

# Contents

## Part 1 Fundamentals

<b>1 Fundamentals of E-commerce</b>	<b>3</b>
1.1 The Origin and Development of E-commerce	4
1.1.1 The Origin and Development of E-commerce	4
1.1.2 The Definitions of E-commerce	7
1.1.3 E-commerce in China	9
1.2 Influence of Related Basic Sciences on E-commerce	14
1.2.1 Influence of Mathematics on E-commerce	15
1.2.2 The Impact of Computer Science Upon the E-commerce	20
1.2.3 Impact of Communications Science upon the E-commerce	21
1.2.4 The Impact of Management Science upon E-commerce	23
1.3 Categories of the E-commerce	24
1.3.1 B2B	25
1.3.2 B2C	27
1.3.3 B2G	30
1.3.4 G2G	32
1.3.5 C2C	36
1.4 The Constitution of the E-commerce	39
1.4.1 Portal of the Network	39
1.4.2 Customer Relationship Management	42
1.4.3 Supply Chain Management	45
1.4.4 Logistic Management	48
1.4.5 Decision Support	51
1.5 Supporting Environments for E-commerce	55
1.5.1 Technical Environment	55
1.5.2 Legal Environment	57
1.5.3 Credit Environment	59
1.5.4 Financial Environment	62
1.6 M-commerce	65
1.6.1 The Origin of M-commerce	65
1.6.2 M-commerce Components	67
1.6.3 The Development of M-commerce	69
1.6.4 The Application of M-commerce	71
1.7 Summary	73
References	74

## Part 2 Technology

<b>2 E-commerce Supporting Technologies</b>	79
2.1 E-commerce Fundamental Technology	80
2.1.1 Web Technology	80
2.1.2 HTML	81
2.1.3 XML	81
2.1.4 Java	83
2.2 Computer Communication Technology	85
2.2.1 TCP/IP Protocols	85
2.2.2 HTTP Communication Protocol	86
2.2.3 EDI Communication Protocol	88
2.2.4 WAP Communication Protocol	91
2.2.5 WLAN Protocol	94
2.2.6 Bluetooth Protocol	98
2.3 Information Processing Technologies in E-commerce	102
2.3.1 Global Positioning System (GPS)	102
2.3.2 Geographical Information System (GIS)	105
2.3.3 Decision Supporting System (DSS)	106
2.3.4 Group Decision Supporting System (GDSS)	109
2.3.5 Intelligent Decision Supporting System (IDSS)	111
2.4 Summary	112
References	113
<b>3 Payment Technologies for E-commerce</b>	115
3.1 Online Bank	116
3.1.1 The Development of Online Banks	116
3.1.2 The Function of Online Bank	119
3.1.3 Online Banking Technologies	120
3.2 E-payment Tools	123
3.2.1 E-payment System	123
3.2.2 Intelligent Card	124
3.2.3 E-check	126
3.2.4 E-wallet	127
3.2.5 E-cash	130
3.3 Summary	132
References	132
<b>4 Security Technologies in E-commerce</b>	135
4.1 Introduction to Security Problems in E-commerce	135
4.2 Reliability of E-commerce System	137
4.3 Data Encryption Technology	139

4.3.1	Symmetric Encryption System.....	140
4.3.2	Public Key Encryption Algorithm .....	142
4.3.3	Mixed Encryption Technology .....	143
4.4	Digital Signature .....	144
4.4.1	Sign the Document with Public Key Algorithm .....	144
4.4.2	Signature with One-way Hash Function and Public Key System .....	145
4.5	Authentication Technology .....	146
4.5.1	Digital Authentication Technology.....	146
4.5.2	Biological Verification Technology.....	147
4.6	Firewall Technology .....	150
4.6.1	Introduction to Firewall .....	150
4.6.2	Functions of the Firewall .....	151
4.6.3	Categories of Firewall.....	153
4.7	Intrusion Detection Technology.....	155
4.7.1	Introduction to Intrusion Detection.....	155
4.7.2	Intrusion Detection Method .....	157
4.8	Secure Payment Technology.....	159
4.8.1	SSL Protocol.....	159
4.8.2	SET Protocol.....	163
4.9	Summary .....	166
	References.....	166

### **Part 3 Management**

<b>5</b>	<b>E-commerce and the Law .....</b>	<b>171</b>
5.1	Legal Problems in E-contract.....	172
5.2	Legal Problems in E-banks .....	176
5.3	The legal Problems in the Electronic Fund Transfer.....	179
5.4	The Intellectual Property Protection in the E-commerce .....	180
5.4.1	Legal Problems Brought forth by Domain Names.....	180
5.4.2	The Coordination of the Conflicts Between Domain Names and Intellectual Property .....	183
5.4.3	WIPO's Coordination About the Conflicts Between Domain Names and Intellectual Property .....	185
5.4.4	Copyright Issues in E-commerce .....	186
5.5	Legal Problems of E-commerce Security.....	188
5.5.1	Security Problems in E-commerce.....	188
5.5.2	Legal Systems Concerning the E-commerce Security .....	189
5.5.3	Legal Responsibilities for the Violation of E-commerce Security Laws.....	191
5.6	Consumer Rights Protection in E-commerce .....	191
5.6.1	Impacts of E-commerce on Consumers .....	191

5.6.2	E-commerce and Consumer Privacy Protection.....	193
5.7	Legal Liability in E-commerce .....	195
5.7.1	Civil Liability in E-commerce .....	195
5.7.2	Administrative Liability in E-commerce.....	199
5.7.3	Criminal Responsibility in E-commerce.....	201
5.8	Brief Introduction to the “Electronic Signature Law of the PRC” .....	203
5.9	Summary .....	205
	References.....	205
<b>6</b>	<b>E-commerce and Tax .....</b>	<b>207</b>
6.1	An Outline of Tax in E-commerce .....	208
6.2	Features of E-commerce Tax .....	210
6.3	Problems in E-commerce Tax .....	211
6.4	E-commerce and Tax Administration .....	218
6.5	Strategies in E-commerce Taxation .....	220
6.6	Summary .....	227
	References.....	227
<b>7</b>	<b>Network Enterprise Management.....</b>	<b>228</b>
7.1	Overview of Network Enterprises.....	229
7.1.1	Background and Basic Characteristics of Network Enterprises.....	229
7.1.2	Knowledge Management .....	230
7.1.3	Virtual Enterprise.....	237
7.2	Supply Chain Management of Network Enterprises.....	240
7.2.1	Overview of Supply Chain Management.....	240
7.2.2	Construction of Supply Chain Management .....	241
7.2.3	Cooperation Management of Supply Chain .....	243
7.3	Logistics Management of Network Enterprise.....	245
7.3.1	Logistics Management Overview .....	245
7.3.2	Environmental Logistics .....	250
7.3.3	The Third Party Logistics .....	255
7.4	Human Resources Management of Network Enterprise .....	260
7.4.1	Overview of Human Resources Management.....	260
7.4.2	Realization of Human Resources Management .....	263
7.5	Summary .....	267
	References.....	267

## Part 4 Practice

<b>8</b>	<b>E-commerce Architecture and System Design .....</b>	<b>271</b>
8.1	E-commerce Architecture .....	272
8.1.1	Infrastructure.....	272

8.1.2	Data Flow of Infrastructure .....	273
8.1.3	Process Control of Infrastructure .....	275
8.1.4	Optimizing Method of Infrastructure .....	279
8.1.5	Event Process Control of Infrastructure .....	282
8.2	E-commerce Security System .....	284
8.3	E-commerce Payment System.....	288
8.3.1	E-commerce and Online Payment.....	288
8.3.2	Data Flow and Process Control of Payment System.....	289
8.4	Architecture and Design Method of E-commerce Application System Software.....	294
8.4.1	Architecture of E-commerce Application System Software .....	294
8.4.2	Design Method of Application E-commerce System.....	298
8.5	Summary .....	301
	References .....	301
<b>9</b>	<b>Portal Site Design of Virtual Enterprise .....</b>	<b>304</b>
9.1	E-commerce and Portal Site .....	305
9.1.1	Concept of Portal Site .....	305
9.1.2	Meaning of Portal Site .....	305
9.2	Online Virtual Shop .....	306
9.2.1	Virtual Shop Mode.....	306
9.2.2	Virtual Shop Design.....	307
9.2.3	Implementation of Virtual Shop.....	308
9.3	Design Method of Product Catalog .....	309
9.3.1	Product Information Storage .....	309
9.3.2	Product Information Inquiry Function .....	311
9.4	Design of Online Shopping Cart .....	312
9.4.1	Online Shopping Cart and Implementation Technology.....	312
9.4.2	Database of Online Shopping Cart and Actual Implementation Policy .....	313
9.5	Processing of Electronic Order .....	316
9.5.1	Processing Flow of Order .....	316
9.5.2	Gathering the Payment Online .....	319
9.6	Search and Inquiry of Website .....	321
9.6.1	Application of Advanced SQL.....	321
9.6.2	Optimizing Database Inquiry .....	324
9.7	Customer Service in E-commerce Time .....	326
9.7.1	Component Technology and Build Method of Call Center ....	326
9.7.2	Application of Electronic Mail List .....	328
9.8	Release Technology of Web Database.....	330
9.9	Summary .....	333
	References .....	333

<b>10</b>	<b>Computer System Integration and E-commerce</b>	336
10.1	Overview of System Integration	337
10.1.1	Production and Development of System Integration	337
10.1.2	Principle of System Integration	339
10.2	Hardware System Integration of E-commerce	340
10.2.1	Integration of Server	340
10.2.2	Integration of Communication Network	346
10.3	Integration of E-commerce Application System Software	352
10.3.1	Integration Mode of E-commerce Application System Software	352
10.3.2	Integration of Protocols	360
10.3.3	Application System Software Environment Integration	364
10.4	Summary	370
	References	370

## **Part 5 E-commerce Application**

<b>11</b>	<b>E-commerce and International Trade</b>	375
11.1	E-commerce and International Trade	376
11.1.1	The International Trade Calls for the Emergence of E-commerce	376
11.1.2	E-commerce Promotes the Development of the International Trade	380
11.1.3	E-commerce Brings about Changes to the International Trade	382
11.2	Applying E-commerce to International Trade	383
11.2.1	Using E-commerce Technology to Obtain Commercial Information	384
11.2.2	Using E-commerce in the Business Negotiation	385
11.2.3	Application in the Technology and Service Trade	387
11.3	E-commerce and International Trade Network Marketing	389
11.3.1	The Foundation of Internet Marketing	390
11.3.2	Network Marketing Tool	391
11.3.3	Network Marketing Technology	396
11.4	Designing an International Trade E-commerce System	399
11.4.1	The International Trade Business Analysis	399
11.4.2	Frame of international Trade E-commerce System	402
11.4.3	International Trade E-commerce System Design	404
11.4.4	EDI-based International Trade E-commerce System	405
11.5	Summary	407
	References	408

<b>12</b>	<b>Network Application Psychology</b>	409
12.1	Introduction to Network Application Psychology	410
12.1.1	Appearance of Network Application Psychology	413
12.1.2	Research Content of Network Application psychology	414
12.1.3	Significance of Network Application psychology	416
12.2	Network Interaction Psychology	420
12.2.1	Network Interaction	420
12.2.2	The Appearance and Analysis of Network Interaction Psychology	427
12.2.3	The Effect of Network Interaction Psychology	432
12.3	Network Application Psychology	437
12.3.1	Psychology Characteristic of Network Application	437
12.3.2	Analysis on Psychology Characteristic of Network Application	440
12.4	Network Management Psychology	446
12.4.1	General Psychology of Network Management	446
12.4.2	Behavior Psychology of Network Management	451
12.5	Summary	453
	References	454
<b>13</b>	<b>E-commerce Case Analysis</b>	458
13.1	Methods of E-commerce Analysis	459
13.1.1	Methods of the Evaluation and Analysis of E-commerce Websites	459
13.1.2	Method of E-commerce Case analysis	467
13.2	Case Study	471
13.2.1	Case Study of China's Agricultural Products E-commerce	471
13.2.2	Case Analysis of E-commerce Supply Chain Management	475
13.2.3	Case Analysis of E-commerce in Commodities Circulation Areas	481
13.2.4	Case Study of E-commerce in the Financial Industry	493
13.2.5	Case Analysis of E-commerce in Petrochemical Industry	509
13.3	Summary	515
	References	515