

Contents

1	Introduction	1
2	The Rise of the Smart City	5
2.1	Defining the Terms	5
2.2	What Is <i>Smart City</i> ?	7
2.3	The Smart City Evolution	13
2.4	City and Smart City Classes	22
2.5	Smart City Architecture	31
2.6	Conclusions	40
	References	42
3	The Smart City in Practice	47
3.1	Smart Technologies	47
3.1.1	Smart Water	47
3.1.2	Smart Energy	50
3.1.3	Smart Transportation	56
3.1.4	Smart Health	59
3.1.5	Smart Safety and Emergency	60
3.1.6	Smart Education and Smart Tourism	63
3.1.7	Smart Waste Management	64
3.1.8	Smart Buildings	64
3.1.9	Smart Government	67
3.1.10	Smart Economy	67
3.1.11	Telecommunication Networks	68
3.1.12	Sensors and Internet-of-Things	71
3.1.13	Data, Big Data, Data Analytics and Open Data	75
3.1.14	Crowd-Sourcing and Crowd-Sensing	82
3.1.15	Cloud Computing	84

3.2	Smart Services	86
3.3	Smart City Standards	96
3.4	Smart City Cases in Practice	104
3.4.1	The Case of Trikala	106
3.4.2	The Case of Tampere	111
3.4.3	The Case of Geneva	115
3.4.4	The Case of Seoul	119
3.4.5	The Case of New Songdo	124
3.4.6	The Case of Vienna	129
3.4.7	The Case of London	134
3.4.8	The Case of Washington DC	138
3.4.9	The Case of New York City (NYC)	142
3.4.10	The Case of Hong Kong	145
3.4.11	The Case of Melbourne City Council	151
3.4.12	The Case of Dubai	156
3.4.13	The Case of Kyoto	163
3.4.14	Discussion	167
3.5	Conclusions	176
	References	178
4	The Smart City Market	187
4.1	The Smart City Value	187
4.2	Types of Companies in Smart City	188
4.3	Smart City Business Models	189
4.4	City Branding Versus Smart City?	202
4.5	Conclusions	208
	References	209
5	Governing a Smart City	215
5.1	Introduction	215
5.2	Smart City Development Framework	217
5.2.1	Framework Step 1: Collect Information Regarding the Smart City Objectives	217
5.2.2	Framework Step 2: Collect Information About the City	218
5.2.3	Framework Step 3: Define Layers	219
5.3	Smart City as Project	222
5.3.1	Defining the Project Mission	224
5.3.2	Mobilizing the Resource Base	227
5.3.3	Riding the Project Life Cycle	228
5.3.4	Leading the Project Coalition	230
5.3.5	A Project Management Model for Smart City Development	232

5.4	Smart City as Innovation	233
5.4.1	Where Innovation Lies Within a City?	233
5.4.2	Measuring Innovation Capacity	234
5.4.3	An Innovation Management Model for Smart City	241
5.5	Service Deployment Within Smart City: An Example from Energy Efficiency	245
5.6	Conclusions	258
	References	259
6	Smart Government: A New Adjective to Government Transformation or a Trick?	263
6.1	Defining Smart Government	263
6.2	Smart Government in the Era of Global Urbanization and the Internet of Things	274
6.3	Smart Government Evolution and Driving Forces	276
6.3.1	Data and Smart Government	279
6.3.2	Connecting People, Process, Data and Things	282
6.3.3	Co-produce with Citizens	285
6.3.4	Co-decide with Citizens	287
6.4	Conclusions	288
	References	289