## Contents

Preface		XV
Acknowledgn	nents	xix
SECTION I	FOUNDATIONS	1
CHAPTER 1	Introduction	3
	Cognition	4
	Innovation	6
	The Macro Picture	8
	Earthquakes Every Year	11
	Themes	18
	We've Seen This Movie Before	21
	Notes	23
CHAPTER 2	Demographics	25
	Is There a "Net Generation"?	26
	Digital Natives	28
	Millennials at Work	29
	Behavior and Expectations	30
	Looking Ahead	30
	Notes	33
CHAPTER 3	Behavioral Economics	35
	Challenges to Economic Man	35
	Behavioral Economics in a Networked Age	37
	Looking Ahead	40
	Notes	41

viii	Contents

CHAPTER 4	Information Economics	43
	Information Goods	44
	Pricing Information: Versioning and Bundling	46
	Network Effects	48
	Lock-in	49
	Looking Ahead	50
	Notes	55
CHAPTER 5	Platforms	57
	Strategic Levers	60
	Looking Ahead	63
	Notes	63
CHAPTER 6	Power Laws and Their Implications	65
	A Bit of History	65
	Long-Tail Successes	67
	Cautionary Tales	67
	Facts of Life	68
	Implications	69
	Looking Ahead	70
	Notes	71
CHAPTER 7	Security and Risk	73
	Landscape	73
	Information Space Is Neither Average nor Normal	75
	People Systematically Misestimate Risk	76
	Doing It Right	77
	Looking Ahead	81
	Notes	81
SECTION II	WORK AND ORGANIZATION	83
OLUTION II	WORK AND OROANIZATION	0,5
CHAPTER 8	A Brief History of Organizational Innovation	85
	1776: Division of Labor	85
	1860–1890: Railroads and the Rise of Administration 1910: Scientific Management and the Further	86
	Division of Labor	87
	1930s: Alfred Sloan at General Motors	88
	1037_1081: Transaction Costs	88

Contents ix

	1980s: Economies of Scope and Core Competencies 1995: Linux as "Commons-Based Peer Production" 2000: Offshore Looking Ahead Notes	89 90 91 91 92
CHAPTER 9	Firms, Ecosystems, and Collaboratives	93
	Emerging Nonfirm Models Distributed Capital Looking Ahead Notes	93 98 100 101
CHAPTER 10	Government	103
	The Biggest Employer Government Hiring at a Crossroads Inevitable Downsizing Government on the Technology Landscape Looking Ahead Notes	104 107 108 110 112 113
CHAPTER 11	Crowds	115
	Crowdsourcing: Group Effort Information Markets and Other Crowd Wisdom Varieties of Market Experience Looking Ahead Notes	115 119 122 123 124
CHAPTER 12	Mobility	127
	Bottom Up Search Costs Supply Chain Efficiency Mobile Phone Industry Impact Risk Mitigation Apps for Change Looking Ahead Notes	127 130 130 131 132 133 136
CHAPTER 13	Work	139
	The Big Picture: Macro Trends Where	139 141

X				Cont	ent	ts

	Outputs Skills Work Looking Ahead Notes	143 144 146 149 150
CHAPTER 14	Productivity	153
	Classic Productivity Definitions Services Productivity Services Productivity and Information Technology Information Technology and Unemployment Looking Ahead Notes	154 155 156 158 159 160
SECTION III	BUSINESS MODEL DISRUPTION	161
CHAPTER 15	Business Model Overview	163
	Definition Changing Minds, Changing Models Disruptive Innovation Disruptive Innovation as Paradigm Shift Looking Ahead Notes	164 165 166 168 168 169
CHAPTER 16	Data and Communications	171
	Evolution of the Incumbent Business Model, 1877–1996 Business Model Disruption, 1996–2010 Implications of "Stupid" Networks Looking Ahead Notes	171 174 177 178 178
CHAPTER 17	Software Business Models	179
	Incumbent Model Pre-2000 Business Model Disruption after 1998 Looking Ahead Notes	179 181 187 188
CHAPTER 18	Music Business Models	189
	Incumbent Model Pre-2000 Business Model Disruption Pre-Napster	189 192

Partonto	vi
Contents	AI.

	Business Model Disruption Post-Napster Looking Ahead Notes	194 197 198
CHAPTER 19	News	199
	Incumbent Formula Pre-2005 Business Model Disruption Looking Ahead Notes	199 203 205 207
CHAPTER 20	Healthcare	209
	Definitions Healthcare as Car Repair for People? Following the Money Where Information Technology Can and Cannot Help Disruptive Innovation Looking Ahead Notes	210 211 212 214 216 219 220
CHAPTER 21	Two Disruptions that Weren't	221
	Retail Real Estate Notes	221 227 229
SECTION IV	TECHNOLOGY LANDSCAPES	231
CHAPTER 22	Code	233
	Intangibility Fungibility Code Embeds Value Judgments Metadata Social Metadata Looking Ahead Notes	234 235 236 237 238 240 241
CHAPTER 23	Sensors	243
	Historical Roots Ubiquity Current Examples	243 244 246

xìi	Contents

	Phones as Sensors	249
	Looking Ahead	250
	Notes	251
CHAPTER 24	The Internet and Other Networks	253
	Legacy Telecom Network Principles	254
	Defense Origins of the Internet	255
	Internet Principles	257
	Consequences of Internet Principles	259
	Looking Ahead	260
	Notes	260
CHAPTER 25	Location Awareness	263
	Variations on a Theme	265
	Landmarks	266
	Location, Mobility, and Identity	268
	Looking Ahead	270
	Notes	270
CHAPTER 26	Clouds	271
	Both Technical and Economic Innovation	272
	Cloud Computing and the Enterprise	273
	The Cloud Will Change How	
	Resources Are Organized	275
	Practical Considerations	276
	Looking Ahead	278
	Notes	278
CHAPTER 27	Wireless	281
	Precedents	281
	The Breakthrough	286
	Looking Ahead	289
	Notes	290
CHAPTER 28	Search	291
	Why Search Matters: Context	291
	The Wide Reach of Search	294
	Valuing Search	296
	Looking Ahead	297
	Notes	301

Contents	xii

CHAPTER 29	Analytics	303
	Why Now?	304
	Practical Considerations: Why Analytics Is Still Hard	308
	Looking Ahead	309
	Notes	310
CHAPTER 30	Information Visualization	311
	Supply	311
	Demand	311
	Audience	312
	Definition and Purpose	312
	Current State	313
	Looking Ahead	316
	Notes	317
SECTION V	SOME BIG QUESTIONS	319
CHAPTER 31	Identity and Privacy	321
	Privacy	322
	Scale	323
	Invisibility	325
	Identity	326
	Looking Ahead	327
	Notes	329
CHAPTER 32	Communications and Relationships	331
	Connections	331
	Networks	3 <b>3</b> 6
	Creation	340
	Looking Ahead	341
	Notes	342
CHAPTER 33	Place, Space, and Time	343
	Virtuality	345
	Organizations	346
	Automata	347
	Implications	348
	Looking Ahead	349
	Notes	350

xiv	Contents

CHAPTER 34	Conflict	351
UNAF IEN 34		
	Warfare between Nation-States	351
	Non-Nation-State Actors	353
	Emerging Offensive Weapons	357
	Looking Ahead	358
	Notes	359
CHAPTER 35	Innovation	361
	Amazon	361
	Crowds	367
	Looking Ahead	369
	Notes	370
CHAPTER 36	Information, Technology, and Innovation	371
	Macro Issues	371
	Globalization	372
	Strategy	373
	Organizations	380
	Marketing	381
	Supply Chains	385
	The IT Shop	386
	Implications	387
	The Last Word	388
	Notes	388
About the Aut	thar	391
index		<b>3</b> 93