List of Contributors

Technology Evolution and the Internet: Introduction

Introduction

Evolution of Major Alternatives to Traditional Telephone Networks

Emerging Network Technologies

Bandwagon Effects

Platform Competition in Telecommunications

Broadband

Cable Television

Wireless Communications

The Internet

The Economic Geography of the Internet Infrastructure

Economics of the Internet Backbone

Pricing Traffic on Interconnected Networks: Issues, Approaches, and Solutions

Toward an Economics of the Domain Name System

Institutional Considerations

Bottlenecks and Bandwagons: Access Policy in the New Telecommunications

Antitrust Remedies and the Institutional Design of Regulation

Telecommunications and Economic Development

Institutional Changes in Emerging Markets: Implications for the Telecommunications Sector

Conclusions

References

Emerging Network Technologies

Introduction

Voice, Data, and Entertainment Video Signals

Signal Characteristics

Network Architectures

Traditional Circuit-switched Wireline Architecture: Limitations in the Face of New Demands

Evolution of the Traditional Wireline Architecture

Interoffice Transport Facilities

Interoffice Signaling and the Intelligent Network

The Access Network

Architecture of the Internet

The Network of the Future

Evolution of Cable, Wireless, and Satellite Networks

Cable Television

Wireless

Satellite

Economic Issues in the Telecommunications Sector Raised by Converging Technologies
Virtual (Indirect) Networks  p. 121
Network Effects  p. 121
From Network Effects to Network Externalities  p. 122
Implications for Consumer Demand  p. 123
Expectations and Competition between Networks  p. 124
Battles for Standards, Compatibility and Adoption  p. 127
Standards Wars  p. 128
Strategies in Standards Wars  p. 128
Standard Wars and Efficiency  p. 131
Battles for Compatibility  p. 134
Denying Compatibility  p. 135
Restricting Compatibility of Complementary Products  p. 135
Cooperative Standard Setting  p. 137
Mandated Standards  p. 139
Advantages of Mandated Standards  p. 140
Advantages of Market Standards  p. 141
Mandated Standards in Telecommunications Networks  p. 142
Case Studies  p. 143
Competition in the Mobile Cellular Industry  p. 143
Instant Messaging  p. 145
The 56K Modem Standards War  p. 146
Satellite Vs. Cable Television (CATV)  p. 147
DVD Vs. DIVX Standards War  p. 148
Modeling Issues  p. 149
References  p. 150
Broadband Communications  
The Technology  p. 156
Digital Subscriber Line  p. 156
Cable Modems  p. 159
Fiber to the Home  p. 161
Wireless Access  p. 161
Broadband Diffusion  p. 163
Cross Country Comparisons  p. 163
Comparing Broadband Diffusion with Other ‘Breakthrough’ Technologies  p. 165
The Economics of Broadband Supply  p. 166
Cable Modems, DSL, and Fixed Wireless  p. 166
Fiber to the Home  p. 167
The Weak Dominance of Cable  p. 169
The Demand for Broadband  p. 169
Network and Bandwagon Effects  p. 171
Internalizing Network Externalities  p. 171
Summary p. 345
The Location of Business Internet Infrastructure Services p. 345
The Geography of Private Investment in IT-overview p. 346
Empirical Evidence on Domain Names p. 348
Evidence on Urban and Rural Business Use of Internet Technology p. 351
Local Internet and Information Services p. 355
Summary p. 356
Summaries of Answers to Motivating Questions p. 357
Why did Near-geographic Ubiquity Arise after Commercialization? p. 358
Why did Market Forces Encourage Extensive Growth? p. 358
Has the Internet Diffused Disproportionately to Urban Areas? p. 359
Is the Internet a Substitute or a Complement for Urban Agglomeration? p. 360
Which Policies Mattered? Were these Effects the Intended or Unintended Consequences? p. 361
Are there Lessons for Other Countries? p. 363
References p. 364
The Economics of the Internet Backbone p. 375
Competition among Internet Backbone Service Providers p. 375
Internet Backbone Services p. 375
Interconnection p. 375
The Transit and Peering Payment Methods for Connectivity p. 379
Conduct of Internet Backbone Service Providers p. 382
Structural Conditions for Internet Backbone Services; Negligible Barrier to Entry and Expansion p. 385
The Markets for Raw Transport Capacity and Other Inputs to Internet Transport Services p. 385
Ease of Expansion and Entry p. 386
Public Standards and Protocols on the Internet p. 386
Potential for Anticompetitive Behavior on the Internet Backbone p. 388
Network Externalities and the Internet p. 388
Procompetitive Consequences of Network Externalities p. 390
Conditions Under Which Network Externalities may Inhibit Competition p. 391
Network Externalities and Competition on the Internet p. 392
Conditions Necessary for the Creation of Bottlenecks Fail on the Internet p. 393
Bottlenecks Such as the Ones of the Local Exchange Telecommunications Network do Not Exist on the Internet p. 393
Strategies that a Large IBP Might Pursue p. 394
Raising the Price of Transport p. 394
Discriminatory Price Increases Directed Simultaneously against All Backbone Rivals p. 397
Raising Rivals' Costs and Degrading Connectivity p. 398
Conclusions p. 407
Appendix p. 407
The Internet
Evolution of the Internet in the Developing World
Internet Policy Issues for Developing Countries
Information Technology and International Trade
Economic Opportunity and the Future
E-commerce
E-learning
E-government
Knowledge Societies and E-readiness
The Path Ahead
The Unfinished Reform Agenda
Universal Access
References

Institutional Changes in Emerging Markets: Implications for the Telecommunications Sector
Introduction
The Utilities' Problem
The Political Profitability of Expropriation
The Implications of Government Opportunism
Sources of Regulatory Commitment
Institutional Endowment
A Tale of Two Countries
Regulatory Governance: Administrative Process with Judicial Review
Why Judicial Review?
Why Delegate to Independent Agencies
Commitment in Unified Government Systems
Contract-based Regulation
Adapting Contract-based Regulation to Unexpected Shocks: Renegotiation
Final Comments
References
Subject Index

Table of Contents provided by Blackwell's Book Services and R.R. Bowker. Used with permission.