different growth stages</i>	289
<i>Different industries and sectors</i>	291
<i>Different technologies</i>	301
17 A Comparison of National Intellectual Property Systems	308
<i>Similarities and differences among nations</i>	308
<i>A brief tour of IP systems around the world</i>	315

Cambridge University Press

978-0-521-87780-0 - Driving Innovation: Intellectual Property Strategies for a Dynamic World

Michael A. Gollin

Frontmatter

[More information](#)

viii

Contents

18	Global Challenges for Managing Intellectual Property	322
	<i>Securitization of IP rights</i>	322
	<i>Branded and generic drug companies: competing at boundaries of time and geography</i>	325
	<i>Homeland security technology</i>	331
	<i>Cultivating our garden: promoting environmental technology with intellectual property</i>	333
	<i>Regulating biotechnology with intellectual property law</i>	336
	<i>Future IP scenarios</i>	338
19	Intellectual Property, Innovation, and Freedom	342
	APPENDIX A. Excerpts from TRIPS Agreement	346
	APPENDIX B. Intellectual Property Non-Policy	361
	APPENDIX C. Intellectual Property Assessment Questionnaire	365
	APPENDIX D. Research Tools for Obtaining Intellectual Property Information	376
	<i>Bibliography</i>	379
	<i>Index</i>	390



Cambridge University Press

978-0-521-87780-0 - Driving Innovation: Intellectual Property Strategies for a Dynamic World

Michael A. Gollin

Frontmatter

[More information](#)

## Foreword

Innovation is the creative lifeblood of every country. One of my proudest accomplishments as a United States Senator was to help promote innovation in my country by bringing about the passage of the Bayh-Dole Act of 1980. The Bayh-Dole Act gave universities ownership and control of government-funded inventions that are balanced by restrictions to ensure that the public would benefit from the research. The resulting system has borne fruit beyond my dreams over the past 25 years. The law tapped into a basic truth – that society can benefit from creativity only if a properly balanced legal and institutional framework is in place to drive innovation forward. In particular, a special framework is required to bring publicly funded innovations out into the commercial marketplace so they are broadly accessible. Without such a framework, government-owned inventions gathered dust. With the right system, the benefits of academic creativity have washed across the globe in the form of new medicines, foods, materials, and information technology.

In this book, Michael Gollin explores the same fundamental concept – the process by which individual creativity leads to social progress is one that requires careful balancing of private control with public access, within an elaborate infrastructure of intellectual property. The intellectual property system has grown and changed over the centuries through legal reforms as well as business and technical innovation. Moreover, globalization has brought us to a time when creativity and innovation have an impact on everyone, rich and poor, in every nation. Intellectual property affects that process in important and complex ways, and we need a guide to help us understand it. This book fills that need. This book outlines the rise of intellectual property into a system that drives innovation in corporations and universities, in artists' studios and farmers' fields, around the world. It also offers practical strategies for working within the system to foster innovation, and some guidance on standards for reforming the system to maintain the balance so crucial to society, the balance between private control and public access.

This book can help us follow such strategies to keep the engine of innovation going and the orchard growing, so individuals can work together in creative communities to find new ideas, develop them into products, and bring them out into the marketplace, until they are broadly available.

Cambridge University Press

978-0-521-87780-0 - Driving Innovation: Intellectual Property Strategies for a Dynamic World

Michael A. Gollin

Frontmatter

[More information](#)

---

x

**Foreword**

Without the necessary knowledge and skills, we fail, the brakes go on, and the trees come down.

Those of us who care about innovation know that we need to keep an eye on the big picture – including international and national intellectual property laws and public funding – while also working to support the individual creative and entrepreneurial acts that, together, lead to the benefits of innovation. I am pleased to introduce you to this book because it will help you do both. It is also a good read, with many stories that simplify the complex topic with clear examples and illustrations based on the author's extensive practical experience. Enjoy it.

**The Honorable Birch Bayh**  
**United States Senator 1963–1981**

Cambridge University Press

978-0-521-87780-0 - Driving Innovation: Intellectual Property Strategies for a Dynamic World

Michael A. Gollin

Frontmatter

[More information](#)

## Preface

I wrote this book with the goal of helping people understand our intellectual property system as a human endeavor, a social and economic force that drives innovation, a manifestation of creativity and trade, a sometimes crude balance between exclusivity and access, and a topic worthy of study, teaching, learning, and practice. My hope is that such understanding can lead people from crude generalities about what's good or bad about the system, toward more productive pursuits like how to make it work better.

Writing the book has also helped me understand the larger significance of my work as a patent attorney, in a global context, along the arc of history. Since finishing law school in 1984, my career has involved helping clients put their ideas to work, mainly pharmaceutical, biotechnological, and other industrial companies and universities from the U.S., Europe, and Japan, by obtaining patents, registering trademarks, licensing rights, and arguing about them in court. I learned to see intellectual property law as the invisible infrastructure of innovation, underlying most of modern society. I also spent a few years practicing environmental law and saw firsthand how the promise at the leading edge of innovation can lead to problems at the trailing edge, and I have long been disturbed by that contradiction.

Since about 1990, I have had the opportunity to see how intellectual property affects widely different communities around the world – participating in negotiations about biodiversity between Fijian villagers and a pharmaceutical company, cross-legged on straw mats drinking kava kava with tribal officials; waiting for the generator to kick on each time there was a power outage during a presentation to plant breeders and other agricultural researchers in Nigeria; working with researchers in developing countries suffering from malaria and subject to military unrest, authoritarian oversight, and lack of funds; witnessing the contrast between technology haves and have-nots, side by side in India; marveling at how the most modern genomic sequencing technology can help traditional herds-men in Kenya cure their livestock.

My broad interest in the impacts of innovation on our global community led me into writing, teaching, and public service. These activities have allowed me to go beyond the practice of law (with its fierce duty to individual clients and attention to minute detail), so that I could look for larger

Cambridge University Press

978-0-521-87780-0 - Driving Innovation: Intellectual Property Strategies for a Dynamic World

Michael A. Gollin

Frontmatter

[More information](#)

truths. I developed an intellectual property curriculum for professionals in developing countries and used it in India, Kenya, Tanzania, Cote d'Ivoire, Nigeria, Syria, and elsewhere. Since 2000, I have taught IP management to MBA students at Georgetown University with co-professor Leo Jennings, and I am no longer surprised at how quickly they go from not knowing a trademark from a copyright to producing a comprehensive report on the intellectual property of a selected major corporation, giving sound management advice that may not even have occurred to executives within the company. I continue to learn concepts and strategies from established masters, clients, colleagues, and students around the world.

The global need for practical assistance with intellectual property matters has led me to take on pro bono projects. In 2002, to fill that need, I founded a nonprofit organization that helps developing country organizations find IP professionals who can represent them on a volunteer basis. That organization, Public Interest Intellectual Property Advisors (PIIPA, [www.piipa.org](http://www.piipa.org)), is based on the conviction that all people, regardless of their sophistication and financial means, should have the benefit of good counsel on how IP issues affect them, and how they can use IP principles to help them meet their own goals.

Writing this book, then, was a logical extension of such activities, a way to extract fundamental concepts and dynamics of intellectual property, to outline practical strategies that organizations can use in managing it, and to convey the stakes involved in the ongoing policy debates about reforming the IP system around the world.

Cambridge University Press

978-0-521-87780-0 - Driving Innovation: Intellectual Property Strategies for a Dynamic World

Michael A. Gollin

Frontmatter

[More information](#)

## Acknowledgments

John Berger saw the book concealed in my original proposal and patiently encouraged me to complete it. My law school professor Michael Baram introduced me to John, and for 25 years has mentored me in the law and beyond. My father, Prof. Richard Gollin, diligently edited the manuscript, expecting nothing but clear ideas and precise language. Others helped edit, including my wife, Jill Dickey, and my mother, Prof. Rita Gollin.

I am particularly grateful to my co-professor Leo Jennings, whose fresh approach to IP management and legal issues always keeps me on my toes. Leo's ideas are most apparent in Part Three, which roughly tracks the course that we first taught in 2000. Our Georgetown MBA students contributed ideas, too.

For crucial guidance at the formative proposal stage, I thank my brother-in-law Stephen Marshak, Adam Bellow, Richard Razgaitis, the originator of patent strategies Stephen Glazier, Scott Turow, Richard Zacks, Madison Bell, John Barton, and Michael Lyon, who also helped edit. Mark Lerman and Dan Armstrong provided valuable insights about innovation in drama and classical music. Graham Dutfield, Simon Best, Scott Miller, Mike Polacek, Anil Gupta, Geoff Tansey, and brother Jim Gollin all shared their perspectives. Other ideas were inspired by clients, including the University of California, the J. Craig Venter Institute, and the Bill & Melinda Gates Foundation.

Historical materials regarding Venice were helpfully provided by Cesare Bosman and colleagues at the patent firm of Studio Torta, and by the Archives of the City of Venice, and hieroglyphic help came from Serge Rosmerduc of the Université Paris 8. Katherine Boyle enthusiastically helped with more modern references.

Thanks to my partners at Venable for encouraging and supporting my efforts to finish this book, in particular Birch Bayh (the indefatigable advocate for public-private partnerships for innovation), Bill Coston, Marina Schneller, Clif McCann, Josh Kaufman, and Zayd Alathari (who created early versions of some of the figures); to librarian Nassim Mohammed; and to my assistant Shana Stiles for endless efforts to keep everything running.

My experience with Public Interest Intellectual Property Advisors has proved the importance of making innovation work for everybody. A portion of proceeds from this book will go to PIIPA. I thank my fellow board

Cambridge University Press

978-0-521-87780-0 - Driving Innovation: Intellectual Property Strategies for a Dynamic World

Michael A. Gollin

Frontmatter

[More information](#)

members, the international advisory committee, volunteers, and donors for supporting that mission (including the Fogarty Center of the U.S. NIH, the Smithsonian Institution, Rockefeller Foundation, UK Department for International Development, the Ford Foundation, and WIPO). Special thanks to PIIPA colleagues Dick Wilder, Chuck McManis, Josh Sarnoff, Roy Widdus, Rota Khanna, Tzen Wong, Ben Prickril, and Michael Davitz for their frank and helpful input.

My dear wife, Jill, has given unwavering love and support from the beginning and accepted my countless absences from family activities, as have my children, Natasha (who helped design the cover), Max (who helped with the bibliography), and Julia. For putting us up and putting up with us at the Old House, UK, where much of this was written, thanks to Rachel and Adrian Besancon and Ben and Claire.

There are countless others who contributed to the ideas and words included here, including many unnamed clients and friends. And acknowledgments in advance to those who send comments to be taken up in the second edition. Thanks to all!

## Abbreviations

<b>AIDS</b>	Acquired immunodeficiency syndrome
<b>ARIPO</b>	African Regional Intellectual Property Organization
<b>ATCC</b>	American Type Culture Collection
<b>AUTM</b>	Association of University Technology Managers
<b>CBD</b>	Convention on Biological Diversity
<b>CDA</b>	Confidential disclosure agreement
<b>CGIAR</b>	Consultative Group on International Agricultural Research
<b>CIPIH</b>	Commission on Intellectual Property Rights, Innovation, and Public Health
<b>CIPR</b>	Commission on Intellectual Property Rights
<b>CTM</b>	Community Trade Mark (Europe)
<b>DMCA</b>	Digital Millennium Copyright Act
<b>EPO</b>	European Patent Office
<b>FAO</b>	Food and Agriculture Organization (UN)
<b>FDA</b>	US Food and Drug Agency
<b>FED. CIR.</b>	U.S. Court of Appeals for the Federal Circuit
<b>FTC</b>	US Federal Trade Commission
<b>FTO</b>	Freedom to operate
<b>HIV</b>	Human immunodeficiency virus
<b>IARC</b>	International Agriculture Research Centre
<b>ICANN</b>	Internet Corporation for Assigned Names and Numbers
<b>ICARDA</b>	International Centre for Agricultural Research in the Dry Areas
<b>ICC</b>	International Chamber of Commerce
<b>ICRISAT</b>	International Crop Research Institute for the Semi-Arid Tropics
<b>ILRI</b>	International Livestock Research Institute
<b>IP</b>	Intellectual property
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IPGRI</b>	International Plant Genetic Resources Institute (Bioversity)
<b>IPO</b>	Intellectual Property Owners Organization
<b>ITPGR</b>	International Treaty on Plant Genetic Resources for Food and Agriculture
<b>MTA</b>	Material transfer agreement
<b>NCI</b>	U.S. National Cancer Institute
<b>NDA</b>	Nondisclosure agreement
<b>NIH</b>	U.S. National Institutes of Health
<b>NPV</b>	net present value

Cambridge University Press

978-0-521-87780-0 - Driving Innovation: Intellectual Property Strategies for a Dynamic World

Michael A. Gollin

Frontmatter

[More information](#)

xvi

## Abbreviations

<b>OAPI</b>	African Intellectual Property Organization
<b>PCT</b>	Patent Cooperation Treaty
<b>PD</b>	Public domain
<b>PIIPA</b>	Public Interest Intellectual Property Advisors
<b>PIPRA</b>	Public Sector Intellectual Property Resource for Agriculture
<b>PVPA</b>	Plant Variety Protection Act
<b>RIM</b>	Research in Motion
<b>TIGR</b>	The Institute for Genomic Research (J. Craig Venter Institute)
<b>TK</b>	Traditional knowledge
<b>TRIPS</b>	Agreement on Trade-Related Aspects of Intellectual Property Rights
<b>UN</b>	United Nations
<b>UPOV</b>	International Union for the Protection of New Varieties of Plants
<b>U.S.</b>	United States
<b>U.S.C.</b>	United States Code
<b>USPTO</b>	United States Patent and Trademark Office
<b>WARDA</b>	West Africa Rice Development Association (African Rice Center)
<b>WHO</b>	World Health Organisation
<b>WIPO</b>	World Intellectual Property Organization
<b>WTO</b>	World Trade Organization