CONTENTS

	List of Tables xvi Table of Cases xvii List of Abbreviations xxii Introduction 1 Methodology 4 Outline of the Book 5 Contributions 6 PART I The Ecosystem of ICT Standardization 9	
1	ICT Standardization as a Normative Regime 11	
	Characteristics of Technical Standards 11 Standards' Types and Functions 11 ICT Standards 14	
	Characteristics of Standards Development Organizations Formal and Informal SDOs 18 Hierarchy of SDOs 21 Competitive Forces in SDOs 24	
	Voluntary Standards as Normative Requirements Regulatory Incorporation 29 Virtue of a Force of Another Organization 30 Compliance Pull and Market Pressure 32 Binding Force of ICT Standards 33	
	Governance Characteristics of Voluntary Standards Private Actors as Governance Suppliers 36 Governance by ICT Standardization 39	
2	Legitimacy of ICT Standardization 42	
	Defining and Measuring Legitimacy of Private Normative Orders Effectiveness of ICT Standardization 45 Legitimation by Good Governance Principles and SDOs' Procedures 47 The Limits of Accountability 48	2

xii CONTENTS

	Legitimacy and Accountability through Good Governance Processes 50
	Synopsis 54
	PART II The Law of ICT Standardization 57
	3 The WTO Regulatory Framework 61
	Standards under the TBT Agreement 62 Technical Regulation 63 Standards and International Standards 64
	Procedural Mechanisms of the TBT Agreement TBT Code of Good Practice 67 TBT Committee Decision 69 ISO/IEC Guide 59 70
	WTO and ICT Standardization 71 ICT Standards as Trade Barriers: The Case of WAPI 72
	Private Standards Conundrum 74 SDOs in the ICT Sector as Recognized Bodies 76
	ICT Standardization beyond the TBT Agreement: Intellectual Property and Innovation 79
4	The EU Regulatory Framework 83
	Evolution of the EU Standardization System 83
	Procedural Mechanisms of Regulation 1025/2012 85 General Procedural Requirements 85 ICT Standards 86
	Standards Interpretation and Normative Power in the EU 87 Harmonized European Standards 87
	National Standards 92
	Standardization in EU Competition Law 93 SDOs as Vehicles for Collusion in the EU 93 Decisions on Cartels 94 Procedural Framework of Horizontal Guidelines 99 Unilateral Conduct and Abuse of Power 101
5	The US Regulatory Framework 105
	The US Standardization System 105
	Procedural Mechanisms of the US Standardization Law and Policy 107 NTTAA 107 OMB Circular 109 ANSI Essential Requirements 111
	US Voluntary Consensus Standards 112

CONTENTS xiii

	Standardization in US Competition Law 115 SDOs as Vehicles for Collusion in the US 116 Decisions on Cartels 116 Procedural Framework 119 Unilateral Conduct and Abuse of Power in the US 120
6	Procedural Principles for Standardization 125 Historical Background 125 Analyzing Due Process Principles for Standards Development 127 Transparency 127 Openness and Participation 130 Consensus, Impartiality, and Balance 133 Effectiveness and Relevance 137 Coherence and Coordination 139 Concerns of Developing Countries or "Weaker Parties" 141 Appeal and Review 142 Access to Standards on Fair, Reasonable, and Nondiscriminatory Terms 143 Fitness of the Procedural Frameworks for ICT Standardization 144
	Relevance of the Principles 146 Due Process as Good Governance 147 Synopsis 148
	PART III Governance Architecture and Decision-
	Process of SDOs 153 Making
	The Choice of Organizations 156 Methodology 161
7	Policy-Making in SDOs 163 SDO Membership 163 SDO Financing 170 SDOs' Governance Bodies 171 Decision-Making in Policy Drafting 179 Appeal and Dispute Resolution IPR 185 Policies 189
8	Standards Development in SDOs 199 Proposal of Standardization Activities 199 Technical Work on Standards 202 Standards' Approval 205
9	Procedural Safeguards in SDOs 211 Adherence to Due Process Requirements of the Regulatory Frameworks 215

xiv Contents

Procedural Principles for Standardization 217 Transparency 217
Openness and Participation 219 Consensus, Impartiality, and Balance 220
Effectiveness and Relevance 223 Coherence and Coordination 223 Concerns of Developing Countries or "Weaker Parties" 224
Appeal and Review 225 Access on Fair, Reasonable, and Nondiscriminatory Terms 227 SDOs' Internal Procedural Principles 227
Synopsis 228
PART IV Due Process in ICT Standardization: From Theory to Practice 233
Methodology 234 Interview Format 234 Respondents' Demographics 236 Methods of Approaching Respondents and Conducting and Processing Interviews 237 Qualitative Case Studies on Disputes in SDOs 238 Limitations and Cayeats 239
Case Studies on Dispute Resolution in SDOs 241 Collusion and Due Process in Standards Development: TruePosition vs Ericsson, ALU, Qualcomm, ETSI, and 3GPP 242 Collusion and Due Process in Governance Processes: "Innovators" vs "Implementers" in IEEE-SA 247 "Dictatorship" in Approval and Appeal Processes: Researchers and Civil Society vs Browser Vendors and Content Providers in W3C 252 Observations and Takeaways 255
Tendencies and Best Practices in the Industry 257 Experience with SDOs' Governance 257 Differences between SDOs 257 Switching between Existing Standardization Platforms and Creating New Ones 260 Barriers for Participation 263
Policy-Making vs Standards Development Processes 267 Procedural Guarantees in SDOs 271 IPR Policies 274 Dispute Resolution 276
Suggested Improvements 278
Performance of ICT Standards 280 The Loss of Alternatives 280
Standards' Uptake by Industry and Markets 282

10

11

CONTENTS XV

Procedural Guarantees and Standards Uptake 285 Observations and Takeaways from the Interviews 288

12 Revisiting the Legitimacy of ICT Standardization 291

Public Law Legitimacy 292 Procedural Legitimacy 293 Epistemic Legitimacy 297

Practical Approach to Legitimacy of ICT Standardization 299

Synopsis 301

Conclusion 304

Outlook on ICT Standardization and Global Trade 307

Future Research Agenda 309

Annex I: List of Interviews 311

Bibliography 312

Index 338