

Contents

Preface	xiv	Drivers of consumer technology adoption	28
About the authors	xxv	Barriers to consumer digital adoption	29
Acknowledgements	xxvii	Case study 1.2: Amazon – the world's largest digital business?	30
Publisher's acknowledgements	xxviii	Summary	32
		<i>Exercises</i>	33
		<i>References</i>	34
		<i>Web links</i>	35
Part 1			
Introduction	1	2 Opportunity analysis for digital business and e-commerce	36
1 Introduction to digital business	3	<i>Learning outcomes</i>	36
<i>Learning outcomes</i>	3	<i>Management issues</i>	36
<i>Management issues</i>	3	<i>Links to other chapters</i>	36
<i>Links to other chapters</i>	3	Introduction	37
Introduction	4	Business and revenue models for e-commerce	37
The impact of digital communications on traditional businesses	6	Digital marketplace analysis	38
Inbound marketing	6	Case study 2.1: How Boden grew from an eight-product menswear catalogue to an international brand with over £300 million in sales	39
Social media marketing	7	Strategic agility	41
<i>Trends update: Social media usage</i>	7	Case study 2.2: Unilever demonstrates strategic agility	41
Case study 1.1: The Uber business model	8	A process for digital marketplace analysis	42
Mobile commerce	10	Case study 2.3: Macy's – using omnichannel growth strategies to improve customer experience	44
<i>Trends update: Mobile usage</i>	10	1 Customer segments	46
What is the difference between a digital business and an e-commerce business?	11	2 Search intermediaries	46
E-commerce defined	11	3 Intermediaries, influencers and media sites	47
<i>Trends update: E-commerce growth rates</i>	12	4 Destination sites	47
Digital business defined	13	Location of trading in the marketplace	49
Intranets and extranets	13	Review of marketplace channel structures	49
Different types of sell-side e-commerce	14	Location of trading in the marketplace	52
<i>Digital marketing</i>	16	The importance of omnichannel marketplace models	52
<i>Trends update: Social network usage</i>	17	Commercial arrangement for transactions	54
Options for organisations to reach a digital audience	17	Different types of online intermediary and influencers	54
<i>Owned, earned and paid media options</i>	17	Summary of the types of intermediary	55
<i>The six key types of digital media channels</i>	18	The importance of search engines	56
<i>The social internet and user-generated content</i>	20	Business models for e-commerce	56
<i>Supply chain management</i>	21	Revenue models	58
Business or consumer models of e-commerce transactions	22	Online publisher and intermediary revenue models	58
<i>Dot Gov defined</i>	23	<i>Calculating revenue for an online business</i>	60
Digital business opportunities	24	<i>Focus on Digital start-up companies</i>	63
Drivers of digital technology adoption	25	Assessing digital businesses	63
<i>Cost/efficiency drivers</i>	25		
<i>Competitiveness drivers</i>	26		
Barriers to the adoption of technology by digital business stakeholders	27		
Evaluating an organisation's digital business capabilities	28		

Valuing tech start-ups	63	Intranet applications	102
1 <i>Concept</i>	64	Extranet applications	102
2 <i>Innovation</i>	64	Encouraging use of intranets and extranets	105
3 <i>Execution</i>	65	Streaming TV	106
4 <i>Traffic</i>	66	Voice over IP (VoIP)	106
5 <i>Financing</i>	66	Widgets	107
6 <i>Profile</i>	66	Technology standards	107
Case study 2.4: i-to-i – a global marketplace for a start-up	66	Examples of XML applications	107
Summary	68	Semantic web standards	108
<i>Exercises</i>	69	Microformats	109
<i>References</i>	70	<i>Focus on Internal and external governance factors that impact digital business</i>	109
<i>Web links</i>	71	The Net neutrality principle	109
3 Managing digital business infrastructure	72	The Internet Corporation for Assigned Names and Numbers (ICANN, www.icann.org)	111
<i>Learning outcomes</i>	72	The Internet Society (www.isoc.org)	111
<i>Management issues</i>	72	The Internet Engineering Task Force (IETF, www.ietf.org)	111
<i>Links to other chapters</i>	72	The World Wide Web Consortium (www.w3.org)	112
Introduction	73	Telecommunications Information Networking Architecture Consortium (TINA-C, www.tinac.com)	112
Supporting the growing range of digital business technology platforms	77	How can companies influence or take control of Internet standards?	112
<i>Desktop, laptop and notebook platforms</i>	77	Open-source software	113
<i>Mobile phone and tablet platforms</i>	78	Case study 3.1: Innovation at Google (2017 update)	114
<i>Trends update: Mobile usage</i>	79	Summary	115
Other hardware platforms	80	<i>Exercises</i>	116
Augmented reality	82	<i>References</i>	117
Digital business infrastructure components	83	<i>Web links</i>	119
A short introduction to digital technology	85	4 Key issues in the digital environment	120
Management issues in creating a new customer-facing digital service	86	<i>Learning outcomes</i>	120
Domain name selection	86	<i>Management issues</i>	120
Uniform resource locators (URLs)	86	<i>Links to other chapters</i>	120
Domain name registration	87	Introduction	121
Managing hardware and systems software infrastructure	88	Social factors	125
<i>Layer II – systems software</i>	88	Legal and ethical factors	125
Managing digital business applications infrastructure	88	Economic factors	126
<i>Focus on The development of customer experiences and digital services</i>	91	Political factors	127
Benefits of web services or SaaS	91	Technology factors	127
<i>Application programming interfaces (APIs)</i>	92	Cultural factors	128
Challenges of deploying SaaS	92	Factors affecting e-commerce buying behaviour	128
Cloud computing	94	Understanding users' access requirements	131
<i>Examples of cloud computing web services</i>	94	Consumers influenced by using the online channel	131
<i>Virtualisation</i>	96	Motivation for use of online services	133
<i>Service-orientated architecture (SOA)</i>	97	Business demand for digital business services	136
Selecting hosting providers	98	E-commerce sales across the EU	139
Managing service quality when selecting Internet service and cloud hosting providers	98	Privacy and trust in e-commerce	140
ISP connection methods	98	Privacy legislation	141
<i>Issues in management of ISP and hosting relationships</i>	98	Why personal data is valuable for digital business	142
<i>Speed of access</i>	98	Worldwide regulations on privacy and electronic communications	145
<i>Availability</i>	101	Viral email marketing	148
<i>Service level agreements</i>	101	Other e-commerce legislation	148
<i>Security</i>	101	1 <i>Marketing your e-commerce business</i>	148
Managing internal digital communications through internal networks and external networks	102		

2 Forming an electronic contract (contract law and distance-selling law)	149	Resource-advantage mapping	205
3 Making and accepting payment	151	Strategic objectives	206
4 Authenticating contracts concluded over the Internet	151	Defining vision and mission	206
5 Email risks	151	VMOST	207
6 Protecting intellectual property (IP)	151	How can digital business create business value?	210
7 Advertising on the Internet	152	Case study 5.1: Arriva Bus redesigns its m-ticket app and boosts revenue by over 17%	210
8 Data protection	152	Objective setting	212
Environmental and green issues related to Internet usage	152	<i>The online revenue contribution</i>	213
Taxation	153	<i>Conversion modelling for sell-side e-commerce</i>	213
Tax jurisdiction	153	Case study 5.2: Setting the Internet revenue contribution at Sandvik Steel	215
Freedom-restrictive legislation	154	<i>The balanced scorecard approach to objective setting</i>	217
Economic and competitive factors	155	Strategy definition	218
Case study 4.1: The implications of micro-localisation vs globalisation based on consumer attitudes	157	Selection of digital business strategy options	218
The implications of e-commerce for international B2B trading	159	Decision 1: Digital business channel priorities	220
Government and digital transformation	161	<i>The diversification of digital platforms</i>	221
Internet governance	164	Decision 2: Market and product development strategies	221
E-government	164	Decision 3: Positioning and differentiation strategies	224
Technological innovation and technology assessment	164	Decision 4: Business, service and revenue models	228
Approaches to identifying emerging technology	167	Decision 5: Marketplace restructuring	229
Summary	169	Decision 6: Supply chain management capabilities	229
Exercises	170	Case study 5.3: Zappos innovates in the digital marketplace	229
References	171	Decision 7: Internal knowledge management capabilities	231
Web links	173	Decision 8: Organisational resourcing and capabilities	231
		Strategy implementation	234
		Failed digital business strategies	234
		Digital business strategy implementation success factors for SMEs	235
		Case study 5.4: Boo hoo – learning from the largest European dot.com failure	235
		<i>Focus on Aligning and impacting digital business strategies</i>	238
		Elements of information systems (IS) strategy	239
		Investment appraisal	241
		<i>Decisions about which business applications to invest in</i>	241
		<i>The productivity paradox</i>	242
		Summary	243
		Exercises	244
		References	244
		Web links	247
		6 Supply chain and demand	248
		<i>Learning outcomes</i>	248
		<i>Management issues</i>	248
		<i>Links to other chapters</i>	248
		Introduction	249
		Case study 6.1: Fast-fashion retailer Zara uses its supply chain to achieve competitive advantage	249

Part 2

Strategy and applications

177

5 Digital business strategy	179
<i>Learning outcomes</i>	179
<i>Management issues</i>	179
<i>Links to other chapters</i>	179
Introduction	180
Development of the social business	183
What is digital business strategy?	187
The imperative for digital business strategy	188
Digital channel strategies	188
Platform strategy	190
Strategy process models for digital business	192
Strategic analysis	196
Resource and process analysis	196
<i>Stage models of digital business development</i>	197
<i>Application portfolio analysis</i>	198
<i>Organisational and IS SWOT analysis</i>	200
<i>Human and financial resources</i>	201
Competitive environment analysis	202
<i>Demand analysis</i>	202
Assessing competitive threats	202
<i>Competitive threats</i>	203
<i>Sell-side threats</i>	204
<i>Buy-side threats</i>	205
Competitor analysis	205

Problems of supply chain management	252	7 Digital marketing	303
What is supply chain management and e-procurement?	253	<i>Learning outcomes</i>	303
A simple model of a supply chain	255	<i>Management issues</i>	303
Case study 6.2: Shell Chemicals redefines its customers' supply chains	258	<i>Links to other chapters</i>	303
What is logistics?	261	Introduction	304
Push and pull supply chain models	262	Chapter structure	305
<i>Focus on</i> The value chain	263	What is digital marketing?	307
Restructuring the internal value chain	265	Marketing defined	307
The value stream	265	<i>Inbound marketing</i>	309
Value chain analysis	266	<i>Content marketing</i>	309
Value networks	267	Digital marketing planning	312
Options for restructuring the supply chain	269	Is a separate digital marketing plan required?	312
Using digital business to restructure the supply chain	271	Situation analysis	314
Technology options and standards for supply chain management	272	Customer demand analysis	314
Case study 6.3: Argos uses e-supply chain management to improve customer convenience	273	<i>Qualitative customer research</i>	318
IS-supported upstream supply chain management	274	Competitor analysis	320
<i>RFID and the Internet of Things</i>	274	Intermediary or influencer analysis	321
IS-supported downstream supply chain management	274	Internal marketing audit	322
Outbound logistics management	275	Objective setting	322
IS infrastructure for supply chain management	275	Case study 7.1: The evolution of easyJet's online revenue contribution	325
Supply chain management implementation	276	Strategy	328
Data standardisation and exchange	277	Market and product positioning	330
The supply chain management strategy process	277	Target market strategies	331
Goal-setting and performance management for eSCM	278	<i>Content strategy</i>	335
Managing partnerships	279	<i>Focus on</i> Characteristics of digital media communications	336
Managing global distribution	280	1 <i>Interactivity</i>	336
Case study 6.4: RFID – keeping track starts its move to a faster track	282	2 <i>Intelligence</i>	337
What is e-procurement?	283	3 <i>Individualisation</i>	337
Understanding the procurement process	283	4 <i>Integration</i>	338
Types of procurement	284	5 <i>Industry restructuring</i>	340
Participants in different types of e-procurement	285	6 <i>Independence of location</i>	341
Drivers of e-procurement	286	Tactics	341
Examples of the benefits of e-procurement	288	Product	343
Case study 6.5: Honeywell improves efficiency through SCM and e-procurement	288	Case study 7.2: Dell gets closer to its customers online	346
<i>Focus on</i> Estimating e-procurement costs	289	Price	348
The impact of cost savings on profitability	289	Place	352
Barriers and risks of e-procurement adoption	289	Promotion	353
Implementing e-procurement	291	People, process and physical evidence	355
Integrating company systems with supplier systems	293	<i>Focus on</i> Digital branding	355
<i>Focus on</i> B2B marketplaces	295	Brand identity	356
Types of marketplace	295	The importance of brand online	358
The future of e-procurement	296	Actions	358
Summary	297	Control	360
<i>Exercises</i>	298	Summary	360
<i>References</i>	299	<i>Exercises</i>	361
<i>Web links</i>	301	<i>References</i>	362
		<i>Web links</i>	364
		8 Customer relationship management	365
		<i>Learning outcomes</i>	365
		<i>Management issues</i>	365
		<i>Links to other chapters</i>	365
		Introduction	366
		Marketing applications of CRM	367

Case study 8.1: How Warby Parker disrupted the eyewear industry	368
What is eCRM?	371
From eCRM to social CRM	372
Benefits of eCRM	372
<i>Customer engagement strategy</i>	374
Permission marketing	374
Customer profiling	375
Conversion marketing	376
The online buying process	379
Differences in buyer behaviour in target markets	380
Differences between B2C and B2B buyer behaviour	380
<i>Influences on purchase</i>	380
The net promoter score	382
Customer acquisition management	383
<i>Focus on Marketing communications for customer acquisition, including search engine marketing, digital PR, online partnerships, interactive advertising, email marketing and social media marketing</i>	383
The characteristics of interactive marketing communications	383
1 <i>From push to pull</i>	383
2 <i>From monologue to dialogue</i>	384
3 <i>From one-to-many to one-to-some and one-to-one</i>	384
4 <i>From one-to-many to many-to-many communications</i>	384
5 <i>From 'lean-back' to 'lean-forward'</i>	384
6 <i>The medium changes the nature of standard marketing communications tools such as advertising</i>	384
7 <i>Increase in communications intermediaries</i>	385
8 <i>Integration remains important</i>	385
Assessing marketing communications effectiveness	385
Digital marketing communications	387
1 <i>Search engine marketing (SEM)</i>	388
2 <i>Digital PR</i>	397
<i>Focus on Social media and social CRM strategy</i>	398
3 <i>Online partnerships</i>	409
4 <i>Digital advertising</i>	410
5 <i>Email marketing</i>	413
6 <i>Social media marketing</i>	416
Customer retention management	418
Personalisation and mass customisation	420
<i>Creating personalisation</i>	421
<i>Extranets</i>	422
<i>Opt-in email</i>	423
Techniques for managing customer activity and value	423
Lifetime-value modelling	424
<i>Focus on Excelling in e-commerce service quality</i>	426
Improving online service quality	426
<i>Tangibles</i>	427
<i>Reliability</i>	427
<i>Responsiveness</i>	427

<i>Assurance</i>	427
<i>Empathy</i>	428
Customer extension	429
Advanced online segmentation and targeting techniques	430
<i>Sense, Respond, Adjust – delivering relevant e-communications through monitoring customer behaviour</i>	432
<i>Recency, Frequency, Monetary value (RFM) analysis</i>	432
Technology solutions for CRM	435
Types of CRM applications	437
Integration with back-office systems	437
The choice of single-vendor solutions or a more fragmented choice	438
Data quality	439
Case study 8.2: Tesco.com increases product range and uses triggered communications to support CRM	439
Summary	442
<i>Exercises</i>	442
<i>References</i>	443
<i>Web links</i>	447

Part 3

Implementation

449

9 Customer experience and service design	450
<i>Learning outcomes</i>	450
<i>Management issues</i>	450
<i>Links to other chapters</i>	450
Introduction	451
Analysis for digital technology projects	451
Process modelling	454
Process mapping	455
Task analysis and task decomposition	455
Process dependencies	457
Workflow management	457
<i>Flow process charts</i>	457
<i>Effort duration analysis</i>	459
<i>Network diagrams</i>	459
<i>Event-driven process chain (EPC) model</i>	461
Validating a new process model	462
Data modelling	464
1 <i>Identify entities</i>	464
2 <i>Identify attributes for entities</i>	464
3 <i>Identify relationships between entities</i>	464
<i>Big Data and data warehouses</i>	464
Design for digital technology projects	468
Architectural design of digital business systems	469
<i>Focus on User-centred site design and customer experience management</i>	471
Customer experience management framework	477
<i>Customer experience design</i>	478
<i>Implementation</i>	478

Usability	480	History of change and change management	530
Evaluating designs	480	The change in strategic position of digital versus technology	531
Use-case analysis	481	The need for digital transformation	531
<i>Persona and scenario analysis</i>	481	Understanding the reasons for digital transformation	532
<i>Stages in use-case analysis</i>	484	The opportunities provided by digital	532
Designing the information architecture	487	Where does digital transformation occur?	532
<i>Card sorting</i>	488	<i>Customer experience and service design</i>	532
<i>Blueprints</i>	488	<i>Customer insight</i>	533
<i>Wireframes</i>	490	<i>Adding value</i>	534
Customer orientation	491	<i>Interfaces with customers</i>	535
Elements of site design	493	<i>Business process</i>	536
<i>Site design and structure</i>	493	<i>The business model</i>	537
<i>Page design</i>	496	<i>New business where digital is at the heart of the opportunity</i>	538
<i>Content design</i>	497	<i>Adapting the existing business to a digital opportunity</i>	539
Mobile design	498	The framework of digital transformation	540
<i>Mobile site design option A. Responsive design</i>	498	The process of review	540
<i>Mobile site design option B. Adaptive design</i>	498	<i>What the digital opportunity is</i>	540
<i>Mobile site design option C. HTML5</i>	499	<i>How sure the organisation is of the opportunity</i>	541
<i>Mobile site design option D. Separate mobile domain (screen scrape)</i>	501	<i>What level of digital the leadership of the organisation possesses</i>	541
Web accessibility	502	<i>How mature as a digital business the organisation sees itself</i>	541
Case study 9.1: Providing a better online user experience in a B2B market	504	The process of strategy	542
<i>Focus on Security design for digital business</i>	506	<i>A focus on the objective for the future rather than solving an existing problem</i>	542
Secure e-commerce transactions	512	The process of resourcing and planning	543
<i>Principles of secure systems</i>	513	<i>The design of the transformation</i>	543
Approaches to developing secure systems	513	<i>A programme for change</i>	543
<i>Digital certificates</i>	513	The process of deployment	543
<i>Digital signatures</i>	514	The process of living with, and evaluating, digital transformation	544
<i>The public-key infrastructure (PKI) and certificate authorities (CAs)</i>	514	What is growth hacking?	545
<i>Virtual private networks</i>	515	Defining goals and KPIs	548
Current approaches to e-commerce security	515	How to use a single metric to run a start-up	550
<i>Secure Sockets Layer protocol (SSL)</i>	515	Creating a growth hacking mindset	551
<i>Certificate authorities (CAs)</i>	515	<i>Ideal skill set of a growth hacking team</i>	551
Reassuring the customer	516	Use of Scrum, an agile methodology, in digital marketing	552
Summary	516	Scrum meetings	554
<i>Exercises</i>	517	<i>Sprint planning</i>	556
<i>References</i>	518	<i>Daily Scrum</i>	556
<i>Web links</i>	520	<i>Sprint review and retrospective</i>	557
10 Managing digital business transformation and growth hacking	522	Developing agile marketing campaigns	557
<i>Learning outcomes</i>	522	The growth hacking process	558
<i>Management issues</i>	522	1 Product/market fit (create an MVP – Minimum Viable Product)	558
<i>Links to other chapters</i>	522	<i>Trigger</i>	558
Introduction	523	<i>Action</i>	559
Case study 10.1: Transforming an entire industry and supply chain: Spotify and Spotify Connect	523	<i>Rewards</i>	560
Definitions of digital transformation	524	<i>Investment</i>	560
Definitions of digital business transformation	524	2 User data analysis	561
Why is digital business transformation not just about IT?	525	<i>Main areas of user testing</i>	561
<i>The applications portfolio – a precursor to digital business transformation</i>	525	3 Conversion rate optimisation	562
The emergence of digital transformation as a discipline	530	<i>Key CRO elements</i>	562

<i>A/B and multivariate testing</i>	564	Principles of performance management and improvement	590
<i>Clickstream analysis and visitor segmentation</i>	567	<i>Stage 1: Creating a performance management system</i>	590
Budgeting	569	<i>Stage 2: Defining the performance metrics framework</i>	592
Case study 10.2: Learning from Amazon's culture of metrics	571	<i>Focus on Measuring social media marketing</i>	596
4 Viral growth	575	<i>Stage 3: Tools and techniques for collecting metrics and summarising results</i>	598
<i>Inherent virality: Skype</i>	576	<i>Collecting site outcome data</i>	599
<i>Artificial virality: Giffgaff</i>	577	<i>Selecting a web analytics tool</i>	600
<i>Word-of-mouth virality: Zappos</i>	577	<i>User testing prioritisation</i>	603
<i>Measuring virality</i>	577	<i>Summary</i>	603
5 Retention and scalable growth	577	<i>Exercises</i>	604
Creating the right environment for growth hacking	579	<i>References</i>	605
Bridging the digital and physical world	580	<i>Web links</i>	607
<i>Best traditional marketing methods for growth hacking</i>	580	Glossary	609
Case study 10.3: How Leon used PR to growth hack	582	Index	623
Growth hacking framework	583		
Twenty traction channels to test	585		
Data analysis	586		
Measuring implementation success	589		
<i>Focus on Web analytics: Measuring and improving performance of digital business services</i>	589		

Lecturer Resources

For password-protected online resources tailored to support the use of this textbook in teaching, please visit

www.pearsoned.co.uk/chaffey

