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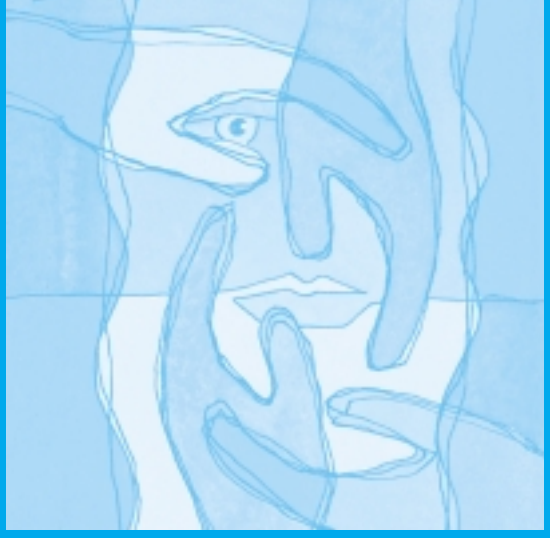

STRATEGIES for *e*-BUSINESS

Creating Value through Electronic and Mobile Commerce

Concepts and Cases

TAWFIK JELASSI
ALBRECHT ENDERS

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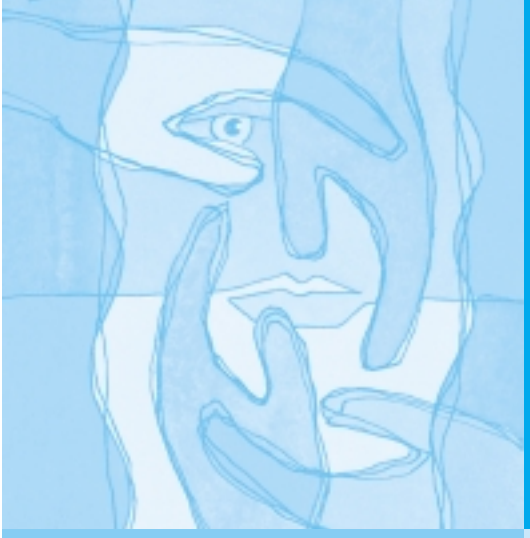


Part 1

PART OVERVIEW

This introductory part sets up the overall context for the book. It contains the following elements:

- A definition of the key terminology used throughout the book
- An overview of the evolution of e-business over time
- A discussion of how concepts and cases contribute to building e-business competence

INTRODUCTION

The goal of this introductory part is to provide a guide and a context for the content of the book. Chapter 1 starts out with definitions of the most important terms used in the book, such as e-business, electronic commerce and mobile e-commerce, and the concepts of strategy and value creation. It then provides an overview of the evolution of e-business over the past decade and recognizes four distinct periods: (1) the grassroots of e-business, (2) the rise of the Internet, (3) the crash, and (4) the consolidation phase. Chapter 2 shows how cases and concepts help to enhance creativity and analytic abilities, leading to increased overall e-business competence.

CHAPTER 1

Key terminology and evolution of e-business

Chapter at a glance

Learning outcomes

After completing this chapter you should be able to:

- Understand what the terms of 'e-business', 'electronic commerce' and 'mobile e-commerce' mean.
- Define the concept of strategy and differentiate between different levels of strategy development.
- Describe the life cycle of technological revolutions and illustrate it through different historic examples.
- Recognize the four main periods of the e-business evolution over the past decade and explain the peculiar characteristics of each period.

INTRODUCTION

The purpose of this chapter is to set up the stage for the remainder of the book. Since, due to the relative novelty of e-business, there is not yet a clear and shared view of what this domain entails, we first want to ensure a common understanding of the key terminology used throughout the book. Section 1.1 includes the definition of e-business-related terms and concepts as well as some strategy-specific perspectives. Following that, Section 1.2 provides a framework that describes the typical stages of technological revolutions and positions the evolution of electronic business during the past decade within this framework.

1.1 Key terminology

1.1.1 e-Business[1]

The term 'e-business' is defined here as the use of electronic means to conduct an organization's business internally and/or externally. Internal e-business activities include the linking of an organization's employees with each other through an intranet to improve information sharing, facilitate knowledge dissemination, and support management reporting. E-business activities also include supporting after-sales service activities and collaborating with business partners, e.g., conducting joint research, developing a new product, and formulating a sales promotion.

In spite of the distinct terminology that is used, e-business should not be viewed in isolation from the remaining activities of a firm. Instead, an organization should integrate online e-business activities with its offline business into a coherent whole. The FT article 'It's too early for e-business to drop its "e"', provides a further discussion of the importance of the 'e' in e-business.

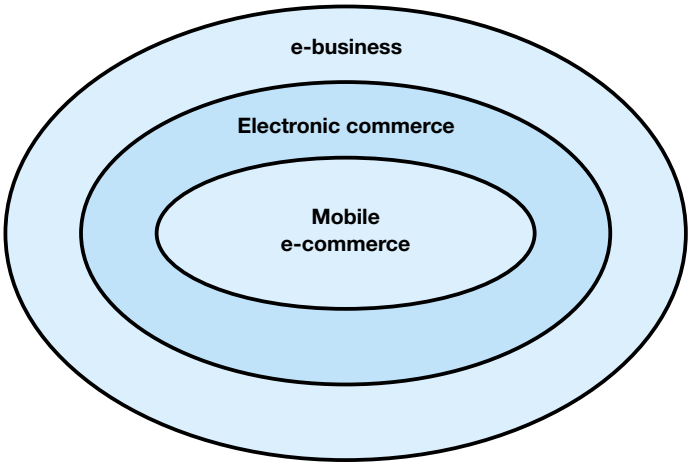
1.1.2 Electronic commerce

Electronic commerce, or e-commerce, is more specific than e-business and can be thought of as a subset of the latter (see Exhibit 1.1). Electronic commerce deals with the facilitation of transactions and selling of products and services online, i.e. via the Internet or any other telecommunications network. This involves the electronic trading of physical and digital goods, quite often encompassing all the trading steps such as online marketing, online ordering, e-payment, and, for digital goods, online distribution (i.e. for after-sales support activities). e-Commerce applications with external orientation are buy-side e-commerce activities with suppliers and sell-side activities with customers.

1.1.3 Mobile e-commerce

Mobile 'e-commerce', or m-commerce, is a subset of electronic commerce. While it refers to online activities similar to those mentioned in the electronic commerce category, the underlying technology is different since mobile commerce is limited to mobile telecommunication networks, which are accessed through wireless hand-held devices such as mobile phones, hand-held computers and personal digital assistants (PDA).

Exhibit 1.1 Electronic business includes electronic commerce and mobile electronic commerce



Source: adapted from D. Chaffey, *E-Business and E-Commerce Management*, FT Prentice Hall, 2002, p. 9.

FT

It's too early for e-business to drop its 'e'

Jargon is used to make the banal sound enthralling, the simple sophisticated. It is often used to disguise the fact that the speaker, or writer, does not know what he is talking about, or cannot be bothered to find a more precise word. In the past five years, one letter has come to symbolize the worst of jargon. The fifth letter in the Roman alphabet, it has been used in front of business, commerce, finance, procurement, learning, enablement, government. Almost any noun you can think of has probably been an e-noun. Companies have used 'e' liberally to give themselves a buzz on the stock market.

Now, 'e' is on its way out. Yet, despite everything I have said, this is bad news. The 'e' has been chased away by the dotcom crash, which transformed it from magic drug to kiss of stock market death. But, even before that, it was going out of fashion. One senior consultant told me in 2000 that the 'e' would be dropped by his organization within a year or two (it was). His argument – widely accepted – was that internet-based business would become so pervasive that it would be pointless, indeed damaging, to talk about it as a separate discipline.

E-business would and should disappear into business. And so it should; but not yet. At the Richmond Events e-forum last October, several hundred senior managers from blue-chip companies gathered on a cruise ship to be assaulted by a mixture of cabernet sauvignon and hard sell from vendors of e-services of various sorts. There was a 'last days of Rome' feeling about it, as delegate after delegate let slip that he or she had either just left their e-job, or was about to.

What was particularly interesting was that people were revealing their 'real selves' beneath their e-titles: they were either information technology people, or they were something else. While a few could talk strategy and technology with equal fluency, most gave their backgrounds away. They were happy speaking about marketing and strategy, or about integration issues; not both.

I have since received a letter from Richmond Events announcing the death of e-forum, saying that its functions would be rolled into either the IT directors or the marketing forum. The divide that was apparent at the event has been formalized.

Why does this matter? Because, even as it has crumbled, the value of the letter 'e' has become ever more clear. It is, or has been, a bridge between technical and non-technical managers.

From the earliest days of the commercial internet, proponent after proponent of the strange new medium said the same thing: 'Don't let the IT people run it.' They believed the effective use of the internet depended not on the technology but on a strategic understanding of what it could do.

Technologists were, of course, vital for implementing the strategy, but they often knew too much about the trees to be able to see the wood. Also, most IT directors had a 'supplier' role to an organization; they were rarely involved in strategic decision-making.

As the commercial internet became e-commerce and then e-business this view held, though there were tensions. Many companies put their trust in new media consultancies led by marketing people who loved to talk strategy. 'Leave your strategy to us; we understand it better than you can,' they would tell their open-walleted clients. They hired technical people – indeed, the real skills shortage was at the technical end – but they kept control.

Sadly, these agencies also sowed the seeds of their own destruction, because they could not match either the technical skills of systems integration specialists, or the strategic skills of the big consultancies. Meanwhile, a sizeable minority of organizations kept their e-business strategy in-house and under the control of their IT departments. Add to this the rush by boards to pour money into Internet ventures simply for the sake of tickling the share price and it is not surprising that so much was wasted so fast by so many.

How is it, then, that any companies managed to exploit the new technology effectively? How did Cisco, Dell, Electrocomponents, General Electric manage it?

Largely, because people at the summit saw that the secret was in bringing technologists and non-technologists together and making them work together – and often they used the banner 'e' as a marshalling-point. The good e-business managers I have met are (or were) either technologists on the way to becoming strategists, or non-technologists with an increasing understanding of IT. On the way, I stress; rarely close to achieving fluency in both.

The new media agencies, for all their arrogance, were also attempting to master both skills. Again, they had a long way to go; so it is a shame that they have been humbled so brutally. The danger, as the e-bridge crashes into the river, is that the great unrealized possibilities of the internet will be swept away with it. When an organization has a cadre of managers with a real understanding of both strategy and technology, fine – let the bridge collapse. But until then, some form of e-business department and function – labeled with whatever jargon – should remain essential to any intelligent group's structure.

Source: D. Bowen, 'It's too early for e-business to drop its "e"', *Financial Times*; May 21, 2002.

1.1.4 The concept of strategy

In addition to e-business, strategy is the second key thrust of this book. More specifically, we analyze and illustrate how firms develop and implement strategies for their e-business activities and draw lessons and guidelines from the studied practices. However, we should recognize that the term 'strategy' means different things to different people. To get a clear understanding of the meaning of strategy the way it is used in this book, let us first consider the following definitions of strategy and then suggest a common foundation.

Strategy is:

> … the direction and scope of an organization over the long-term, which achieves advantage for the organization through its configuration of resources within a changing environment to the needs of markets and fulfill stakeholder expectations.
>
> Gerry Johnson and Kevan Scholes[2]

> … the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out theses goals.
>
> Alfred Chandler[3]

> … the deliberate search for a plan of action that will develop a business's competitive advantage and compound it.
>
> Bruce Henderson.[4]

> … the strong focus on profitability not just growth, an ability to define a unique value proposition, and a willingness to make tough trade-offs in what not to do.
>
> Michael Porter[5]

Based on the above definitions, we would like to stress the following aspects that are crucial for strategy formulation:[6]

- Strategy is concerned with the *long-term direction* of the firm.
- Strategy deals with the *overall plan for deploying the resources* that a firm possesses.
- Strategy entails the willingness to make *trade-offs*, to choose between different directions and between different ways of deploying resources.
- Strategy is about achieving unique positioning vis-à-vis competitors.
- The central goal of strategy is to achieve sustainable *competitive advantage* over rivals and thereby to ensure lasting profitability.

Having defined the concept of strategy, we can now differentiate it from the concept of *tactics*, a term that is often used interchangeably with strategy. Tactics are schemes for individual and specific actions that are not necessarily related with one another. In general, specific actions can be planned intuitively because of their limited complexity. A firm can, for instance, have a certain tactic when it launches a marketing campaign.

Strategy, on the other hand, deals with a more overarching formulation that affects not just one activity at one point in time but all activities of a firm over an extended time horizon. To achieve consistency between different activities over time, intuition is generally not sufficient; it also requires logical thinking. Drawing an analogy with

warfare, we could say that while tactics are about winning a battle, strategy is concerned primarily with winning the war.

Furthermore, it has often been argued that the increasing importance of technology reduces the need for clear strategies. Firms should instead focus primarily on getting their technology to work. This is especially true for the technology underlying e-business and electronic commerce. Yet, technology is not, and cannot be, a substitute for strategy. In fact, overlooking strategy and how a firm can create sustainable competitive advantage is a likely recipe for failure. Just because certain activities are feasible from a technological perspective does not mean that they are sensible from a strategic perspective. Ultimately, IT and the Internet should be used not for the sake of using them but instead to create benefit for customers in a cost-efficient way.

Formulating long-term strategies has become more difficult due to the continuously changing business environment. How long-term can a strategy be when the technological environment is permanently changing? This is obviously a difficult question that has no clear-cut answers to it. When a disruptive innovation emerges and redefines the basis of competition, previous strategies become all but worthless. This was the case, for instance, when Amazon.com entered the book-retailing market with its online bookstore and when Napster launched its file-sharing platform for online music distribution. Nonetheless, it is important to be aware of the trade-offs that arise when a firm gives up long-term strategy in return for short-term flexibility.

Within organizations, we typically recognize the following three different levels of strategy (see Exhibit 1.2). They are (1) *corporate-level strategy*, (2) *business unit strategy* and (3) *operational strategy*. It is important to note here that most of the cases featured in this book deal primarily with issues related to the first two levels of strategy.

Corporate-level strategy

The highest strategy level, i.e., the corporate-level strategy) is concerned with the overall purpose and scope of the firm. It typically involves the chief executive officer (CEO) and top-level managers. Corporate strategy addresses issues such as how to allocate resources between different business units, mergers, acquisitions, partnerships and alliances.

Consider, for instance, the merger in 2000 between AOL and Time Warner, where the CEOs of both firms looked across all the businesses of their respective companies before deciding to merge the two corporations. Another example of corporate strategy that is important in the e-business context is the choice of distribution and sales channels. For example, the top management of Tesco plc first made the decision in 1995 about whether to use the Internet to sell groceries online and then on how to set it up organizationally (see Section 9.3 for a discussion of the different ways of organizing e-commerce ventures). Only then was the responsibility delegated from the corporate level to the Tesco.com business unit.

Business unit strategy

Business unit strategy is concerned primarily with how to compete within individual markets. Dell, for instance, operates distinct business units that target large corporate

customers, private households and public-sector customers. Since these are very separate markets, with differing needs and preferences, it is also necessary to formulate a distinct business unit strategy for each one of these markets (see Section 4.1.2 on market segmentation for e-commerce).

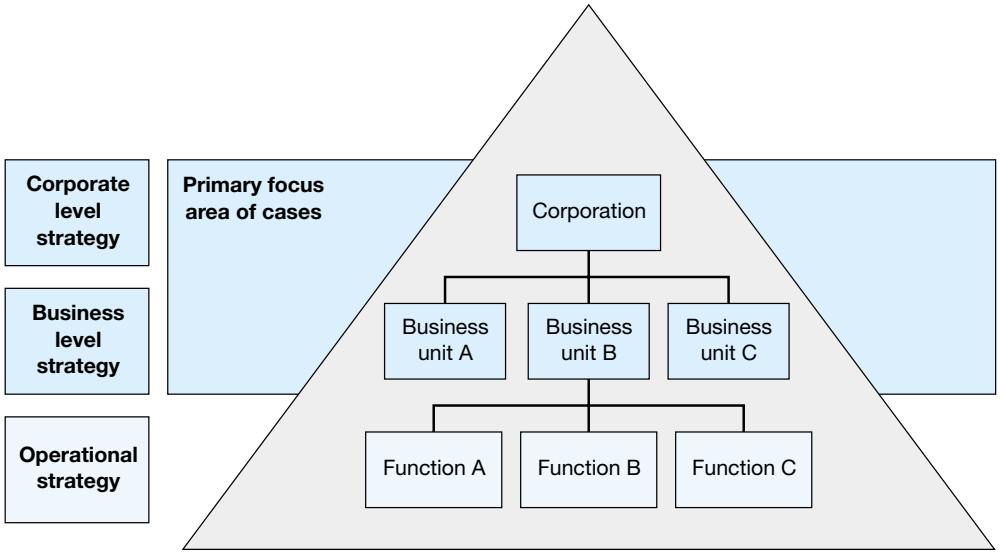
At a more detailed level, a business unit strategy deals with issues such as industry analysis, market positioning and value creation for customers. Furthermore, when formulating a business unit strategy, it is also necessary to think about the desired scale and scope of operations.

Operational strategy

Operational strategy deals with how to implement the business unit strategy with regards to resources, processes and people. In the context of e-business, this includes issues such as optimal website design, hardware and software requirements, and the management of the logistics process. Furthermore, this also includes operational effectiveness issues, which are addressed by techniques such as business process reengineering (BPR) and total quality management (TQM).

Although these approaches are important, they do not belong intrinsically to strategy formulation, since, as stated above, strategy is about making trade-offs; that is, about deciding which activities a firm should perform and which ones it should *not* perform. Operational issues are of high importance for any organization; however, they are not the primary focus of this book, and covering them in-depth would overextend the scope of the book.[8]

Exhibit 1.2 **The focus area of the cases is on corporate level and business unit strategy**



1.1.5 The concept of value creation

The ability of a firm to create value for its customers is a prerequisite condition for achieving sustainable profitability. In the context of e-business strategies, the concept of value creation deserves special attention because many Internet start-ups that ended up in bankruptcy at the end of the Internet boom years did not pay enough attention to this issue. Instead, they were frequently concerned mainly with customer acquisition and revenue growth, which was sustainable only as long as venture capitalists and stock markets were willing to finance these firms.

Nowadays, however, in a harder and more turbulent business environment, it is imperative that strategies focus on what value to create and for whom, as well as how to create it and on how to capture the value in form of profits. In economic terms, value created is the difference between the benefit a firm provides to its consumers and the costs it incurs for doing so. Because of the importance of value creation, we devote all of Chapter 5 to this topic and address the various issues related to this concept.

1.2 The evolution of e-business

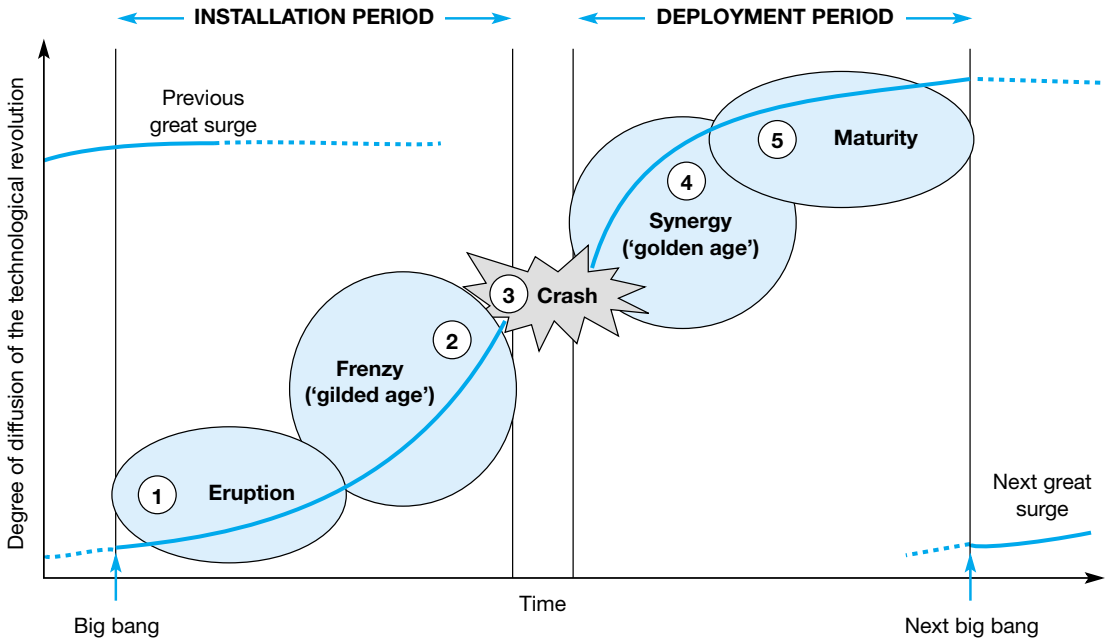
Before discussing e-business from a structural perspective through the e-business strategy framework presented in Part 2, we first want to analyze the evolution of e-business over the past decade and compare it with the life cycle of other *technological revolutions*. Carlota Perez defines them as a 'powerful and highly visible cluster of new and dynamic technologies, products and industries, capable of bringing about an upheaval in the whole fabric of the economy and of propelling a long-term upsurge of development'. [9]

Whether the printing press, steam engine, railway or car, all technologies have gone through similar surges. Perez divides the surge of a technological revolution into two consecutive periods: (1) the *installation period*, which consists of an *irruption* stage and a *frenzy* ('gilded age') stage, and (2) the *deployment period*, which consists of a synergy ('Golden age') stage and a *maturity* stage. These stages are typically separated by a downturn or crash, as shown in Exhibit 1.3.

Below, we describe in more detail each stage of a typical surge of a technological revolution:[10]

- *Irruption (1)*. The irruption stage takes place right after a new technology is introduced to the market. Revolutionary new technologies, also called 'big bangs', include the mechanized cotton industry in the 1770s, the railway construction in the 1830s, and, more recently, Intel's first micro-processor in 1971. During the irruption stage, innovative products and services based on the new technology appear and start to slowly penetrate the economy, which is still dominated by the previous technology.
- *Frenzy (2)*. The frenzy stage, also called the 'gilded age', is characterized by a sense of exploration and exuberance as entrepreneurs, engineers and investors alike try to find the best opportunities created by the technological big bang irruption. Using a trial-and-error approach, investors fund numerous projects, which help to

Exhibit 1.3 Technological revolutions move through different stages as their diffusion increases



Source: Adapted from C. Perez, *Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages*, Edward Elgar, 2002, p. 48.

quickly install the new technology in the economy. However, as investors become increasingly confident and excited, they start considering themselves to be infallible. Depending on the technological revolution, they have financed digging canals from any river to any other river, building railway tracks between every city and village imaginable, and, more recently, creating online retailing websites for every conceivable product, be it pet food, medicine or furniture. This process typically continues until it reaches an unsustainable exuberance, also called 'bubble' or 'mania'. At that point, the 'paper wealth' of the stock market loses any meaningful relation with the realistic possibilities of the new technology to create wealth.

- *Crash (3)*. The gilded age is followed by a crash, when the leading players in the economy realize that the excessive investments will never be able to fulfil the high expectations. As a result, investors lose confidence and pull their funds out of the new technology. Doing so sets off a vicious cycle, and, as everyone starts to pull out of the stock market, the bubble deflates and the stock market collapses.
- *Synergy (4)*. Following the crash, the time of quick and easy profits has passed. Now, investors prefer to put their money into the 'real' economy, and the successful firms are not the nimble start-ups but instead established incumbents. While, during the frenzy stage, there were many start-ups competing within an industry, the crash led to a shake-out where most of these ventures went out of business. During the synergy stage, few large companies start to dominate the markets and leverage their financial strength to generate economies of scale and scope. Now, the emphasis is no longer on technological innovation but instead on how to make technology easy to use, reliable, secure and cost-efficient.

In order for the synergy stage to take hold, governmental agencies need to introduce regulations to remedy the fallacies that caused the previous frenzy and the ensuing crash and, by doing so, to regain investors' confidence. For instance, following the stock market crash in 1929, the US government set up separate regulatory bodies for banks, securities, savings and insurances, and also established protective agencies including the Federal Deposit Insurance Corporation (FDIC) and the Securities and Exchange Commission (SEC).

- *Maturity (5):* The maturity stage is characterized by market saturation and mature technologies. Growth opportunities in new and untapped markets are becoming scarcer, and there are fewer innovations resulting from the new technology. During this stage, companies concentrate on increasing efficiency and reducing costs, for instance through mergers and acquisitions. In today's mature automobile industry, for example, large global manufacturers such as Daimler Benz and Chrysler, and Renault and Nissan, have merged or established strategic partnerships in order to generate scale effects and expand market reach.[11]

For a more extensive example of a surge of a technological revolution, consider the evolution of the railway industry in England. Railroads started to become popular in the 1830s. Many entrepreneurs, financed by eager investors, started constructing railway routes throughout the country, which culminated in an investment bubble in 1847. Initially, when building railway tracks, investors sought out those projects that showed a clear need and were easy to build. As the bubble kept growing, investors, searching desperately for investment opportunities, started to fund projects for which there was hardly any demand and that were complicated and costly. Ultimately, railway companies were even building tracks that were running in parallel to one another, even though it was obvious that only one track could be operated profitably in the long term.

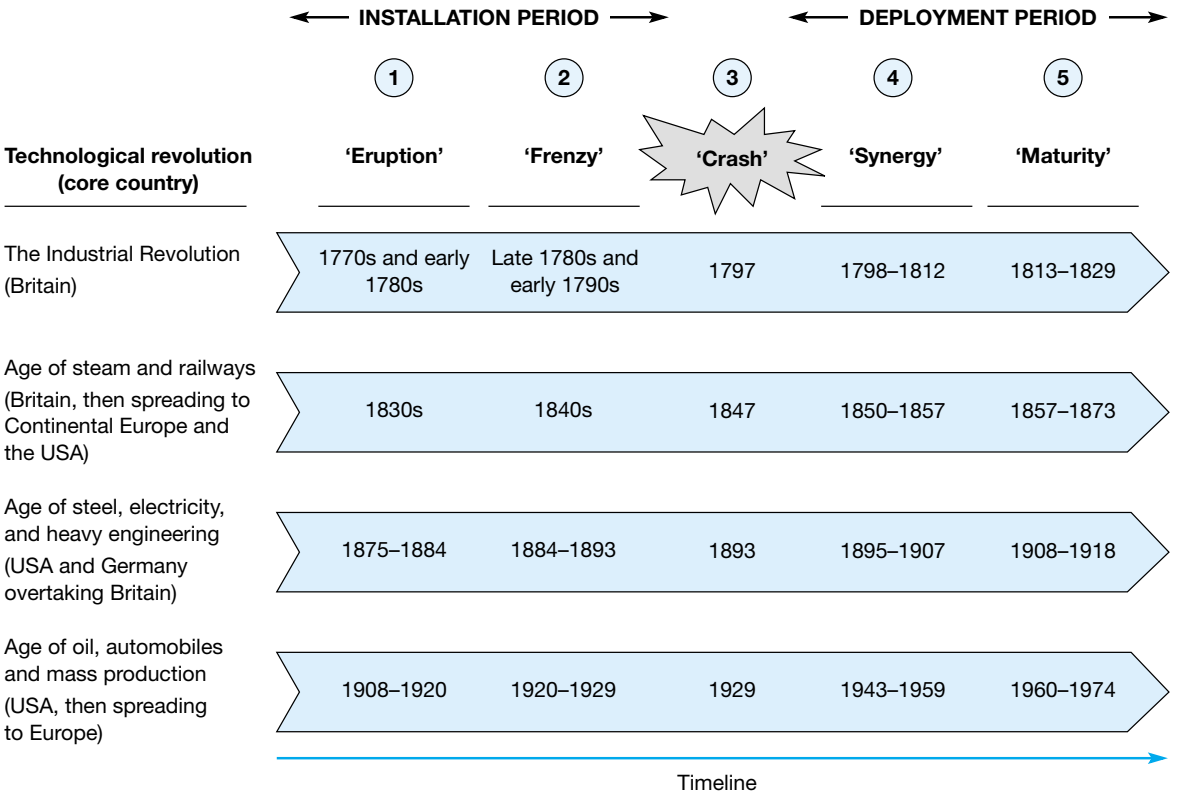
Inevitably, the railway bubble burst; after the dust had settled, the stocks of railway companies had lost 85% of their peak value. After the crash in 1847, when a large number of railroad companies went bankrupt, the industry bounced back, rapidly increasing mileage and passengers, and tripling revenues in just five years after the bust. After 1850, railways drove much of England's economic growth, and they continued to dominate the transportation market until the automobile became a medium of mass-transportation in the middle of the twentieth century.[12]

We can observe similar evolutions with other technological revolutions, such as steel production, steam energy and, more recently, the automobile (see Exhibit 1.4). The above perspective illustrates that the time from the first commercial usage of a new technology to its widespread application can stretch over a periods lasting up to 50 years. Within these long periods, their diffusion and growth are not continuous. Instead, they are often marked by a crash, when the initial exuberance and optimism about a new technology fades.

One of the main reasons for these long gestation periods between the irruption and the synergy stages is that it is not sufficient to just have the appropriate technology in place. In addition, managers need to be willing and able to abandon previous ways of doing things and start using the new technology in such a way that it actually creates value. This takes time and requires a lot of experimenting and fine-tuning.

The development of e-business has been quite similar to that described above. During the past decade, e-business has changed dramatically, evolving through the

Exhibit 1.4 Major technological revolutions during the past two centuries show similar patterns of evolution



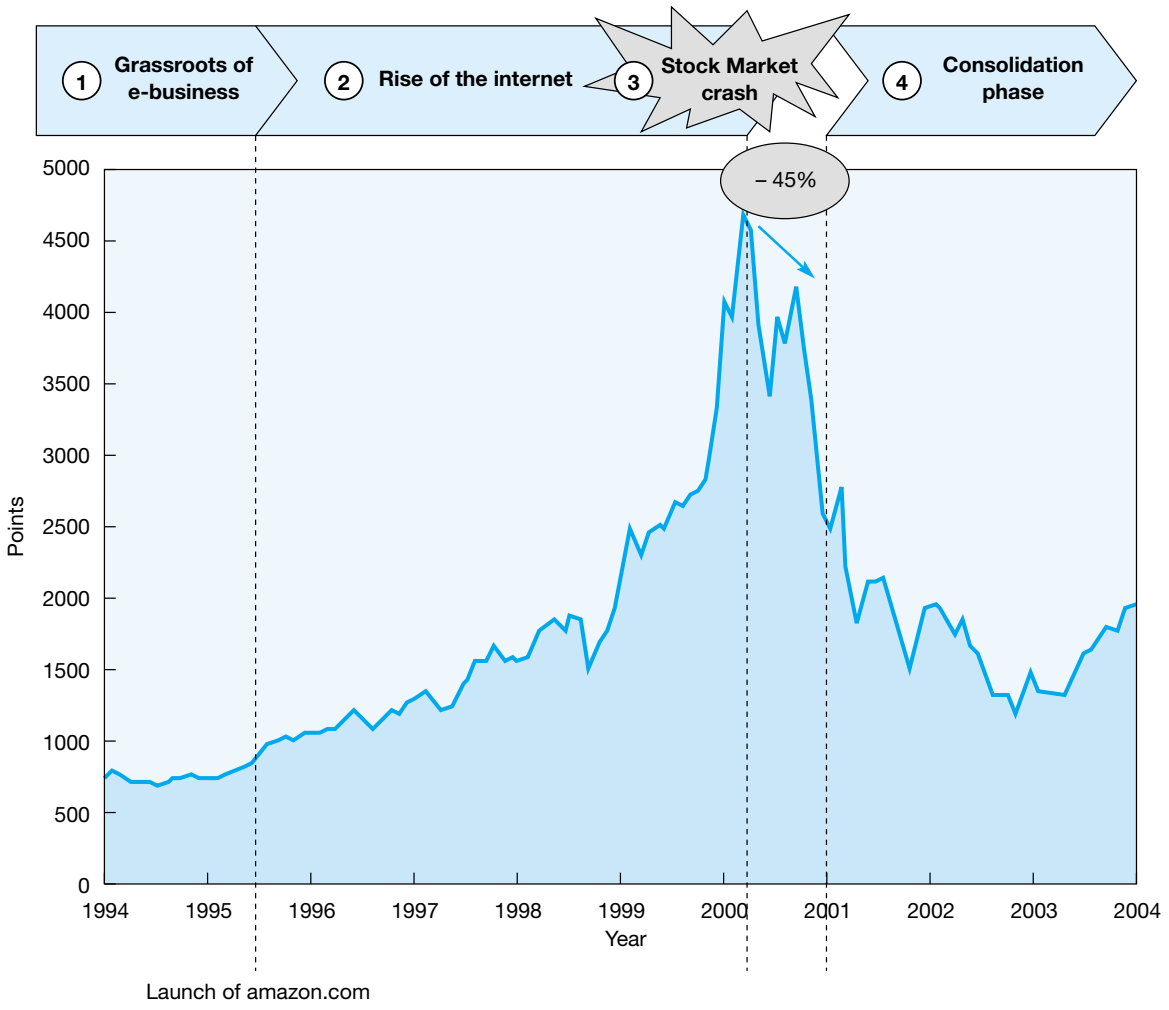
Source: Adapted from C. Perez, *Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages*, Edward Elgar, 2002, p. 57.

following four periods (shown in Exhibit 1.5), which mirror the evolution of the National Association of Securities Dealers Automated Quotations (NASDAQ)[13] during the same time period.

- *Grassroots of e-business (1)*. Before the widespread commercial use of the Internet, the NASDAQ showed only modest increases. Between 1983 and 1993, it hardly doubled from 350 to 700 points. We refer to this period as the grassroots of e-business which corresponds to the irruption stage in the Perez model.
- *Rise of the Internet (2)*. Even though the beginning of the dot.com boom cannot be determined precisely, we chose 1995, the year when Amazon.com was launched, as the starting point of the rise of the Internet period.[14] The year 1995 also saw the going public of Netscape, the maker of the Netscape Navigator Web browser, which presented the first initial public offering (IPO) of a major Internet company. This period, which corresponds to the 'gilded age', finds its reflection in the strong rise of the NASDAQ, especially during the late 1990s. At the peak of this frenzy stage, the NASDAQ traded at price/earning (p/e) ratios of 62, after it had not exceeded p/e ratios of 21 in the years between 1973 and 1995.[15]

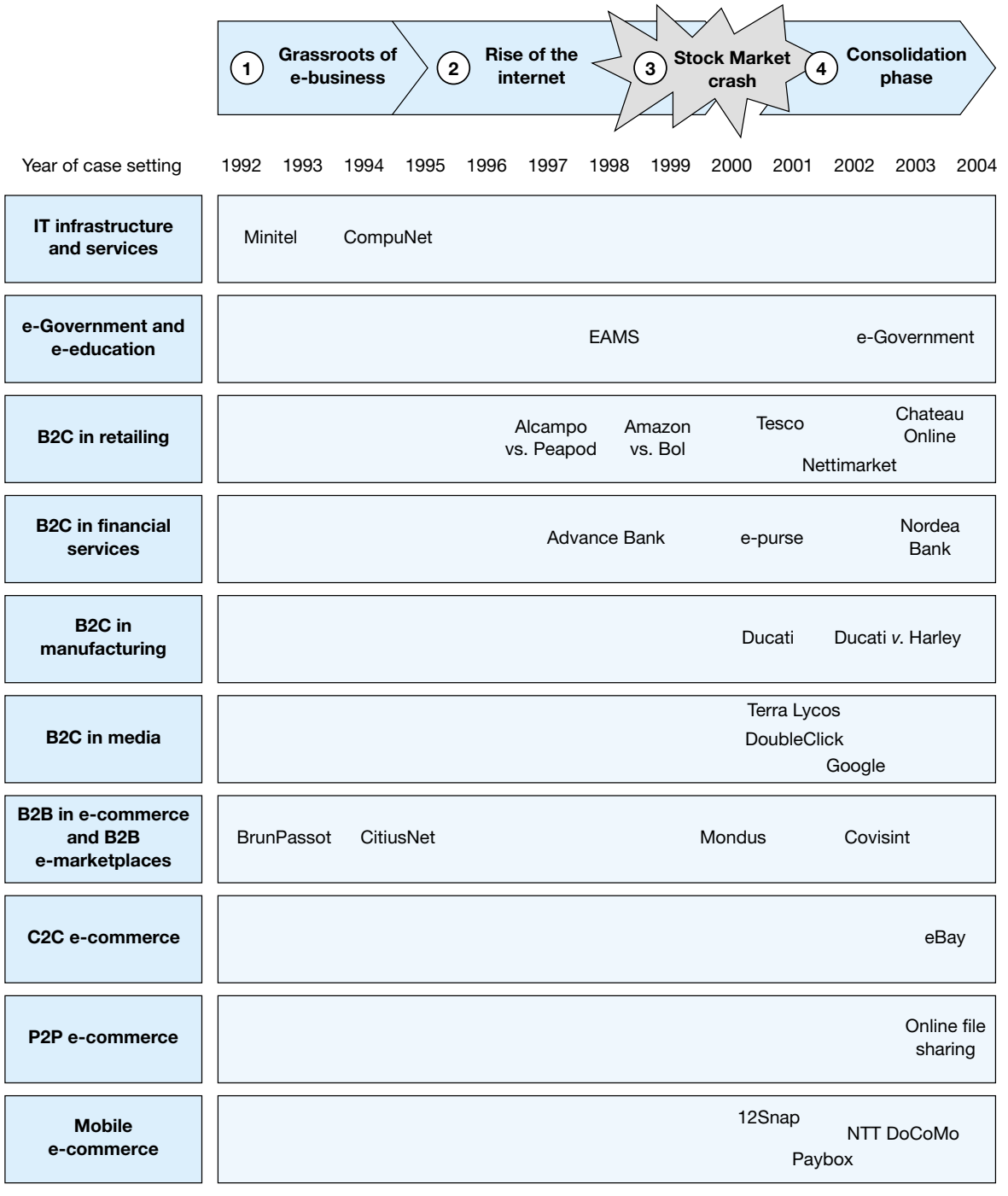
- *Crash (3)*: The bubble burst in March and April of 2000, when the NASDAQ crashed. Between 10 March and 14 April 2000, the NASDAQ dropped 1727 points or 34%. By the end of 2000, it had fallen by 45%.
- *Consolidation phase (4)*. The subsequent consolidation has been characterized by a more sober approach to e-business and a refocusing on the fundamental drivers of value creation. The NASDAQ continued its decline for another two years, albeit at much slower rates, until it bottomed out in early 2003. At the time of the writing of this book in autumn 2003, we are witnessing signs of an e-business revival, as is reflected in the rise of the NASDAQ during the second half of 2003. If this trend continues, it would mean that this consolidation phase presents the beginning of the synergy stage ('golden age'), mentioned in the Perez model.

Exhibit 1.5 During the past decade, e-business companies have passed through four distinct periods, as reflected in the evolution of the NASDAQ



Source: NASDAQ quotes taken from Factiva.com.

Exhibit 1.6 The case studies in the book cover the four periods of the e-business evolution



Source: NASDAQ quotes taken from Factiva.com.

In the following sections, the above three time periods are discussed in more detail. The purpose of doing so is twofold:

- First, to provide a longitudinal context for the case studies that are presented in Part 3 of this book (see also Exhibit 1.6). Each case study presents unique insights into the main characteristics of each specific period. These are demonstrated by the content of each case and also the quotes provided by the top management of the companies featured in the case. For instance, the following statement, made by Jeff Bezos, CEO of Amazon.com, in 1998, was perfectly acceptable at that time, but it would hardly be welcomed by investors in today's business climate: '*We are going through a critical stage right now. We want to extend our offer on a global scale and we want to invest even more in customer service; that's all very expensive. This would be a miserable moment to make profits.*'

  Also, the chief technology officer of 12 Snap, a German start-up company offering mobile marketing services, would have probably made a more exuberant statement during the boom years than the one he made in 2001, when he commented on the strategy of his firm: '*In the next couple of quarters, there is no such a thing as a high growth, high-risk business model. It's our job to create money and a viable business, and that's the focus for now.*' Thus, while focusing on the content issues of the cases presented in the book, we also find it particularly revealing to notice how different economic situations influence the actions and statements of the executives and managers who are portrayed throughout the cases.
- Second, to explain with hindsight some of the underlying characteristics of each time period using concepts such as the five forces industry framework, value creation and capturing, and economies of scale and scope. These concepts are explained in more detail in Part 2.

1.2.1 The grassroots of e-business

Before the Internet became a widely used platform for conducting e-business transactions, companies were already using other information and communication technologies (ICT) infrastructures. These included electronic data interchange (EDI), inter-organizational information systems (IOS), and public IT platforms such as the Minitel videotext system in France. They enabled companies to internally connect their business functions and also to reach out to their suppliers, customers and third-party partners.

However, the value-creation potential of these technologies was limited due to the high costs involved and the limited benefits that were achieved. System implementation costs were high since most of these ICT infrastructures were more or less proprietary and had to be adapted extensively to the individual needs of each company.

The benefits of these systems were limited due to two factors. First, the number of companies using these IT systems was relatively low compared with today's ubiquitous Internet, thus limiting the number of potential partners. Second, even if a company used an ICT infrastructure, its IT systems and applications were not compatible with those of its business partners. This made it difficult at best, and if not impossible, to inter-connect different 'islands of technology'. As a result of the above

factors, e-business existed to only a limited extent within and across companies or even beyond national boundaries (see the FT box 'Minitel proves a mixed blessing').

The case studies of Brun Passot, a French paper manufacturer and office supplies distributor, and of CitiusNet, a horizontal e-marketplace, illustrate how in the late 1980s e-business enabled and early 1990s electronic trading between companies. At that time, the Internet was not yet available for commercial use. These companies leveraged an alternative platform, the Minitel system, which was developed by the French government and rolled out nationwide in 1982.

The case study of CompuNet, a German IT product reseller and service provider, shows how a firm used IT before the advent of the Internet to provide top-quality service to its corporate customers. CompuNet relied on technologies such as computer–telephony integration (CTI), enterprise resource planning (ERP) systems, and groupware to remotely service its customers' IT network and offer a unique life cycle guarantee of the PC product.

FT

Minitel proves a mixed blessing

When Internet service providers began to promote their services in France in 1996, France Telecom, then a state-run monopoly, immediately stepped up advertising for Minitel, the French online service, in an effort to shield it from the competition.

Four years later, Wanadoo, France Telecom's internet arm, is the country's biggest ISP and the former monopoly – now the largest market capitalisation on the Paris Bourse – is selling ADSL high-speed internet connections to the country's households and small businesses.

'In France, you cannot dissociate the internet from Minitel,' says Philippe Guglielmetti, chief executive of Integra, the country's pioneer in e-commerce services and infrastructure.

Minitel, launched in 1983, was a rudimentary equivalent of today's net-PC. Roughly double the size of a table-top telephone set, it had no storage capabilities, a black and white screen displaying text only, and an in-built modem that was slow by today's standards. Millions of terminals were handed out free to telephone subscribers, resulting in a high penetration rate among businesses and the public. Paradoxically, Minitel is now blamed for the country's slow take-up of the internet, and hailed as the platform from which France can leap on to the worldwide web.

'French consumers have been making online purchases for more than 15 years,' says Ramzi Nahas, managing director of Fimadex, a venture adviser. 'Minitel has played an important role in dispelling consumers' fears about making payments on a screen.'

The French still feel that credit card details are more secure on a less open system. In 1995, before net access was widely available, 16 per cent of train reservations on the SNCF national railway were made through Minitel. France Telecom estimates that almost 9m terminals – including web-enabled PCs – had access to the network at the end of last year. In the past few years, Minitel connections were stable at 100m a month plus 150m online directory inquiries, in spite of growing internet use.

A recent survey of Wanadoo customers showed that 82 per cent also used Minitel regularly. More significantly, 14 per cent started logging on to Minitel after they became web users.

Other surveys show that Minitel is more efficient than the net for some uses. According to France Telecom, a train reservation takes on average 3.5 minutes on Minitel, compared with 4.5 minutes on SNCF's website. Directory inquiries take 30 seconds and 1.5 minutes respectively. But there are signs that sophisticated users of Minitel are switching to the Internet.

Customers of Cortal, the online brokerage of Paribas bank, have been trading securities on Minitel since 1993. Barely a year after Cortal launched internet trading in October 1998, two-thirds of online trades had shifted to the new service, with Minitel handling the remaining third.

France Telecom, which has invested large sums to develop Minitel, believes it will co-exist – and gradually converge – with the net in the coming years. Software to access Minitel has been embedded in the French version of the Windows 98 operating system, alongside Microsoft's Internet Explorer web browser.

France Telecom is not alone in hanging on to Minitel. Most French companies are also attached to the network, partly because of the investment they have made but mainly because they have perfected the methods to generate revenues from online activities.

France Telecom charges Minitel users, at rates of up to $1 a minute, on their monthly telephone bill. It then pays back part of the sum to the companies that operate Minitel servers.

In 1998, Minitel generated €832m ($824m) of revenues, of which €521m was channeled by France Telecom to service providers. Wanadoo's sales (which are not published) are 'insignificant in comparison', according to a company official.

Analysts say Minitel's structure, a monopoly operated by a governmental organisation, was a blessing and a curse. 'That it operated on a single network made it safe and allowed e-commerce to take off in France,' says Mohamed Lakhlifi, sales manager at Unilog, a Paris-listed computer services company. 'But regulatory hurdles and the absence of competition stifled innovation.'

Another consultant says habits acquired in the Minitel age are tempering managers' enthusiasm for the internet. 'Almost two-thirds of projects that start as ambitious internet operations end up being scaled down to a website that connects users to the company's existing Minitel server,' says an IT specialist.

Mr Nahas at Fimadex says the average age of French senior managers is higher than in the US, 'which means they are less computer literate. Most of these managers see the internet as just another way of channelling orders for their products. Very few are aware that their whole marketing strategy must be reviewed.'

But Minitel's most important contribution to French e-business will undoubtedly be in the form of lessons learnt. Minitel provides more than 15 years of statistics about retailing and online usage habits.

'A lot of what is happening on the internet today took place locally [in France] in the 1980s,' says an information technology consultant. 'We have known for years that sex chat rooms, dating services and financial applications are the engines of innovation and revenue generation in an online environment.'

Integra says the Minitel experience can be transposed into internet business practices. 'Early studies in the US predicted that internet transactions would stabilise at 1 per cent or 1.5 per cent of consumer goods retailing,' says Mr Guglielmetti. 'Our experience with Minitel leads us to think that e-commerce could make up some 10 per cent of sales of products adapted to distance selling.'

Minitel sales in recent years accounted for almost 15 per cent of turnover at La Redoute and Les Trois Suisses, France's biggest mail order companies. Integra estimates that Minitel represents 7–8 per cent of all French distance selling.

One of the biggest barriers to greater internet use is the French language. Integra, which operates web hosting services in several countries, says 90 per cent of its servers are in the language of the country they are based in. 'This is not a problem when your language is English,' says an executive. 'It becomes a problem when your language is less widely used.'

Conversely, French e-business is expected to benefit from a number of national factors. The country is more advanced than most of its neighbours – and the US – in its use of smart-cards. All credit and debit cards issued in France have an embedded chip with a dedicated identification code, which makes online payments more secure.

Source: 'Minitel proves a mixed blessing', **www.FT.com**, 8 February, 2000.

1.2.2 The rise of the Internet

In July 1995, the Internet boom years began with the launch of Amazon.com, today's best-known online retailer. The subsequent five years were characterized by great exuberance and the belief in the seemingly unlimited potential of the Internet. During that time period, the profitability and economic viability of companies and business models did not seem to matter much. Instead, metrics such as 'click-through rates', or 'number of eyeballs', i.e. the number of visitors to a site, were the main determinants for stock market success and media coverage. In the case of the fashion retailer Boo.com, the founder Ernst Malmsten did not even have to provide investors with these kinds of metrics. The mere hope of high future profits allowed Boo.com to spend $30 million of venture capital money, even before launching its website (see the FT box 'Burning money at Boo').

For a more detailed insight into this period, consider the example of Priceline.com, which allowed people to purchase airline tickets through the Internet. Priceline.com went public on 30 March 1999, and the shares that were issued at $16 each soared immediately to $85 each. At the end of the day, Priceline.com had reached a valuation of almost $10 billion, which was more than those of United Airlines, Continental Airlines and Northwest Airlines combined. While these airlines had a proven business model, valuable brands and substantial physical assets, Priceline.com owned only a few computer servers and an untested business model.

In fact, the company even stated in its IPO prospectus that it did not expect to be profitable at any time in the near future, that the business model was new and unproven, and that the brand might not be able to achieve the required brand recognition! Investors ignored these warnings because they believed that they would always be able to sell the stock to someone else at an even higher price. This investment approach during the Internet boom years became known as the 'Greater Fool Theory'.[11] In the USA, some 100 million people, about half of the adult population, had invested in stocks at the peak of the bubble. As the stock market kept soaring, more and more people – who had seen their colleagues and friends get rich – also started investing in Internet stocks. This meant that the chances of finding a 'greater fool' were high – at least during the Internet boom years.

The case studies in this book dating from the above time period and featuring companies such as Advance Bank, Amazon.com BertelsmannOnline (BOL), Alcampo.es, Peapod.com and mondus.com, illustrate this very same spirit of almost boundless excitement and optimism.

The fundamental driver of the e-business boom was the belief that it would be possible to increase value-creation multifold because, as explained below, the Internet would lower costs while, at the same, time increasing consumer benefits:

- *Lower costs.* Costs were expected to decrease significantly because managers and analysts alike believed that Internet ventures would not require heavy investments in expensive bricks-and-mortar infrastructure, such as warehouses, retail outlets and delivery trucks. Instead, they believed that all physical activities could be outsourced to external providers while they focused on the technology aspect of the business and on customer interactions.
- *Higher benefits.* At the same time, the belief was that compared with their more traditional bricks-and-mortar competitors, Internet 'pure-play' companies would provide far superior consumer benefits. It was thought that coupling the two-way connectivity of the Internet with database capabilities and customer relationship management (CRM) systems would create much higher benefits than traditional outlets ever could.

The result of this increase in the value created, so the logic went, was an outward shift in the traditional supply and demand curves, as shown in Exhibit 1.7.[18] First, as a result of lower marketing and distribution costs achieved through the Internet, supply has expanded because suppliers are willing to pass some of their cost-savings on to their customers and offer their goods at a lower price. Second, due to customers' lower transaction costs, demand also expanded. That is, at any given price, customers request more goods. The overall effect of these two movements is an expansion of the market volume, which is shown in Exhibit 1.7 by the new intersection of the e-supply and the e-demand curves.

This still leaves us with the question of why so many companies rushed into this e-market so rapidly during the Internet boom years. Several factors can explain this new 'gold rush' (see also Section 7.2 for a more detailed discussion of early-mover advantages and disadvantages in e-business).

By entering the e-market early, companies were trying to generate scale effects through large sales volumes. They wanted to attract new customers quickly and build up a large customer base. The underlying hope was that once customers had used a website a number of times, then they would be unlikely to switch to a competitor, since they would have to get used to a new website layout and functioning. Furthermore, data-mining techniques would allow online companies to customize their offerings to the specific preferences of the individual customer. By switching to another provider, customers lose this level of customization, at least over the short term.

Internet ventures also expected to create a customer lock-in through network effects. As more and more customers sign up and provide information about themselves, as is the case at eBay and through Amazon.com's book reviews, customers are less likely to switch to competitors unless the latter offer better (or at least similar) network effects. Because of these effects, there was a 'winner-takes-all' expectation, whereby a dominant player would outperform competitors through high-scale economies and network effects.

Finally, and probably most importantly, the peculiar investment climate pushed companies to spend and expand rapidly instead of taking a more cautious approach. In 1999, Silicon Valley venture capitalist firms such as Sequoia Capital and Benchmark Capital invested an all-time high of $48.3 billion. This presented a 150% increase over 1998, and 90% of this money went towards high-tech and Internet companies.[19] In order to qualify for venture capital funding, companies had to convince investors that they would be able to grow big and fast as to fuel the hope of a rapid payback on their investment.

These investors did not necessarily believe in the future of the start-ups they funded. Yet, they knew that, as long as stock markets kept going up and people kept buying Internet stocks, regardless of the underlying business model, they could not go wrong. At the same time, investment bankers and venture capitalists who refused to play this 'game' also knew that they would fall behind their less scrupulous competitors. These perverted incentives contributed significantly to the build-up of the stock-market bubble.

FT

Burning money at Boo: the founders of the infamous Internet company were fools rather than knaves

When Boo.com went into liquidation on May 17 last year, barely six months after its launch, the question was not why the global online fashion retailer had closed. Rather, it was why investors had allowed the company to burn through Dollars 100m before it did so.

It takes only a few chapters of this enthralling book to realise that the answer began with the

personality of Ernst Malmsten, a 6ft 5in Swede of 27, with nerdy glasses. Malmsten, the founder and chief executive of Boo, had already proved himself spectacularly skilled at getting big companies to put money behind strange ideas when he set up a festival of Nordic poetry in New York, signing up as sponsors Ericsson, Saab, Ikea, Carlsberg and Absolut. He later created and then sold a pioneering online book store in Sweden.

When Malmsten turned his attention to selling clothes online in spring 1998, his natural fluency, passion and authority became the fuse that ignited an explosive mixture of investor greed and uncertainty as to whether the web would be earth-changing or merely very big.

Malmsten's partners were Kajsa Leander, a kindergarten playmate turned model turned girlfriend turned business partner, and Patrik Hedelin, an investment banker who had helped them to sell their stakes in the online book store.

The three talked the investment bank JP Morgan into helping them find investors to put up Dollars 15m for the plan – and brought in blue-chip lawyers, headhunters, technology providers and public relations and advertising agencies to add further credibility.

Despite JP Morgan's roster of contacts, they were turned away by venture capitalists with a record in backing technology start-ups. Instead, it was less expert investors who took the bait – notably a small British investment firm called Eden Capital, the luxury-goods magnate Bernard Arnault, the Benetton family and a ragbag of Middle Eastern investors.

As the company approached its target launch date of June 1999, the glamorous young founders generated more and more positive media coverage. Given the received wisdom at that time that only funky young people understood the Internet, the investors left their dream team to get on with opening offices in cool warehouse spaces around the world and hiring hundreds of staff.

But there was a problem: beneath the buzz and excitement, not one of the founders was a capable manager, let alone up to the Welchian task of getting a highly complex international launch project finished on time and on budget.

Instead, they devoted their energies to talking at conferences in Venice, shooting television commercials in Los Angeles, entertaining journalists at Nobu in London and the SoHo Grand in New York, spending Dollars 10,000 on clothes at Barneys so they would look the part on the cover of Fortune, holding staff parties in smart nightclubs before the company even had a product, and flying around the world to investor meetings on Concorde and private jets.

As the schedule began to slip, Malmsten lost faith, one by one, in his partners and underlings. Ericsson was no good at systems integration, he concluded. Hill and Knowlton did not know how to sell the story to the media. JP Morgan was not bringing in investors fast enough. The chief technology officer was not up to his job. Even Patrik, his fellow founder, was too much of an individual to be a good chief financial officer.

With five launch deadlines passed and Dollars 30m spent, Malmsten took all his staff out to lunch at the Cafe Royal in August 1999 to announce that another of his managers would create Project Launch, with a new deadline set for three months later.

It was a measure of the height to which the internet craze had grown that the company's investors, told of the delays at a board meeting three weeks later, did not fire Malmsten and his two co-founders on the spot. Instead, they accepted the assurance that the new November deadline would be met, allowing the company to go public a few months later, and agreed to put up more cash. Astonishingly, a Lebanese investment fund then put in another Dollars 15m at a price that valued the business at Dollars 390m.

Boo.com did open, as promised, in November. But only 25,000 people visited its website on day one, compared with an expected 1m, and it soon became clear that sales would be less than a 10th of the promised target of Dollars 37m in the first seven months. The conclusion seemed clear: Boo's founders had wildly overestimated the market size, their ability to penetrate it, or both.

The company needed another Dollars 20m to last until February and the strategic investor

that JP Morgan wanted to bring in – Federated Department Stores of the US – postponed a deal to put up Dollars 10m until it saw how Christmas sales went. Despite this, the company's investors, still driven more by greed than by fear, provided more cash in the hope of doubling their money in a forthcoming initial public offering. Their new investment valued at Dollars 285m a business that had annualised sales to date of Dollars 3m.

Not even the market crash of March 2000, which killed forever any hope of a quick exit at a profit, managed to restore sanity to investors or management. The Boo founders continued to bicker internally about the depth of the cuts they should be making, while the core investors talked seriously about putting in another Dollars 30m at a price that valued the existing shareholdings at Dollars 20m.

In Malmsten's account, the Boo story is more comic opera than tragedy and its leading characters are fools rather than knaves. The lesson, if there is one, is that the Boo people copied every detail of the fast-growing Silicon Valley start-up except for one key point. The private-jet lifestyle and global partying are what you do after becoming a billionaire. Before getting to profit, you fly economy and spend money for the benefit of customers, not staff.

Source: T. Jackson, 'Burning money at Boo: the founders of the infamous internet company were fools rather than knaves', *Financial Times*, 2001 November 1.

1.2.3 The 'crash'

During 1995–99, investors and managers had artificially inflated market sizes for dot.com companies and overlooked a number of important issues that led to the subsequent end of the Internet boom years.[20]

On the one hand, revenues were artificially inflated through a number of ways. First, in order to gain market share, Internet ventures subsidized customers' purchases of their products. For instance, Internet retailers such as Amazon.com and the pet-food supplier pets.com provided free shipping and delivery to their customers – even for 20-pound dog-food bags. Second, many customers bought products and services online more out of curiosity than to fulfil an actual need. After the novelty wore off, many customers reverted to their traditional buying behaviour. Third, in many instances, revenues for the Internet ventures were generated through stocks from partner companies that enjoyed equally high market valuations.

On the other hand, costs were not represented realistically, which further distorted the true state of the underlying business. In many cases, dot.com companies received subsidized inputs because suppliers were eager to do business with them, which helped them to reduce costs. More importantly, many suppliers and employees accepted equity as payment, expecting that the stock market boom would continue to rise.

The above-mentioned factors resulted in bad operating financials, which did not reflect the actual Internet ventures' business model in terms of costs and revenues. Furthermore, bank analysts, such as Mary Meeker from Morgan Stanley, who, in 1996, wrote the highly publicized *Internet Report*, had pointed out that the focus of investors should be not on current earnings but on earnings potential.[21] Instead, investors were supposed to emphasize the numbers of online customers, unique website visitors and repeat online buyers. Consequently, e-managers, trying to meet investors' expectations, spent heavily on marketing and advertising to attract site visitors and customers, regardless of costs. As it turned out, however, these metrics

might have been a good indicator for spectator traffic on a website, yet they did not represent a reliable indicator of profitability.

On Monday, 13 March 2000, the dot.com bubble started to burst. Within three days, the NASDAQ slid by almost 500 points. At that time, Jack Willoughby, a journalist for *Barron's*, published an article in which he calculated the 'burn-rate' of Internet companies, which measured the rate at which these companies were spending money. He concluded that most of the Internet companies would run out of money within a year:

> When will the Internet bubble burst? For scores of Net upstarts, that unpleasant popping sound is likely to be heard before the end of this year. Starved for cash, many of these companies will try to raise fresh funds by issuing more stock or bonds. But a lot of them won't succeed. As a result, they will be forced to sell out to stronger rivals or go out of business altogether. Already, many cash-strapped Internet firms are scrambling for funding.[22]

This article shattered the hope of investors that, regardless of their economic viability, Internet firms would always be able to raise more money.

Along with most other Internet firms, the stock of the above-mentioned Priceline.com started to slide from $150 at its peak down to less than $2. At this valuation level, the capitalization of Priceline.com would not even have sufficed to purchase two Boeing 747 jets. Other Internet companies faced similar fates and either went bankrupt (see the FT box 'Webvan's billion-dollar mistake'), or were acquired by a larger competitor, often times a traditional bricks-and-mortar company from the so-called 'old economy'. For instance, K·B Toys, an 80-year-old, bricks-and-mortar toy retailer, purchased the intellectual property, software and warehouses of bankrupt etoys.com – once one of the most highly praised online start-ups and valued at $10 billion – and relaunched etoys.com in October of 2001.

FT

Webvan's billion-dollar mistake

The demise of Webvan ends the hope that a business as mundane as grocery shopping could be transformed by a standalone Internet company.

Webvan was the best funded and the most hyped of the online grocers, soaring to an Dollars 8.7bn market valuation on its first day of trading in November 1999. Now it has burned through more than Dollars 1bn of cash in less than two years.

The rise and fall of Webvan is a study in the illusions of the dotcom boom and the wishful thinking of Wall Street. It is leaving little in its wake but a stain on the reputations of the blue-chip backers it attracted in its early days.

Founded in 1996 by Louis Borders of Borders Books, Webvan managed to lure George Shaheen, managing partner of Andersen Consulting, to be its chief executive. Its board was filled with some of the most revered names of the era: Christos Cotsakos of E*Trade, Tim Koogle of Yahoo and Michael Moritz of Sequoia Capital. Its money came from such Silicon Valley powerhouses as Softbank Capital Partners and Benchmark Capital and its shares ▶

were touted by Wall Street's best- known investment banks.

Goldman Sachs said in February 2000 that Webvan could become an Internet franchise to rank alongside AOL and Yahoo. 'Webvan has re-engineered the backend fulfilment system to create a scalable solution to the last-mile problem of e-commerce,' its analysts wrote. Having such names behind it ensured that Webvan was able to come to market – with Goldman as lead underwriter – after only a few months of trading in which it had managed to sell just Dollars 3.2m worth of goods.

Nonetheless, its executives assured investors it had a vast opportunity. Groceries represented a far larger market than books, videos or music – areas in which e-commerce made its first forays. The typical US household spends Dollars 5,000 a year on groceries and goes food shopping more than twice a week.

From the start, the company had big ambitions. Rather than starting off in a large city or two, learning from its mistakes and perhaps making a small profit before expanding, it decided to open in 26 markets within three years.

Each distribution centre would be 18 times the size of a typical supermarket and would cost Dollars 35m. Almost five miles of conveyor belts would bring products to the packers at each site and refrigerated vans fitted with sophisticated global satellite positioning systems would allow each warehouse to serve a 50-mile radius.

It soon became obvious that Webvan was overbuilding – but by then it had nine centres open, each bleeding cash and operating at a fraction of capacity. 'I believe they were doomed from the start because their business model was one that was predicated on reinventing the entire system rather than using any of the exist ing structure,' says Robert Mittelstaedt, vice-dean of executive education at the Wharton School. Webvan's profligate plan 'defied economic sense in a low-margin business', he adds.

Groceries did not offer the prospect of fat margins that a smart new entrant could try to undercut. Kroger's return on sales in 1999 was just 2.2 per cent and Ahold achieved a 4.5 per cent operating margin in the same year. Many online retailers have got round such issues by charging above-market prices for convenience but this was always likely to be a challenge. Most families watch their weekly food bills carefully, as food manufacturers that have raised prices know to their cost.

The hope that e-tailers' gross margins could exceed those of traditional retailers was punctured not only by high fulfilment costs but also by online grocers' lack of purchasing power and the heavy discounting many had to offer to attract customers.

The cost of Webvan's infrastructure, however impressive, eventually prevented it from competing with traditional super-markets. Mr Mittelstaedt says this problem was not unique to online grocers. 'The places you see where (e-tailers) successfully changed the business model have nothing to do with physical distribution – such as recruitment sites,' he says.

Shoppers were not crying out for an alternative way to buy groceries and it is notable that the supermarket model had not been challenged by previous innovations such as catalogues.

Whether Webvan truly offered convenience is also questionable. Although it guaranteed delivery within a 30-minute window chosen by the customer – although not the same day – this still required somebody to be at home to accept the goods.

The one factor that cannot be blamed for Webvan's failure is online competition from traditional grocers such as Safeway, Kroger and Albertson's. All were slow to the Internet and all invested only small sums in online operations.

The big retailers are slowly showing signs of learning from Webvan's mistakes. Ahold invested last year in Peapod, an online-only grocer that now picks merchandise from Ahold's US chains. Safeway last month gave up its warehouse model in favor of a partnership with Tesco, the UK retailer that has built the world's largest online grocery business by using a model whereby orders are assembled in its stores.

Meanwhile, more than 200 of Webvan's delivery vans currently sit outside its closed plant in Lawrence-ville, Georgia, awaiting

auction next month. They are expected to fetch a fraction of what Webvan paid for them.

Webvan's investors now face an anxious wait to see whether they can salvage anything from the physical assets left behind by this supposedly virtual business. For now, it seems, few people apart from the time-stressed technophiles who founded the company really needed Webvan.

There were a few mourners yesterday. Sarah Lonsdale, a San Francisco free lance writer, was until yesterday a devoted user of the service. Now she will have to lug her two children to the grocery store. 'I'm disappointed,' she says. 'Webvan had really got its act together. The convenience of ordering was fantastic.' But in the end, that was not enough.

Source: P. Abrahams and A. Edgecliffe-Johnson, 'A billion-dollar mistake: Webvan's failure has been an expensive lesson for the Internet', *Financial Times*, 10 July, 2001.

1.2.4 The 'consolidation phase'

The consolidation phase began in late 2000, subsequent to the burst of the Internet bubble, which took place in March and April of 2000. e-Business entrepreneurs, managers, investors and the media awoke to the new reality and started reflecting on what had really happened. More importantly, they tried to understand the reasons that led to the failure of so many Internet ventures, as well as the flaws in their business models.

In addition to the hysteria that had distorted valuations, many of these ventures did not create as much value as was anticipated, and they were also unable to capture the value they created in the form of profits. Let us look at each one of these points in turn.

Overall, the value created by Internet ventures turned out to be lower since costs were higher and benefits were lower than it was thought throughout the boom years. The belief that e-business would be comparatively low-cost stemmed mainly from the idea that it required only a couple of computer servers and a website to set up an online company. Furthermore, it was thought that doing business through the Internet would be highly scaleable since it required only setting up additional computer processing capability to cater for new customers around the globe.

Yet, for many online businesses the costs of developing a website turned out to be only a small fraction of the total costs. For instance, during the boom years, Amazon.com, on average, paid around $16 for buying and shipping a book. On top of that came $8 for marketing and advertising and $1 for overhead (which included the website development), raising overall costs per book to $25. Average price per book sold, however, was only $20.[23] The main reason for the high costs was that most costs, including marketing and sales, were not nearly as scale-sensitive as the set-up of a website. In fact, the acquisition costs of online customers were, in general, much higher than those of traditional bricks-and-mortar companies. Internet 'pure-player' companies had first to build up their brand name and then win over the trust of online customers.

Furthermore, the notion of the unbundled corporation in which external providers manage the high fixed-cost logistical processes did not work out as expected. In order to maintain high levels of quality and reliability, online companies such as Amazon.com reverted to setting up their own warehouses and distribution centres, thereby adding significantly to overall costs.

It also turned out to be difficult for most Internet companies to establish a sustainable revenue model. As a result, they were unable to ensure a high enough return on investment to justify their stock-market valuation. For instance, after starting operations in April 1998, Priceline.com managed, by the end of that year, to sell $35 million worth of airline tickets – at an overall cost of $36.5 million!

The inability of many firms to charge appropriate prices for products and services was due to the following factors. First, the Internet lowered barriers to entry (see Section 3.2.2). While, in the past, it was necessary to operate an extensive physical network to compete in the retailing sector, many companies from all realms, such as Boo.com and eToys.com, attempted to grab market share by leveraging the Internet. In the online market for pet food, more than half a dozen Web retailers were competing for customers. This led to a price war to attract customers, with some companies giving away products or services for free.

Second, the strategic stakes that were involved further aggravated the competitive situation. Knowing that only a few online companies per sector would be able to stay in business, these companies invested heavily and sacrificed profits for market share. They also hoped that market share would translate into durable customer relationships. After all, e-business was supposed to be a winner-takes-all market. Yet, ultimately the *lock-in effect* created through high switching costs and network effects occurred only in few cases (see also Section 7.2.1). As websites became user-friendlier, it also became easier for customers to switch from one provider to another.

Regarding network effects, only companies that rely heavily on consumer interactions, such as eBay, were able to leverage the power of their installed customer base. However, at most other online companies, individual customers usually do not care much about the size of the installed user base. For instance, now that other large players, such as Microsoft, have moved into the search engine market, Google.com, today's undisputed leader in this market, faces the risk of losing its dominance. This is due to the fact that search engines are not well suited for creating a lock-in effect.[24] In most cases, users prefer the search engine that delivers the best results. If that happens to be Microsoft because it integrates its search engine with information from the browser or the operating system, then users are likely to switch.

The final dark side of the boom years was that many companies, most notably the energy trader Enron, once hailed as the model Internet-based company, and the telecom operator Worldcom, applied illegal accounting practices to boost profits. This worked out as long as the boom persisted and the stock market kept going up. However, once the market had collapsed and investors started to scrutinize accounts more closely, the extent of the criminal activities became obvious, forcing these companies and numerous others to file for bankruptcy.

What messages can we take away from looking at these boom and bust cycles across history? First, during the consolidation phase it is essential to return to business fundamentals. This entails paying close consideration to issues such as industry structure, value creation, and ways to create profits and a sustainable competitive advantage through the Internet.

Second, just like the railway, steel and automobile industries underwent boom and bust phases before releasing their true economic potential, it is likely that we are observing a similar evolution in the e-business sector. The booming installation years

of the Internet were followed by a bust. Now the time has come for the less exciting, yet in all likelihood much more profound, deployment period of e-business.[25]

Just like after previous crashes, regulatory agencies also reacted this time to improve investor protection. In July 2002, President George W. Bush signed the Sarbanes Oxley Act of 2002, which mandates a number of reforms to enhance corporate responsibility and financial disclosures and to combat corporate and accounting fraud. In addition, this act also created the Public Company Accounting Oversight Board (PCAOB), which has the role of overseeing the activities of the auditing profession.

FT

eBay leads online revival as net hits the refresh button

It all looks so Last Century.

EBay, the Internet flea-market, is once again worth as much as Sears, The Gap and Federated Department Stores combined. Online travel service Expedia is worth more than the six biggest US airlines put together. And Amazon.com stock is trading at four times Barnes & Noble and Borders.

The Internet's boom-time stock prices are back, as a handful of survivors has emerged from the wreckage. Only this time around, the web has become a very different place to do business.

Real sales and earnings, not eyeballs or click-through rates, are now the main yardsticks for stock prices – even if those measures have been stretched almost to the point of incredulity.

In some ways, things seem to have changed little since the bubble. Share prices are still based on a belief that the infant web will consume vast swathes of the retail, travel and media industries.

Take USA Interactive, the corporate vehicle of Barry Diller, the media entrepreneur, who this week pulled off the latest in a string of web deals with an agreement to acquire financial services site LendingTree. Through Expedia and Hotels.com, Mr Diller is already the world's biggest online travel agent. Yet he claims this is just the beginning; with less than 15 per cent of US travel sales conducted online – and in Europe only 1 per cent – there is plenty of room to grow. Some time over the next decade, Americans will be booking more than half of their personal travel online, industry forecasters say.

The current level of share prices already treats much of this growth as a certainty. EBay's shares have now touched a level they topped only during a dizzy two-week spell at the peak of the dotcom bubble.

Internet stocks are the only corner of the tech sector to have gone up over the past 12 months, according to Merrill Lynch.

Three years on, the few remaining dotcoms have at least notched up a record that makes the grand promises of the bubble seem a little less pie-in-the-sky.

EBay has lifted its revenues from around $200m (£128m) to $1.2bn, while its profits have jumped from $10m to $250m. Amazon, though yet to turn a full-year profit, has more than doubled revenues and is now edging into the black.

'The internet's for real,' says Steve Milunovich, technology strategist at Merrill Lynch. Other technologies have shaken off early disappointments to create huge new markets, he adds.

'People were writing off the PC before Microsoft even went public.'

At 70–80 times expected earnings this year, the internet companies are still off the charts compared with traditional stocks – although at least they are being compared on the same scale. But to keep growing at exponential rates the internet survivors will have to master new skills. Three that have bedevilled many traditional companies stand out.

- One is acquisitions. The dotcoms have started to mop up smaller rivals in a bid to consolidate their foothold and extend their reach into new markets. Besides Mr Diller's acquisition spree, Yahoo has bought internet search and online recruitment companies, while eBay bought the biggest online payments company.
- A second new skill, as they move into new markets, involves cross-selling to existing customers. Part of Mr Diller's promise is that he can sell hotel rooms and sports tickets to people who come to Expedia for airline seats – something that sounds easy but which few broad-based consumer companies have managed.
- Third, and perhaps most difficult, they must now conquer the world. Though far from mature, the US internet market is slowing; the best chance to keep the exponential expansion going is by exporting America's dotcom successes. 'For Hotels.com and Expedia, the biggest growth drivers are overseas,' says Peter Mirsky, an analyst at Fahnestock.

EBay's international revenues are soaring, while Yahoo plans to reproduce its US businesses in the biggest overseas markets.

It may be that not all consumers are as ready as Americans to love the net. Europeans have fewer credit cards and PCs and more suspicion of technology, says Mr Mirsky. A setback such as a big security breach could stop international expansion in its tracks.

But Wall Street's 'buy' signs are already signalling that the next generation of multinationals is ready to reach out to the world.

Source: R. Waters, 'eBay leads online revival as net hits the refresh button', *Financial Times*; 9 May 2003.

Recent developments, documented by some of the cases in the book (such as Tesco.com, eBay, Ducati, Nordea and NTT DoCoMo), confirm that if firms have consistent e-business strategies and implement them superiorly, they can create significant value for their customers while at the same time being highly profitable. As a result, the stock valuation of some highly successful Internet ventures, such as eBay and Amazon.com, have already soared back to levels that we witnessed last during the Internet boom years (see the FT box 'eBay leads the online revival').

SUMMARY

- This chapter first introduced the definitions of e-business-related terms, including 'e-business', 'electronic commerce' and 'mobile e-commerce', definitions of strategy and value creation.
- Second, this chapter provided a framework that describes the typical periods of technological revolutions. It also positions within this framework the evolution of e-business during the last decade. The four main periods that characterize this evolution are:
  - the *grassroots of e-business* period, which took place before the widespread commercial use of the Internet;
  - the *rise of the Internet* period, which started with the launch of Amazon.com in 1995 and continued until 2000;

- the *crash*, which started in March and April 2000 and caused a 45% decline of the NASDAQ by the end of that year;
- the *consolidation phase*, which followed the stock market crash and continues until today.

REVIEW QUESTIONS

1. Define the terms 'e-business', 'electronic commerce' and 'mobile electronic commerce', and describe how they differ from one another.
2. Provide a definition of strategy the way it is used in this book.
3. What are the three levels of strategy that can be distinguished?
4. Describe the different periods of the life cycle model, as proposed by Carlota Perez.
5. What are the four time periods of the e-business evolution during the past decade? What are the peculiar characteristics of each period?

DISCUSSION QUESTIONS

1. Referring to the FT article 'It's too early for e-business to drop the 'e', discuss whether it is sensible to still speak of e-business strategies. Defend your argument.
2. What do you think are the main elements of strategy formulation? Does the perspective chosen in this chapter correspond to your own experiences and observations?
3. Discuss the evolution of two technological revolutions using the framework proposed by Carlota Perez. To what extent is it possible to apply this framework to the evolution of e-business?
4. Are we about to enter the golden age of e-business? Defend your argument.

RECOMMENDED KEY READING

- B. Henderson uses the metaphor of biological evolution to describe the essence of strategy in 'The Origin of Strategy', *Harvard Business Review*, 1989, November–December pp. 139–143.
- A detailed account of different levels of strategy can be found in G. Johnson and K. Scholes, *Exploring Corporate Strategy*, Prentice Hall, 2002, pp. 10–11.
- H. Mintzberg is one of the most prominent critiques of the design or positioning school. For further reading, see *Strategy Safari – A Guided Tour Through the Wilds of Strategic Management*, (Prentice Hall, 1998, pp. 114–118), which offers no less than ten different approaches to explaining strategy. His article 'The design school: reconsider-

ing the basic premises of strategic management' (*Strategic Management Journal*, 1990, Vol. 11, No. 3, pp. 171–195) provides a more condensed criticism of the design school.

- M. Porter's article 'Strategy and the Internet' (*Harvard Business Review*, 2001, March, pp. 63–78) provides an excellent overview of the impact of the Internet on strategy formulation.
- C. Perez developed the three-stage model of technological revolutions presented in this chapter: see *Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages*, Edward Elgar, 2002. She draws heavily on the writings of twentieth-century economist J. Schumpeter. Among his important works rank the books *Business Cycles* (Porcupine Press, 1982) and *Capitalism, Socialism and Democracy* (Harper&Rank, 1975).
- B. Arthur builds on the insights of C. Perez in the article 'Is the information revolution dead?' pp. 65–73 (*Business 2.0*, 2002 March), where he suggests that the Internet economy is undergoing the same evolutionary phases as previous technological revolutions.
- In 'Profits and the Internet: seven misconceptions' (*Sloan Management Review*, Summer 2001, pp. 44–53), S. Rangan and R. Adner analyze why the promises of the Internet economy were not fulfilled.
- J. Cassidy takes a critical perspective of the development of the Internet economy in *Dot.con*, Perennial, 2003.
- E. Malmsten (the co-founder of Boo.com), E. Portanger and C. Drazin provide an account of the rise and fall of the Internet fashion retailer Boo.com. in their book *Boo Hoo*, Arrow Books, 2002.

USEFUL WEBLINKS

- **www.aol.com**
- **www.boo.com**
- **www.expedia.com**
- **www.hotels.com**
- **www.priceline.com**
- **www.timewarner.com**
- **www.law.uc.edu/ccl/soact/soact.pdf.** Contains the full text of the Sarbanes-Oxley Act of 2002.

NOTES AND REFERENCES

1 For definitions of e-business and e-commerce, see A. Bartels, 'The difference between e-business and e-commerce', www.Computerworld.com. Accessed 30 October 2000.
2 G. Johnson and K. Scholes, *Exploring Corporate Strategy*, Prentice Hall, 2002, p. 10.
3 A. Chandler, *Strategy and Structure in the History of the American Industrial Enterprise*, MIT Press, 1962, p. 13.

4 B. Henderson, 'The origin of strategy', *Harvard Business Review*, 1989, November–December, p. 141.
5 M. Porter, 'Strategy and the Internet', *Harvard Business Review*, March, 2001, p. 72.
6 Researchers of strategy have been engaging in a heated debate about what strategy entails. Most notably, there are two different schools of strategy. The 'design view' of strategy considers strategy as characterized by deliberate planning and objective setting, which is also the focus of this book. The 'experience view' suggests that strategies develop in an adaptive fashion and depend to a large extent on existing strategies. See also G. Johnson, and K. Scholes, *Exploring Corporate Strategy*, Prentice Hall, 2002, pp. 39–46. The frameworks and concepts proposed in this book focus on the design view of strategy.
7 For a detailed discussion of different levels of strategy, see G. Johnson and K. Scholes, *Exploring Corporate Strategy*, Prentice Hall, 2002, pp. 10–11.
8 For a discussion of operational issues in e-commerce, including topics such as website design and HTML programming, see D. Chaffey, *e-Business and e-Commerce Management*, Financial Times/Prentice-Hall, 2002, pp. 143–156.
9 C. Perez, *Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages*, Edward Elgar, 2002, p. 8.
10 Ibid, pp. 90–137.
11 Please note that as one technology reaches its maturity, the next technological revolution is about to emerge. As a result, there can be considerable overlap between two technology surges.
12 C. Perez, *Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages*, Edward Elgar, 2002, pp. 90–137.
13 The NASDAQ is the main USA-based stock exchange for high-tech companies.
14 Amazon.com was the first firm to add the suffix '.com' to the end of its name, thereby establishing the expression 'dot.com', which refers to all types of Internet ventures.
15 The p/e ratio of a company's stock is calculated by dividing its stock price by its earnings per share. For instance, if a company made €5 per share in the past year and the share sells for €50, then the p/e ratio for this share is 10.
16 J. Cassidy provides a detailed account of the exuberance and hysteria during the Internet boom years in *Dot.con*, Perennial, 2003, pp. 2–5.
17 Ibid, p. 5.
18 J. Hagel and M. Singer, *Net Gain*, Harvard Business School Press, 1997.
19 M. Pandya, H. Singh, R. Mittelstaedt, *et al.*, *On Building Corporate Value*, John Wiley, 2002, p. 8.
20 For an excellent discussion of the flawed thinking during the boom years of the Internet, refer to M. Porter, 'Strategy and the Internet', *Harvard Business Review*, 2001 March, pp. 63–78.
21 M. Meeker and C. DePuy, *The Internet Report*, Harper Business, 1996.
22 J. Willoughby, 'Burning up: Warning: Internet companies are running out of cash', *Barron's*, 20 March 2000, p. 29.
23 J. Cassidy, *Dot.con*, Perennial, 2003, p. 148.
24 F. Vogelstein, 'Can Google grow up', *Fortune*, 8 December, 2003, pp. 38–43.
25 See also T. Mullaney and H. Green, 'The e-Biz surprise', *BusinessWeekOnline*, 12 May 2003, pp. ?

CHAPTER 2

Building e-business competence through concepts and cases

Chapter at a glance

Learning outcomes

After completing this chapter you should be able to:

- Understand how creativity and analytical abilities contribute to the strategy development process.
- Recognize the value of case studies for learning about e-business.
- Explain the value of concepts and frameworks for learning about e-business.

INTRODUCTION

Let us venture out from the e-business world for a moment and compare managers in charge of strategy development with architects who are designing new buildings.[1] We will consider first what kind of qualities good architects need to have and determine in a following step to what extent this analogy is relevant for managers.

Good architects are those who bring new, creative and surprising elements into their work. While planning buildings, they do not just copy what has always been around within their cultural area. Instead, they develop a unique style that combines well-proven, generally accepted solutions with new, individual and creative ideas. It is this way of solving technical and artistic problems that sets their work positively apart from others. They design buildings where bypassers recognize and appreciate immediately who the architect was.

How do good architects develop their ideas? Architects need to get inspired and find 'food' for their mind to work and play around with. They derive their inspiration from many different sources. They can turn to the leading architects within their own country and culture and learn from their styles. To expand their horizon further, they might travel around the world to see other settings and cultures to find out more about other architectural styles. On a more abstract level, they might also turn to nature to see how plants and trees have solved their own 'architectural' challenges.

Yet, good architects are not only creative; they also have the analytical ability to critically assess the feasibility of the ideas they develop. This includes finding answers to questions such as 'Will the building be structurally sound?', 'What will the construction costs be?', 'Will people enjoy living in this building?' and 'Will my client be able and willing to pay for it?' To answer these questions, good architects need to be able to conduct their analysis both on a broad level to cover all relevant issues (such as structural soundness of the building design, legal restrictions and financial considerations) and also on a detailed level to address the specific problems of the project at hand. The critical ability is that they are able to switch back and forth between broad overall considerations and important detailed issues that require in-depth analysis.[2]

The essence of this analogy is to point out that, just like good architects, successful managers are likely to be those who come up with innovative strategic ideas. Additionally, they are able to determine whether their ideas hold when scrutinized from an analytic business perspective.

We start this chapter by briefly outlining the dimensions of creativity and analytical ability.[3] Following that, we discuss how the conceptual e-business strategy framework and the case studies contained in this book can help students and managers involved with e-business strategy development to expand their skills and knowledge along the dimensions of creativity and analytical ability.

2.1 Defining creativity and analytical ability

2.1.1 Creativity

In its broadest sense, creativity can be defined as the ability to develop new ideas. Just like it is inherently difficult to determine what makes some people more intelligent than others, it is also difficult to determine why some people are more creative than others. However, in spite of this uncertainty, one predominant characteristic among creative people is that they have been exposed to different experiences, thinking styles and disciplines from which they draw in their search for new ideas.

Consider, for example, the great German baroque composer, Johann Sebastian Bach, who lived in the eighteenth century. Even though he led a rather provincial life, never traveling outside Germany, his music was inspired by other great European composers of the baroque period. Most importantly, Bach transcribed the orchestral work of Italian composers such as Antonio Vivaldi, which later had a profound influence on Bach's style of composition, as can be witnessed, for example, in his Italian Concerto for Piano.

The American inventor Thomas Edison, who invented the electric light bulb and the telegraph, also immersed himself in a broad variety of knowledge from an early age. At age 11, Edison's parents taught him how to use the resources of the local library. He started with the last book on the bottom shelf and planned to read every book in the building. At age 12, he had read Gibbon's *Rise and fall of the Roman Empire*, Sears' *History of the World* and Burton's *Anatomy of Melancholy*, in addition to *The World Dictionary of Science* and books on practical chemistry.[4]

These two examples are meant to illustrate that a broad knowledge or experience pool – a characteristic that Csikszentmihaly, a researcher of creativity, calls 'differentiated mind' – seems to be a prerequisite for creativity. Based on this knowledge, creative individuals are able to produce many new ideas, mostly by taking existing ideas that are seemingly unrelated and then connecting them in new ways.

The inevitable question is then: how can we improve our creativity in order to be able to develop innovative ideas? There exists a vast literature on creativity that suggests detailed methods on how to think creatively individually or in team settings.[6] In the context of this book, we consider the following steps to be of special importance:

- *Create a vast and diverse pool of knowledge and experiences.* Search outside your domain of expertise to provide your mind with enough 'food' for developing creative ideas. A good starting point is to capture interesting ideas from different settings (industrial, organizational, geographical, cultural, etc.). In most cases, it will probably not be clear what this information will be good for, or even whether it will ever be good for anything. The problem with creativity is that you just do not know beforehand which ideas will turn out to be valuable and which ones will not. The collection of case studies in this book provides some examples of good (and bad) ideas and successful (and failed) implementations. You might also want to look across disciplines by studying, for instance, history or biology.

- *Produce as many different ideas as possible.* Play around with the existing ideas from others, get a feeling for why they work, or do not work, and try to connect ideas that are seemingly unconnected (see the FT article 'Breaking the barriers to creativity'). Creativity is not a plug-and-play affair; rather, it requires time and patience. However, to look for new applications of old ideas is a good way to jump-start a creative thinking process. Consider, for instance, the deployment of the steam engine in the nineteenth century. At first it was used only in mines, and it took 75 years for someone to figure out that it could also be used to power steamboats. For a more recent example, consider Jeff Bezos, the founder of Amazon.com. He saw the potential of the Internet and connected that with book retailing to create the idea of Amazon.com, which, in a matter of a few years, has turned into the largest book store in the world. To connect existing ideas in new ways requires one to break out of the known reality by making a mental leap into new and uncharted territory.
- *Produce unlikely ideas.* At this early stage, there is no need to think about implementation; instead, all that matters is creation. Just ensure that the ideas you produce are unlikely ideas, i.e. ideas that are very different from what other people come up with and that diverge from traditional thinking. That is what constitutes their novelty and uniqueness. At the same time, these ideas are not bizarre. Once others see them, they say: 'Oh, that's so obvious. I could have thought of this myself.' Maybe they could have, but they did not; they were unable to make this seemingly obvious connection between A and B. That is the big difference between creative and not-so-creative people – it is the almost-but-not-quite dimension that sets them apart. For instance, with hindsight it is easy to see that an online auction house such as eBay would be highly successful. Yet, someone had to have the creative insight to come up with this idea and later, the courage to implement it.

FT

Breaking the barriers to creativity

Creativity, a philosopher once remarked, is whatever you choose to make of it. Creativity begins with recognizing opportunities as they present themselves in everyday life. Once these 'triggers' for creativity have been spotted, the manager then needs to assess the problem, often overcoming barriers to new solutions.

Creativity is achieved through breaking down existing relationships and analyzing the elements of the problem, then moving these into new patterns until a solution is found. Creativity requires a desire to experiment, an ability to understand problems and ask questions, and a refusal to be afraid of failure. Developing these traits is not easy, but it can be done. Every person in an organization has the potential to make new and better things happen, to bring into being new ideas regardless of their job or background. Whether they do so is a matter of their ability to see the world around them and whether they can recognise the opportunities or 'triggers' for creativity that can be found in everyday life.

Triggers for creativity

Intermittent windshield wipers for automobiles were not invented by an auto engineer, but by someone who tinkered with cars in his spare time. Collectively, the major automakers had thousands of engineers on their payrolls, most of whom would at some time have had the experience of driving in the rain. Yet none of these 'experts' saw this situation as an opportunity to do something new.

We are exposed to these moments every day; if we fail to notice them, they pass us by. If we pause to reflect and question, the situation might become a trigger, an impulse to creative action.

History has recorded other triggers. While on vacation, Edwin Land took pictures of his daughter. When she showed her disappointment that she couldn't see the results right then and there, he set his mind to the task of developing instant photography. Art Fry sang in a church choir for years. As many choir members did, he put slips of paper in his hymn book to mark each selection. His technique was not foolproof, however; the slips of paper often fell out. Taking his dissatisfaction back to his job, he developed what became 3M's Post-it note pads.

The non-stick coating Teflon was an accident. However, its subsequent application to a myriad of products happened because a curious chemist didn't throw away the accident; he played with it to learn more about its properties. He found that the new product could have many uses, such as non-stick frying pans.

These events probably happened to hundreds of other fathers, choir members, and chemists. The only difference is they were triggers to these people, and events to be forgotten by the others.

Defining the problem

It has been said that 'a problem correctly stated is half solved'. Edward de Bono talks about an office building where people complained about the time they had to wait for the elevators. Seeing the problem as one of 'How can we speed up the elevators?' the building's owners felt they were up against a brick wall of prohibitive costs. In a triumph of lateral thinking, it was suggested that mirrors be placed on the walls around the elevators. Thus people would spend the time looking at themselves, combing their hair, and would be oblivious to the wait.

However, suppose the problem had originally been stated in terms of the true choice: 'How can we eliminate the complaints about the elevators?' Speeding them up would have been an idea; mirrors might have been recognised as an idea, as well as mounting television sets on the wall or piping in news broadcasts. The problem was first looked at in terms of changing the performance of the product (the elevators). It was solved by creating change in how the product was perceived, by changing the product's environment.

Barriers to creativity

An important first step in developing creative abilities is to recognize what stands in the way of creating ideas.

- The foremost of these barriers is your own *experience*. The advertising guru David Ogilvy once commented that 'The majority of businessmen are incapable of original thought because they are unable to escape from the tyranny of reason.' As an example, Kenneth Olsen, the president of Digital Equipment Corporation, relied on his extensive experience in computers when he told attendees at the World Future Society's 1977 Convention: 'There is no reason for any individual to have a computer in their home.' Relying on what he himself knew about the industry meant that Olsen lost out in the race to enter the home computer market, as his company was overtaken by rivals such as Apple.
- The *assumptions* you make are another barrier to creativity. For years, the greeting card companies assumed that their competition was other greeting card companies. However, research showed that companies in other sectors, such as telecommunications company Florists Telegraph Delivery (FTD), were also significant competitors.

- The *judgments* we make are a third barrier to creativity. When was the last time you reacted to an idea with: 'It will never work', or 'We tried that before', or 'They'll never buy it?' Think about judgments you've laughed at like, 'He'll fall off the end of the earth' (said about Christopher Columbus) or 'They'll never replace horses' (said about automobiles). Often judgments are passed on a situation before all the information is known, and thus opportunities are lost.
- Your *thinking patterns* can be another barrier to creativity. However, while these can inhibit creativity, you could not survive without them. Like experience, thinking patterns can be both an asset and a liability. The key lies in knowing when to depend on them and when to lock them away. If you are driving down a highway and you hear a siren, a stored thinking pattern immediately takes over. You locate the source and, if it is in your line of travel, you pull over to get out of the way of an emergency vehicle – or to receive your speeding ticket. At other times, though, thinking patterns tend to lead us to routine behavior and thought, so that we fail to recognize the new as a source of opportunity.
- A fifth barrier is the *right answer syndrome*. So much of current education emphasizes the need to 'get the right answer'. Answers are just arrangements of information. For example, the game of tic-tac-toe has nine boxes. If each box contains a piece of information, how many combinations are there of these nine pieces of information? There are 362,880 possible combinations of these nine pieces of information. (The answer is 9 factorial, which means it is determined by multiplying $9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 = 362{,}880$.) However, knowing this answer does not help us to win at tic-tac-toe. In the same way, knowing how many units of product we are selling does not help us to sell more. Creativity involves looking beyond the simple facts.
- The last barrier is *fear of failure*. Failure is actually a great learning tool. Unfortunately, too many managers are graduates of the right-answer school and are oblivious to the value of failure. The best answer to the fear of failure syndrome was expressed by Thomas Edison. When a friend suggested that Edison's attempts to develop an electric storage battery were a failure since he had tried thousands of materials without success, Edison replied: 'Why, I've got a lot of results. I know several thousand things that won't work.

An approach to creativity

The path to creative ideas has three stages, which involve breaking down the previously perceived relationships between parts of the problem; then re-examining the pieces individually; then rearranging the pieces to form new relationships until we find a pattern that works and solves the problem. The first step in creating ideas is to destroy the familiarity, the relationships of everything you know about the problem. Before Edwin Land invented instant photography, every consumer knew that seeing the results of a picture-taking session was related to developing the film, which was related to a place called a darkroom, which was related to the local drugstore as its contact point.

Everybody was a prisoner of that familiarity, including Edwin Land himself, until he let his mind destroy those relationships. Once this act of destruction has happened, you have a rich reservoir of bits and pieces of information, of unconnected facts and fantasies. However, just like the words in a dictionary, they do nothing until they are selected and assembled to become a coherent sum. The value of these pieces was neatly summed up by Albert Szent-Gyorgyi: 'Discovery consists of seeing what everybody has seen – and thinking what nobody thought.'

The final step is to look for new ways of assembling the pieces. The value and simplicity of this step was succinctly described by the painter Sir Joshua Reynolds in the eighteenth century: 'Invention is little more than new combinations of those images which have been previously gathered and deposited in the

memory.' It is this development of new patterns and pictures which is the final act of creativity.

In summary

The fundamental steps to developing your own creative-thinking capabilities can be summarized as follows:

1. Recognize the triggers you are exposed to every day and see the opportunities presented.
2. Define the problem in terms of the 'true choice', and make sure the right questions are being asked.
3. Recognize your barriers to creativity and overcome them.
4. Forget everything you know in terms of relationships between the elements of the problem.
5. Remember everything you know and assess all the pieces of the problem.
6. Rearrange everything you know by moving the same pieces into new relationships with each other.

Source: W. Altier, 'Breaking the barriers to creativity', **www.FT.com**, 5 September, 2002

2.1.2 Analytical ability

Analytical ability refers to the skills that are necessary to integrate the knowledge that one possesses into a coherent whole. Thus, while creativity is concerned with *divergent thinking*, i.e. coming up with ideas that are out of the ordinary, analytical ability is concerned with *convergent thinking*, i.e. relating multiple parts of one's thinking and integrating them into a coherent whole.[7] Managers with an integrated mindset are able to break down a complex business problem into its manageable parts and identify crucial variables and questions. They do so by first looking at the 'big picture' that encompasses a broad overview over all involved issues and then focusing on those issues that are of special relevance to the problem at hand.

2.2 Becoming a 'catalyst for change'

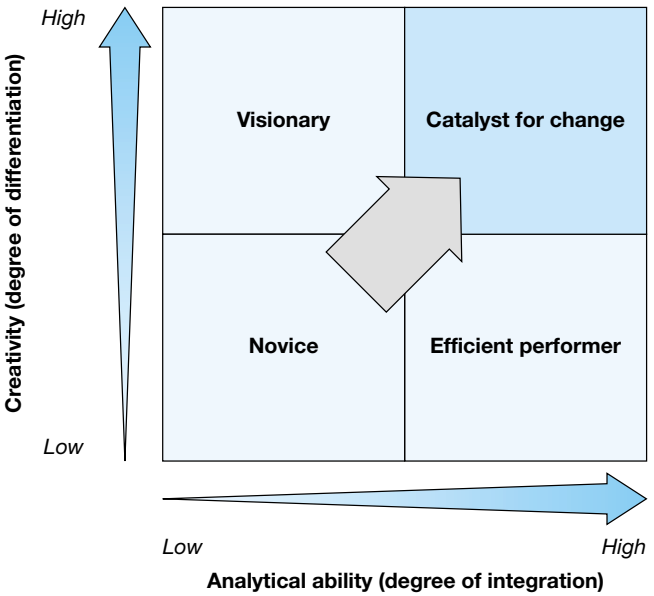
By nature, not all managers are endowed with the genius of creativity and profound analytical ability. Instead, they differ along these two dimensions, leading to the classification of manager types explained below, which include (1) the *novice*, (2) the *visionary*, (3) the *efficient performer* and (4) the *catalyst for change* (see Exhibit 2.1).

- *Novices* have a low level of both creativity and analytical ability. In order to develop innovative yet sound strategies, they need to expand their abilities along the creativity and analytical ability dimensions. Please note that novices as referred to in this context must not be confused with novices who are new to a company. The latter type of novice might well have had varied experiences and honed their analytical skills before joining the company. Thus, they already possess the skills and knowledge to become a catalyst for change. In the proposed classification, however, the novice does not possess these skills and knowledge.

- *Visionaries* are characterized by an immense level of creative energy yet little analytical ability. Throughout their lives and careers, they have collected many different ideas and they continually develop new ideas. They have a very differentiated mindset. Yet, because they are unable to integrate the many different ideas and evaluate them by means of structured, logical reasoning, their endeavours often times tend to end up in chaos and are frequently abandoned prematurely.
- *Efficient performers* possess the opposite characteristics of the visionary. While they do not have the ability to develop creative new ideas, they dispose of strong analytical abilities. This is reflected in the way they perform qualitative and quantitative analyses with rigour and depth.
- *The catalysts for change* combine the positive traits of both the visionary and the efficient performer. Thus, they have high levels of creativity and of analytical ability. They know that strategy formulation is more than just crunching numbers and hoping that something will come out that ensures value creation and competitive advantage. They also know that ideas by themselves are not enough to build a sustainable, profitable business. Instead, to them, strategy formulation is a mix between creativity and analysis.

  These manager types are characterized by a number of opposing attributes, which are effectively united in one person. Catalysts for change have the ability to (1) alternate between *imagination and fantasy* and a *rooted sense of reality*, (2) be very *playful* at certain times yet return to a very *disciplined* working style within a matter of minutes, and (3) shift quickly from *openness*, where they work closely together with others, to *closure*, where they seclude themselves to work out the details of their thinking.[8]

Exhibit 2.1 **Fostering creativity and analytical ability helps a manager to become a catalyst for change**



The proposed classification of different types of manager is helpful in two ways. First, at an individual level you can think where you would place yourself within this matrix. You can also discuss with your colleagues or classmates where they would place you within the matrix. Doing so also allows you to determine which abilities you need to develop further in order to become a catalyst for change.

Furthermore, when working in a team, you can also think about the different people needed to ensure a high level of both creativity and analytical ability. Selecting individuals with complementary abilities can then help your team, as a whole, to become a catalyst for change.

2.3 Learning about e-business through case studies

This book is an integrated, case-study-based learning package, as is demonstrated by the large number of cases included in it. When writing this book, we had three primary aims in mind: the case studies should provide (1) a *context for the analysis of e-business issues*, (2) a *context for the application of e-business concepts*, and (3) a *stimulus for creative e-business strategies*.

2.3.1 Case studies as a context for the analysis of e-business issues

The first aim of the case studies in the book is to provide a broad overview of the critical issues and challenges that organizations face when developing their e-business strategies and, subsequently, conducting their online activities. The diversity of settings and contexts of the cases provide insights on different issues, including e-procurement, online/offline channel conflicts, e-logistics, e-payment, one-to-one marketing, and the move from mass production in the physical world to mass customization through the Internet.

We hope that, after working through these case studies, you will have a richer pool of experiences. However, instead of providing ready-made answers to the questions they raise, these cases studies aim at giving you a deeper understanding of the issues involved and the choices and trade-offs that need to be made when you are faced with making similar decisions of your own.

2.3.2 Case studies as a context for the application of e-business concepts

The second aim of the cases is to provide real-world situations for applying the conceptual frameworks described in the e-business strategy framework part of the book. Compared with typical strategy textbooks, this 'laboratory' setting offers a number of advantages. Just like in the real world, information is not neatly packaged and presented. Instead, you have to sift through the rather large amounts of information provided in the cases and distil from it the most important facts. You need then to determine which framework is most applicable to a given situation. In order to arrive

at a conclusion and make recommendations, your will have to collect more data and build supporting arguments to defend your stance in front of colleagues.

However, be caution: there is no single right answer to the questions raised in the cases. As alluded to above, strategy formulation is not maths, where you plug in the numbers and get just one clear answer. There are answers that are better supported by factual evidence than others, and there are answers that use logical reasoning more stringently than others. Thus, the case setting with its inherent ambiguity provides an excellent environment for practising the development and exchange of arguments and the sharpening of analytical skills.

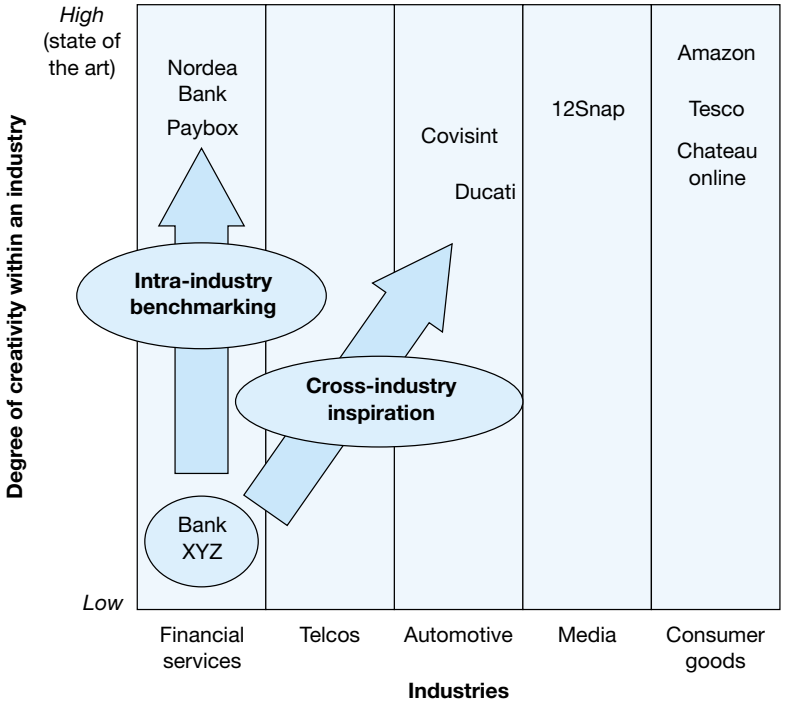
2.3.3 Case studies as a stimulus for creative e-business strategies

In addition to providing factual information and a basis for applying the proposed frameworks, the cases in this book are also meant to serve as a source for creative idea development. As discussed above, it is important to collect ideas from many different sources as to provide 'food' for the creative thought development process.

Just like the architect who studies different building styles from different countries, the cases from different industries and organizations aim at providing you with the opportunity to gain insights into different ways of conducting e-business. For example, consider a group of managers in the strategy division of a large German bank. How do they get inspired to develop innovative strategies? Essentially, the case studies enable the following three possibilities (see also Exhibit 2.2):

- *Intra-industry benchmarking (within own culture).* The above-mentioned bank managers can first benchmark other banks in Germany. This might provide them with either the comforting feeling that the competition is lagging behind or the feeling that there are some relatively minor adjustments that need to be made. In any case, the closed-in perspective of looking within an industry in one's own culture is often unlikely to provide the creative ideas that would give the bank a lasting source of competitive advantage.
- *Intra-industry benchmarking (across cultures).* The potential for relevant new insights increases as the bank's managers start looking outside their own business culture. For example, they may focus on countries with an established 'e-habit', i.e. having a large portion of the population frequently using the Internet for a wider variety of activities than in Germany. Finland, where e-banking has been customary over the past two decades and where customers are now heavily into using mobile banking, represents an interesting case. The German managers could focus on this country to scout out the recent developments, which will most likely also take place in Germany in the not-so-distant future. Studying Finnish banks, such as Nordea, which is at the cutting edge of electronic and mobile banking, would thus offer an interesting benchmark to analyze in more detail.
- *Cross-industry inspiration.* A far more innovative and ground-breaking, albeit more challenging, source of new ideas is to look across different industries and think about how their way of conducting e-business could be transferred to one's own industry. A bank might ask: 'What can we learn from the way Ducati sells some of its motorcycle products exclusively online, or from how 12Snap manages

Exhibit 2.2 New ideas can be found by analyzing state-of-the art companies within one's own industry and also across industries



its one-to-one mobile marketing operations?' Building bridges requires creative leaps; that is ultimately the source of competitive advantage, since there are only a few companies willing and able to make such leaps.

The case studies in the book are meant to be a source of inspiration for cross-industry fertilization. For example, during our teaching we found out that managers from a global insurance company were able to derive interesting and valuable insights from analyzing the Ducati case study. Obviously, these cross-industry comparisons should not be adopted 'as is' in one's own industry but rather used to stimulate new and unconventional thinking and to raise the simple, yet powerful question: 'Would it not be possible for our company to do something similar if …?'

2.4 Learning about e-business through concepts and frameworks

After discussing the creative element of strategy formulation, we also need to find ways to evaluate creative ideas and strategies and determine whether it is sensible to implement them. What are the possibilities to test the usefulness of strategy ideas? What makes one strategy more likely to succeed than another? Essentially, there are two different routes that managers can choose from.

At one end of the spectrum, managers rely solely on their intuition, which is based mainly on their past experiences. At the other end, they rely on analyzing the problem at hand in a structured fashion to come up with a solution. In contrast to intuitive decisions, where judgement is based on implicit criteria that are not spelled out, analytical decision-making relies on a clearly defined set of explicit criteria that are used to evaluate the merits and drawbacks of different options. In most cases, managers, unknowingly or knowingly, use a combination of these approaches, as discussed in Strategies in Action 2.1.

STRATEGY IN ACTION 2.1

Business thinking: on finding the right balance between analysis and intuition

Business thinking starts with an intuitive choice of assumptions. Its progress as analysis is intertwined with intuition. The final choice is always intuitive. If that were not true, all problems of almost any kind would be solved by mathematicians with non-quantitative data.

The final choice in all business decision is, of course, intuitive. It must be. Otherwise it is not a decision, just a conclusion, a printout.

The trade-off of subjective non-quantifiable values is by definition a subjective and intuitive choice. Intuition can be awesome in its value at times. It is known as good judgment in everyday affairs. Intuition is in fact the subconscious integration of all the experiences, conditioning and knowledge of a lifetime, including the emotional and cultural biases of that lifetime.

But intuition alone is never enough. Alone it can be disastrously wrong. Analysis too can be disastrously wrong. Analysis depends upon keeping the required data to manageable proportions. It also means keeping the non-quantifiable data to a minimum. Thus, analysis by its very nature requires initial oversimplification and intuitive choice of starting assumptions with exclusion of certain data. All of these choices are intuitive. A mistake in any one can be fatal to the analysis. Any complex problem has a near infinite combination of facts and relationships. Business in particular is affected by everything, including the past, the non-logical and the unknowable. This complexity is compounded by multiple objectives to serve multiple constituencies, many of whose objectives must be traded off. Problem solving with such complexity requires an orderly, systematic approach in order to even hope to optimize the final decision.

When the results of analysis and intuition coincide, there is little gained except confidence. When the analysis reaches conclusions that are counter-intuitive, then more rigorous analysis and reexamination of underlying assumptions are always called for. The expansion of the frame of reference and the increased rigor of analysis may be fruitful.

But in nearly all problem solving there is a universe of alternative choices, most of which must be discarded without more than cursory attention. To do otherwise is to incur costs beyond the value of any solution and defer decision to beyond the time horizon. A frame of reference is needed to screen the intuitive selection of assumptions, relevance of data, methodology and implicit value judgments. That frame of reference is the concept.

Conceptual thinking is the skeleton or the framework on which all the other choices are sorted out. A concept is by its nature an oversimplification. Yet its fundamental relationships are so powerful and important that they will tend to override all except the most extreme exceptions. Such exceptions are usually obvious in their importance. A concept defines a system of interactions in terms of the relative values that produce stable equilibrium of the system. Consequently, a concept defines the initial assumptions, the data required and the relationships between the data inputs. In this way it permits analysis of the consequences of change in input data.

Concepts are simple in statement but complex in practice. Outputs are almost always part of the input by means of feedback. The feedback itself is consequently a subsystem interconnected with other subsystems.

Theoretically, such conceptual business systems can be solved by a series of simultaneous equations. In practice, computer simulation is the only practical way to deal with the characteristic multiple inputs, feedback loops and higher order effects in a reasonable time at reasonable cost with all the underlying assumptions made explicit. Pure mathematics becomes far too ponderous.

Concepts are developed in hard science and business alike from an approximation of the scientific method. They start with a generalization of an observed pattern of experience. They are stated first as a hypothesis, then postulated as a theory, then defined as a decision rule. They are validated by their ability to predict. Such decision rules are often crystallized as policies. Rarely does a business concept permit definitive proof enough to be called a 'law' except facetiously.

Intuition disguised as status, seniority and rank is the underlying normative mode of all business decisions. It could not be otherwise. Too many choices must be made too often. Data is expensive to collect, often of uncertain quality or relevance. Analysis is laborious and often far too expensive even though imprecise or superficial.

Yet two kinds of decisions justify rigorous and painstaking analysis guided by intuition derived from accumulated experience. The irrevocable commitment of major reserves of resources deserves such treatment. So do the major policies which guide and control the implementation of such commitments.

All rigorous analysis is inherently an iterative process. It starts with an intuitive choice and ends with an intuitive decision. The first definition of a problem is inescapably intuitive. It must be in order to be recognized as a problem at all. The final decision is intuitive. It must be or there is no choice and therefore no need for decision.

Between those two points of beginning and ending, the rigorous process must take place. The sequence is analysis, problem redefinition, reanalysis and then even more rigorous problem redefinition, etc. until the law of diminishing returns dictates a halt – intuitively.

The methodology and sequence of business thinking can be stated or at least approximated.

- State the problem as clearly and fully as possible.
- Search for and identify the basic concepts that relate to the perceived critical elements.
- Define the data inputs this conceptual reference will require. Check off and identify any major factors, which are not implicitly included in the conceptual base.
- Redefine the problem and broaden the concept as necessary to include any such required inputs.
- Gather the data and analyze the problem.
- Find out to which data inputs the analysis is sensitive. Reexamine the range of options with respect to those factors and the resulting range of outputs.

- Based on the insights developed by the analysis, redefine the problem and repeat the process.
- Reiterate until there is a consensus that the possible incremental improvement in insight is no longer worth the incremental cost. That consensus will be intuitive. It must be. There is no way to know the value of the unknown.

It is a matter of observation that much of the value of a rigorous and objective examination of a problem will be found in one of three areas:

- First, the previously accepted underlying assumptions may prove to be invalid, in fact, or inadequate as the problem definition is changed.
- Second, the interaction between component functions may have been neglected, resulting in suboptimization by function.
- Third, a previously unknown or unaccepted or misunderstood conceptual framework may be postulated which both permits prediction of the consequence of change and partially explains these consequences.

It is also a matter of common observation that the wisest of intuitive judgments come after full exploration and consensus on the nature of the problem by peers of near equal but diverse experience.

Finally, it is also a matter of general experience that implementation of the optimum decision will prove difficult if that discussion and consensus have not been continued long enough to make the relationship between the overall objective and the specific action seem clear to all who must interpret and implement the required policies. Otherwise, the intuition of those who do the implementation will be used to redefine the policies that emerged from analysis. This is one reason planned organization change is so difficult, and random drift is so common.

Here are some fundamental procedural suggestions. Define the problem and hypothesize the approach to a solution intuitively before wasting time on data collection and analysis. Do the first analysis lightly. Then and only then redefine the problem more rigorously and reanalyze in depth. (Don't go to the library and read all the books before you know what you want to learn.) Use mixed project research teams composed of some people with finely honed intuitions from experience and others with highly developed analytical skills and too little experience to know what cannot be done. Perhaps in this way you can achieve the best of both analysis and intuition in combination and offset the weaknesses of either.

Source: B. Henderson, 'Business thinking', in C. Stern, and G. Stalk, (eds), *Perspectives on Strategy*, John Wiley, 1998, pp. 260–263.

Intuition is valuable because it provides a quick solution to a problem. However, its value is somewhat limited when the environment changes as quickly and drastically as is the case with e-business. Then, managers risk overlooking or misjudging important factors, which results in misguided strategies.

An analytical approach to strategy formulation, on the other hand, allows for a broader and more profound analysis of the issues at hand. However, it is time-consuming and difficult, since it is not immediately obvious which factors need to be analyzed when evaluating strategies in a systematic way. Questions such as 'Should we start selling our products online?' and 'How should we position ourselves vis-à-vis our competitors and how should we organize our firm?' cannot be answered by just looking at individual and isolated factors. Instead, it is necessary to acquire a thorough and comprehensive perspective.

How can this be done? One possible approach is to use conceptual frameworks that break down the problem at hand into manageable subunits, which can be analyzed individually. The goal of a framework is to facilitate thinking through a problem by providing a structured approach that is independent of industry or starting position. A good framework has the following qualities:[10]

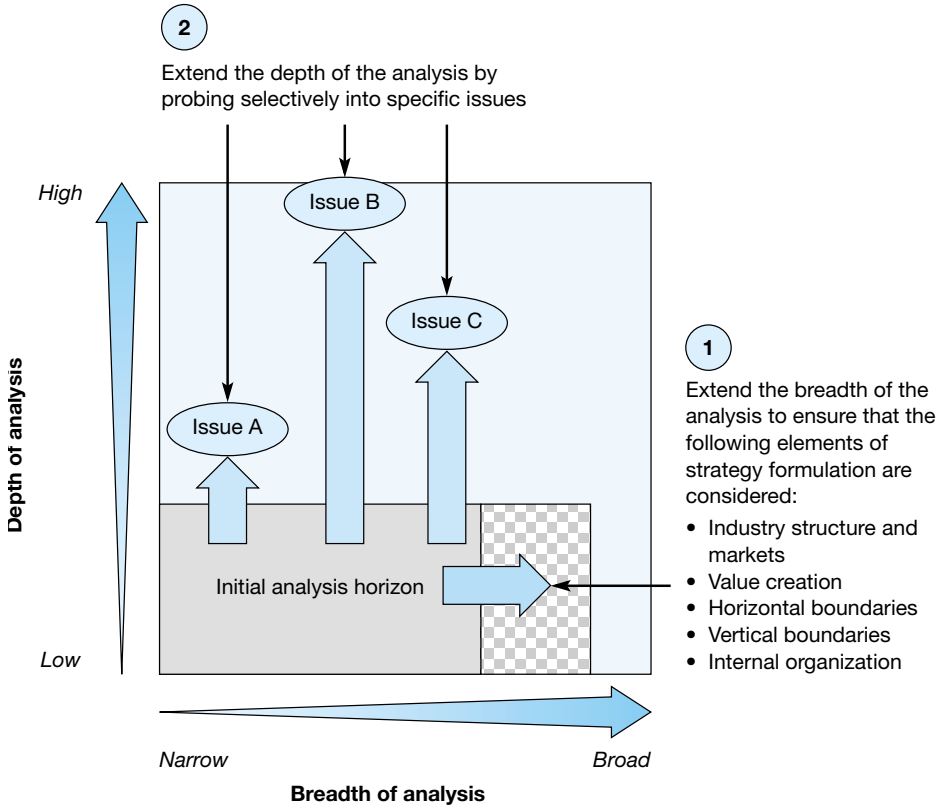
- *It captures the most important dimensions of the problem.* This means that all the important elements that constitute an integral part of the real world are included in the framework. One of the reasons why, for instance, Porter's industry analysis framework, which is defined in Section 3.2, has been used widely in the business and academic communities is that it has captured the essential factors that determine the attractiveness of an industry. At the same time, a good framework captures the essential variables with the least number of dimensions, which in turn helps manage complexity. A framework with hundreds of variables might cover all dimensions, yet it is not practical in everyday problem-solving. Thus, finding the right balance between being exhaustive on the one hand and keeping the framework as simple as possible on the other hand is a crucial challenge in framework building.
- *All the elements that the framework contains are mutually exclusive.* This means that the elements or dimensions in the framework differ systematically from each other and do not overlap. To a large extent, this criterion determines the clarity of frameworks. Consider, for example, the value chain concept, which is discussed in more detail in Section 5.2. This concept helps a manager to separate distinctive, albeit inter-related, activities within a firm such as inbound logistics, production, outbound logistics, marketing and sales, and after-sales service. The separation into discrete activities opens up the way to a more rigorous analysis and to raising questions such as 'Which of our activities should we perform internally and which should we outsource?' and 'Through which activities can we differentiate ourselves from our competitors?'

Frameworks such as Porter's five forces and the value chain are frequently criticized for being too rigid and leaving too little room for creativity.[11] There are essentially two alternatives to a framework-based approach. First, to rely solely on intuition, which presents its own set of problems as was discussed above. Second, to use an analytical approach without a structured framework and to start from scratch every time. Doing so entails two main risks.

First, you might forget an important dimension that, in the end, may turn out to be crucial for the problem-solving process. Second, it requires substantially more effort because you need to determine the most important variables that drive the analytical process. Doing so might force you to consider every variable involved but to never achieve any real depth in your analysis.

Instead of the above-mentioned approaches, it is more sensible to familiarize yourself with key frameworks and concepts and then adapt them to the needs of the specific situation at hand. The goal of the e-business strategy framework (presented in Part 2) is to make you more familiar with the most important strategy frameworks and to show, through examples, how they can be used in an e-business context. However, the proposed framework is not meant to provide any ready-made answers. Instead, it aims to raise questions and providing a structured approach to asking 'Why?' and 'Why not?'.

Exhibit 2.3 Effective strategy formulation requires the ability to cover a broad analysis horizon and to perform selective, in-depth analyses of crucial issues



In particular, it aims to expand the analysis along two directions: first breadth and then depth (see Exhibit 2.3).

2.4.1 Extending the breadth of the analysis

As mentioned above, it is difficult to achieve an overarching perspective of the issues involved in strategy formulation. Therefore, it is advisable first to gain a broad understanding of the relevant issues and then to embark on a more detailed analysis. The proposed sequencing of these steps is important, especially knowing managers' time limitations.

To illustrate the above issue, let us consider two companies – DeepFirst Inc. and BroadFirst Inc. – involved in oil exploration. The exploration engineers of DeepFirst Inc. start drilling in front of the company's headquarters to find out whether there is any oil. Then they move on and keep drilling randomly, in different places, until they eventually encounter an oil dwell. However, this process is very time-consuming and expensive. The exploration engineers of BroadFirst Inc., on the other hand, have developed elaborate systems based on geology research and advanced ultrasound devices. Using this technology, they quickly scan vast areas of land and can then

predict precisely where it is worthwhile drilling. In effect, they look at the bigger picture first before investing substantial efforts in drilling, thereby reducing cost and increasing the likelihood of success.

Often times, however, managers behave more like the engineers from DeepFirst Inc., overlooking the 'bigger picture' and instead focusing first on isolated issues, which often turn out to be of only marginal importance. In doing so, they collect vast amounts of data and build elaborate quantitative models only to find out later that the issue they were working on so diligently did not really matter in the broader context. However, while getting immersed in a side issue, they forgot to move on to other areas of analysis that were significantly more important.

In order to reduce the danger of missing key variables in the strategy-formulation process, it is important to have a clear understanding of the overall dimensions that are likely to be relevant. In the e-business strategy framework, there are three main dimensions, which are all closely inter-related. These are: (1) external environment and markets, (2) value-creation and strategy options, and (3) firm structure and organization. Depending on the strategic context at hand, certain dimensions are more relevant than others. In any case, however, it is important to have the broad picture at the outset and only then to drill deeper into more specific issues.

2.4.2 Extending the depth of the analysis

In addition to expanding the breadth of the analysis, a second goal of the concepts discussed in the e-business strategy framework is to expand the depth of the analysis. To illustrate this point, let us consider the case of a firm that wants to enter the online auction market. At first glance, this market might seem attractive because existing players, such as eBay, are highly profitable. Digging deeper, we would then ask 'Why is this so?', a question to which there are several answers. First, there are high economies of scale, which limits costs. Second, there are also high barriers to entry, which allows incumbent firms to charge healthy margins.

Moving down to the next level of analysis, we can determine the reasons for the high barriers to entry. They result largely from network effects. Once an e-auction place has managed to attract a critical number of users, it is unlikely that customers will switch to a new competitor. This is due to the fact that much of the value of an e-auction place depends on how many other customers use it, which creates a liquid market where it is easy to sell and buy things.

Moving down one more level, we could ask how the firm was able to create strong network effects and whether these effects could be replicated. This probing can continue by always asking 'why'. Eventually, however, there will be a point where it is not sensible to keep raising questions any more because the effort of doing so will outweigh the expected benefit. Yet, more often than not, we tend to stop asking 'Why?' too soon rather than too late (see Strategy in Action 2.2).

Furthermore, with today's advanced IT capabilities, companies can more easily collect relevant data to answer deeper-seated questions. For instance, when analyzing customer service at Amazon.com, Jeff Bezos requires detailed quantitative run-downs of numbers regarding the average customer contacts per order, average contact length, breakdown of e-mail and telephone contacts, and total cost of each contact.

The move along the chain of causality by asking 'Why?' helps us to understand the root causes of successes and failures. You can then use these insights for evaluating your own ideas and making more informed strategy decisions. To foster the analysis, the concepts discussed in this book represent the following three levels of thinking:

- *e-Business specific concepts.* On the first level, concepts such as a company's virtual value chain (see Section 5.2.3), the unbundling of the traditional organization (see Section 8.3), and the ICDT (information, communication, distribution, transaction) model (see Section 9.1) are specific to e-business. Frequently, these concepts implicitly or explicitly build on concepts from the strategic management literature (such as the value chain concept) and also on fundamental economic thinking (such as the concept of transaction costs).

  The strength of these concepts is that they are tailored to the e-business context; therefore, their applicability is rather straightforward. However, this specific tailoring presents is, at the same time, their main weakness, since, as the experiences of the last few years have shown, these concepts often fall short of explaining more complex cause–effect relationships, thereby possibly misguiding managers into seemingly obvious yet faulty strategies.

  Consider, for instance, the concepts of deconstruction and unbundling that became popular during the Internet boom years (see Sections 8.2 and 8.3). Managers were supposed to take apart their company's value chains and focus on individual activities or businesses where they possessed a competitive advantage. The initial logic was in many cases, compelling. In other cases, however, it did not turn out to be fitting because crucial linkages between different activities within the firm were overlooked. Probing beyond the initial level of analysis might have provided a more profound explanation and, in turn, would have led to more sensible conclusions and better strategies.

- *Generic strategic concepts.* In order to move beyond the initial level of analysis and find deeper cause–effect relationships, it is useful to have a good understanding of the key strategic concepts, such as the five forces industry model, the concept of co-opetition, the generic strategy options, and the value chain. These concepts can be applied irrespective of the industry or firm at hand. The common characteristic of these concepts is that they do not provide any ready-made answers. Instead, they define the relevant variables and thus help managers to raise the right questions. We discuss these concepts at length in the e-business strategy framework and link them to some real-world examples to illustrate how they can be applied in the specific e-business context.

- *Fundamental economic concepts.* Underlying the strategy concepts there is another level of thinking based on fundamental economic concepts. These include economies of scale and scope, transaction costs and value-creation. They are also relevant in the e-business context and provide a strong basis for more in-depth analysis.

Summing up this section on conceptual thinking, we would like to stress again that concepts and frameworks are not meant as a substitute for the development of creative ideas. Creative ideas are a prerequisite for any innovative strategy. Conceptual thinking is the next step to help select those creative ideas that are likely to succeed.[12]

STRATEGY IN ACTION 2.2

'Why?' – the importance of questions in strategy formulation

The single most important word in strategy formulation is *why*.

Asking why is the basic act of probing. Searching for root causes takes strategy formulation away from the unconscious repetition of past patterns and mimicry of competitors. Asking why leads to new insights and innovations that sometimes yield important competitive advantages.

Asking why repeatedly is a source of continuous self-renewal, but the act of inquiry itself is an art. It can evoke strong reactions from the questioned. It is only rarely welcomed. It is sometimes met with defensiveness and hostility, on the one hand, or, on the other, the patronizing patience reserved by the knowledgeable for the uninformed.

To ask why – and why not – about basics is to violate the social convention that expertise is to be respected, not challenged. Functional organizations in mature industries have a particular problem in this regard. One risks a lot to challenge the lord in his fiefdom.

Questioning the basics – the assumptions that 'knowledgeable' people don't question – is disruptive. Probing slows things down, but often to good effect. It can yield revolutionary new thoughts in quite unexpected places.

To probe to the limits is to simplify the problem to its essentials and solve one problem rather than many. To pursue such probing takes a special, strongly motivated person, unless one makes it the norm for the organization. Asking why five times is easy to say, but hard to do. It challenges people's knowledge and even self-respect. It can call into question their diligence and the basis of their expertise. It requires fresh thinking on all sides. Yet it's so basic to learning, to seeing new things from the familiar. In the early 19th century, doctors routinely went, without washing, from autopsies to the treatment of patients – with disastrous results. Ignaz Semmelweis is the man who first hypothesized the basic relationship and proposed and tested a change to clean hands – yet in his own time he had to struggle with his peers because he questioned the accepted practice.

Probing takes us beyond data analysis

Good strategy depends critically on knowing the root causes. Finding them is often a task beyond quantitative analysis. One must look to broader frames of reference and bring basic judgment and common sense to bear. Probing – asking why – is the often intuitive search for the logic that heavy data analysis can miss or bury.

Asking why is a qualitative act. It is different from quantitative analysis, but the one gains power from the other. It propels analysis forward by raising new questions to be subjected to rigorous analysis. It takes us beyond the numbers to new answers, new solutions, and new opportunities. Quantitative analysis should not become both the means and the end.

Asking why can raise the questions that are fundamental, but not necessarily answerable through rigorous analysis itself. These are the basic questions of leadership and common sense. They are the search for 'the point.' For example:

- Why do we continue in this business?
- Why should anyone buy this product?

- What will prevent competitors from matching us? What will we do then?
- Why are we making so much money?
- Why won't it eventually come to an end?
- What must we do now to prepare for or moderate that change?

These sorts of probes search for the bedrock reasons for value and advantages to test how enduring they may be. They ask whether the shape and character of the business and its strategy make sense.

Asking why is easy in concept, but harder in practice. It can be very rewarding. Why not do it?

Source: J. Isaacs, 'Probing', in C. Stern and G. Stalk (eds), *Perspectives on Strategy*, John Wiley, 1998, pp. 276–278.

SUMMARY

First, this chapter outlined the dimensions of creativity and analytical ability and pointed out the importance of these two qualities in the strategy-development process.

- Second, this chapter suggested a categorization of different manager types along the dimensions of creativity and analytical ability. The resulting four manager types are (1) the novice, (2) the efficient performer, (3) the visionary and (4) the catalyst for change. The goal of the concepts and case studies presented in this book is to help you move closer towards becoming a catalyst for change.
- Third, this chapter showed how case studies can serve as an inspiration for creative strategy development. Readers can use them to conduct intra-industry benchmarking (within one's own culture and across cultures) and as a source for cross-industry inspiration.
- The chapter then discussed the value of frameworks in the strategy-formulation process and outlined the key requirements that a good framework needs to fulfil. First, it must capture the most important dimensions of the problem at hand. Second, all the elements contained in a framework must be mutually exclusive.
- The last section of this chapter outlined two analytical techniques to evaluate strategies. First, this includes expanding the breadth of the analysis to ensure that each important element is considered thoroughly. Second, it includes expanding the depth of the analysis to ensure that the most important issues for the problem at hand are assessed rigorously.

REVIEW QUESTIONS

1. What are the three possibilities mentioned in this chapter that can help you to improve your creativity?
2. How do the four types of managers mentioned in this chapter differ? What are the specific qualities of the 'catalyst for change'?
3. What are the three ways in which case studies can help you to learn about e-business?
4. What are the key characteristics of a good framework?
5. What are the three levels of conceptual thinking presented in this book?

DISCUSSION QUESTIONS

1. Where do you position yourself within the 'catalyst-for-change' matrix?
2. Discuss your above assessment with colleagues. In light of their feedback, in which area would you especially like to improve your abilities?
3. Discuss how case studies can help you to develop creative strategies. Provide some examples.
4. Is it always sensible to try to get a broad understanding of a problem before addressing more detailed issues? What problems do you foresee with this approach?
5. How can you increase the depth of analysis through the concepts and frameworks presented in this book?

RECOMMENDED KEY READING

- B. Nalebuff and I. Ayres outline an approach to creative problem solving in *Why Not? How to Use Everyday Ingenuity to Solve Problems Big and Small*, Harvard Business School Press, 2003.
- M. Csikszentmihalyi analyzes different dimensions of creativity in *Creativity*, HarperPerennial, 1997.
- E. deBono, one of the leading thinkers in the field of creative thinking, proposes 'lateral thinking' as a way for creative idea development in his book *Lateral Thinking – A Textbook of Creativity*, Penguin Books, 1990.
- For a practical and very insightful discussion of structuring and problem solving, see B. Minto, *The Pyramid Principle*, Financial Times/Prentice Hall, 2002.
- M. Porter discusses the importance and value of frameworks in the article 'Towards a dynamic theory of strategy', *Strategic Management Journal*, 1991, Vol. 12, No. 8, pp. 95–117. For further reading on M. Porter's thinking about frameworks, see also

N. Argyres and A. McGahan, 'An interview with Michael Porter', *Academy of Management Executive*, 2002, Vol. 16, No. 2, pp. 43–52.

- R. Rumelt, D. Schendel and D. Teece discuss the tension between case-based approaches and theoretical constructions for the strategy formulation process in 'Strategic management and economics', *Strategic Management Journal*, 1991, Vol. 12, Issue 8, pp. 5–30.

USEFUL WEBLINKS

- **http://www.creativitypool.com** (Database with creative and original ideas).
- **http://www.trendwatching.com** (Website that spots emerging consumer trends and related new business ideas on a global basis).
- **www.whynot.net** (online forum for people to share and talk about their ideas).
- **www.thomasedison.com** (a website containing biographical information about the inventor Thomas Edison).
- **www.pyramidprinciple.com** (Website of Barbara Minto. She invented the Pyramid Principle, which provides a structured approach to problem solving).

NOTES AND REFERENCES

1 T. V. Ghyczy describes the usefulness of metaphors for strategy development in the article 'The fruitful flaws of strategy metaphors', *Harvard Business Review*, September 2003, pp. 86–94. One of his key messages is that, contrary to popular thinking, the true value of a metaphor for generating new strategic perspectives becomes apparent when the metaphors themselves stop working, which is the case when a metaphor is not entirely transferable to the problem depicted. Attracted by the familiar and repelled by the unfamiliar connections, one is, at the same time, left in a state of understanding and incomprehension. In this state of mind, the likeliness of looking at things in new and creative ways increases.

2 Obviously, strategy development is not the same as designing a building. Most importantly, architects face nowhere near as much uncertainty regarding environmental changes as managers do in the still rapidly evolving e-business environment. If we were to include this business-like level of uncertainty, this would mean that the architects would not know whether the buildings they are designing will be built on quicksand or on rock, in the tropical rainforest or in the Arctic Circle.

3 Due to the length limitation of this book, this chapter might not cover many of the aspects that pedagogues or psychologists would want to see discussed in this context. Nonetheless, for students who have previously had only little exposure to the case method and conceptual approaches to problem-solving, we believe that this chapter can provide a valuable context for their learning experience.

4 For more information on Thomas Edison's life, visit www.thomasedison.com

5 See M. Csikszentmihaly, *Creativity*, HarperPerennial, 1997, pp. 368–370.

6 For a good discussion on idea development and creativity, see A. Hargadon and

R. I. Sutton, 'Building an innovation factory', *Harvard Business Review*, 2000, May–June, pp. 157–166 and B. Nalebuff and I. Ayres, *Why Not?* Harvard Business School Press, 2003. For more recommended reading on this topic, refer to the list at the end of this chapter.

7 M. Csikszentmihalyi, *Creativity*, HarperPerennial, 1997, pp. 362–363.

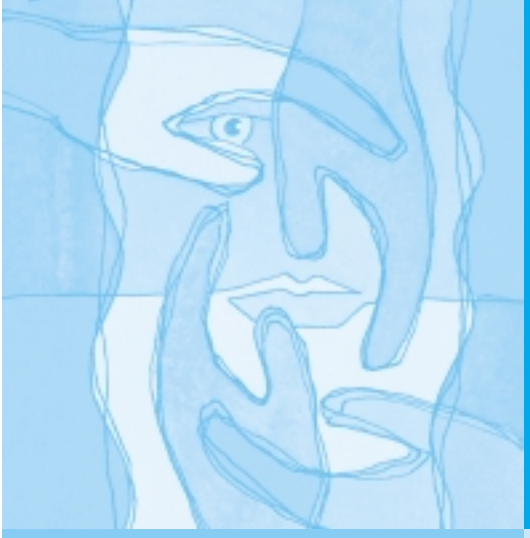
8 Ibid, pp. 360–363.

9 See R. Bruner, B. Gup, B. Nunnally, *et al*, 'Teaching with cases to graduate and undergraduate students', *Financial Practice and Education*, 1999, Vol. 9, No. 2, pp. 138–147.

10 For an excellent discussion of the value of frameworks in strategy research, see M. E. Porter, 'Towards a dynamic theory of strategy', *Strategic Management Journal*, 1991, Vol. 12, Issue 8, pp. 95–117. For a practical discussion of structuring and problem solving, see B. Minto, *The Pyramid Principle*, FT Prentice Hall, 2002.

11 R. Grant criticizes Porter's frameworks in *Contemporary Strategy Analysis*, Blackwell, 2002, p. 89.

12 R. Grant offers an excellent explanation of the value of analysis in the strategy development process in his book *Contemporary Strategy Analysis*, Blackwell, 2002, pp. 31–32.



Part 2

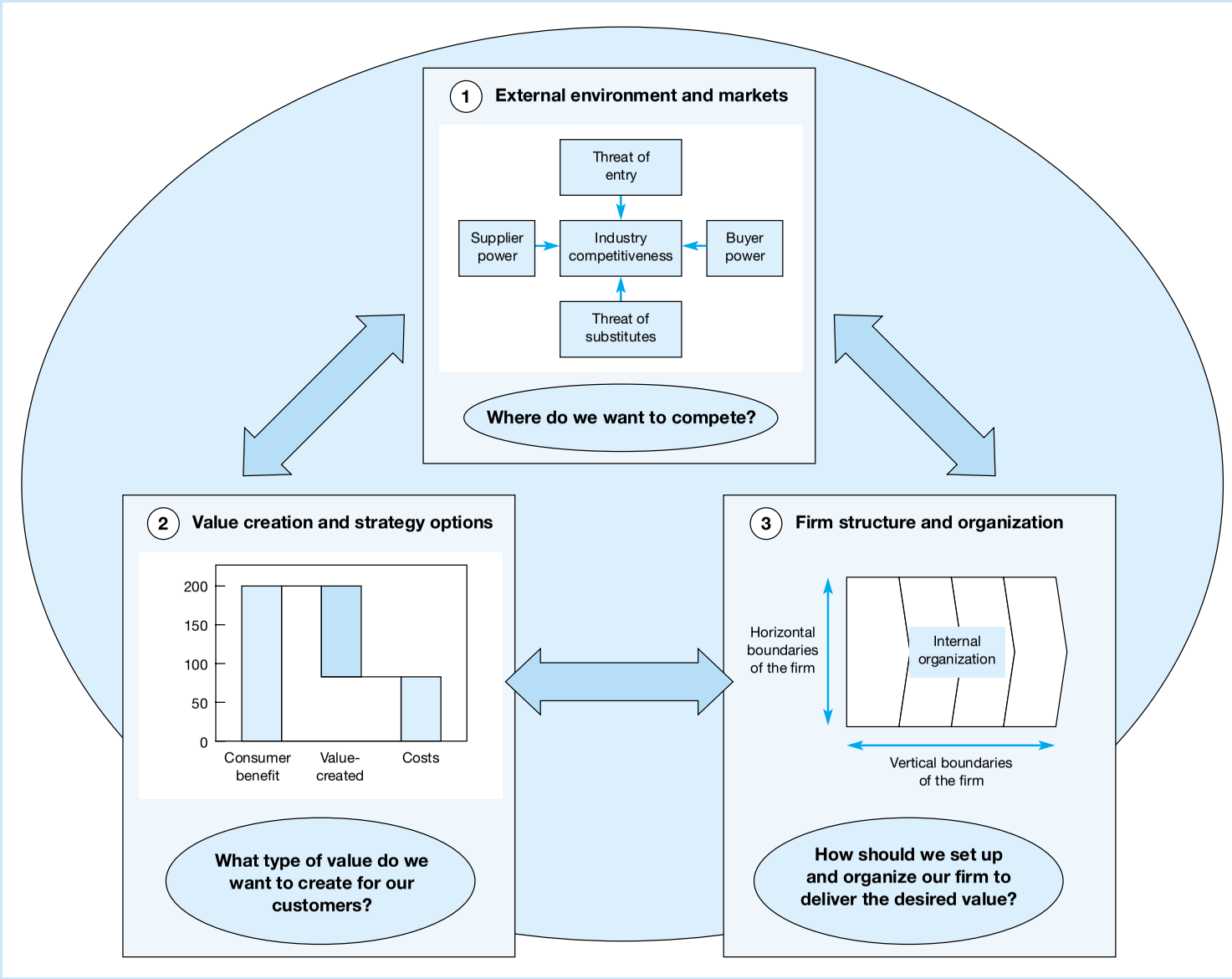
THE E-BUSINESS STRATEGY FRAMEWORK

PART OVERVIEW

This part proposes an e-business strategy framework that consists of the following elements:

- The macro-environment, industry structure and markets
- The concepts of value creations, the value chain and the virtual value chain
- Generic strategy options and strategies for opening up new market spaces
- Horizontal boundaries of the firm
- Vertical boundaries of the firm
- Internal organization of the firm

Exhibit P.1 The e-business strategy framework addresses three main questions



INTRODUCTION TO PART 2

The goal of this part is to provide an overarching framework that can serve as a comprehensive basis for e-business strategy formulation. To do so, we believe that it is valuable to begin with rigorous and time-proven concepts from the field of strategic management and then to adapt them to the specific context of e-business. This adaptation takes places in three ways.

First, although the conceptual chapters provide a broad strategic of strategy, they highlight specific concepts that are important for e-business and help us to understand recent successes and failures in the field. These include economies of scale and scope, switching costs, network effects and transaction cost theory. Second, the framework presents some e-business specific concepts such as the virtual value chain (see Section 5.2.3) and the ICDT (information, communication, distribution, an transaction) model (see Section 9.1). Third, all the concepts and frameworks that are presented in the conceptual chapters are illustrated through the e-business-specific examples. By doing so, we want to link real-world examples with theoretical considerations, hoping to make the material more accessible and applicable.

The e-business strategy framework addresses three broad sets of questions. These are:

- Where do we (as a company) want to compete?
- What type of value do we want to create?
- How should we set up and organize our company to deliver the desired value?

Obviously, these three areas are very much interlinked (see Exhibit P.1). We cannot answer one question without considering the other two. Strategies are thus more likely to be successful if managers take into consideration all relevant dimensions. Yet, in order to do so, it is helpful to break down the above questions into separate issues.

The first broad section in the e-business strategy framework deals with a firm's external environment. The key question here is: 'Where do we want to compete?' Answering this question depends in part on the following factors:

- *The macro-environment* (*Section 3.1*). Analyzing the macro-environment helps us to gain an understanding of trends within the political, economic, social or technological spheres.
- *Industry structure* (*Section 3.2*). Porter's five forces provide a guiding framework for determining the attractiveness of an industry. This includes an analysis of industry rivalry, barriers to entry, substitute products and bargaining powers of buyers, and bargaining power of suppliers. In addition, the co-opetition value net is presented to complement the five forces framework.
- *Markets* (*Chapter 4*). Customers have different preferences and expectations. It is therefore helpful to break down markets into individual segments, which reflect customers' purchasing characteristics, such as age, gender, income level, etc.

The second section of the e-business strategy framework deals with value creation. The main question here is: 'What kind of value do we want to create for our customers?' To answer this question, we discuss two related issues: (1) the *concept of value creation in e-business* and (2) *strategy options for value creation*. These issues are now briefly introduced.

- *The concept of value creation in e-business* (*Chapter 5*). To understand a firm's potential to achieve a competitive advantage, we first need to analyze the economic value it creates. This involves understanding what drives consumer benefits and what drives costs.
- *Strategy options for value creation* (*Chapter 6*). When deciding how to create value for its customers, a firm can choose from a number of strategy options. These are the two generic options of cost leadership and differentiation. Furthermore, firms can also try to break away from traditional forms of competition by opening up new market spaces, thereby redefining their value propositions.

The third section of the e-business strategy framework deals with the internal organization of a firm. The key question here is: 'How should we set up and organize our firm to deliver the desired value?' In the context of the internal organization, we need to look at three dimensions: (1) the *horizontal boundaries of the firm*, (2) the *vertical boundaries of the firm* and (3) the *internal organization*.

- *Horizontal boundaries*[1] (*Chapter 7*). When discussing the horizontal boundaries, we first need to ask: 'What scale and scope should our organization have?' Understanding the scale and the scope provides insights into how large the firm should be and how big a market it requires in order to be profitable. The second question, that deals with horizontal boundaries is: 'How quickly should we try to grow?' Growth at all costs was one of the mantras of the Internet boom years. There are a number of advantages that favour early market entry and fast growth. Yet, there are also various disadvantages, which many eager e-business start-ups overlooked.
- *Vertical boundaries* (*Chapter 8*). The concepts of deconstructing the value chain and unbundling the corporation stemmed an extensive debate among managers and academics as to how integrated a firm should be in the Internet era. During the Internet boom years, popular management thinking suggested that firms should focus on their core competence (or core business) and outsource all other value-creating activities to external providers. However, this did not turn out to be a panacea. The main question regarding vertical boundaries is therefore: 'How should we set up the value chain of our firm?'
- *Internal organization* (*Chapter 9*). This chapter deals with the firm's internal organization. The main question is therefore: 'How should we organize our firm internally?' This refers to choosing types of online interactions with customers, distribution channels and organizational structures.

1 We should mention at this point that the standard vocabulary used in the management literature to refer to a firm's horizontal and vertical boundaries could be confusing, since the typical visual representation of these concepts (as shown in Exhibit P.1) is actually opposite to the meaning of the vocabulary used.

CHAPTER 3

The impact of the Internet on the macro-environment and on the industry structure

Chapter at a glance

Related case studies

Case study		*Primary focus of the case study*
1	Minitel	Political macro-environment
3	e-Government	Political macro-environment
11	e-Purse	Technological macro-environment
28	NTT DoCoMo	Technological macro-environment
6	Amazon *V* Bol	Industry structure
15	Terra Lycos	Industry structure
25	Online file sharing	Industry structure

Learning outcomes

After completing this chapter you should be able to:

- Analyze trends in the macro-environment and explain their implications for e-business ventures.
- Understand the value of the five forces framework for the analysis of industry attractiveness.
- Explain the key characteristics of the co-opetition framework and show how it expands on the five forces framework.

INTRODUCTION

e-Business ventures, or any ventures for that matter, do not operate in isolation from their environment. Their ability to create value for their customers and to generate profits for themselves depends to a large extent on circumstances outside their direct influence. In order to assess how the Internet influences the environment, this chapter first provides a systematic approach for analyzing the macro-environment. Second, it presents Porter's five forces framework for analyzing the attractiveness of an industry and also the co-opetition framework, which offers an alternative perspective for industry analysis.

3.1 Examining trends in the macro-environment[1]

The macro-environment takes a broad perspective of the factors that influence a firm's strategy and performance. Evolving trends in the macro-environment can present significant opportunities and threats to a firm's strategy. Therefore, at the outset of any strategy formulation, it is useful to analyze the trends that characterize the macro-environment in its different dimensions: political, legal, economic, social and technological.

3.1.1 The political and legal environment

The political and legal environment relates to issues on different organizational levels. At country and industry levels, it includes issues such as governmental subsidies, taxation, monopoly legislation and environmental laws.

Consider the Minitel system featured in the case studies section of this book. This system was financed to a large degree by the French government in the late 1970s in order to computerize French society. For instance, users received the Minitel terminal free of charge.

Because of the difficulty of agreeing on cross-border agreements, taxation has been a difficult issue in electronic commerce. Regarding monopoly legislation, Microsoft has been accused of violating its dominant position in the operating system market by leveraging it to move into other software markets at the expense of competitors.[2]

When Amazon.com entered the German market, it was confronted with the price-fixing regulation, which sets a common price for all new books sold in the country. This made it impossible for Amazon.de to compete with rival bookstores on the price dimension.

In the environmental sphere, governments in many countries, such as Spain and the UK, have zoning laws, which make it difficult, if not impossible, for grocery

retailers to set up new hypermarket stores. Thus, some retailers in these countries thought of the Internet and online sales as a possible alternative for business growth.

At the individual level, political and legal debates revolve around the extent to which companies should be allowed to intrude into the private lives of Internet users. This includes topics such as the placement of cookies (text files stored on the PC that allow the website operator to identify them) and aggressive marketing via so-called spam mails (unsolicited e-mail messages). For more details on this matter, see Section 9.1.1.

3.1.2 The economic environment

The economic environment refers to broader economic developments within the context of a country, a regional dimension or a global dimension. Important factors in the economic environment are interest and exchange rates, evolution of stock markets and, more generally, economic growth rates. The favourable economic environment of the 1990s and the resulting cheap availability of capital contributed strongly to the quick rise of Internet companies.

This rise found its abrupt halt in the burst of the bubble in March 2000 and the subsequent demise of most of these Internet start-ups. The launches of some start-ups discussed in Part 3 of this book, such as mondus.com and 12Snap, were feasible only because capital was accessible so easily at the time. During the ensuing consolidation phase, on the other hand, which was characterized by depressed stock markets and cautious venture capitalists, it became much more difficult to gain access to capital, even if the underlying business idea was sound.

3.1.3 The social environment

The social environment considers factors such as population demographics, income distribution between different sectors of society, social mobility of people, and differing attitudes to work and leisure. Social developments were the main driver behind the development of numerous e-business applications. For instance, if, due to their careers, members of a developed society increasingly become cash-rich but time-poor, then businesses that address this problem for the individual consumer can create substantial benefit. The online retailer Tesco.com, for example, primarily targets customers who do not have the time or the desire to systematically shop in a physical grocery store.

Other important dimensions of the social environment that impact the development and use of electronic business are Internet usage patterns. These are measured by the percentage of the population using email or the Web for information purposes and doing transactions online. These types of measurements provide good indications of the evolution of a society towards establishing an e-habit. An additional indicator of changes in the social environment is the degree of usage of online communities, such as ivillage.com, where Internet users come together to discuss issues that interest them (see Section 7.2.1 for a detailed discussion of network effects and virtual online communities).

3.1.4 The technological environment

The technological environment is of significant importance in the context of e-business. Technological innovations (such as the Internet or wireless devices) led to the emergence of new market opportunities and business models. Other important drivers of technological developments are standards and languages such as the TCP/IP (Transmission Control Protocol/Internet Protocol), HTTP (Hypertext Transfer Protocol), HTML (Hypertext Mark-up Language) and, more recently, XML (Extended Mark-up Language).[3]

After most of the technological standards have become more common-place in wireline e-business applications, much attention has been paid to the evolution of new technology standards for wireless devices. This includes, for instance, the security features for mobile phones, an issue that is discussed in the paybox case study (see p. 000). The case on NTT DoCoMo (p.000) also illustrates how an individual company can establish new technological standards in the mobile commerce industry, as happened with iMode in the case of NTT DoCoMo.

The exemplary factors mentioned within the above four dimensions should serve only as a starting point for a careful analysis of the macro-environment. Depending on the industry and country at hand, the importance of these dimensions will obviously differ. Needless to say, though, that a good understanding of the macro-environment is essential for the formulation of sound business strategies.

3.2 Examining industry structure with the five forces framework[4]

What does the profitability of any given firm depend on? First, a firm needs to be able to create higher value than its rivals. (For a detailed discussion of value creation, see Chapter 5.) Second, it also needs to be able to capture the value that it creates in the form of prices that exceed its costs. If a firm can charge high prices for its products or services, then it captures large parts of the value it creates. If, on the other hand, prices are driven down by competition, then consumers will capture most of the value.

This highlights the fact that profitability depends not only on the internal activities of a firm but also on its surroundings, i.e. the industry it competes in. In this context, an industry is defined as a group of firms that produce products that are close substitutes for each other.[5] This environment differs from industry to industry.

As an example, let us consider the personal computer (PC) industry. During the past decades, this has created immense value for consumers as PC capabilities, in the form of both desktops and laptops, have increased multifold every year. While benefits to consumers have increased, prices have not risen; instead, they have actually decreased significantly over time. On the other hand, there are industries such as software development where a firm like Microsoft captures large parts of the value it creates (e.g. for computer operating systems), thus turning it into one of the most profitable companies in the world. This raises the question as to what determines the ability of a company to capture value.

Porter proposes a five-forces framework, which outlines the main factors determining a firm's ability to capture the value it creates. In essence, this ability is determined largely by the attractiveness of the industry in which a firm competes. Obviously, the advent of the Internet has profoundly impacted the structure of many industries. Yet, there are no general conclusions regarding how the Internet affects the structure of different industries. Instead, it is necessary to analyze each industry individually.[6]

The five forces shown in Exhibits 3.1 and 3.2 are meant as a guiding framework to explain the sustainability of profits against bargaining and competition. The five structural features that determine industry attractiveness are: (1) *industry rivalry,* (2) *barriers to entry,* (3) *substitute products,* (4) *bargaining power of suppliers* and (5) *bargaining power of buyers.*

3.2.1 Industry rivalry

Industry rivalry occurs when firms within an industry feel the pressure or the opportunity to enhance their existing market position. High intensity of rivalry within an industry results from the following structural factors:

- *Large number of competitors.* If there are numerous competitors, then individual firms may want to make a competitive move, e.g. by lowering prices. Furthermore, the Internet has reduced the importance of geographic boundaries, which traditionally limited the number of competitors within a region. For instance, B2B e-marketplaces, such as mondus.com (featured in the case studies section), quickly expanded into new locations. Since competitors followed the same strategy, competition became more intense.
- *High fixed costs.* High fixed costs (such as extensive, physical infrastructure) create strong pressure to fill capacity, even at the expense of having to cut prices. Consider bricks-and-mortar retail stores, which have specific capacities that must be utilized. To create the necessary turnover, retailers often find themselves in highly competitive price wars. Through the Internet, the ratio between fixed and variable costs, shifts more towards fixed costs. Developing software has initially high costs but rolling it out across different markets is comparatively cheap. Thus,

industry rivalry tends to increase because e-business ventures want to optimize the use of their capacity.

- *High strategic relevance.* Rivalry increases when firms have a strategic stake to succeed in a given industry. One of the most prominent examples is Microsoft's decision in 1996 to design all its new products for Internet-based computing. This decision led to the browser competition between Netscape's Navigator, the incumbent browser software, and Microsoft's Explorer, a competition that Microsoft was determined to win. In order to beat Netscape, Microsoft offered the Web server software, which cost $1000 at Netscape, for free and put 800 people to work on an upgraded version of the Explorer.[7] Ultimately, Explorer pushed most competing products out of the market and became the dominant browser software in the market.
- *Little differentiation between products.* Rivalry also increases when there is little differentiation among products, which become more like commodities. This is the case, for instance, in the computer-chip industry, where profits are low compared with the value created.
- *Low growth rate of the industry.* Intensity of rivalry also depends on the growth rate of a given industry. Fast-growth industries can accommodate a larger number of providers since, as the overall size of the market expands, each competitor gets its market share. In slow-growth industries, rivalry tends to be intense since growth can be achieved only at the expense of some competitors.
- *Excess capacity.* When the Internet became an online platform for commercial use, scores of start-up companies started using it in different industries, which resulted in a highly intense competition. Venture capitalists and stock markets provided cheap capital, which led to an overinvestment in Internet start-ups, thereby creating overcapacities. This has changed since the crash of the stock market in 2000, which has led to the demise of most of these start-ups.

However, companies need not always be rivals and just that. As explained in Critical Perspective 3.1, some competitors co-operate with each other, hence the term 'co-opetition'. As an example of this business concept, see the FT article 'Will Amazon.com's co-opetition gamble pay off?'

3.2.2 Barriers to entry

Barriers to entry determine the threat of new competitors to enter the market of a specific industry. New entrants, bringing new capacity and the desire to gain market share, have two negative effects on the attractiveness of an industry. First, new entrants take away market share from existing incumbents. Second, they bid down prices, which in turn reduces the profitability of the incumbent companies. Consequently, profitability of any given industry tends to decrease as barriers to entry are lowered, and vice versa. The impact of the Internet on barriers to entry, however, has been more ambivalent than initially assumed, when it was commonly thought that the Internet would wipe out most barriers to entry. In general, high barriers to entry result mainly from the following factors:

- *High fixed costs* deter many potential entrants because they do not have the required capital and/or the willingness to invest large amounts of money into a

risky market entry. While it was necessary in the past to set up an extensive bricks-and-mortar infrastructure to reach out to a large number of customers, the Internet has reduced this requirement. This is especially true for digital goods, which can even be distributed online. For example, the distribution of music CDs used to take place fully through a large network of physical stores.

The rise of the online file-sharing systems, such as Napster, illustrates how a single person (Shawn Fanning in this case) with an ingenious idea can threaten a whole industry, with its elaborate and high fixed-cost distribution system. Through the Napster platform, individual Internet users were able to exchange music files of their favourite songs, which undermined the traditional business model of the record industry. Subsequently, music companies attempted to raise barriers to entry again by declaring file-sharing services illegal, yet it is clear that the Internet has profoundly changed the way music will be distributed in the future (for a more detailed account of how the Internet has caused a paradigm shift in the music industry, see the case study on online file-sharing, p.000). Pressure on music companies that rely on physical distribution infrastructure has become so strong that some of them – Bertelsmann's BMG and Sony – announced in December of 2003 that they would merge their music divisions.[8]

In industries that involve the distribution of physical goods or require a high level of personal interaction, the impact of the Internet on barriers to entry is more ambiguous. Amazon.com, for instance, initially also thought that it could focus solely on the customer interaction aspect of its business and outsource to external providers all distribution logistics, which would have required substantial investments. However, Amazon.com soon found out that in order to guarantee a high level of reliability, it had to operate its own warehouses, which in turn increased the required investments. Set-up costs for a warehouse averaged at $50 million dollars, and operating costs were also significant. In order to finance these infrastructure investments, Amazon.com was forced to issue more than $2 billion in bonds.[9]

Similarly, in banking, direct banks initially thought that they could acquire and service customers solely through online channels. The case study of Nordea Bank, however, illustrates that an extensive branch network can be crucial for the acquisition of online customers and the selling of more complex financial products. As a result, such physical assets created effective barriers to entry for new online competitors.

- *Trust and brand loyalty* are essential for customer acquisition and retention. Bricks-and-mortar companies were able to launch their online activities more easily than Internet 'pure-play' ventures, since they already possessed a respected brand and consumers trusted them. Pure online businesses, on the other hand, have to invest heavily in marketing activities to build up their brand. Building trust is even more difficult for a pure online business since, in case of problems, customers do not have a nearby physical branch that they can go to or a customer advisor with whom they can interact face-to-face. For example, Advance Bank, the German branchless bank featured in the case studies section of this book, invested heavily in creating brand loyalty.
- *A steep learning curve* allows a firm to reduce its cost structure quickly or to find ways to create more customer benefits. Any competitor that wants to move into an industry needs to accept low returns while it goes through the same learning experience as incumbents. Otherwise, it has to find ways to make the incumbents'

learning experience obsolete by offering a new way of running the business (see Section 6.2 on opening up new market spaces). Amazon's early start in online retailing helped the company to stay ahead of other competitors, such as BOL. The latter was never able to catch up with Amazon.com and ultimately withdrew from the online book retailing business.

- *High switching costs and strong network effects* help an incumbent to keep its customers, even if a new entrant offers higher value (for a more detailed discussion of this issue, see Section 7.2.1). Think about the retail banking industry. If customers want to switch from one bank to another, they have to change all their automated bill payment procedures to the new account, and also inform relevant companies and individuals about the change. The effort associated with doing so could be an effective deterrent for many customers to move to another bank even though the latter offers higher value. In the Internet context, the so-called 'stickiness' of a website refers to the switching costs involved with moving from one site to the next. High stickiness makes it unlikely that a user will move from one site to the next. Similarly, strong network effects also tend to increase barriers to entry.

  eBay, for instance, has created strong barriers to entry for potential competitors through the large customer base it has created over the past few years. For individual customers, it makes sense to switch to a new provider only if they know that all or at least most other current users would switch as well. Only then would they be able to enjoy the same type of market liquidity as they did before (see the eBay case study, p. 000).
- *Strong intellectual property protection* is essential for firms that sell products with high development costs but low reproduction costs. This is the case with digital goods such as music, video and software. When intellectual property rights are not enforced rigidly, barriers for new (albeit illegal) entrants are lowered, thus allowing them to push cheap, pirated copies into the market. Furthermore, without strong intellectual property protection, it will be increasingly difficult in the future to entice authors or artists to write and compose, since they will not get compensated adequately.

3.2.3 Substitute products

The intensity of pressure from substitute products depends on the availability of similar products that serve essentially the same or a similar purpose as the products from within the industry. As the availability and quality of substitute products increase, so profits generated within the industry tend to decrease. This is due to the fact that substitutes place a ceiling on prices that firms within the industry can charge for their products. The Internet has helped to increase the pressure from substitute products, as it tends to increase the variety of products available to customers.

For instance, online music-sharing is evolving so quickly that it has become a formidable substitute for CDs, thereby threatening the traditional music industry in its foundations. In the software arena, Microsoft, the dominant producer of software for desktop PCs, is facing new substitutes in the form of mobile devices that increasingly provide many of the same functionalities as traditional PCs. However, the software for these products is not primarily Microsoft-based.[10]

3.2.4 Bargaining powers of buyers and suppliers

The bargaining powers of buyers and suppliers are the two sides of the same coin; that is why we discuss them jointly. The bargaining power of buyers tends to be high (and that of suppliers low) if the industry displays the following characteristics:

- *High concentration of buyers*, which allows them to leverage their purchasing power through pooling. One important function of many B2B e-marketplaces – such as Covisint, discussed in the book – is the aggregation of buyers. This helps them to achieve better terms from suppliers than they could obtain individually.
- *Strong fragmentation of suppliers*, which makes it difficult to establish a joint approach to pricing. In the PC industry, many producers are constantly trying to gain market share at the expense of other competitors by undercutting each other's prices. This, in turn, undermines the pricing power of the whole industry.
- *A high degree of market transparency*, which allows buyers to easily compare offers between different suppliers. Today, advanced search tools available on the Internet

allow customers to choose from a larger pool of suppliers and to compare prices instantaneously, thus making it easier for them to find the best deal.

- *Products are increasingly becoming commodities*, resulting in little or no differentiation between different providers. The pricing of commodity products that do not require extensive purchasing advice or after-sales service are especially affected by higher degrees of market transparency, since customers can then safely choose the lowest price provider.
- *Low switching costs and weak network effect*, which make it easy for buyers to change suppliers. Switching costs and network effects are discussed in detail in Section 7.2.1.

Conversely, the bargaining power of suppliers is high if the opposite of all or some of the above characteristics holds true.

The impact of the Internet on the five forces is depicted in more detail in Exhibit 3.2.

The perspective offered by the five forces framework might seem to be too static in a rapidly changing business world, where industries are in constant flux. It is, indeed, increasingly difficult to define industry boundaries, which are becoming more and more blurred due to, among others, mergers and acquisitions. However, this does not mean that the five forces framework has become irrelevant, since it still helps to pinpoint competitive and industry conditions that are subject to change.

With the rising importance of the Internet, it has become more important to think about its business impact. This entails thinking about industry positioning and how it may be altered as a result of changing barriers to entry, power distribution between suppliers and buyers, forms of substitution and industry rivalry. In spite of these changes, the underlying strategic questions remain the same: 'How and where should (and can) a firm gain competitive advantage, thereby creating superior profit generation potential?'

CRITICAL PERSPECTIVE 3.1

Co-opetition in e-commerce[11]

While the five forces industry framework focuses on the negative effects that market participants might have on industry attractiveness, the co-opetition framework enriches this perspective by highlighting that interactions with other players can also have a positive impact on profitability. These interactions can include (1) joint setting of technology and other industry standards, (2) joint developments and (3) joint lobbying.

- *Joint setting of technology and other industry standards* is often a prerequisite for ensuring the growth of an industry. For instance, the wireless marketing company 12Snap (featured in the case studies section of this book) joined other wireless marketing providers to set up industry standards on how to conduct marketing campaigns over the mobile phone.
- *Joint developments* between different firms can offer the opportunity for improving quality, increasing demand or streamlining procurement. Through its Zshops, Amazon.com has made it possible for other sellers, who are, in principal, competitors, to sell through the Amazon.com

website. Similarly, competing car manufacturers teamed up to set up the common purchasing platform Covisint to streamline their purchasing processes.

- *Joint lobbying* for favourable legislation is also frequently a prerequisite for growth and for the erection of barriers to entry.

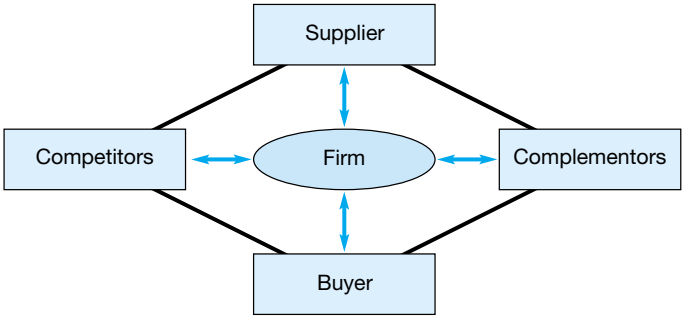
The value net framework (Exhibit 3.3), which is similar to the five forces industry framework, focuses on the positive aspects of interactions and seeks to identify opportunities for value-creation through collaboration.[12] Therefore, it provides a complementary perspective to the one offered by the five forces model. The value net framework looks at four 'players', which, through their interactions, characterize the market environment. These players consist of customers, suppliers, competitors and complementors.

- *Customers* (sometimes the end consumers) are the recipients of products or services produced by the firm.
- *Suppliers* are companies that supply the firm with resources, including labour and (raw) materials.
- *Competitors* are companies whose products are considered to be substitutes to the firm's own products.
- *Complementors* are companies whose products are complementary to a firm's own offerings. The underlying idea is that customers value a given product more if they can also buy a complementing product from somebody else. This is the case, for example, with CD and DVD players, or game cartridges and consoles.

The role of competitors and complementors can change depending on the context. For instance, with the above-mentioned Zshops, Amazon.com has changed competitors into complementors. Instead of looking at them only from a 'negative' perspective, Amazon.com decided that allowing these companies to offer their products on the Amazon.com website would improve its overall value proposition.

Similarly, different car manufacturers, such as GM and DaimlerChrysler, joined forces to create the online purchasing platform Covisint (featured in the case studies section of the book) to pool purchasing and thereby to reduce input costs.

Exhibit 3.3 The value net outlines the main players in the co-opetition framework



Source: Adapted from A. Brandenburger and B. Nalebuff, *Co-opetition*, 1998, Currency Doubleday, p. 17.

FT

Will Amazon.com's co-opetition gamble pay off?

When Jeff Bezos launched Amazon.com in 1995, he wanted it to be 'earth's largest bookstore'. Now it has an even grander-sounding ambition: to be 'earth's most customer-centric organization'. Amazon is no longer just an online book and music retailer, but has transformed into a virtual 'mall' selling golf balls to plasma screen TVs. Many are sold through its site by other retailers such as Gap, the fashion chain, Nordstrom, the department store retailer, or Target, the discounter.

That strategy, launched with a partnership with Toys R Us in August 2000, has accelerated in the past year. Click on Amazon's US website today and find a clothing store with partners ranging from Eddie Bauer to Urban Outfitters, and its sporting goods store, launched last month, with more than 3,000 brands covering 50 sports.

Unlike its books business, Amazon does not hold these products in its warehouses and fulfill customers' orders: its partners do that. Amazon takes the orders and rakes off a commission. Roger Blackwell, professor of marketing at the Fisher College of Business at Ohio State University, says Amazon has shifted from a business-to-consumer operator to more of a business-to-business operator.

Amazon calls it going from retailer to 'retail platform'. The market approves. From a low of $5.97 two years ago, when investors fretted it might run out of money, Amazon's shares have mushroomed to almost $60, reaching valuations last seen during the Internet boom. Investors have betted it will be one of the few Internet pioneers to reach long-term profitability.

'Amazon could not survive unless it evolved to a business-to-business service provider model,' says Mr. Blackwell. 'There's certainly more money to be made from selling [services] to Target and Nordstrom than selling books to consumers. 'Its retail partnerships take several forms:

- First is the so-called *'merchants@' program*, including its clothing, sporting goods and toy stores, where Amazon earns fees or commissions for taking orders. This also includes its Marketplace area, where small businesses and individuals can sell new and used goods. Transactions here account for about 20 per cent of Amazon's unit sales.
- Second is *'merchants.com'*. Here Amazon operates websites for other retailers under their names, using its e-commerce expertise, again earning fees or commissions.
- Third are co-branded *'syndicated' stores*, where Amazon sells its products through someone else's site. Consumers clicking on Borders.com, website for one of the biggest US bricks-and-mortar bookstores, for example, find themselves at a site styled 'Borders teamed with Amazon.com'. A similar arrangement applies at Waterstones, the UK bookseller.

Amazon claims to be indifferent to whether customers buy goods new or used from its own business, from partners or individuals. It makes money from each transaction, it says, aiming simply to be a 'place where people can find, discover, and buy anything they want to buy online'. That makes it potentially the dominant Internet shopping destination. Respective margins on its own and third-party transactions are not disclosed. But analysts suggest it can earn bigger margins on selling partners' goods, without storage and distribution costs. Heath Terry of CSFB estimated in a recent research report that operating margins on third-party business could top 30 per cent.

The strategy has risks. Amazon has worked hard to build up its customer base by shifting to a lower-priced strategy, offering free shipping ▶

and price discounts. It has no control, however, over partners' pricing while some manufacturers such as Nike have attempted to keep their products off a site they see as an inappropriate sales channel for their brand. The strategy also brings Amazon into closer competition with another Internet pioneer: eBay. eBay's 'Buy it now' function increasingly allows consumers to purchase at fixed prices rather than at auction, and it also has partnerships with other retailers.

Source: N. Buckley, 'Amazon aims to be king of the online retail jungle', Financial Times; 21 October, 2003.

SUMMARY

- First, this chapter addressed the question of where a firm should compete, by offering frameworks for analyzing the macro-environment, which includes factors such as the political and legal, the economic, the social and the technological environment.
- Second, the chapter discussed Porter's five forces as a guiding framework for determining the attractiveness of an industry. This also included an analysis of the influence of the Internet on industry rivalry, barriers to entry, substitute products, and the bargaining powers of buyers and suppliers.
- Third, the chapter introduced the concept of 'co-opetition', which refers to companies that co-operate and compete with each other at the same time. It illustrated how the Internet enables the implementation of such a concept and how it supports the underlying interactions between the companies involved.

REVIEW QUESTIONS

1 Explain the impact of the Internet on the macro-environment.

2 Review the impact of the Internet on the five forces industry framework.

3 How can the Internet enable companies to implement co-opetition in electronic commerce?

DISCUSSION QUESTIONS

1 Illustrate the five forces industry framework through two e-commerce examples from the same industry: one of a dot.com start-up and the other of an established company.

2 Choose an e-commerce example and discuss how a company can use the Internet to implement the 'co-opetition' concept.

3 Will eBay become Amazon.com's most powerful competitor in the future? Defend your argument.

4 Suppose that you want to launch an e-commerce venture. Which framework/concept from those introduced in this chapter would you use most to analyze and refine your ideas, and why?

RECOMMENDED KEY READING

- G. Johnson and K. Scholes discuss the macro-environment of firms in Chapter 3 of *Exploring Corporate Strategy*, Prentice Hall, 2002, pp. 97–138.
- For a more in-depth analysis of the five forces, see M. Porter, *Competitive Strategy*, Free Press, 1998.
- A. Brandenburger and B. Nalebuff introduce the concept of co-opetition in their book *Co-opetition*, Currency Doubleday, 1998.

USEFUL WEBLINKS

- **www.bmg.com**
- **www.borders.com**
- **www.ivillage.com**
- **www.microsoft.com**
- **www.netscape.com**

NOTES AND REFERENCES

1 A good discussion of macro-environmental influences can be found in G. Johnson and K. Scholes, *Exploring Corporate Strategy*, Prentice Hall, 2002, pp. 99–110. A more e-commerce-specific discussion of environmental factors is contained in D. Chaffey, e-*Business and e-Commerce Management*, Financial Times Prentice-Hall, 2002, pp. 143–156.

2 Economist staff, 'Windows of opportunity', *Economist*, 15 November 2003, p. 61.

3 TCP specifies how information should be separated into individual packets and reassembled at the destination. The IP specifies how individual packets should be sent over the network. The HTTP is a method of jumping back between different files. The HTML is a computer language for formatting hypertext files. J. Cassidy provides a very readable and informative account of the most important Internet standards and technologies in his book *Dot.con*, Perennial, 2003, pp. 16–24.

4 For a detailed discussion of industry analysis, see M. Porter, *Competitive Strategy*, Free Press, 1998, pp.3–34.

5 The five forces framework is contained in M. Porter, *Competitive Strategy*, Free Press, 1998, p. 5.

6 R. D'Aveni suggests that levels of competition have risen in the past decade, leading to a phenomenon that he calls 'hypercompetition'; see R. D'Aveni 'Coping with hypercompetition: utilizing the new 7S's framework', *Academy of Management Review*, 1995, Vol. 9, No. 3, pp. 45–57. However, G. McNamara, P. Vaaler and C. Devers have tested this thesis empirically and have not found conclusive evidence for an intensification of competition: 'Same as it ever was: the search for evidence of increasing hypercompetition', *Strategic Management Journal*, 2003, Vol. 24, Issue 3, pp. 261–278.

7 J. Cassidy, *Dot.con*, Perennial, 2003, pp. 105–106.
8 T. Burt and P. Larsen, 'Sony and BMG sign music merger deal', www.FT.com, 12 December 2003.
9 F. Vogelstein, 'Mighty Amazon', *Fortune*, 26 May 2003, p. 64.
10 'Software's great survivor', *The Economist*, 22 November 2003, p. 70.
11 The concept of 'co-opetition' was developed by A. Brandenburger and B. Nalebuff, *Co-opetition*, 1998, currency Doubleday. It entails simultaneously co-operating and competing with other companies.
12 Ibid.

CHAPTER 4

Markets for e-business

Chapter at a glance

Related case studies

Case study	*Primary focus of the case study*
7 Nettimarket	B2C market segmenting: case of senior citizens
9 ChateauOnline	B2C market segmenting: case of wine buyers
26 12Snap	B2C market segmenting: case of youngsters
18 Brun Passot	B2B market segmenting: case of SMEs
19 Citius Net	B2B market segmenting: case of large companies
20 Mondus	B2B market segmenting: case of SMEs
21 Covisint	B2B market segmenting: case of large companies
2 CompuNet	Mass customization of IT services
6 Amazon *V* Bol	Mass customization of customer interaction
10 Advance Bank	Mass customization of financial services
14 Ducati *V* Harley	Mass customization of manufactured products

Learning outcomes

After completing this chapter you should be able to:

- Understand the reasons for segmenting markets and the specific requirements that a market segmentation should fulfil.
- Explain different possibilities for segmenting consumer markets.
- Differentiate B2B e-marketplaces based on the 'what' and the 'how' of purchasing and also based on their degree of openness.
- Explain the different possibilities for market targeting.

INTRODUCTION

Porter's five forces framework, which we discussed in Chapter 3, is a generic framework for analyzing any industry and drawing conclusions regarding its attractiveness. Industries as a whole, however, are frequently too broad of category to allow for any meaningful analysis.

Consider the car industry, which consists of a broad array of different car manufacturers, which cater to different types of customers. To conduct an industry analysis that contains both high-end manufacturers, such as Porsche and Jaguar, and mass producers, such as Toyota and Skoda, would provide only very limited insight into the attractiveness of the industry. Similarly, lumping together different types of customers, such as private consumers and corporate customers, also does not provide much insight, since their needs are completely different. To remedy this, we need to segment industries and markets within a specific industry into finer units and then decide which ones to target.

4.1 Market segmentation for e-business

4.1.1 Segmenting consumer markets e-business[1]

Why is it sensible to divide markets into finer segments? We need to do so because different people have different preferences regarding product features and, therefore, appreciate different value propositions. Let us look at the example of mobile telephones. A busy, young management consultants might value the possibility of checking their bank balance via their mobile phone, while a senior citizen with eyesight problems may not be attracted by mobile banking. However, the latter might find mobile phones with enlarged dialing pads valuable, allowing them to key in phone numbers more easily. This example illustrates how differences in customer preferences are the foundation for market segmentation. According to this, a market segment is defined as a group of customers who have similar needs.

Historically, segmenting markets and catering to different needs has not always been as important as it is nowadays. For instance, in 1909, Henry Ford started to offer car buyers in the USA the Model-T Ford car 'in any colour, as long as it is black'. By 1926, Ford had sold over 14 million Model-T cars. Obviously, with the advent of now more sophisticated production technologies and, more recently, the Internet, it has become possible and necessary to segment markets in a much finer way and offer to different products and services to different customer segments (see e-Business Concept 4.1).

There are two main reasons why it is useful to segment markets. Segmentation of markets provides (1) insights into customer preferences and (2) information about the potential segment size. These two factors are now explained briefly.

- *Insights into customer preference.* Segmentation enhances the understanding of the target customer group and its preferences. First, this knowledge is helpful in

E-BUSINESS CONCEPT 4.1

The e-business market segmentation matrix[2]

The e-business market segmentation matrix provides an overview of the different participants in electronic business. It differentiates three types of participants – consumers, businesses and government – who can act as both suppliers/providers and buyers/recipients. This results in the nine quadrants shown in Exhibit 4.1. Below, we shall explain each one of these configurations, taking the perspective of a supplier/provider who is dealing respectively with a buyer/recipient, who can be a consumer, a peer or a citizen, as well as a business, or a governmental agency. In other words, we shall proceed with the description of the proposed matrix row by row, rather than column by column.

The consumer/peer/citizen as a supplier/provider

Through the Internet, consumers can act as suppliers themselves. Consumer-to-consumer (C2C) relationships are those where one consumer acts as a supplier and sells goods to other consumers. The most prominent examples for C2C interactions are Internet auction places, such as eBay, where consumers can sell used and new products to other consumers. When interactions between consumers are not of commercial nature, we call them peer-to-peer (P2P) interactions. These are voluntary in nature and are free of charge. Examples of P2P sites include online music-sharing platforms, such as Kazaa and Gnutella.

The second relationship type in this segment is the consumer-to-business (C2B) relationship, where, in general, consumers supply businesses with information about their experiences with products or services. Examples of C2B interactions are the book reviews at Amazon.com and consumer opinions at Ciao.com, a product-comparison platform. The information that consumers provide is then shared with other consumers to help them make more informed purchasing decisions.

The third category in this segment contains consumer-to-government (C2G) interactions, such as the online submission of tax return forms, and citizen-to-citizen interactions. An interesting example of the latter is the partly Internet-based campaign that Howard Dean is running in the USA for the 2004 presidential election. During the primaries of the Democratic Party, Dean leveraged the Internet as a primary platform for interacting with supporters and citizens at large, outlining in detail his viewpoints on different policy issues and raising funds. For instance, his website contains in-depth sections on such diverse issues such as agriculture, campaign financing, education, health and foreign policy.

The business as a supplier/provider

The most typical form of interaction is one where businesses act as suppliers to other parties. In business-to-consumer (B2C) interactions, firms sell products and services through online means directly to their customers. A number of case studies featured in the book, such as Tesco.com, Amazon.com, Advance Bank, Nettimarket, Ducati and ChateauOnline, focus on B2C interactions.

Business-to-business (B2B) interactions are platforms for the online purchase of operating or manufacturing inputs that other businesses need for making their products and services. The e-marketplace platform Covisint, which serves car manufacturers (as buyers) and component suppliers (as sellers), is a prominent example of a B2B platform.

Business-to-government (B2G) interactions include for instance, the online submission of corporate tax return forms.

The government as a supplier/provider

Compared with the above two categories (i.e. consumers and businesses), government activities in e-commerce have so far been relatively low. However, this is changing, and it can be expected that in the future a significant part of governmental agencies' interactions with citizens and businesses will be conducted online (for a detailed discussion of e-government applications, see the e-government case study, p.000).

The e-business market segmentation matrix shown in Exhibit 4.1 provides a classification of the different interaction types made possible through the Internet. This allows e-business players to position their own Internet operations within one or more quadrants of this matrix, and also to consider the option spaces into which they may want to expand.

For instance, Amazon.com started out in July 1995 as a pure B2C firm, selling books online to customers. It soon added a C2B component through the online reviews, which customers posted on the company's website. Later, Amazon.com expanded into C2C, when it allowed customers to sell used books through its website, using the Amazon.com online payment mechanism.

Exhibit 4.1 The e-business market segmentation matrix classifies different types of interaction between consumers, businesses and governmental agencies.

Supplier/provider \ Buyer/recipient	Consumer/peer/citizen	Business	Government
Consumer/peer/citizen	Consumer-to-consumer e.g. eBay Peer-to-peer e.g. Napster Citizen-to-citizen (e.g. US 2004 election campaign)	Consumer-to-business e.g. Amazon.com	Citizen-to-government e.g. online tax return forms
Business	Business-to-consumer e.g. Ducati.com	Business-to-business e.g. Covisint.com	Business-to-government e.g. online filing of corporate tax returns
Goverment	Government-to-citizen e.g. information about pension statements of citizens	Government-to-business e.g. information about most recent legal regulations	Government-to-government e.g. exchange of diplomatic information

Another example is Nordea, which, like most other banks, was primarily offering retail (B2C) and corporate (B2B) banking services. Through the Internet, Nordea now enables government-to-citizen (G2C) interactions through an online connection with the Finnish government database that maintains the pension records of Finnish citizens. Through this online link, Nordea customers have instant access to their pension statements, an important feature when deciding, for instance, on a savings plan for retirement. Coincidentally, Nordea bank also offers savings plans for retirement.

determining how to shape a product and what kind of features to include. These features differ, depending on the target customer. Second, customer preferences help in deciding which distribution channels to select. For instance, Nordea Bank found out that older customers were more likely to start using the Internet for online banking services if they were enticed to do so during a personal face-to-face conversation at a bank branch.

- *Information about the potential segment size.* Segmentation also helps to assess the potential market. To have an approximate idea of how many customers might be using a product or a service is crucial for estimating possible scale effects and overall return on investment. Webvan in the USA is an interesting case, since it illustrates the disastrous effects of faulty market segmentation and sizing. Assuming an immense market potential, Webvan built large, centralized warehouses that could serve a huge customer base. As it turned out, however, the market segment attracted to this service was much smaller than expected. As a result, the picking and packing facilities were underutilized and most of the delivery trucks drove around half-empty.

Effective market segmentation that actually helps to better meet customer preferences is by no means easy. As it will become clearer further on, there are many different ways in which a market can be segmented. To start out, though, Kotler[3] proposes a number of different requirements that any type of segmentation should fulfil. A market segment should be:

- *Measurable.* It should be possible to measure the size of a defined segment in order to determine its purchasing power and its peculiar characteristics.
- *Substantial.* A segment should be large enough to justify that it is addressed separately. During the Internet boom years, many category specialists entered specific market segments with a very targeted offering. Yet, as it turned out, the targeted segments were not large enough – at least then – to be served profitably.
- *Differentiable.* The segments must be exclusive and react differently to a variety of marketing approaches.
- *Actionable.* It should be possible to develop sales and marketing approaches to serve specific segments. For instance, the case study of 12Snap illustrates how mobile marketing campaigns can be designed to specifically target the segment of 15–25-year-old mobile phone users.

As mentioned above, there are myriad ways of segmenting any market. However, depending on the specific product and context, some ways are obviously better than others. For instance, it might be possible to segment the market of ChateauOnline's

wine customers based on hair colour and come up with blond-, brown-, black-haired and bald customers. In all likelihood, doing so will not provide much insight regarding different preferences and will thus also not be actionable. In this case, a segmentation between male and female groups or between income groups would probably be much more valuable. The point is that segmentation is not one-size-fits-all. Instead, it requires creative and innovative thinking to differentiate meaningful market segments.

Below, we outline the main possibilities for segmenting a given market (see also e-Business Concept 4.2 on segments of one and mass customisation). These possibilities include *geographic, demographic, psychographic* and *behavioural* segmentations.

- *Geographic segmentation* entails the selection of specific geographic regions – for example, continents, countries or states – and tailoring offerings according to the preferences of customers within that region. For instance, in Europe, certain countries, such as Finland and Sweden, have a very high Internet penetration rate while others, such as Italy and Greece, do not. Segmenting according to countries or regions can bring out these differences and help to design custom-fit strategies for each region.
- *Demographic segmentation* focuses on different personal attributes of population segments. Demographic segmentation can be done, for instance, by looking at (1) age, (2) gender, (3) income and (4) life-style. For instance, regarding the age dimension, 12Snap has positioned itself clearly to attract to its mobile marketing services the segment of young mobile phone users, while Nettimarket in Finland segmented targeted senior citizens for its online grocery delivery service.

Regarding the gender dimension, the virtual community ivillage.com initially aimed at serving both men and women. However, as it turned out that women were much more interested in ivillage's offering, the company decided to focus on the female segment.

On the income dimension, Advance Bank wanted to focus exclusively on the upper-income segment of the German market. However, it failed to realize that this segment was too small (or unwilling to use a branch-less bank), which led Advance Bank to branch out into other segments. This action eventually undermined the overall strategy of the bank.

- *Psychographic segmentation* entails lifestyle issues such as personality type and personal interests. For instance, the 'cash-rich, time-poor' segment of customers has been a primary target for online grocery shopping services such as Tesco.com. In order to save time for their social activities and hobbies, members of this segment are more inclined to shop online (and pay the delivery fees) than spend hours in a supermarket store.
- *Behavioural segmentation* divides customers into segments based on their use of a product or service. This can be done, for instance, according to usage occasions or usage rates. Dell uses an occasion-based segmentation to group its customers into the following segments: home office, small business, medium to large business, government, education and healthcare[4]. Segmenting according to usage rates is often useful when different customers show vastly different shopping behaviours. For many firms, 20% of customers make up 80% of revenues. Placing frequent and less frequent customers into different segments and providing them different levels of service or marketing efforts can then be appropriate.

E-BUSINESS CONCEPT 4.2

Segments of one and mass customization in the Internet world[5]

During the past few years, the ability of firms to segment their markets to an increasingly fine degree has culminated in some cases in mass customization, or the so-called 'segment of one'. The goal of mass customization is to offer a customized product that meets individual needs, while still maintaining a low-cost position through a mass-market operation.

Before mass production started in the twentieth century, segments of one were common-place. Many products, such as clothes and shoes, were fitted and customized to meet the specific needs of each individual customer. At the local food store around the corner, the store owner knew about the likes and dislikes of each customer. Customization was the norm because there was no other way to produce goods or provide services.

When production moved away from human labour to be handled by automated machinery, this type of customization was sacrificed in order to reduce costs. As a result, individual customers had to search among the existing mass-produced offerings to find styles and sizes that fit their needs and preferences. In fact, mass production became the norm in most realms of business. Nowadays, department stores carry only a certain number of different styles and sizes. At large grocery chains, check-out agents know how to scan in the product codes but do not necessarily know about, for example, the wine or organic food preferences of their customers.

Today, we observe an increasing trend towards mass customization, which is characterized by low-cost mass production yet individually designed products and services.

The introduction of mass customization into business processes is driven by a number of developments. First, customers lead increasingly individualized lives, where everyone has a unique set of needs and wants. Second, the rapid developments in information and production technologies make it possible to meet these individualized needs to an ever-higher degree. The advent of the Internet and its integration into customer relationship management (CRM) applications has accelerated this development further.

The Internet makes it possible to determine specific customer needs by capturing and analyzing customers' clickstreams, i.e. by monitoring customers' behaviour when they surf around a website and make purchases. For instance, through its personal recommendation lists, Amazon.com provides customers with information about books they might be interested in based on their previous purchases. You may receive similar personalized information and proactive advice from a bookstore if you are a frequent, repeat-purchase customer and have always interacted with the same, knowledgeable salesperson.

The Internet also enables the customization of production processes. One of the classic examples here is the way in which Dell has customized its production to meet specific customer needs and preferences. A somewhat less known example is the online vitamin supplier Acumins.com. Many people need to take a wide variety of different vitamin supplements every day. Buying individual vitamin packages at the local store is a costly and cumbersome affair. Acumins.com has set out to solve this problem by offering online nutrition analysis to consumers, manufacturing custom-mixed varieties of vitamins and shipping them out to customers.

There are two main benefits of mass customization. First, if it is done properly, it leads to higher levels of customer satisfaction, because only product and services that actually create customer benefit are provided, while those that only generate costs and no benefit are left out. Second, mass customization provides the potential to lock customers into one's own products or services. Take the example of Amazon.com again. If you find the personalized recommendations useful, then you are less likely to switch to a competing online bookstore, since the database of the new bookstore would have to 'be trained', which means that you have to make a number of purchases, before it can provide you with the same type of personalized book recommendations.

4.1.2 Segmenting business markets for e-business

Classification of B2B e-marketplaces based on the 'what' and 'how' of purchasing[6]

To systematize the landscape of rapidly changing B2B markets, Kaplan and Sawhney propose a classification of B2B electronic marketplaces based on *what* businesses purchase and *how* they purchase it. Regarding the *what*, there are essentially two different types of goods:

- *Operating inputs.* These goods are also often called MRO (maintenance, repair and operations) goods, which include items such as office supplies, airline tickets and services. MRO goods are not industry-specific. For instance, companies such as 12Snap and Ducati, which are in very different industries, both need computers and office supplies for their employees. MRO goods are usually purchased from horizontal vendors and shipped through third-party logistics providers.
- *Manufacturing inputs (raw materials and components).* These goods are industry-specific and are usually purchased from vertical suppliers/distributors. To handle and deliver these manufacturing inputs, it is usually necessary to set up specific fulfilment mechanisms. For instance, a motorcycle manufacturer, such as Ducati, that sources engine parts on a continuous basis from an external supplier is unlikely to use courier services, such as Federal Express, DHL or UPS, for delivery.

The second determining dimension is *how* these goods are purchased from suppliers. There are two main types of sourcing:

- *Systematic sourcing.* This type of sourcing involves negotiated contracts with qualified suppliers. Contracts are usually long-term and built on mutual trust, hence leading to lasting relationships between buyer and seller. The goal of systematic sourcing is to create value for both buyer and seller, by sharing, for instance, sales forecasts, customer data and production statistics. Thus, systematic sourcing relationships are usually about more than optimizing just price. To corporate customers, it is more important to get the right product at the right time with the right service than to save an additional one or two per cent. Usually, it is advisable to set up systematic sourcing contracts when (1) complicated products are involved that need specific adjustment and service and (2) it is necessary to make investments

that are specific to the relationship. The relationship that Dell maintains with external suppliers of PC components is an example of systematic sourcing.

- *Spot sourcing.* Firms typically use this type of sourcing to fulfil an immediate need at the lowest possible price. Commodities such as oil, gas and iron are typically purchased via spot sourcing. Thus, it rarely involves a long-term relationship between buyer and seller. In contrast to systematic sourcing, spot sourcing focuses primarily on price, so that both buyer and seller try to maximize their own benefit at the other party's expense.

Based on the above dimensions, it is possible to construct a B2B Internet matrix depicting the following four different types of B2B e-marketplaces (see also Exhibit 4.2):

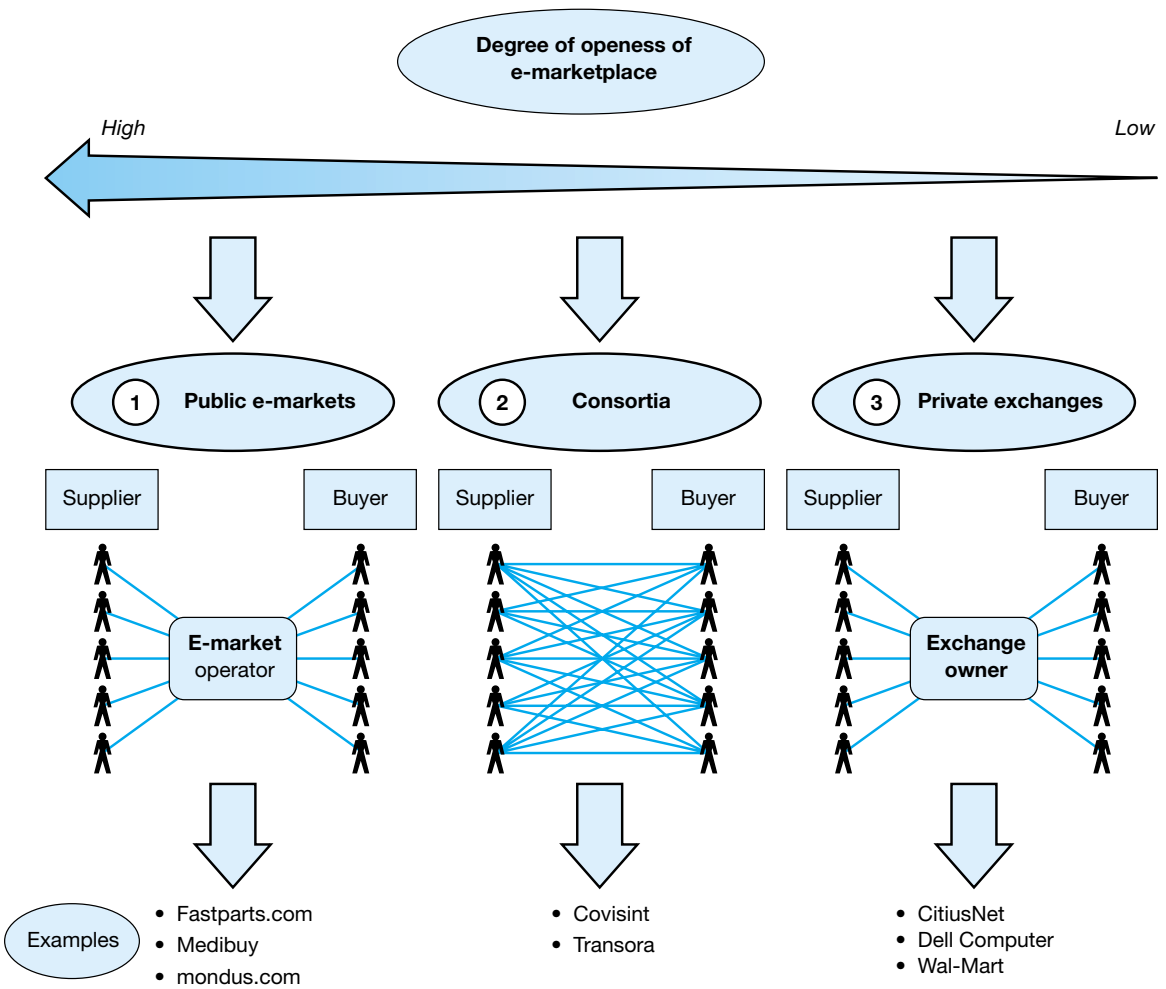
- *MRO hubs* are horizontal e-marketplaces with long-term supply relationships for operating inputs. For instance, Grainger in the USA sells goods that companies need to keep their plants and facilities running. CitiusNet, a case study featured in this book, is another example of an MRO hub that sells non-strategic, low-value items.
- *Catalogue hubs* sell manufacturing inputs through a systematic sourcing system. Goods sold through catalogue hubs are tailored specifically to meet the individual needs of the purchasing company. An example here is Covisint, which is a vertical e-hub for the automotive industry, linking car manufacturers with their suppliers of component suppliers (see the Covisint case study, p. 000).
- *Yield managers* are horizontal e-marketplaces for spot sourcing of operating inputs. They are most valuable for operating inputs that display high fluctuations in price and/or demand. An example here is mondus.com, which is a horizontal e-marketplace for small and medium-sized enterprises (see the mondus.com case study, p. 000).
- *Exchanges* are closely related to more traditional commodity exchanges. They are used primarily for the selling of commodities, such as steel and copper, that are used in the production process. An example of such an Internet-based exchange is e-steel.com.

Classification of B2B e-marketplaces based on their degree of openness

This classification focuses on the degree of openness of B2B e-marketplaces. At one end of the spectrum, e-marketplaces with a high degree of openness are those that are publicly accessible to any company. At the other end of the spectrum, e-marketplaces with a low degree of openness are accessible only upon invitation. Based on this distinction, we recognize three main types of e-marketplaces: public e-marketplaces, consortia and private exchanges (see Exhibit 4.3).

- *Public e-markets* are generally owned and operated by a third-party provider. They are open to any company that wants to purchase or sell through the e-marketplace. Because it is easy to enter and leave public e-markets, businesses processes are primarily standardized and non-proprietary. Products that are most likely to be sold through public e-marketplaces are commodities that need little or no customization. An example of a public e-market is mondus.com.

Exhibit 4.3 Different B2B e-marketplaces display varying degrees of openness



Source: Adapted from W. Hoffman, J. Keedy and K. Roberts, 'The unexpected return of B2B', *McKinsey Quarterly*, 2002, No. 3, p. 99.

- *Consortia* are typically jointly owned and operated by companies that participate in the online B2B exchanges. Access is much more limited than in public e-markets, since only equity holders and selected trading partners are admitted. Covisint, founded by General Motors, Ford and DaimlerChrysler, is an example of a B2B consortium (see the FT article 'Covisint fails to move up into the fast lane').

FT

Covisint fails to move up into the fast lane

When Covisint was launched at the height of the dotcom boom, it boasted of 'a place where people, products, information, and services come together to transform the automotive industry'. Two years later, the industry is still waiting for that transformation.Formed by General Motors, Ford and DaimlerChrysler, Covisint was designed to be a giant electronic marketplace where they would carry out procurement through online auctions at a fraction of the cost of traditional methods.

Suppliers and carmakers would work seamlessly squeezing inefficiencies out of the system. Offices sprouted in Europe, Japan and South America.Buoyed by their vision, the founders – principally the big three US carmakers, later joined by Renault-Nissan, Peugeot-Citroën, Commerce One and Oracle – laid plans for a stock market flotation bankers believed could raise $5bn. Today, however, its listing plans are a distant dream and Covisint is struggling to redefine itself.

Last week, the company lost Kevin English, its chief executive, although both sides said his departure was unrelated to company strategy. One quarter of Covisint's workforce was also cut, leaving a total of just under 300. 'When it was formed it was in the heyday of internet valuations and this was a whole new way of [doing] business that turned out to be wrong,' says John Henke, professor of marketing at Oakland University in Michigan.One of the main aims of Covisint was to offer a one-stop online shop that allowed manufacturers and suppliers to communicate with each other, sharing information such as inventory levels and parts usage patterns.

However, it soon became apparent that suppliers had little trust in a system where price-sensitive information about their business model was readily available to competitors. Indeed, lack of trust between motor manufacturers and parts suppliers was –and remains – Covisint's biggest problem. Parts suppliers object to the fact that manufacturers will select 'preferred bidders' who then bid against each other for the supply contract on offer. 'There are a lot of emotional feelings about it,' says Neil de Koker, managing director of the Michigan-based Original Equipment Manufacturers Association, a body that represents parts suppliers. 'It's perceived by many as a tool to beat the incumbent suppliers' prices down without really doing anything. 'If that [motor manufacturing] customer represents 30 per cent of your business and you walk away they could tell you you'll never be a preferred bidder again.'

Daniel Garretson of Forrester Research in Boston says: 'There's a lot less ability for the auto industry to co-operate than everyone thought. There's a lot of entrenched distrust so it's difficult to bring the layers together in a collaborative process.' He believes Covisint should 'cede' the auctions back to the manufacturers, and downgrade the internet hub to a medium for exchanging information and selling systems integration services.

Observers say incoming chief executive Harold Kutner's biggest challenge will be to mollify the estimated 7,000 parts suppliers that

use Covisint. Parts suppliers can still take their business to competing sites with no links to the manufacturers. 'The manufacturers have not put a strategy out there that lays out for suppliers how they will do business with the customer through Covisint,' says Kevin Prouty, automotive research director at AMR Research in Boston. 'How will Covisint act between the supplier and the manufacturer? There's no roadmap for that yet.'

Mr Kutner, a former executive in charge of worldwide purchasing at GM, insists that Covisint is on track for profitability by the fourth quarter. But the broader issue is whether Covisint has a future at all. The carmakers, who are estimated to have invested $270m in launching Covisint, are standing by the concept. DaimlerChrysler says Covisint is 'one of many key tools that we use in B2B in order to manage relations with our suppliers' because it reduces the amount of time needed to decide where to source parts. Most observers seem to agree that it does have a future, but that the much vaunted industry transformation was, in the end, hopelessly misplaced. 'The purpose is to take costs out of the system, and it's doing that – just not nearly as quickly as we'd like,' says Mr de Koker. 'It's a lot more difficult than people thought.'

Source: J. Grant, 'Covisint fails to move up into the fast lane', *Financial Times*, 4 July 2002.

- *Private exchanges* are the most restrictive e-marketplaces in providing access to other parties. They are typically operated by a single company that wants to optimize its sourcing activities by tying its suppliers closely into its business processes. The operator of the private exchange invites selected suppliers to participate in the private exchange and provides them with detailed information about, for instance, sales forecasts or production statistics. In turn, this helps the supplier to optimize its supply chain. In order to achieve this type of close integration, it is generally necessary to build a customized system that tightly integrates the information systems of both buyer and seller. As a result, business relationships in private exchanges tend to last longer than in public e-marketplaces. The most prominent example of a highly successful private exchange is that of Dell with its suppliers.

4.2 Market targeting for e-business

After dividing markets into individual segments, it is still necessary to determine how to target a specific market segment. There are two main choices associated with market targeting. First, we need to determine which segment(s) to target. Second, we need to determine how many different products and services to offer to the selected segment(s). As a manager at a car manufacturer, for example you could decide to produce just limousines for the upper-income class. Another manager might decide that it is more appropriate to produce also sports utility vehicles (SUVs) and family vans for other market segments. When deliberating the choices, managers always need to keep two main questions in mind:

- *Is the market segment or the group of market segments attractive?* The attractiveness of market segments can be analyzed through the five forces framework (discussed in Chapter 3). To find out about the attractiveness of a segment, one could, for

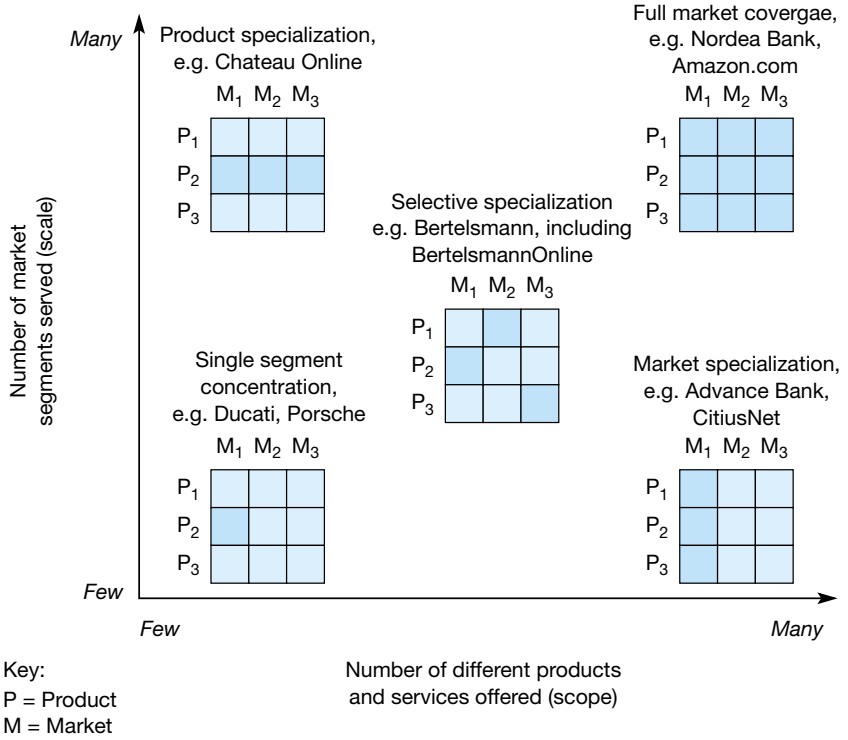
instance, analyze the overall growth of the segment, its current profitability, and current competition within the segment.

- *Can we compete successfully in this market segment?* This depends on the ability to create value through the resources and skills that a firm possesses. (For a more detailed discussion of value creation, see Chapter 5.)

  Companies can choose from five main possibilities to target market segments (see Exhibit 4.4). These possibilities are: (1) *single-segment concentration,* (2) *selective specialization,* (3) *product specialization,* (4) *market specialization* and (5) *full market coverage.*

- *Single-segment concentration.* Premium providers, such as Ducati, which specializes in the production of motorcycles for the higher-income motorcycle market, frequently concentrate on single segments of a market. This allows them to gain profound knowledge of customers, to develop specialized production know-how and to serve exactly the needs of their specific customer segment. Their brand is positioned clearly as a premium brand, undiluted by lower-class products, which allows them to charge a price premium for their products. Competitors with a broader positioning are likely to over- or underserve this specific customer segment. The downside of single-segment concentration is that if the targeted segment fails to generate the required revenues, then the whole firm is endangered.

Exhibit 4.4 Target market selection depends on the number of markets served and the number of different products and services offered



Source: Adapted from P. Kotler, *Marketing Management*, Prentice Hall, 2002, p. 299.

- *Selective specialization.* A company that pursues selective specialization targets different market segments with different product types. Doing so has the advantage of spreading out the business risk. However, it also poses the danger that the firm loses focus, thereby becoming vulnerable to attacks by more focused competitors. The German media group Bertelsmann, for instance, offers a wide variety of media products in the online, print, TV and radio areas, which target different customer groups.
- *Product specialization.* A category specialist such as ChateauOnline, which focuses primarily on wine retailing, concentrates on one product but wants to reach out to as wide a market as possible. The goal of product specialists is to generate either economies of scale or special learning effects that set them apart from their competitors. The risk of product specialists is that if their specific product loses favour with customers, then they would not be able to make up for a fall in revenues through other products. For instance, ChateauOnline (see p.000) would face major challenges if new medical research were to show that wine consumption has severe detrimental health effects.

  The mobile payment provider Paybox.net (also featured in the case studies part of the book) failed with its mobile payment service for online and offline transactions because the uptake by customers and merchants was not large enough to cover costs. Since Paybox.net had focused only on the mobile payment service, it was unable to generate enough revenues as to sustain its business.
- *Market specialization.* Firms that concentrate on a specific market segment aim at gaining a strong reputation and trust with members of the targeted segment, and then expanding by offering a range of products to the same segment. Cross-selling can be a valuable option to increase revenues, since it limits customer acquisition costs. Advance Bank, for instance, focused on the upper-income segment and, after setting up checking accounts, hoped to be able to branch out into other, more profitable, financial products, such as mutual funds and insurance products. However, market specialization poses the risk that the segment in question is not large enough to sustain operations, as was the case with Advance Bank.
- *Full market coverage.* Firms that attempt to achieve full market coverage want to sell a wide variety of product types to the whole spectrum of target segments. The economic logic behind full market coverage is to create economies of scope by leveraging existing production capacities, technological platforms or a strong brand name. Amazon.com is an example of a full-market provider. Although the company started out selling only new books, it has subsequently added used books and a wide variety of product categories, ranging from baby toys, to pet food, to consumer electronics.

  Dell has also been moving into full market coverage. It started its operations as a single specialization PC manufacturer and then moved into peripheral equipment, such as printers and hand-held devices. Now, Dell is broadening its scope even more by adding a whole spectrum of other consumer electronics, such as hi-fi systems and flat-screen TVs. Simultaneously, the company has been expanding its market segment and now serves the whole spectrum of corporate, private, and public-sector customers (see the FT article 'Dell's move from PCs into complementary products' on page 00).

SUMMARY

- This chapter addressed market issues in e-business. First, it analyzed two market segments that Internet ventures can target: (1) consumer markets and (2) business markets
- Second, it proposed an e-business market segmentation matrix, in which a taxonomy of Internet-enabled interactions is suggested. These interactions take place between suppliers/providers and buyers/recipients of products and services. Depending on the context at hand, the players involved include businesses, governmental agencies and consumers/citizen/peers.
- Third, the chapter suggested different criteria for market segmentation and highlighted the increasing move, through the Internet, from mass production to mass customization. It then proceeded with a classification of business-to-business (B2B) e-markets based on *what* and *how* companies purchase goods from suppliers. It also discussed varying degrees of openness in B2B e-marketplaces.
- Finally, the chapter outlined different possibilities for targeting market segments in e-business. There are essentially five different options, which differ depending on the number of different products offered and the number of target segments served. The options include: (1) single-segment concentration, (2) selective specialization, (3) product specialization, (4) market specialization and (5) full market coverage.

REVIEW QUESTIONS

1. Outline the e-business market segmentation matrix based on its two underlying dimensions.
2. Describe the underlying reasons for the move from mass production to mass customization in the Internet world.
3. Outline the business-to-business (B2B) e-commerce matrix based on its two underlying dimensions.
4. What B2B purchasing models do companies use? What criteria determine what specific model to use?
5. Explain the concept of openness in B2B marketplaces. What different types of marketplace can you differentiate based on their degree of openness?
6. Which possibilities can a company choose from to target market segments for e-commerce?

DISCUSSION QUESTIONS

1. Provide a real-world example of your choice for each one of the nine quadrants that make up the e-business market segmentation matrix.
2. Discuss the increasing move from mass production to mass customization in the Internet world through two actual examples that you are familiar with.
3. What issues and challenges do companies generally face when moving from mass production to mass customization through the Internet? Are there specific industries where such a move is easier to make than in others?
4. Illustrate each quadrant of the business-to-business (B2B) e-commerce matrix through a real-world example.
5. Provide an example of a B2B e-marketplace for each one of the B2B purchasing models outlined in this chapter.
6. Discuss the advantages and disadvantages of the varying degrees of openness in B2B marketplaces, i.e. public e-marketplaces, consortia and private marketplaces.

RECOMMENDED KEY READING

- S. Kaplan and M. Sawhney developed the concept of e-hubs in 'e-Hubs: the new B2B Marketplaces', *Harvard Business Review*, 2000, May–June, pp. 97–103.
- W. Hoffman, J. Keedy and K. Roberts differentiate e-marketplaces according to their degree of openness in 'The unexpected return of B2B', *McKinsey Quarterly*, 2002, No.3, pp. 97–106
- P. Kotler provides a more detailed account of market targeting in *Marketing Management*, Prentice Hall, 2002, p. 299–303.

USEFUL WEBLINKS

- **www.acumins.com**
- **www.Ciao.com**
- **www.Dell.com**
- **www.DeanforAmerica.com**
- **www.ghx.com**
- **www.Gnutella.com**
- **www.Grainger.com**
- **www.Napster.com**

NOTES AND REFERENCES

1 For an extensive discussion of market segmentation, see P. Kotler, *Marketing Management*, Prentice Hall, 2002, pp. 279–306.
2 See also T. Hutzschenreuter, *Electronic Competition*, Gabler, 2000, pp. 28–29.
3 P. Kotler, *Marketing Management*, Prentice Hall, 2002, pp. 286–287.
4 This segmentation becomes apparent on the opening page of www.dell.com, where visitors can choose between different segments.
5 For more detailed discussions of one-to-one marketing see P. Kotler, *Marketing Management*, Prentice Hall, 2002, pp. 282–285, and also D. Peppers, M. Rogers, and B. Dorf, 'Is your company ready for one-to-one marketing', *Harvard Business Review*, 1999, January–February, p. 152.
6 S. Kaplan and M. Sawhney, 'e-Hubs: the new B2B marketplaces', *Harvard Business Review*, 2000, May–June, pp. 97–103.
7 W. Hoffman, J. Keedy and K. Roberts, 'The unexpected return of B2B', *McKinsey Quarterly*, 2002, No. 3, pp. 97–106.

CHAPTER 5

Value creation in e-commerce

Chapter at a glance

Related case studies

Case study	*Primary focus of the case study*
2 **CompuNet**	Value creation in IT-based services
6 **Amazon *v* Bol**	Value creation in online retailing
13 **Ducati**	Value creation in manufacturing
16 **Google**	Value creation in media
22, 23, 24, **eBay**	Value creation in C2C e-commerce
10 **Advance Bank**	e-CRM in financial services
12 **Nordea**	e-CRM in electronic banking and e-business
15 **Terra Lycos**	e-CRM at an Internet service provider

Learning outcomes

After completing this chapter you should be able to understand:

- The main drivers for value creation
- How the Internet opens up new opportunities for value creation
- How the Internet transforms the traditional value chain
- How a company can create increased fit between activities through the Internet
- How the virtual value chain relates to the traditional value chain

INTRODUCTION

In essence, strategy formulation revolves around the concepts of value creation and value capturing. During the Internet boom years, Internet ventures often did not pay enough attention to these fundamental economic concepts. Nowadays, though, economic viability of any e-business venture is of paramount importance to managers and investors alike. This is why we devote a full chapter to these concepts.[1]

This chapter starts out with a generic discussion of value creation and value capturing. The value chain concept is then presented as a way to analyze the individual steps in the value-creation process. Finally, this chapter discusses the concept of the virtual value chain.

5.1 The generic concepts of value creation and value capturing

5.1.1 Creating value for customers

The concept of value creation is at the core of what a firm does, since only superior value creation vis-à-vis rivals opens up the opportunity for superior profitability. What does value creation depend on? In order to understand and apply the value-creation concept, let us first consider the underlying economics.

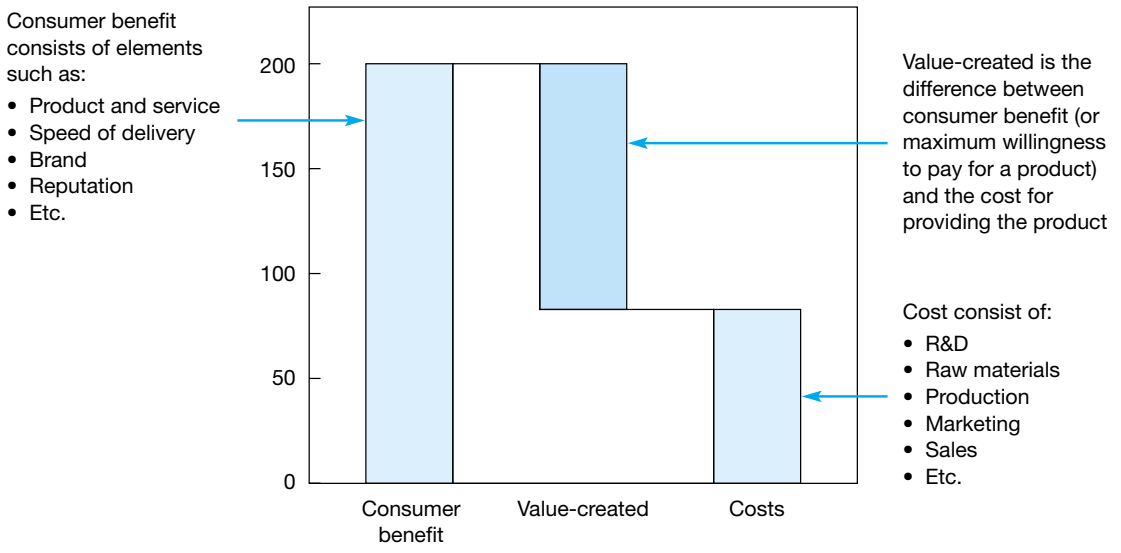
Value created is the difference between the consumer's perceived benefit from a given product and the firm's cost for providing that product. In the strategy and economics literature, there are numerous, often times divergent, definitions of some closely related concepts such as value, consumer benefit, utility and value created. To establish a common understanding of some key terms for the remainder of the book, we now provide definitions of 'consumer benefit', 'costs' and 'value created'. The relationship between these terms is shown in Exhibit 5.1.

Consumer benefit

Consumer benefit consists of all the characteristics that an individual consumer values in a product or service. In economic terms, consumer benefit is approximated by the buyer's maximum willingness to pay for a given product. The crucial question that needs to be asked is: 'When is the buyer indifferent between buying and not buying a specific product or service?'

To illustrate this concept, consider the automatic bidding agent at eBay, the online auction company. Imagine you want to purchase a laser printer at eBay. After picking out a printer, you have the possibility of entering into the bidding agent a maximum price at which you would still be willing to buy the printer. This particular printer might have a perceived worth to you of €200. The bidding agent then starts at the lowest offering price of, say, €20. Any time another bidder enters the race and trumps your bid, the bidding agent is automatically activated and places a bid just above the previous one, until it

Exhibit 5.1 Value creation depends on benefit and cost positions



Source: Adapted from D. Besanko, D. Dranove, M. Shanley and S. Schafer, *Economics of Strategy*, John Wiley, 2003, p. 368.

reaches your maximum price of €200. When someone else goes over this amount, you drop out. The implicit meaning behind this is that the benefit that you expect from the printer does not justify the higher price that is now being charged. Your consumer benefit and, therefore, also your maximum willingness to pay are €200.

Costs

Costs, in this context, include all the expenses that are incurred in providing a product to the consumer. This includes different cost items, such as technology development, raw materials, production, marketing, sales and delivery.

Variable costs, such as raw materials for a product or postage, can be attributed directly to an individual product, whereas fixed costs, such as the costs for the development of a website or the construction of a warehouse, need to be spread out across all the products that are sold through this website. The costs of firms depend on different cost drivers, such as economies of scale and scope, capacity utilization, previous experience or input prices (see Section 7.1, which deals with economies of scale and scope).

Value created

Value created is the difference between the benefit that consumers get from using a product and the costs that are incurred to produce the product. (Note that value created by itself does not state anything yet about price or profits. Determining price will be the next step.) There are two necessary requirements that a firm needs to fulfil in order to compete successfully in the marketplace. The value that it creates:

- *Must be positive.* The costs must be lower than the benefit it provides to consumers. This requirement is straightforward, even though during the Internet

boom days many companies did not pay sufficient attention to it when they offered through the Internet doubtful consumer benefits at outrageous costs. An illustrative example for a product with negative value created is the mobile phone called 'Iridium', which was introduced by Motorola in 1998. Its goal was to redefine mobile telephony by introducing uninterrupted wireless communication anywhere in the world. Development costs for this service were a staggering five billion dollars. However, this phone model suffered from several drawbacks: it did not work in cars or buildings, it required a number of attachments, and it was heavier than a traditional mobile phone. Faced with comparatively low consumer benefits, high costs, and low subscriber numbers of fewer than 50 000 people, Motorola decided to terminate the project prematurely in 2000.[2]

- *Must be higher than the value that is created by competitors.* Unless a firm can create similar or higher value than competitors, it will not be able to stay in business over the medium to long term. This is due to the fact that competitors can either undercut prices due to lower costs or offer consumers more benefit while charging the same price. This is discussed in more detail in Section 5.1.2.

Let us return to the printer example auctioned on the eBay website to illustrate the concept of value created. Your reservation price, of say, €200, which you stated for the laser printer, is a monetary reflection of your expected benefit from buying this printer. At €201, you would not be willing to purchase the printer any more. At €200, you are indifferent between buying it and keeping the €200 for other purposes. At any price below €200, you would be capturing part of the value created. Assume that the seller has incurred costs of €80 for the printer (for the initial purchase of the printer and the costs of displaying it on eBay). Then, the overall value created is €120, i.e. consumer benefit of €200 minus the €80 of costs.

What exactly constitutes consumer benefit? It is inherently difficult to measure, because consumer benefit cannot be quantified objectively, regardless of place, time and person. Instead, it is an abstract concept that varies from individual to individual, depending on:

- Personal preferences: you might derive a high benefit from driving a shiny sports car, whereas your next-door neighbour, who has three children, will get much more benefit from a mini-van.
- Place: think of a freezer in the Arctic versus a freezer in the Sahara.
- Time: think of the benefit of electric light during the day versus at night.

What elements need to be considered when determining levels of consumer benefit?[3] There is a wide range of characteristics for consumer benefit, which can be divided into *tangible* and *intangible* sources, depending on whether they can be observed directly.

Tangible sources of consumer benefit include the following:

- *Product quality.* This characteristic refers to the objective traits of a product, such as its functionality, durability (or reliability) and ease of installation. For instance, the quality of Ducati motorcycles can be determined accurately by metrics such as maximum speed, acceleration, miles per gallon, or breakdown rate. Likewise, the quality of Tesco.com's online grocery business can be measured by the freshness and overall quality of the goods delivered.
- *Degree of product or service customization.* The more a product or service can be adapted to specific customer needs, the more benefit it creates for the individual

user. Dell manufactures its PCs to customer specifications, resulting in two types of benefit. First, all the components that an individual customer values in a PC are included; second, all components that are not valued are left out, thus helping to keep down PC prices (see also e-Business Concept 4.2, pp.00).

- *Convenience.* The mental energy, effort and time that buyers have to expend during the purchasing process need to be taken into account when comparing different providers. This is why people do not drive ten miles to the discount supermarket just to buy a bag of coffee, but instead go to the local corner store, even though the coffee there might be more expensive. Through its online grocery service, Tesco.com aims to increase convenience for shoppers, and especially for very busy people.
- *Service quality.* This characteristic refers to the friendliness and know-how of salespeople or, in the case of a website, the degree of personalization, ease of use, and response time and information quality of online enquiries. ChateauOnline, the French wine retailer featured in the case study on p.00, provides a superior service to its customers by offering extensive wine reviews, wedding and party services with recommended wines to go with the menu, venue and chosen budget, and webmiles for frequent buyers.
- *Speed of delivery.* The ability to deliver products and services quickly is an important source of consumer benefit. Speed depends on availability of products, location of the seller, and quality of the logistical process. A firm that has the ability to deliver faster than its competitors because of its management approach, superior process flow, and IT systems and applications can create a significant competitive advantage. Amazon.com, for instance, installed proprietary warehouses to be able to ensure that products are available and get shipped out in a timely fashion.
- *Product range.* A broad and deep selection provides an important source of differentiation since it allows convenient and quick one-stop shopping. Amazon.com is a prime example of a retailer with a deep and broad product range, since customers can find, for example, most book titles that are currently in print (and out of print).

Intangible sources of consumer benefit include the following:

- *Brand.* This characteristic refers to the perceived traits that consumers associate with the company that is selling a product or a service. A strong brand tends to result from products that meet high-quality standards, yet this may not necessarily be so. It might also come as a result of intensive and innovative marketing activities. Brands need to be built and nurtured in order to use them as a differentiating characteristic in the marketplace.

  Most online firms had to invest heavily into the creation of their brand, as is shown in the case studies section of this book through the examples of 12Snap, Advance Bank and ChateauOnline. On the other hand, for established physical firms such as Tesco, Nordea and Ducati, it was much easier to acquire online customers, since they already benefited from a strong brand through their store outlets, office networks or physical dealerships.
- *Reputation.* The perceived historic performance of a company is a major factor influencing reputation. Customers value reputation because it decreases their pur-

chasing risk. Especially when it comes to making online payments with a credit card, a company's reputation is critical, since many online customers still feel uneasy providing this information to an unknown vendor.

It is important to note that consumer benefit does not happen in a vacuum. It depends on what other firms in the industry offer, since consumers constantly compare different product providers. To bring in this dimension, we need to differentiate between *threshold features* and *success factors*.[5]

- *Threshold features* are the minimum requirements that a firm must fulfil in any product or service. If a firm cannot meet these minimum requirements, then it will get excluded from the market because buyers will not even take it into consideration. A threshold feature might be, for example, a website with functioning links or a secure payment mechanism for online transactions. These are required features that do not differentiate a product.
- *Critical success factors*, on the other hand, are those benefits that are crucial for the buyer's decision to purchase a given product. At Amazon.com, these features include the wide variety of goods, the reviews, and the convenient and fast shopping experience made possible through the company's one-click shopping application. At Nordea bank, critical success features are the ease of use of the online banking site and the e-business services.

To summarize, both threshold features and critical success factors create consumer benefit, but only the latter help a firm to differentiate itself from its competitors by creating superior consumer benefit.

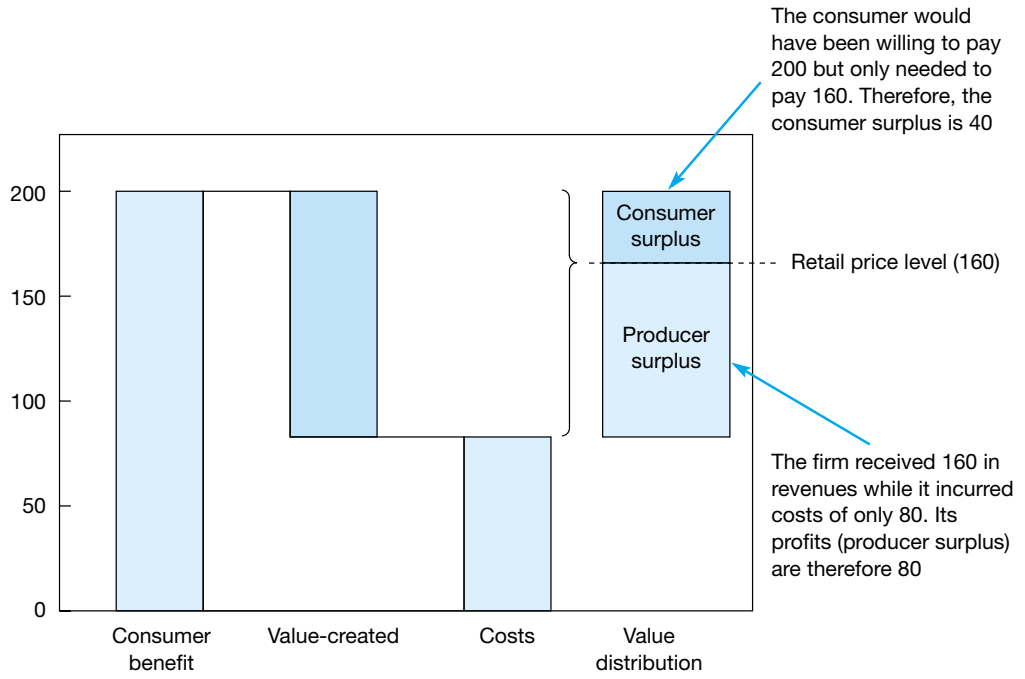
5.1.2 Capturing value

While it is important for a firm to create value that is superior to the value created by its competitors, it is equally important to capture parts of the value it creates in the form of profits (or producer surplus, as it is called here). As stated above, value creation by itself does not provide any information about how the value is distributed between consumers and producers, as is shown in Exhibit 5.2. This distribution takes place through the price that a firm can charge for the product or a service. Price splits the value created into two separate entities: the *producer surplus* and the *consumer surplus*.

- The *producer surplus* represents the profits that a firm generates when selling a product. Profits are the difference between the price at which the product is sold and the costs of producing it.
- The *consumer surplus* represents the difference between the consumer benefit, which is the maximum willingness to pay, and the price the customer has actually paid for a product. In general, customers will seek out those products that offer them the greatest surplus, which can be achieved either through a higher customer benefit level at the same price as other products or through lower price with comparable quality.

To illustrate the concept of producer and consumer surplus, let us look again at the example of the printer auction at eBay. If the auction ends at €160, which is below

Exhibit 5.2 Value created is distributed between producers and consumers



Source: Adapted from D. Besanko, D. Dranove, M. Shanley and S. Schaefer, *Economics of Strategy*, John Wiley, 2003, p. 368.

your maximum willingness to pay, then the purchase goes to you. How does the value created get distributed? For the seller, the surplus is the difference between the price of €160 and the cost of €80, which comes out to be €80. Your consumer surplus is the difference between your maximum willingness to pay €200 and the price you have actually paid (€160). This comes out to be €40. In this example, the seller captured the larger part of the value created (€80) while the customer captured the smaller part (€40).

Now, we can answer the overarching question regarding which factors influence the distribution of value between buyers and sellers. There are two factors that influence a firm's profitability: (1) *the industry structure* and (2) the *relative level of a company's value creation.*

- *Industry structure.* The distribution of value depends on the industry in which a firm is competing. Porter's five forces industry framework (discussed in Section 3.2) helps to determine how value created is distributed. Industries with highly intense competition, low entrance barriers and readily available substitutes tend to be less attractive and, therefore, less profitable. This is due to the fact that existing and new competitors bid down prices in order to gain market share from their competitors. This means that the value created typically goes to consumers in the form of low prices. Thus, in general, it is difficult for a firm to earn attractive profits in an industry that is characterized by the above-mentioned factors. The PC industry is a prime example of an intensely competitive industry, where value created is high yet profits remain low for most firms.

- *Relative level of a firm's value creation.* A firm's own value creation relative to that of its competitors is the second important factor that determines profitability. If a firm manages to create higher value than its competitors, then it has the potential to earn attractive profits, even in highly competitive industries. For example, in the very competitive PC industry, Dell has been able to earn above-average profits because of its unique direct-sales model, which eliminates expensive intermediaries in the distribution chain. This has allowed Dell to underprice most competitors while still maintaining healthy margins.

5.2 The Internet-impacted value chain[6]

The main question in this section is to determine how value is actually created. The value chain, which disaggregates a firm into strategically relevant and inter-related activities, helps to examine the value-creation process within a company. However, please note that there are competing views on analyzing a firm's activities, most notably the resource-based view, which is discussed in Critical Perspective 5.1 at the end of this chapter.

5.2.1 Analyzing activities in the value chain

Ultimately, competitive advantage rests on activities that a firm can perform better or more efficiently than its competitors. There is no general blue print prescribing which activities should be included in analyzing a company's value chain. However, the following criteria should be used when including specific activities. An activity should:

- *Display different economics.* For instance, the development activity of a new software program displays very large economies of scale since the software can be replicated at negligible cost.
- *Provide high differentiation potential.* These are activities that can greatly increase tangible and intangible consumer benefits, such as product and service quality, convenience and reputation.
- *Present sizable costs.* These are activities that add significantly to the overall cost structure of the firm. For instance, in the case of Ducati, these might be activities related to product development and manufacturing. In the case of 12Snap, major costs are incurred for marketing.

On an aggregate level, a company's value chain contains the following primary and support activities (see Exhibit 5.3).

To get a better understanding of the ways in which the Internet can change the value chain, we will take a closer look at how Dell has transform its value chain.

- *Inbound logistics* consist of receiving, storing and distributing incoming goods within the company. On a more detailed level, this might include activities such as checking inventory levels and order placement. Through close linkage with its

suppliers, Dell has managed to radically change its inbound logistics. For instance, when Dell sources monitors from Sony, the boxes are not shipped to a Dell plant from where they are distributed. Instead, Dell has made arrangements with logistics companies, such as UPS, to pick up the monitors as needed from the Sony manufacturing plant, match them with the corresponding computers, and then deliver them to customers. Doing so reduces the need for warehousing capacity and inventory and cuts out transportation steps.[7]

- *Operations* consist of those activities necessary for the making of a product or a service. The Internet has, in many cases, drastically changed a company's production activities. By taking orders online, companies can significantly shrink the time between order placement and productions, enabling them to start production in 'real time'. For instance, through the close linkage between the ordering website and the production facilities, Dell can build products that match orders, thus increasing turnover and reducing inventory costs.[8]
- *Outbound logistics* consist of activities required for getting the product to the buyer, which can be done either physically or electronically (for digital goods). For example, the reduction of inbound logistics by leaving products with suppliers also reduces Dell's efforts and expenses for outbound logistics. Complementary components, such as PC monitors, are shipped directly from the supplier to the final customer.[9]
- *Marketing and sales* activities aim at enticing customers to buy a product and to provide the means for doing so. This includes activities such as providing online catalogues and running online marketing campaigns (see also e-Business Concept 5.1 for a discussion of customer relationship management as part of online marketing activities). For example, the Internet has enabled Dell to move online most of its marketing and sales activities. Dell has thus offered customers a fast and comprehensive way to place orders, while at the same time keeping down costs (since it does not have to pay for an expensive sales force and retail outlets).

  One of Dell's main competitors Compaq, which relied on in-store sales as its main distribution channel, was affected severely by Dell's direct model, yet it was largely unable to replicate it because of conflicts with its existing physical channels. In other industries, physical sales channels are much more valuable than it was initially anticipated at the beginning of the Internet boom years. Consider the banking industry,

E-BUSINESS CONCEPT 5.1

Electronic customer relationship management[9]

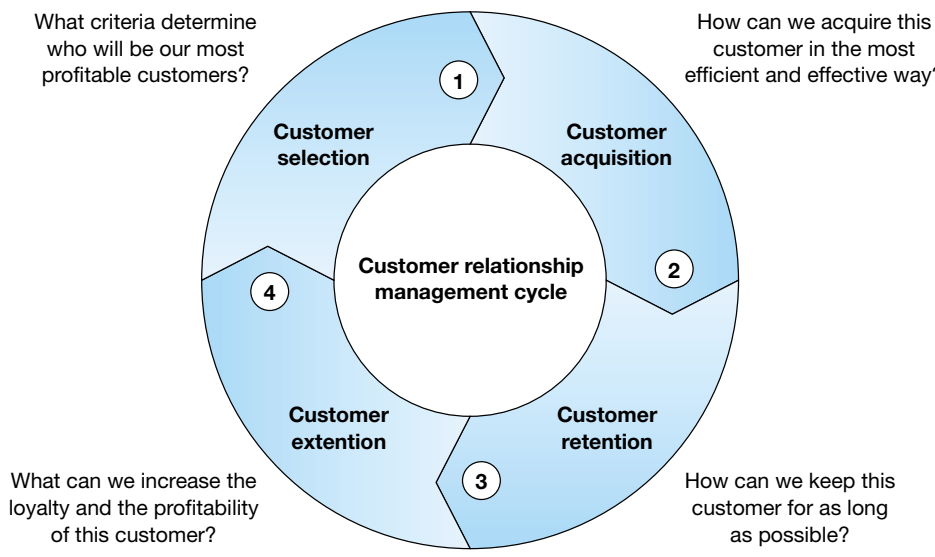
Electronic customer relationship management (e-CRM) refers to the use of the Internet and IT applications to manage customer relationships. As the Internet has permeated different activities of a company's value chain, e-CRM has also become more important. Specifically, it aims at:

- Creating long-term relationships with customers to offset acquisition costs.
- Reducing the rate of customer defections.
- Increasing the 'share of wallet' through cross-selling and up-selling.
- Increasing the profitability of low-profit customers.
- Focusing on high-value customers.

e-CRM comprises the following four main elements (see Exhibit 5.4): (1) *customer selection,* (2) *customer acquisition*, (3) *customer retention*, and (4) *customer extension*.

- *Customer selection* refers to customer segment targeting, which was discussed in Section 4.2.
- *Customer acquisition* includes promotions and other incentives to (1) acquire completely new customers and (2) entice existing customers to move to the Internet. In order to engage a customer in a relationship through the online channel, a firm needs to have at least the customer's e-mail address. More detailed customer profiles include information such as a customer's personal interests, age, financial status and role in the purchasing process. To

Exhibit 5.4 Customer relationship management consists of four elements



acquire this more detailed information, it is usually necessary to offer customers an incentive, e.g. a gift certificate or a free product sample. e-Commerce companies use a number of different tools to get the attention of potential customers. Initially, this was done primarily through banner advertising.

More recently, marketers have added more sophisticated tools such as 'viral marketing', where customers forward a website address or other types of company information to each other via e-mail or SMS. 12Snap, which is featured in the case studies part of the book, uses this approach intensely in its mobile marketing campaigns. Another effective way of customer acquisition is link building, which Amzon.com does in partnership with affiliate sites that refer to the Amazon.com site. For instance, the alumni club of the Leipzig Graduate School of Management in Germany maintains an affiliate relationship with Amazon.de. As part of this agreement, the alumni club's homepage hosts a link to the Amazon.de website and receives a five per cent commission on all sales that take place through this link.

- *Customer retention* has the goal of (1) turning one-time customers into repeat-purchase customers and (2) keeping customers for as long as possible in the online channel. Customer retention is achieved primarily through two features: personalization and communities (these are discussed in detail in Section 7.2.1). The personalization of a website designed to meet specific customer needs helps to create 'stickiness'. If customers want to change their online provider, then they will incur switching costs. Strong online communities with many different users help to create network effects. Both personalization and online communities entice users to stay with a particular website.
- *Customer extension* focuses on maximizing the lifetime value of a customer. Companies achieve this primarily by expanding the scope of an existing customer relationship through cross-selling. Nordea, for instance, is turning towards triggered data-mining to cross-sell additional financial products to existing customers. Triggered data-mining works as follows: when there is a change in a customer account – for instance, a large incoming money transfer, an address change or a marital status change – a trigger in the database is set off and informs the bank about this change. This, in turn, raises the following question: 'What does this change mean for financing, for long-term payments, for insurance and e-services?'

where most industry experts assumed then that virtual banks with no physical presence would be able to outperform their cost-intensive bricks-and-mortar competitors both on the cost and the benefit dimensions. As it turned out, however, bank customers actually valued the presence of bricks-and-mortar branches, to which they could turn and where they could meet with an advisor in a face-to-face setting. The case of Nordea shows how success in the online world depended to a large degree on integrating online activities with sales activities in the branches.

- *Service* activities deal with the after-sale phase, which includes the installation of a product, supplying spare parts and exchanging faulty products. Dell's corporate customers can go to Dell's intranet and access the same internal support tools that Dell's own technical support teams use.

The importance of the different activities in the value chain varies from one industry to another. For service firms, operations and marketing/sales activities are crucial. A retailer of physical goods such as Amazon.com places a major emphasis on inbound and outbound logistics as well as marketing and sales. To create high levels of

consumer benefit, Amazon.com is offering sophisticated sales and marketing tools, such as the personalized recommendation list, which is based on a customer's previous purchases. As part of sales, Amazon.com has patented the one-click payment mechanism, which allows customers, after having gone through a one-time registration process, to make a purchase simply by clicking on an icon and without having to provide any further information about themselves. Thus, the above-outlined value chain is not a blueprint for analyzing any individual business. Instead, it should be set up based on the individual context of the firm and with the goal of providing a good understanding of how the business operates.

In addition to the primary activities that are related directly to the production and sales process, the value chain also comprises the following support activities:

- *Procurement deals* with the primary inputs for different processes within the organization. This includes the purchasing of, for example, machinery, PCs, servers and office equipment. Procurement is often a crucial element of the overall cost structure of a company. The case studies of Brun Passot and Covisint deal specifically with how procurement processes can be made more efficient through the use of electronic platforms (see also Section 4.1.2 for a discussion of B2B e-marketplaces).
- *Technology development* includes specific R&D for product design. It also refers to development activities that optimize the functioning of other activities of the firm. For instance, to develop its auctioning technology platform for mobile phones, 12Snap set up its own programming lab.
- *Human resource management* consists of recruiting, managing, training and developing people. The Internet transformed this activity through online recruiting, Web-based training and intranet-based knowledge management. Human resources issues also influence Internet-based companies to make conscious choices regarding their geographical location, because employees represent the least mobile asset. Amazon.com, for example, set up its headquarters in Seattle, USA, to be able to attract qualified IT specialists. The Advance Bank in Germany decided to build up its call centres in Wilhelmshaven, a city with high unemployment, where they could find cheap yet qualified call-centre agents. Similarly, 12Snap set up its technology development centre in Prague, Czech Republic, one of the few places at the time where the firm could find qualified yet comparatively cheap labour.
- *Infrastructure* refers to a firm's physical premises, including offices, plants, warehouses and distribution centres. In spite of being an online retailer, Amazon.com operates a network of its own warehouses in its key markets to co-ordinate the logistics of delivery.

Exhibit 5.5 shows examples of how the Internet influences the different activities of a value chain.

In order for a firm to be able to perform certain activities within the value chain, it needs to dispose of certain assets and skills such as physical and financial assets, human resources, technology and know-how. This asset and skill portfolio is not static, however. As a firm performs certain activities during an extended period of time, it also builds up skills internally, as the different departments improve their processes and create assets. These include internal assets such as improved technol-

ogy or employees' know-how, and external assets such as a superior brand reputation or strong relationships with suppliers and buyers.[10]

5.2.2 Creating fit between activities[11]

Activities in the value chain are not performed in isolation; instead, they are linked to each other throughout the value chain. A firm's ability to create a better and unique fit between activities is ultimately responsible for its competitive advantage. Thus, the whole of the value chain is more important than the sum of its individual activities. Sustainability also results from a unique fit, since it is much more difficult for competitors to imitate a set of inter-related activities than to just put together different elements and effectively replicate that same model.

There are three main levers that determine the fit of activities within a firm: (1) *consistency between activities*, (2) *reinforcement of activities* and (3) *optimization of effort*.

Consistency between activities

Consistency ensures that individual activities with their respective advantages build on each other instead of cancelling themselves out. If a firm aims for a differentiation advantage, then the goal should be to design activities such that each activity adds to the differentiation advantage. On the other hand, if the goal is to be a low-cost provider, then costs of each activity should be kept to a minimum while still maintaining the threshold features that are required to stay in the market. Lack of consistency dilutes the positioning of a firm. The need for consistency emphasizes the requirement that strategy is not just about deciding which activities a firm should perform but also, and equally important, which activities not to perform. If a firm wants to be everything to everyone, then it runs the risk of not being able to do anything better than the competition and will end up being 'stuck in the middle'.

Why is that so? Porter argues that strategic positions are not sustainable if there are no trade-offs with other positions[12]. If a firm wants to provide highest-quality standards, then this usually entails higher costs, while the desire for lower costs usually results in a decrease of quality. This trade-off arises from the following sources:

- *Activities.* The trade-off results in part directly from the activities involved. Different positions require different processes, resources, skills and value-chain set-ups. A firm that wants to achieve a differentiated positioning needs to invest heavily to ensure highest-quality standards (and, hopefully, to be able to command a price premium). Cost leaders, on the other hand, need activities that provide the lowest possible cost structure because they want to compete through low prices. Customers of these firms do not look for the bells and whistles; instead, they want to receive the basic service at the lowest possible price. Thus, a firm that wants to be a cost leader and unnecessarily bloats its costs by overengineering its activities is actually destroying value.
- *Image and reputation.* Trying to be both a low-cost and a differentiated provider can easily cause inconsistencies in a firm's image and reputation. It is much easier for a firm to communicate its strategy credibly to its different stakeholders (such

as customers and shareholders) when it has a clear positioning. Think of the car manufacturer Porsche. To build up and maintain the reputation of premier sports car manufacturer, Porsche needs to position itself clearly with its products and services. Similarly, a low-cost provider such as the US retailer WalMart focuses its efforts on providing its products at the lowest possible costs.

- *Strategy implementation.* It is much easier to implement a strategy within a firm if employees have a clear guiding vision of the strategy and if they do not have to ask themselves with every decision: 'Are we competing on low cost, or are we trying to be a differentiated provider?'

The European low-cost airline easyJet.com is a good example of a firm that is continuously striving for consistency across different activities of its value chain. To minimize costs, easyJet.com forgoes many of the features, frills and perks that are offered by traditional airlines. While the latter rely heavily on expensive ticketing offices and sales agencies, easyJet.com sells almost solely through the Internet (see also Strategy in Action 5.1). Furthermore, customers do not receive printed tickets. Instead, they show up at the airport's check-in counter where they receive their boarding pass upon passport identification. On board, passengers are not offered free meals and drinks, but instead they have to pay for each drink or snack. Finally, after landing, planes are turned around much faster than the industry average which helps to reduce standing fees and increase capacity utilization.[13]

STRATEGY IN ACTION 5.1

easyJet.com's low-cost strategy and the Internet

The Internet plays a vital part in the easyJet business plan and is critical to its ongoing success. As a low-cost operation, controlling the cost of doing business is crucial to the airline's ability to offer low fares. Because the Internet provides the most cost-effective distribution channel, easyJet has aggressively pursued its strategy of encouraging passengers to book their seats online.

Here are some examples of the ways in which easyJet incentivises people to book via the Internet:

- Passengers booking online receive a discount of £5.00 for each leg of a journey. easyJet first pioneered the concept of offering a discount to Internet customers, an initiative that has been widely copied by competitors.
- Any easyJet promotions are exclusive to the Internet, so that customers must get online if they wish to take advantage of discounted fares.
- If customers wish to book seats more than two weeks in advance of the departure date of the flight, they can only do so by booking online. As fares generally increase as the departure dates gets closer, this means that the best fares are first available to those who book via the Internet.

Since easyJet started selling seats via the Internet in April 1998, the airline has enjoyed dramatic growth in its online sales. The airline reached the one-million seat mark in October 1999, and celebrated this important landmark by giving that lucky passenger unlimited free flights for a whole year. Five months later in March 2000, easyJet reached two million seats, and it only took another

three months after that to reach the three-million seat mark, indicating a huge acceleration in the growth of online sales. easyJet has now sold many millions of seats online.

The proportion of all sales made online has also shown impressive growth. easyJet now sells around 90% of its seats online every week, which is a higher percentage than any other airline, reinforcing its position as the 'web's favourite airline'.

Source: www.easyjet.com

The case of the Advance Bank in Germany, which wanted to be a premium provider of direct banking services in Germany, is a good example of inconsistent positioning that led to persistently low levels of profitability. Based on its initial differentiation strategy, the bank set up large call centres, hired skilled call center agents (most of them with a university degree), and developed a highly sophisticated IT infrastructure and website. When customer acquisition did not meet expectations, the bank attempted to broaden its customer base and expanded into less affluent segments by offering cheque accounts for free. This move, however, was not consistent with the initial set-up of the company's differentiated set of activities, since the low-cost customers were not bringing in sufficient margins to finance the cost-intensive activities of the bank.

Reinforcement of activities

Reinforcement is the second important characteristic of a good fit between the different activities of a firm. Its underlying thinking is that competitive advantage comes as a result of how some activities influence the quality of other activities to create higher quality in products or service.

Take, for instance, the sales activities. If a firm has a highly motivated and skilled sales force, it is much more effective if the firm also has excellent R&D and production facilities to produce a top-quality product. Similarly, a sophisticated website, such as the one of Amazon.com, becomes more valuable when it is combined with a warehouse system that allows for fast, reliable and efficient deliveries. During the Internet boom years, firms that only built up the flashy website without working out the detailed logistics in the back end were unable to create this type of reinforcement (although they were able to raise substantial capital from venture capitalists and stock markets). Reinforcement between separate activities is difficult to pinpoint from the outside. Therefore, it is difficult to imitate a position that is built on strong reinforcement across activities.

The case of Nordea illustrates the importance of reinforcement. Among other reasons, Nordea is successful because it managed to create a tight fit between all its online and offline banking activities, which allowed the bank to quickly move online a large number of their branch customers. Pure online banks cannot imitate this effective customer-acquisition approach, since they do not have a physical branch network. Other bricks-and-mortar banks that tried to follow suit did not realize the importance of closely connecting the online and offline businesses. They opted instead for distinct profit-centre structures, thereby creating competition between their online and offline activities. A firm's ability to cross-sell and/or sell through

complementary distribution channels is critical, since, especially in the service industry, the cost of acquiring a new customer can be two- to threefold the cost of selling to an existing customer.

For example, Dresdner Bank, the owner of Advance Bank, chose to maintain its direct banking operation in a separate business unit. As a result, it could not leverage the physical branch network for customer acquisition and services. This lack of reinforcement between different channels also contributed to the decision to close down Advance Bank at the end of 2003 and to move all of its customers to the multichannel banking offerings of Dresdner Bank.

Optimization of efforts

The third characteristic of good fit is optimization of efforts. While reinforcement focuses primarily on improving the customer experience by linking up separate activities, optimization emphasizes the importance of cost reduction through the elimination of redundancy and wasted activity. For instance, Internet companies that have optimized their order-taking process can reduce the cost for truck fleet and personnel. Dell currently presents the best practice in optimization of efforts. Activities such as sourcing, production, sales and service are connected in such a way as to minimize costs while still providing superior customer benefits.

Creating fit between activities through consistency, reinforcement and optimization creates the link between strategy formulation, which takes place on a rather abstract level, and implementation, which deals with determining how to choose and structure a firm's activities. Creating fit is a time-consuming effort, especially as a firm moves from consistency to reinforcement and optimization. It is necessary to analyze closely the vertical and horizontal boundaries of a firm and to set up the internal organization accordingly, in order to create fit among activities. This requires substantial resources and managerial skills, which also explains why strategy has long-term implications. Changing strategies randomly makes it hard to obtain a competitive advantage, because creating fit takes time and effort. This does not mean that new tools and concepts such as total quality management (TQM), which might help to increase operational effectiveness, should generally be discarded, yet it is important to realize that it is sensible to implement these tools only as long as they do not alter the fundamental basis of the strategic position and its trade-offs.

5.2.3 Leveraging the virtual value chain

In the context of the value chain discussion, it is also of interest to introduce the concept of the virtual value chain[14], which emphasizes the importance of information in the value-creation process (see Exhibit 5.6). The key drivers behind this concept are advances in information technology and the evolution of CRM systems, which have increasingly provided firms with vast amounts of information.

The concept of the virtual value chain suggests that information captured in the physical value chain for activities such as order processing and logistics should be used to offer enhanced quality of customer service. Based on this concept of recycling information, the virtual value chain illustrates new opportunities to create value by using

information captured in the physical value chain. In the past, a lot of information was captured only to support the value-adding processes in the physical value chain, although this information in itself presented potential value to customers.

Opening up new opportunities to make this information available to customers, thereby increasing the value created, is the main goal of the virtual value chain. The latter comprises the following steps: gathering and organizing information, selecting and synthesizing relevant pieces of information that are of value for the customer, and finally choosing appropriate formats for distributing the information.

At Dell, corporate customers can access customized intranet sites, called Premier Pages, where they can find information on purchasing and technological configurations that they buy from Dell. FedEx has implemented technology through which it can track exactly where a package is located at any given moment during the delivery process. It created additional value for customers when it made this information available on the Internet, so that customers always know where their package is and when they can expect to receive it (see Strategy in action 5.2).

The virtual value chain framework can be used to analyze several of the cases studies in this book. Nordea bank, for instance, has used information that it had access to or already owned to create value for its customers. For example, the bank allowed its customers to access their pension statements electronically, which are maintained by a governmental agency. The bank also made its customer-identification process available to other companies that need to use Nordea's e-identification and e-signature services.

Amazon.com has also extensively used information captured throughout its physical value chain to create value. Customers have the possibility of tracking online past purchases and checking the status of delivery. The personalized book-recommendation list, where customers get recommendations based on what other people have bought, is another example of how Amazon.com has also tapped into the previously

STRATEGY IN ACTION 5.2

The virtual value chain at FedEx

FedEx InSight is a technological milestone for businesses needing solutions that speed fast-cycle orders and production, reduce inventory costs and add customer-satisfaction value.

'FedEx InSight gives us the ability to solve important issues before they become problems for our customers,' said Stephen Egerton, international logistics analyst for Millipore Corporation, a high-tech bioscience company based in Bedford, Mass. 'If there is missing clearance information or shipping documentation that is causing a clearance delay, FedEx InSight sends an e-mail alert. This alert shows us the critical shipment details and the proposed resolution of the issue, keeping our logistics channels running at peak efficiency.'

Using FedEx InSight, customers can create a customized view of shipment information, and request to be notified via e-mail, fax or wireless device of critical shipping events as they occur during transit. Information provided in the enhanced visibility solution can give customers the ability to plan their operations more efficiently to save time and money for their inbound, outbound and third-party shipments.

'Managing inventory in motion across global supply chains requires a high level of detailed information that companies need to strengthen their competitive advantage,' said Karen Rogers, vice president, e-commerce marketing, FedEx Services Corp. 'The unsurpassed technology in FedEx InSight can give companies of any size critical data visibility to manage the movement of parts and products over any period of time.'

The application meets a growing need of companies for quick, visible access to more comprehensive shipping and tracking data. For example, 76 percent of those in a Forrester Research Inc. survey that said they could not track their shipments en route or get shipment updates via wireless device, fax or e-mail. FedEx InSight arms these customers with complete data to manage their shipment process more efficiently.

How FedEx InSight works

FedEx InSight identifies FedEx Express and FedEx Ground shipments by associating them to a customer and matching an account number or company name and address. This places greater flexibility and control of information in the hands of each customer.

For example, a company may need to view international inbound shipments for a six-day period, in addition to shipments that are outbound during the same period or beyond. The company may also require a complete view of in-transit shipments billed to a third party. FedEx InSight allows this customized view of information, plus the ability to add more levels of tracking details a customer may need.

Because the information is displayed and updated as events occur, customers can better plan business efficiencies, such as adding more employees to a particular production line or resolving problems by providing missing customs documents. In addition, FedEx InSight provides quick visibility status of multiple shipments to different destinations.

Source: FedEx press release from 1 April 2001, taken from **www.fedex.com**

unused information stored in its databases. Furthermore, including reviews from other customers and providing sample pages of selected books create value for customers while requiring only marginal investment, since the required information-capturing systems are already in place.

CRITICAL PERSPECTIVE 5.1

The resource-based view and core competencies

Since the beginning of the 1990s, Porter's approach to creating competitive advantage, which is also called the *market-based view*, has been criticized primarily because of its seemingly one-sided market orientation.[15] The focus of the criticism is that Porter's approach might help to diagnose a specific competitive problem but it does not provide any means to solve it. Other factors that have an important impact on a firm's competitive positioning, such as internal structure, processes, resources and capabilities, do not receive adequate attention. To alleviate these shortcomings, a *resource-based view* was developed, which focuses on the internal perspective of a firm, namely its *core competencies*.

The terms 'competence' and 'core competency' have been used widely, meaning different things to different people. Let us therefore establish some basic definitions before proceeding. First, a 'competence' is a combination of different resources and skills:

- *Resources* are all the tangible and intangible assets of a firm that can be used in the value-creation process. Tangible resources include assets such as IT infrastructure, bricks-and-mortar infrastructure and financial capital. Intangible resources include employee knowledge, licences, patents, brand name and reputation of a firm.
- *Skills* represent the ability of a firm to use resources efficiently and effectively. Skills are manifest in the design of processes, systems and organizational structures. Even before the Internet became a mainstream technology, Dell had already built up significant skills in managing the process flow of its direct business model. Adding the Internet was relatively easy, since the necessary skills were already in place.

However, not all competencies that a firm has are necessarily *core competencies*. Instead, in order for a competence to be considered as core, it needs to be:

- *Valuable*. Customers have to appreciate the value of what the competence produced. This can be achieved through either the lowering of costs or the increasing of customer benefit, as perceived by customers.
- *Unique*. The competence needs to be unique so that it not only offers a source of value creation but also allows the firm to capture the value it creates in the form of profit. If a competence is not unique, then competition with other firms will drive down profits.
- *Hard to imitate*. Uniqueness of a core competence is sustainable only if other firms find it difficult to imitate the competence. First, competencies are hard to imitate if they require the tightly inter-linked participation of many functions or divisions of the firm. Nordea's core competence in the integration of offline and online banking, for instance, is hard to imitate because it requires the alignment of activities across multiple functions and channels. Second,

causal ambiguity also increases the barriers to imitation. Causal ambiguity exists when there is no clear understanding of the sources of a core competence, which makes it hard for an outsider to imitate the competence.

- *Valuable across different products or markets*. A competence is of major value to the firm only if it is not limited to one product or to one market. One of Amazon.com's core competencies is its ability to manage the flow of merchandise from receipt of a customer's online order to shipping the product to the customer. To create this core competence, it built up resources in the form of warehouses and IT infrastructure and created internal skills. As the company moves into different product categories such as toys, home electronics and clothes, it can reuse its skills and resources.

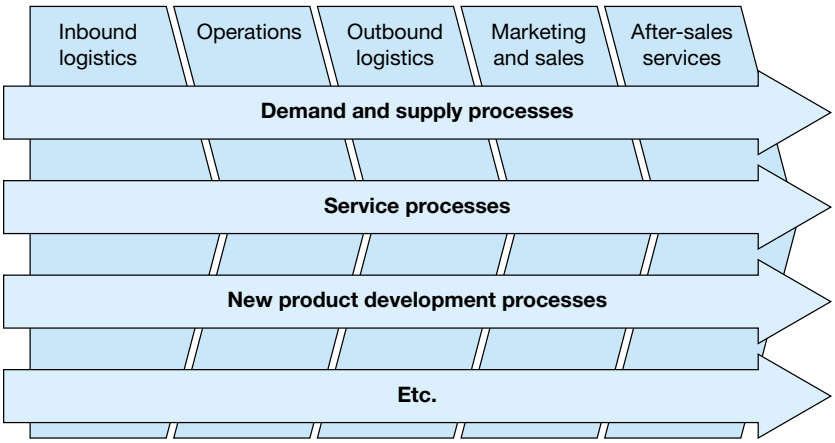
Both skills and resources are required in processes that run across different functional units of a firm. In fact, an important building block of the competence-based approach is that strategy rests less on functional divisions and products but rather more on processes that cut across different divisions (see Exhibit 5.7).

Compatibility between the resource-based view and the market-based view of strategy

For a moment, let us venture out into the theory of strategic management and discuss the relationship between the *resource-based view* and the *market-based view*. While many authors assume that the approaches are fundamentally different, there is a growing strand of research that suggests that the two approaches are not in competition with one another but rather complement each other.[16]

Although the resource-based view and the market-based view approach strategy formulation from two different angles, they share a common underlying thinking. The latter reduces the gap between

Exhibit 5.7 The core competence approach cuts across different functional areas within a firm



the market-based view (which focuses on the external environment and is activity-focused and functionally oriented) and the resource-based view (which is internally oriented and competence-focused and takes on a cross-functional perspective). Upon closer scrutiny, the perceived dichotomy between the two views does not hold any more, as is shown below.

- *Dichotomy between external and internal focus*. On the one hand, the market-based view emphasizes the competitive landscape in terms of industry structure (see Section 3.2), which is external to the firm. However, it also emphasizes the creation of competitive advantage through internally executed activities, and the ability to create value through activities is ultimately determined by the quality of internal resources and skills. The resource-based view, on the other hand, starts out with internal considerations of resources and skills. However, any given core competence needs to fulfil the requirements of creating value and being unique and sustainable. This, in turn, requires considerations that are external to the firm and that provide insights into consumer preferences and the competitive landscape.
- *Dichotomy between activities and competencies*. The market-based view starts out with the definition of activities such as operations or marketing and sales. Yet, to perform these activities in such a way that they create competitive advantage, a firm ultimately needs to possess superior resources and skills because they are the building blocks of superior activities. The resource-based view, on the other hand, starts out with the core competence as the main building blocks of competitive advantage. However, competences that consist of resources and skills create value only as part of activities. A strong brand, for instance, is not valuable in and of itself. Instead, it creates value when a firm is able to spend less money on marketing activities while still achieving the same results in consumer awareness as other firms that need to spend more heavily because they do not possess the same brand reputation. Thus, competencies ultimately also rely on activities as sources of competitive advantage.
- *Dichotomy between functional and cross-functional perspective*. Through the analytical framework of the value chain, the market-based view starts out with functional divisions that perform discrete activities. Yet, building on the divisional structure, it also includes a cross-functional perspective when it emphasizes the requirement of fit between different activities that can be achieved via consistency, reinforcement and optimization. The resource-based view, on the other hand, begins with competences that are generally cross-functional processes. Yet processes, in the end, also consist of individual activities, which are located in functional units.

SUMMARY

- First, this chapter dealt with the concepts of *value creation* and *value capturing:*
  - *Value created* is the difference between *consumer benefits* and *costs*. Consumer benefits consist of all the characteristics that an individual consumer values in a product or a service. Costs include all the expenses that a firm incurs when providing a product or a service to its customers.
  - There are two ways to create consumer benefits. These are *tangible sources of consumer benefit*, which include, for instance, product quality, convenience and product range, and *intangible sources of consumer benefits*, which include a firm's brand and reputation.

- In addition to creating value, a firm also needs to be able to *capture* parts of the value it creates in the form of profits or *producer surplus*. The price at which a product is sold determines what portion of the value created goes to the producer as *producer surplus* and what goes to the consumer as *consumer surplus*.
- The ability of a firm to generate profits depends on the *structure of the industry* where it competes and its level of value creation relative to that of its competitors.

- Second, this chapter discussed the *value chain*, which disaggregates a firm into strategically relevant activities:
  - Two types of activities can be distinguished within a firm. First, *primary activities*, which include *inbound logistics, operations, outbound logistics, marketing and sales* and *service*. Second, support activities, which include firm infrastructure, human resources, *technology development and procurement*.
  - There are three main levers that determine the fit of activities within a firm: (1) *consistency between activities*, (2) *reinforcement of activities* and (3) *optimization of effort*.
- Third, this chapter presented the concept of the virtual *value chain*, which suggests that information captured in the physical value chain (e.g., for activities such as order processing or logistics) should be used as a new source of value creation to enhance the quality of customer service.
- Finally, this chapter also provided a critical perspective of the *market-based view* of strategy formulation. This critique is based on the *resource-based view*, which builds on the *core competences* that cut across different activities.
  - Competences consist of a combination of different *resources* and *skills*.
  - In order for a competence to qualify as a core competence, it needs to be (1) *valuable*, (2) *unique*, (3) *hard to imitate*, and (4) *valuable across different products or markets*.

REVIEW QUESTIONS

1. Outline the concept of value creation. Describe how a firm can use the Internet to increase its value creation.
2. Explain the concept of value capturing, and describe how it influences profitability of a firm.
3. What are the primary and supporting activities in the value chain, and how does the Internet influence them?
4. Through which measures can a firm improve the fit between activities in the value chain? Explain how the Internet can influence these measures.
5. Outline the main concept of the virtual value chain, and explain how it relates to the traditional value chain.
6. What is a competence? What criteria does a competence need to fulfil in order to qualify as a core competence?

DISCUSSION QUESTIONS

1. Consider the examples of Webvan and Tesco.com. Explain the different fates of these two companies using the concepts of value creation and value capturing.
2. Analyze the value chain of an e-commerce venture that you are familiar with. Explain how the Internet has impacted the primary and support activities of its value chain.
3. Based on the above example, think of ways in which this firm could further improve the fit among activities through consistency, reinforcement and optimization.
4. Think critically about application possibilities of the virtual value chain. Are there industries where the virtual value chain concept is more applicable than in others? If so, explain why.
5. Discuss whether competence-based thinking is more suitable for strategy formulation than the activity-based approach outlined in the value-chain concept.
6. How do the market-based view and the resource-based view differ, and to what extent can they be reconciled?

RECOMMENDED KEY READING

- D. Besanko, D. Dranove, M. Shanley and S. Schaefer, provide a detailed discussion of value creation and value capturing in *Economics of Strategy*, John Wiley, 2003, pp. 358–402.
- M. Porter's book, *Competitive Advantage* (Free Press, 1998), is a seminal work on value creation and the value chain. M. Porter expands on his thinking about competitive advantage in 'What is strategy', *Harvard Business Review*, 1996, November–December pp. 70–73.
- R. Amit and C. Zott specifically discuss this chapter's topic in 'Value creation in e-business', *Strategic Management Journal*, 2001, Vol. 22, No. 6, pp. 493–520.
- Within the field of strategic management, there is a broad literature on the resource-based view. While there was already previous research on the resource-based view of the firm, most notably in 1984 with the article by B. Wernerfelt 'A resource-based view of the firm', *Strategic Management Journal*, 1984, Vol. 5, No. 2, pp. 171–180, this approach became popular in the mainstream management literature through the work of C.K. Prahalad and G. Hamel, 'The core competence of the corporation', *Harvard Business Review*, 1990, May–June, pp. 79–91 and G. Stalk, P. Evans and L. Shulman 'Competing on capabilities', *Harvard Business Review*, 1992, March–April, pp. 57–69. M. Peteraf provides a more recent academic perspective on the resource-based view in 'The cornerstones of competitive advantage: a resource-based view', *Strategic Management Journal*, 1993, Vol. 14, No. 3, pp. 179–191.
- In the article 'Towards a dynamic theory of strategy', *Strategic Management Journal*, 1995, Vol. 12, pp. 102–105, M. Porter attempts to reconcile the market-based and the resource-based views of strategy.
- J. Rayport and J. Sviokla present the concept of the virtual value chain in 'Exploiting the virtual value chain', *Harvard Business Review*, 1995, November–December, pp. 75–85.

USEFUL WEBLINKS

- www.easyjet.com
- www.fedex.com
- www.porsche.com
- www.walmart.com

NOTES AND REFERENCES

1 Students in MBA or other programmes, and who have taken introductory courses in micro-economics, are already familiar with the concepts of value creation and value capturing. Yet, they might find it of interest to look at these concepts in the specific context of e-business and electronic commerce.

2 C. Haney, 'Motorola's Iridium network set for decommissioning', *InfoWorld*, 2000, Vol. 22, No. 37.

3 There are numerous approaches available to estimate consumer benefit. They include (1) the reservation price method, (2) the attribute-rating method, (3) hedonic pricing and (4) conjoint analysis. For a more detailed discussion of these approaches, refer to D. Besanko, D. Dranove, M. Shanley and S. Schaefer, *Economics of Strategy*, John Wiley, 2003, pp. 416–419.

4 See also P. Kotler, *Marketing Management*, Prentice Hall, 2002, pp. 60–61.

5 For a detailed discussion of threshold features and success, see G. Johnson and K. Scholes, *Exploring Corporate Strategy*, Prentice Hall, 2002, pp. 149–156.

6 For an extensive discussion of the value chain concept, see M. Porter, *Competitive Advantage*, Free Press, 1998, pp. 33–61. A detailed discussion of the impact of IT on the value can be found in M. Porter and V. Millar, 'How information gives you competitive advantage', *Harvard Business Review*, 1985, July–August, pp.149–160.

7 Michael Dell describes the PC manufacturer's approach to supply-chain management in an interview with J. Magretta: 'The power of virtual integration: an interview with Dell Computer's Michael Dell', *Harvard Business Review*, 1998, March–April, pp. 72–84.

8 R. Waters, 'Dell aims to stretch its way of business', *Financial Times*, 13 November 2003, p. 8.

9 For a detailed discussion of customer relationship management in e-business, see D. Chaffey, *e-Business and E-Commerce Management*, Prentice Hall, 2002, pp. 330–370.

10 M. Porter, 'Towards a dynamic theory of strategy', *Strategic Management Journal*, 1991, Vol. 12, pp. 102–105.

11 For different types of strategic fit among activities, see M. Porter, 'What is strategy', *Harvard Business Review*, 1996, November–December, pp. 70–73.

12 Ibid.

13 See www.easyjet.com.

14 J. Rayport and J. Sviokla developed this concept in 'Exploiting the virtual value chain', *Harvard Business Review*, 1995, November–December, pp. 75–85.

15 See C.K. Prahalad and G. Hamel, 'The core competence of the corporation', *Harvard Business Review*, 1990, May–June, pp. 79–91, and G. Stalk, P. Evans and L. Shulman 'Competing on capabilities', *Harvard Business Review*, 1992, March–April, pp. 57–69.

16 For this discussion, see also M. Porter, 'Towards a dynamic theory of strategy', *Strategic Management Journal*, 1991, Vol. 12, No. 8, pp. 102–105.

CHAPTER 6

Strategy options for value creation in market spaces

Chapter at a glance

Related case studies

Case Study		*Primary focus of the case study*
6	Amazon *v* Bol	Competitive advantage through opening up new market spaces
8	Tesco	Competitive advantage through differentiation
9	ChateauOnline	Competitive advantage through differentiation
12	Nordea	Competitive advantage through differentiation
17	DoubleClick	Competitive advantage through opening up new market spaces
25	Online file sharing	Competitive advantage through opening up new market spaces

Learning outcomes

After completing the chapter you should be able to:

- Explain the generic approaches to strategy formulation.
- Understand the meanings of 'stuck in the middle' and 'outpacing'.
- Explain how firms can open up new market spaces and thereby create completely new types of value.

INTRODUCTION

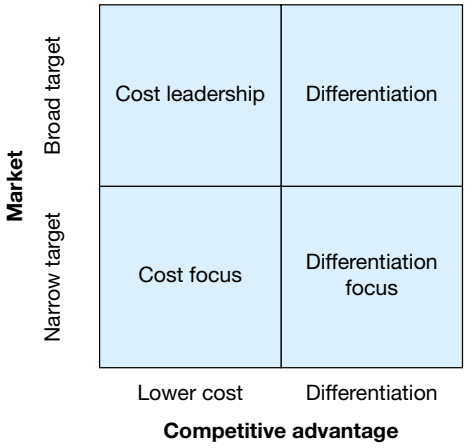
When formulating a strategy, managers can choose between two basic options. First, they can aim to outperform competitors, either by having lower costs or by offering a superior product or service. Second, they can aim to completely redefine competition by changing the 'rules of the game', e.g. by opening up new market spaces and creating completely new types of value.

6.1 Exploring generic strategies in existing market spaces

The formulation of generic strategies is related closely to the creation of value. Porter[1] proposes a generic strategy selection framework that builds on the type of value a firm creates (the 'what') and on the broadness of its target market (the 'where'). If a firm can create value primarily by achieving a low-cost structure, then it will most likely pursue a strategy of cost leadership within its industry. If, on the other hand, it can offer comparatively higher benefit than the competition to its customers, then it will aim for a differentiated strategy.

On the market side, the firm can either pursue a broad target where all customers are addressed or focus on a certain segment within a market as part of a focused strategy. In both the broad and the narrow target, the choice is between cost leadership and differentiation. The two dimensions (i.e. *competitive advantage and broadness of target market*) open up the generic strategy option matrix, as shown in Exhibit 6.1. Since Section 4.2 discussed in great detail the issue of market targeting, we will focus here on the competitive advantage dimension of strategy development.

Exhibit 6.1 The generic strategy options matrix outlines the four main approaches to strategy.



Source: Adapted from M. Porter, *Competitive Advantage*, Free Press, 1998, p. 39.

6.1.1 Achieving competitive advantage

Cost leadership

A firm that wants to attain a cost-leadership position in its industry needs to strive to fulfil the following two requirements:

- *Lowest cost position.* A firm that aims for a cost-leadership position has to be able to produce its product or service at substantially lower costs than its competitors. Lower costs enable the firm to earn profits even in an intensely competitive environment.
- *Benefit proximity.* Having the lowest costs, however, is not sufficient. In addition, a firm also needs to achieve benefit proximity relative to its competitors. This means that it must provide its customers with benefit levels that are still acceptable. If it is unable to do so, then it will eventually have to offer even lower prices, which reduces or eliminates the benefits gained through the low-cost position. For instance, through its unique direct sales model, Dell has established itself as a clear cost leader in the PC industry while, at the same time, achieving high levels of consumer benefit.

Several levers (including scale effects, factor costs and learning effects) help a firm to achieve a cost leadership position:

- *Scale effects* can reduce the individual unit costs of a product by spreading out fixed costs (i.e. the costs that do not depend directly on the number of products sold) over a large number of products (for a more detailed discussion of these issues, see Chapter 7 on the horizontal boundaries of a firm). For example, Amazon.com has made substantial investments in warehouses to organize the shipment of books and other products. As sales volumes increase, the warehousing costs that are incurred on each book continue to decline, which in turn provides Amazon.com with a significant competitive advantage. Other companies have had more difficulties realizing their cost-leadership strategy through scale effects. Webvan also wanted to attain cost leadership in its industry and decided to invest hundreds of millions of dollars to set up vast warehouses and logistics systems for its grocery deliveries. The company's managers made these investments assuming that they would be able to generate substantial scale economies. As it turned out, however, the number of customers remained much too small to justify the high investment, which eventually led to the bankruptcy of this Internet start-up (see the FT article 'Webvan's billion-dollar mistake', on p. 00.)
- *Factor costs* represent a crucial cost driver, especially for retailing companies that act as intermediaries. The ability to bargain down input prices, for instance, through bulk purchasing can be an effective lever for lowering costs. Both low factor costs and scale effects are most likely to be realised through high volumes. Thus, a large market share in comparison to that of competitors is generally a prerequisite for being a low-cost provider. The goal of the online marketplace Covisint, for instance, is to pool the purchasing power of several car makers, thereby reducing factor costs.
- *Learning effects* can lower costs as a firm improves its efficiency over time, thereby reducing slack and wasteful activities.

Differentiation

Strategic position via a differentiation advantage can be achieved by providing comparatively more consumer benefit than competitors. The main questions that firms that strive for a differentiated positioning need to ask are: 'What creates consumer benefit?', 'What is unique?' and 'What cannot be imitated?' There are tangible sources for differentiation such as product and service quality and speed of delivery, and intangible sources, such as brand and reputation.

Similar to the cost-leadership approach, firms seeking a differentiated positioning need to ensure cost proximity to other competitors to guarantee superior value creation. This means that the cost disadvantage has to be small enough so the differentiation advantage can override it. It is not uncommon that firms overlook the need for cost proximity when they focus solely on providing the highest quality product in the market. Motorola's development of the Iridium phone is a prime example of a differentiation approach that did not pay close enough attention to costs.

6.1.2 Getting stuck in the middle

Porter argues that in order to have a unique and defendable competitive position, it is advisable to seek out one of the above two strategies.[2] The underlying assumption is that powerful strategies require trade-offs: high levels of quality usually entail high costs, while a cost-leadership strategy usually impairs the ability to provide above-average levels of consumer benefit. As a result, firms that try to be both a quality and a cost leader at the same time tend to end up getting 'stuck in the middle', a position that is characterized as neither low-cost nor differentiated.

Nonetheless, observers of Internet ventures have pointed out that there are firms, such as Amazon.com (see Strategy in Action 6.1) and eBay, that are outperforming competitors along both the price and the quality dimensions. They thereby effectively resolved the trade-off dilemma between quality and costs – an ability that is also called 'outpacing'. From a theoretical perspective, the following factors can actually undermine this trade-off: (1) *the development of new technologies,* (2) *wastefulness* and (3) *economies of scale and learning effects.*

- *The development of new technologies*, as is the case with the Internet, offers innovative firms the opportunity, at least initially, to make large leaps on both the cost and the differentiation dimensions. Consider again the example of Amazon.com. Compared with other online book retailers, and also with most bricks-and-mortar book stores, it offers the most differentiated product and service, yet at the same time prices are highly competitive. This is possible because Amazon.com has been continuously improving its technology to lower costs.

  For instance, from 1999 to 2003, Amazon.com increased the volume-handling capacity of its warehouses threefold, which has helped to reduce warehouse operations cost from 20% of revenues in 1999 to 10% in 2003.[3] While this approach is possible as long as the technology is still evolving (and serious competition has not emerged yet), one may at least question its sustainability once the Internet and its associated back-end logistics become common-place.

  If Internet ventures can persistently have lower costs or offer higher value than their bricks-and-mortar competitors, then there will be two possible scenarios.

First, if both types of businesses (i.e. the online and offline business) continue to co-exist and serve different markets, then competition will take place between online Internet ventures. Second, if Internet-based firms (such as Amazon.com and eBay) turn out to be a substitute for bricks-and-mortar firms, then the latter will increasingly be driven out of business and the competition will start out all over again among Internet players. Either way, competition, and with it, the need to have a clear strategic positioning,[4] is likely to increase. Other more mature industries, where new technology developments are of only secondary importance, indicate that it then becomes necessary to seek a more precise positioning.

- *Many firms and industries are wasteful in their activities*, which makes it possible to simultaneously optimize quality while also reducing costs. When companies are highly inefficient they can make great strides without having to face the trade-off between quality and costs. Yet, at this point, we are also dealing not really with strategic decisions but with issues of operational effectiveness. During the Internet boom years, many start-up companies, such as the online fashion retailer Boo.com, were spending lavishly on marketing, parties and traveling (see the FT article 'Burning money at Boo', on p. 00). Cutting costs in such situations is easy since there are no real trade-offs to be made.
- *Scale economies and learning effects* might allow a firm to generate significant cost advantages while still pursuing a differentiated strategy. They enable a firm to achieve both low costs (through scale effects) and a superior product offering.

In spite of the above factors, the trade-off between differentiation and cost is an important issue to consider in strategy formulation, because, more often than not, a firm cannot be excellent at everything it does.

STRATEGY IN ACTION 6.1

Amazon.com CEO Jeff Bezo's letter to shareholders

To our shareholders:

In many ways, Amazon.com is not a normal store. We have a deep selection that is unconstrained by shelf space. We turn our inventory over 19 times in a year. We personalize the store for each and every customer. We trade real estate for technology (which gets cheaper and more capable every year). We display customer reviews critical of our products. You can make a purchase with a few seconds and one click. We put used products next to the new ones so you can choose. We share our prime real estate – our product detail pages – with third parties, and, if they can offer better value, we let them.

One of our most exciting peculiarities is poorly understood. People see that we're determined to offer both world-leading customer experience *and* the lowest possible prices, but to some this dual goal seems paradoxical, if not downright quixotic. Traditional stores face a time-tested trade-off between offering high- touch customer experience on the one hand and the lowest prices on the other. How can Amazon.com be trying to do both?

The answer is that we transform much of customer experience – such as unmatched selection, extensive product information, personalized recommendation, and other new software features –

into largely a fixed expense. With customer experience costs largely fixed (more like a publishing model than a retailing model), our costs as a percentage of sales can shrink rapidly as we grow our business. Moreover, customer costs that remain variable – such as the variable portion of fulfillment costs – improve in our model as we reduce defects. Eliminating defects improves costs and leads to better customer experience.

We believe our ability to lower prices and simultaneously drive customer experience is a big deal, and this past year offers evidence that the strategy is working.

- First, we do continue to drive customer experience. The holiday season this year is one example. While delivering a record number of units to customers, we also delivered our best-ever experience. Cycle time, the amount of time taken by our fulfillment centers to process an order, improved by 17% compared with last year. And our most sensitive measure of customer satisfaction, contacts per order, saw a 13% improvement.

  Inside existing product categories, we've worked hard to increase selection. Electronics selection is up over 40% in the U.S. alone over the prior year, and we now offer 10 times the selection of a typical big box electronics store. Even in U.S. books, where we've been working for 8 years, we increased selection by 15%, mostly in hard-to-fin and out-of-print titles. And, of course, we've added new categories. Our Apparel and Accessories store has more than 500 top clothing brands, and in its first 60 days, customers bought 153,000 shirts, 106,000 pairs of pants, and 31,000 pairs of underwear.

  In this year's American Customer Satisfaction Index, the most authoritative study of customer satisfaction, Amazon.scored an 88, the highest score ever recorded – not just online, not just in retailing – but the highest score ever recorded in any service industry. In ACSI's words:

  > 'Amazon.com continues to show remarkably high levels of customer satisfaction. With a score of 88, (up 5%), it is generating satisfaction at a level unheard of in the service industry … Can customer satisfaction for Amazon climb more? The latest ACSI data suggest that it is indeed possible. Both service and the value proposition offered by Amazon have increased at a steep rate.'

- Second, while focusing on customer experience, we've also been lowering price substantially. We've been doing so broadly across product categories, from books to electronics, and we've eliminated shipping fees with our 365 day-per-year Free Super Saver Shipping on orders over $ 25. We've been taking similar actions in every country in which we do business.

  Our pricing objective is not to discount a small number of products for a limited period of time, but to offer low prices every day and apply them broadly across our entire product range … To be sure, you may find reason to shop in the physical world – for instance, if you need something immediately – but, if you do so, you'll be paying a premium. If you want to save money and time, you'll do better shopping at Amazon.com.

- Third, our determination to deliver low price and customer experience is generating financial results. Net sales this year increased 26% to a record $ 3.9 billion, and unit sales grew even faster by 34%. Free cash – our most important financial measure – reached $ 135 million, a $305 million improvement over the prior year.

In short, what's good for our customers is good for our shareholders.

Jeff Bezos
Founder and Chief Executive Officer
Amazon.com, Inc.

Source: Excerpts taken from Amazon.com Annual Report 2002.

6.2 Opening up new market spaces[5]

The generic strategy framework focuses on the traditional form of competition, which assumes a clearly defined set of competitors within an industry. The key performance measure is relative performance vis-à-vis competitors. As a result of this competitor-focused competition, improvements tend to be incremental through an increase of benefits or a decrease of costs. An alternative way to approach strategy development is to move beyond the sole industry focus and look for new market spaces across different industries. Doing so allows a firm, at least temporarily, to break off the cycle of ever-increasing competition within an industry, either by redefining the industry competition or by creating a new industry. The goal of this approach is to drastically increase consumer benefit while at the same time reducing price.

The concept of the value map depicted in Exhibit 6.2 is used to illustrate how to redefine competition along different dimensions of benefit. In the book-retailing example, these dimensions include price, convenience, selection range, speed and face-to-face interaction. Obviously, on these dimensions, traditional and online bookstores offer varying levels of benefit. This is shown in Exhibit 6.2 where, on the vertical axis, a value of one refers to the highest level of benefit and a value of zero refers to the lowest level of benefit.

6.2.1 Looking outside one's own box

How can this type of revolutionary value creation be attained? A firm needs to analyze the way it wants to create value by looking outside the 'box', i.e. outside the standard business practices of its own industry. Doing so can lead to the discovery of uncovered market spaces between separate industries.[6] As explained below, this can be done in different ways:

- *Looking across substitute industries.* The main question that needs to be asked here is how customers make trade-offs between different products (or services) that serve as substitutes. The goal is to determine why customers choose one product and not the other, and what criteria they use in making their decision. In the traditional business world, the most severe competition does not necessarily come from within the industry. Customers make trade-offs, for example, between using cash or a credit card, travelling by car or train, and using a pen or word-processing software. In the online world, customers make trade-offs between shopping online or going to the store, and between banking online or going to the bank branch. When Nordea bank considered this trade-off, it found out that customers who go to the branch value the ease of use of over-the-counter banking. Thus, Nordea set out to develop a highly user-friendly online interface to offer the ease of use of a branch office with the benefits (and the lower costs) of an online channel.
- *Looking across strategic groups.* A strategic group consists of firms that produce the same type of products, for instance cars, for a certain customer segment. Firms usually compare themselves with competitors positioned in the same strategic group as themselves. Doing so usually does not lead to radically new insights since firms in the same strategic group tend to be similar in their product offerings. Looking across strategic groups means looking at what companies do that produce the same basic product for different customer segments, thereby finding out potential new ways of creating value. In car manufacturing, for instance, Mercedes, after analyzing lower-ranked strategic groups, developed the Smart car, which is offered at prices that compete with low-cost cars while still containing the Mercedes technology inside. Similarly, car manufacturers from lower-ranked strategic groups, such as Toyota, developed cars that possess many features of higher-ranked competitors while still maintaining a low price position.
- *Looking across chains of buyers.* The underlying logic of this perspective is that the person in charge of purchasing is not necessarily the one using the purchased product or service. For instance, the purchasing agent and the corporate user usually have different definitions of value. While price and the purchasing procedure are important for the procurement agent, users focus on ease of use. If a firm has previously considered only one of the two groups, taking on the other group's perspective might lead to new value creation. For example, the 12Snap case study featured in Part 3 of this book illustrates how the firm moved up the chain of buyers. While it first targeted end consumes with its online auctioning platform, it realized that there was more potential for value creation with corporate buyers of wireless marketing services.
- *Looking across complementary products and services.* Most products and services are not used in isolation, but instead need others to complement them. Computers,

for instance, require software in order to operate. Amazon.com recognized the power of complementary products when it launched its personalized book-recommendation service, which suggests customers a list of books that might be of interest to them based on their previous purchases. Nordea bank wants to push the concept of offering complementary services even further through the use of a triggered database, which works as follows. When there is a change in a customer account – for instance, a large incoming money transfer, a change of address or a change in marital status – a trigger in the database is set off and informs the bank about this change, which then raises a number of questions regarding complementary products: what does this change mean for the customer in terms of financing, long-term payments, insurance and e-services? (See also the FT article 'Dell's move from PCs into complementary products'.)

FT

Dell's move from PCs into complementary products

If things go according to plan, Michael Dell could eventually become the Henry Ford of the information age. For a maker of desktop personal computers who founded his company, famously, in a University of Texas dormitory 20 years ago, this may sound unlikely. But the ambitions of Dell Inc are boundless – and thanks to a simple business idea that has proved highly adaptable, and a fearsome relentlessness, things at Dell have a way of going according to plan. Consumer electronics are about to provide what could well be the biggest test of the Dell way of doing business. Until now, the company has sold mainly to corporate customers: only a fifth of its sales in the US are to consumers, and much less than that elsewhere.

Yet executives at the Texas headquarters are now busy laying plans to take on some of the giants of the consumer electronics world. According to Kevin Rollins, the president and chief operating officer who has had much to do with its remorseless rise, there is no reason why Dell should not aim for 30–40 per cent of the global market for all the products it makes. Applied to the $800bn (£480bn) computing and consumer electronics markets that Dell now targets, that suggests it believes it could one day easily exceed the $160bn sales of General Motors. Mr Rollins says this is not a specific target that has been 'written down and pinned to the wall', but he does not shrink from the ambition.

Dell's simple but effective idea has been to sell standardised electronic products direct to customers, usually over the internet. That removes most of the research and development that is normally required, while also cutting out retailers and other middlemen.

Armed with the information it gets from taking orders directly from customers, Dell has gained two other powerful advantages. One is the ability to build products to match orders as they come in, slashing its inventory costs. The second is a highly efficient marketing machine that can adapt its message based on real-time results as orders arrive.

With its lower costs, Dell sets out to undermine profits in the markets it enters and destroy the margins that sustain its more entrenched competitors.

'Our goal is to shrink the profit pool and take the biggest slice,' says Mr Rollins. Consumer electronics companies, often with gross profit margins of more than 30 per cent, make an obvious target for this ruthless approach. 'Our gross margins are in the 18–19 per cent range: we don't need 40 per cent,' he says. A former

partner from Bain, the Dell president applies the cool analytics and familiar jargon of the strategy consultant to this relentless expansion: search out the markets with the biggest 'profit pools' to be plundered; pick ones with close 'adjacencies' to those Dell already serves to reduce the risk of wandering into unknown territory; and apply its 'core competences' to conquering new ground.

As a textbook case of applying a proven and repeatable formula, Dell takes some beating. It used the formula to move from selling PCs to businesses to selling them to consumers. Next it followed its business customers into servers, then into storage hardware. Now it wants to follow consumers into other areas of electronics as well. It has started with products closely linked to the PC, such as MP3 digital music players and 17-inch flat-panel television sets that resemble computer monitors. According to Dell's rivals, success in the PC business in the US has disguised the fact that the company has found it harder to break into other products and new geographic regions. 'Dell's success is backward-looking,' claims Jeff Clarke, head of global operations at Hewlett-Packard.

According to Steve Milunovich, technology strategist at Merrill Lynch, not all markets are as susceptible to all aspects of the Dell approach as the PC business. Yet he adds that the company has shown great discipline in attacking only those areas where its strengths still give it a clear economic and operational advantage. Even most of the company's competitors concede that the shift in consumer electronics from analogue to digital technology plays to Dell's strengths. It is already the biggest purchaser of liquid crystal display screens and computer hard-drives, for instance, putting it in a strong position as these components come to play a bigger role in television sets and other household items. 'When you combine monitors and LCD televisions, we will blow away the consumer electronics guys,' says Mike George, chief marketing officer.

More importantly, Dell also benefits from the standardization that brings down the cost of components and removes the advantage once enjoyed by companies that invest in their own technology. As more of a product's functions come to reside in standardized components such as microprocessors and hard drives, the differentiation that comes from making new versions declines. The contrast with others is stark. Sony chief Nobuyuki Idei, for instance, told the FT two weeks ago that the Japanese company was putting a growing emphasis on proprietary components to differentiate its products. In the past four years, 70 per cent of Sony's investment has been in silicon chips.

While the digitization of consumer electronics may have played to Dell's core strengths, though, there are at least three things about the market that are likely to test its business model.

One is the fact that it will rely, at least for now, on manufacturing by other companies, reducing its ability to drive down costs. Also, the consumer electronics business is based on common products that are not configured individually for different customers: according to Mr Clarke, that removes one main advantages of Dell's build-to-order model, the ability to customize products for each buyer. Using outside manufacturers is also likely to mean the company 'will not be able to operate on inventory that is as thin as it is in PCs,' says Charlie Kim, a consultant at Bain. Company executives suggest that once manufacturing volumes reach a high enough level, Dell is likely to start production itself. Also, while the cost advantages may be less in 'back-end' activities such as production and sourcing, the real opportunity for Dell in consumer electronics lies in the 'front-end' marketing and sales area, says Mr Milunovich. 'There's a big chunk of money to be taken out of distribution,' he says.

Whether Dell can take advantage of this opportunity with its direct sales system will be the second big challenge. Retail stores suit consumer products best because they bring an instant mass market and let users test the look and feel of products, says Mr Clarke. That is particularly important for products such as television sets, which buyers want to see, or handheld devices, which they want to pick up, say rivals. Dell executives retort that similar

doubts were once expressed about its efforts to sell PCs online, and that its early sales of personal digital assistants suggest that consumers familiar with the quality and style of the company's PCs are willing to buy other items online too.

The third test will be whether the Dell brand and marketing approach can be adapted to suit the new market. High name-recognition helps, but will get Dell only part of the way. 'Everyone knows who Dell is – but it's still a PC-focused brand,' says Mr Kim at Bain. For a company that still relies heavily on selling to corporate customers, this will pose a big challenge. 'We're very humbled by the fact that there are virtually no other companies that are both consumer and enterprise brands,' says Mr George. He adds, though, that the basic attributes of the Dell brand – with its connotations of a certain level of value, quality and service – should extend across both types of market.

Overcoming obstacles such as these will stretch the Dell model in ways that it has never been stretched before. '[In the past] they've been able to push new products through their system without having to change it much,' says Mr Kim. 'Now, they're going to have to adapt.' Henry Ford, famous for designing the first system capable of mass-producing a standardised product, would have approved of what Dell has already done to the PC business. To do the same in the consumer electronics world, though, it will have to prove that it can constantly retune its business model without losing the power that has set it apart.

Talk to senior Dell executives and before long the phrase crops up: 'maniacal focus'. A ferocious attention to detail, applied to a tried and tested business model, accounts for the company's continuing edge, despite efforts by rivals to copy its methods. 'We don't let the paint dry on any process,' says Ray Archer, formerly a rear-admiral responsible for logistics in the US Navy and now in charge of Dell's supply chain. That is evident at the company's Texas assembly plant, where up to 25,000 machines are produced each day - more than double the plant's capacity when it was opened three years ago. Dell executives say they see no end to the continual adjustments that can be made, to speed the company's processes and bring down costs. Dell's way of doing business is no secret but the years of maniacal focus on fine-tuning the system make it difficult for others to catch up, says Mr Rollins. 'Why doesn't Kmart do what Wal-Mart does? It's built up over many years; it's in our DNA.'

Source: R. Waters, 'Dell aims to stretch its way of business', *Financial Times*, November 13 2003.

- *Looking across functional or emotional appeal to buyers.* Products or services often focus either on functional or tangible characteristics (such as durability and breadth of choice) or on their emotional appeal, which is captured by the strength of the brand. Looking across boundaries by, for instance, turning functional products into emotionally appealing products can lead to a vast increment in the perceived consumer benefit. Take the example of the coffee house Starbucks, which has turned a functional mass product (i.e. coffee) into an emotional experience for its customers, thus being able to charge a premium price for it.
- *Looking across time.* By assessing early on the impact of future changes in the macro- or competitive environment, a firm can adapt its value-creation strategies based on the expected changes. For instance, Nordea realized in the 1980s the importance of electronic channels and swiftly introduced e-banking services. This helped Nordea to create substantial cost savings while at the same time significantly increasing customer benefit.
- *Looking across unrelated industries.* It is also possible to venture out and look across completely different industries to see how value is created there (see Section

2.3). This is one of the messages, that the case studies in this book convey. Doing so requires creative leaps on your side, but it has the potential to create surprising insights. An insurance salesperson might ask, for instance, what lessons to take away from Ducati's exclusive Internet sales of new motorcycles directly to customers, and to what extent the learning can be adapted to the insurance business.

6.2.2 Pinpointing possibilities for new value creation

After looking across the above dimensions, different questions arise in the four areas listed below. Answering them opens up the opportunity for new-value creation potential.[7]

- *Eliminate*. Does what we do really create consumer benefit? If not, which components or features of our product or service should we eliminate? Even if a company has made a proper assessment of these issues at some point in time, then it should raise these questions again since buyers' preferences are dynamic by nature.
- *Reduce*. Where can we reduce our range of offerings? What costs us a lot of money but does not create benefit?
- *Raise*. Where should we raise the standard of products or services? Where can we increase benefit by expanding our existing offering?
- *Create*. What can we do that has not been done so far?

Tapping into hitherto uncovered market spaces provides firms with the opportunity not only to capture large parts of the market by taking away market share from competitors but also to expand the overall market size. Amazon.com, for example, did not just take buyers away from traditional bricks-and-mortar book stores. It also turned people who previously had not purchased many books into avid buyers through the depth of its offerings and the value-adding services such as the book reviews and personalized recommendations.

However, the move into new market spaces is not a one-time affair, since superior profit will last only as long as competitors do not move into this newly discovered market space. Just as it is with generic strategies, competitors will try to catch up if they believe that the new model promises attractive returns, thereby eroding profitability. The sustainability depends again on the uniqueness of the positioning and on how difficult it is to imitate this positioning.

SUMMARY

- This chapter focused on value creation in e-business. First, it reviewed generic strategy options for doing so. These options revolved primarily around cost leadership and differentiation strategies.

- Second, the chapter discussed the concept of being stuck in the middle, which refers to companies that focus on neither a cost leadership nor a differentiation strategy. They face the risk of not possessing any competitive advantage vis-à-vis more specialized rivals. However, there are also factors that can allow a firm to outpace its rivals by offering both lower costs and differentiation. These include the development of new technologies, wastefulness of competitors, scale economies and learning effects.
- Finally, the chapter analyzed how firms can break away from traditional forms of competition and redefine their value proposition by opening up new market spaces. This can be done by looking across time, substitutes, strategic groups, chains of buyers, complementary products and services, and functional and emotional appeal to buyers.

REVIEW QUESTIONS

1. What generic strategies can a company use to create value for its customers?
2. What do 'benefit proximity' and 'cost proximity' refer to?
3. What levers can a company use in e-business to create a cost or a differentiation advantage?
4. Why do companies end up being 'stuck in the middle'?
5. What are the factors that allow a company to pursue an outpacing strategy?
6. How can a company look for new market spaces outside its own industry?

DISCUSSION QUESTIONS

1. Illustrate each quadrant of the generic strategy options matrix through an e-business example.
2. Explain how the Internet can help a company to achieve a competitive advantage in the market place through (1) cost leadership and (2) differentiation. Illustrate each case through an actual example, other than those mentioned in this chapter.
3. Analyze how the Internet can help companies not to get 'stuck in the middle'. Refer to the Amazon.com letter to shareholders to explain your reasoning.
4. Discuss how an Internet venture can outperform its competitors along both the price and the quality dimensions. Provide some examples to support your arguments.

RECOMMENDED KEY READING

- M. Porter's book *Competitive Strategy* (Free Press, 1998) provides detailed accounts of different generic strategy types.
- B. Henderson emphasizes the importance of differentiation as a key element in strategy formulation when he compares strategy to biological evolution in 'The origins of strategy', *Harvard Business Review*, 1989, November–December, pp. 139–143.
- For an extensive discussion of market segmentation, see P. Kotler, *Marketing Management*, Prentice Hall, 2002, pp. 279–306.
- C. Kim and R. Mauborgne developed the concept of creating new market spaces by looking outside one's own industry in 'Creating new market space', *Harvard Business Review*, 1999, January-February, pp. 83–93. See also 'Value innovation – the strategic logic of high growth', *Harvard Business Review*, 1997, January–February, pp. 103–112.

USEFUL WEBLINKS

- **www.dell.com**
- **www.smart.com**
- **www.starbucks.com**
- **www.toyota.com**

NOTES AND REFERENCES

1 M. Porter, *Competitive Strategy*, Free Press, 1998, pp. 34–46.
2 Ibid, pp. 41–44.
3 F. Vogelstein, 'Mighty Amazon', *Fortune*, 26 May 2003, pp. 64–66.
4 For a discussion of the economic fundamentals, see S. Liebowitz, *Rethinking the Network Economy*, Amacom, 2002, pp. 115–117.
5 See C. Kim and R. Mauborgne, 'Creating new market space', *Harvard Business Review*, 1999, January–February, pp. 83–93, and also G. Johnson and K. Scholes, *Exploring Corporate Strategy*, Prentice Hall, 2002, pp. 132–133.
6 See C. Kim and R. Mauborgne, 'Creating new market space', *Harvard Business Review*, 1999, January–February, pp. 83–93.
7 A detailed discussion of this approach to value creation can be found in W. C. Kim and R. Mauborgne, 'Value innovation: the strategic logic of high growth', *Harvard Business Review*, 1997 January–February pp. 103–112, and 'Creating new market space', *Harvard Business Review*, 1999, January–February,.

CHAPTER 7

Impact of the Internet on the horizontal boundaries of a firm

Chapter at a glance

Related case studies

Case Study	*Primary focus of the case study*
4 Euro-Arab Management School	Economies of scale
6 Amazon *v.* Bol	Economies of scale and scope
8 Tesco	Economies of scale
1 Minitel	Early-mover advantage
5 Alcampo *v.* Peapod	Early-mover disadvantage
26 12Snap	Early-mover disadvantage
22, 23, 24, eBay	Early-mover advantage

Learning outcomes

After completing this chapter you should be able to:

- Explain the concepts of economies of scale and scope.
- Understand the importance of the above concepts in the context of e-business.
- Recognize the advantages and disadvantages of being an early mover in e-business.
- Determine how Internet ventures can benefit from setting up virtual online communities.

INTRODUCTION

When looking at different industries, you will find that the average size of a firm varies drastically from industry to industry. At one end of the spectrum, a few very large companies dominate large parts of their industries. This is the case, for example, in computer chip production and car manufacturing. At the other end of the spectrum, hundreds of small product/service providers compete for customers. This is the case, for example, in the consulting and fashion industries, which are highly fragmented.

To a great extent, the two drivers that determine industry size are *economies of scale* and *scope*. Scale measures the quantity of goods sold, while scope measures the variety of products sold. There are two strategic questions that need to be addressed in the context of this chapter:

- How big should our firm be?
  - What size (scale) do we need to have to be able to operate profitably?
  - How much product variety (scope) should we offer?
- How quickly should we try to grow?
- What are the crucial early-mover advantages in our industry?
- What are the crucial early-mover disadvantages in our industry?

The next sections address the above two questions and their respective sub-questions. First, a close analysis of economies of scale and scope is offered. Then, the different types of early-mover advantages (and disadvantages) that a firm can exploit (or should avoid) are discussed.

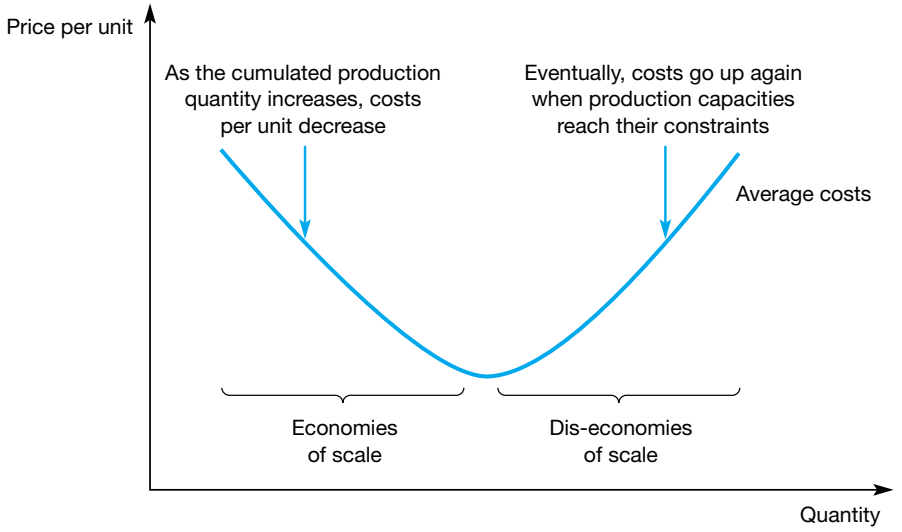
7.1 Concepts of economies of scale and scope[1]

7.1.1 Economies of scale

The basic concept of economies of scale is that as a firm increases its product output, it decreases its unit production cost. Why is that so? In general, any production process consists of *fixed costs*, which do not change as output increases, and *variable costs*, which go up with an increase in output. Examples of fixed costs are software development, warehouses and machinery, while examples of variable costs are raw materials and postage for a package.

High economies of scale usually exist in production processes that have high fixed costs and low variable costs. As the cumulative production quantity increases, fixed costs are spread out over a larger number of products, thereby reducing the unit production costs (see Exhibit 7.1). Once existing production costs reach their constraints, fixed costs increase again as new facilities are required. Variable costs, on the other hand, increase proportionally with output. For instance, as a mail-order company handles more packages, postage costs increase proportionally.

Exhibit 7.1 Economies of scale lead to a decrease in per-unit costs as output increases, whereas dis-economies of scale lead to an increase in per-unit costs



Due to extensive scale effects and efficient IT processes, WalMart in the USA can sell its products at massive discounts in comparison with competitors such as Ahold, Safeway and Kroger. For example, it sells Colgate toothpaste at 63% of rivals' prices, Tropicana orange juice at 58%, and Kellogg's corn flakes at 56%[2].

The expectation of high economies of scale was an important reason why Internet ventures were so popular with business managers and entrepreneurs and highly valued in the stock market. In the traditional book retailing and banking industries, for example, whenever a company wants to expand its offerings to new customer groups, it has to build new branches or sales outlets. Such physical infrastructure requires high capital investments, while providing only limited potential for scale economies.

Amazon.com and Advance Bank thought that they would be able to limit their investment to IT infrastructure, website management and call centres, and then scale up these facilities depending on customer demand. By doing so, they would not need to make any substantial additional investments, while still being able to provide a highly customized service (see also e-Business Concept 7.1).

The evolution of Internet-based grocery retailing and the different approaches taken by Webvan and Tesco.com illustrate further the concept of economies of scale. The strategy of Webvan relied heavily on the realization of economies of scale. It set up throughout the USA centralized and highly automated warehouses at a unit cost of 30 million dollars. These were essentially fixed costs, since they were incurred independent of utilization. The expectation was that variable costs for each shipment would be very low, since the picking and packaging processes were highly automated, thereby reducing the need for expensive labour.

The business rationale was that Webvan would be able to position itself as a low-cost leader while still being able to deliver high levels of consumer benefit through the automated delivery process. It was thought that as customer numbers increased, the warehouses would operate at capacity, which in turn would create substantial

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transmitting such information. For instance, rich information exchange takes place in a bank's branch office, where customers talk in person to the bank agent.

However, reaching a large number of customers used to come at the expense of richness, which was due to the limited bandwidth of most mass-media devices. This resulted in little customization and a lack of interactivity, as is the case, for example, with a TV advertisement. To achieve reach and richness at the same time used to require substantial investments in physical infrastructure and sales force. In other words, scale economies were very limited when a firm wanted to expand its customer base – i.e. expand reach – while still maintaining high levels of richness. Proof of this is the extensive branch network of universal banks through which banks can reach a large number of customers while serving each of them individually. As numbers of customers go up, so do the costs.

The main argument of the richness and reach framework is that two main drivers have blown up this trade-off between richness and reach. These drivers are: (1) *the increase in connectivity* made possible by the Internet and (2) *the development of common standards* such as the IP/TCP, HTML and XML. Connectivity and open standards have allowed firms to reach to a larger number of customers, while at the same time ensuring a high degree of richness.

Does this concept stand up to reality? In many cases it does. A global auction place such as eBay would not have been possible in the pre-Internet days. Then, people could sell their used lawn-mowers and stamp collections at a local garage sale. There, they had very high levels of richness, where buyers could actually touch and try out the product; yet reach was very limited since typically, it did not extend beyond the immediate neighbourhood. eBay has created a much more liquid market by connecting buyers and sellers across cities and countries, enabling them to share rich information about products as well as the reputation of buyers and sellers. Similarly, the Zshops at Amazon.com, where customers and other booksellers can sell their used books, also provide high levels of reach and richness. For setting up these business models, traditional assets such as a large sales force or an extensive branch network, which allowed for richness in the traditional bricks-and-mortar world, would have been more of a liability than an asset.

economies of scale. The latter were also crucial for the grocery-delivery process, whereby delivery trucks were filled at the centralized warehouse and then driven from house to house, delivering the items. Costs for the delivery varied only marginally if the truck left half-empty or completely full. Thus, having enough customers to be able to fill up the truck was another source of substantial economies of scale in the delivery process. We cannot say whether the above reasoning would have worked out eventually, since Webvan filed bankruptcy only one year after going public.

The important insight from this experience is that economies of scale are valuable only if they can be realized, which usually requires a large throughput. Tesco.com reached a different conclusion after analyzing the economies of scale potential of warehouse-based delivery. The company decided, contrary to the common wisdom, that it would be sensible to organize the order fulfilment and delivery process out of existing stores. By doing so, it was possible to substantially reduce the need for additional investment, which would have created high fixed costs. Furthermore, through this model, Tesco.com was able to gradually scale up its operations by adding additional regions on a store-by-store basis.

CRITICAL PERSPECTIVE 7.1

The limitations to blowing up the trade-off between richness and reach

Due to several reasons, the blow-up of the trade-off has not happened to the expected extent. On the bandwidth dimension, the Internet cannot replicate the richness of face-to-face contacts, which can only be achieved in the physical world. Nordea's branch network has by no means become obsolete. While the bank has rationalized its network, it still intensely uses the remaining branches to sell complex financial products that require a high level of trust.

Furthermore, the face-to-face interactions in a physical branch are also important for convincing more traditionally minded customers to start using the online banking service. For companies that do not operate physical branches, it is far more difficult to acquire customers, since they do not have a strong brand name or customer awareness, the building of which requires substantial investments and marketing efforts.

Even if direct personal interactions are not needed, physical branches can still be useful from a marketing viewpoint to help instil trust in customers who are inherently sceptical of pure online ventures. The latter do not offer a place for customers to turn to when problems arise.

Finally, expanding reach also poses the danger of undermining the strategic fit of a company's activities (see also Section 5.2.2). Thus, as a company expands its reach by adding new customers, it needs to ensure that by doing so it does not compromise its core activities.

7.1.2 Economies of scope

The logic behind economies of scope is similar to that of economies of scale. While economies of scale can be realized by increasing the production of one product type, economies of scope result from expanding the variety of products sold using the same R&D, production and delivery assets.

The main goal here remains the same: it is to spread fixed costs over a wider basis by adding new products or services to the existing offering. Economies of scope can be achieved by extending into different markets and sectors of an industry. Amazon.com, for instance, is trying to achieve economies of scope through the introduction of additional categories of goods on its website, thereby potentially increasing its share of the wallet of any given customer. Although it started out with just books, Amazon.com has since added new product categories, such as CDs, videos, electronics and clothes, using the same technology platform and delivery infrastructure.

So, economies of scale and scope should be considered within the context of a specific strategy and not pursued just for the sake of lowering costs. What always needs to be kept in mind is the type of value proposition that a company offers to customers. Adding scale by reaching out to new customer groups, or adding scope by offering new products, might help to reduce the cost position of a firm. In addition to costs, however, it is also important to consider the revenues that can be generated

after expanding into different customer segments or adding new product categories. Advance Bank, for instance, expanded its scale by moving into more price-sensitive customer groups, thereby threatening its overall value proposition. Thus, it is crucial to keep in mind that expanding economies of scope might compromise a firm's positioning and implicit trade-offs.

7.2 Timing of market entry

Early or first-mover advantages were a major driver for the Internet boom during the late 1990s. No potential entrepreneur or investor wanted to miss out on the profit potential that was promised to early movers. Thus, they all rushed into setting up or financing Internet start-ups, accepting large initial losses but expecting high return over time due to first-mover advantages.

Undoubtedly for some Internet start-ups, such as eBay, Yahoo and Amazon.com, early-mover advantages helped to pave the way for a dominant market position. In most cases, however, companies that started out early during the Internet boom have either gone out of business or were acquired by other firms that embraced the Internet much later.

Before moving into a more detailed discussion of early-mover advantages, we want to emphasize that a major difference between the Amazon.com-like ventures and the bankrupt Internet companies is that Amazon.com was not only early but also best in class. Since its launch in Seattle, (USA,) in 1995, Amazon.com has strived continuously to improve customer experience while simultaneously increasing operational efficiency, thereby reducing costs. In other industries, early movers were unable to compete with late entrants and eventually went out of business.

Similarly, Yahoo.com, eBay and other successful Internet start-ups managed to get the timing right and also deliver superior value on a continuous basis. Thus, while early-mover advantages are important, it is equally important that a firm maintains its quality or cost lead over competitors to keep its dominating position.[4]

In the following sections, we first analyze the different types of early-mover advantages and discuss how they impact Internet-based industries. Early-mover advantages can result from (1) *learning effects*, (2) *brand and reputation,* (3) *switching costs* and (4) *network effects.* We then analyze early-mover disadvantages, which are (1) *market uncertainty*, (2) *technological uncertainty* and (3) *free-rider effects.*[5]

7.2.1 Early-mover advantages

Learning effects[6]

The idea of learning effects is that as output increases, a firm gains experience. This allows it to conduct its business more efficiently, thereby reducing costs and increasing quality. When Amazon.com entered the German online book market in 1998, it was able to capitalize on its three years of experience in the USA where it had learned how to do online and offline marketing, make its website user-friendly and streamline its logistics and delivery processes.

Germany's Bertelsmann Online (BOL), on the other hand, entered the online book retailing business later and still had to go through the learning process, while Amazon.com kept improving at the same time. Ultimately, BOL was never able to provide a shopping experience that could compete with Amazon.com's, a shortcoming that contributed to the Bertelsmann Group's eventual decision to abandon BOL.

Brand and reputation

Companies that come to market first with a new product or way of conducting business impress consumers quite strongly, thus gaining reputation and brand awareness. Furthermore, media coverage creates free and strong publicity, which can enhance the brand and reputation. The business press is always interested in new business developments, successful or not, and covers them extensively. When Amazon.com went public in the middle of the 1990s, major business newspapers and journals wrote about it, thereby creating free and credible publicity. For instance, in 1996, The *Wall Street Journal* published a front-cover story on Amazon.com; on the following day, book sales on the company's website doubled.[7] Other early movers such as Yahoo.com and eBay have received similar levels of media coverage.

Being an early entrant in a market can also help to build up a strong reputation with customers, provided that the company can meet customer expectations during the first few contacts. This may seem obvious, but many Internet start-ups were unable to do so due to their badly designed websites and the lack of timely and reliable product delivery. More successful Internet start-ups such as Amazon.com managed early on to provide customers with a superior shopping experience. Customers who had a good experience with one provider are unlikely to switch to another. Therefore, any new competitor must provide a higher value than that offered by the early entrant in order to offset the uncertainty of being new and to induce the customer to switch over.

However, an established brand and reputation are no guarantee for a lasting success. The case of the search engine Google is an excellent example of how a newcomer managed to overcome the brand recognition and reputation of older and more established rivals such as Overture and AltaVista. Google was able to do so because it offered radically higher user benefits through higher speed and better search accuracy than all other companies. Without doing any serious advertising, Google quickly became the preferred search engine for millions of Internet users. (For more details, see the Google case study, p. 00.) In fact, Google has been so powerful that critics have launched a website (www.google-watch.org) to closely scrutinize the intrusive search techniques that Google uses.

Switching costs

Switching costs, also called self-compatibility costs, result from moving from one product to another. Even if a new product is superior to the one you already possess, you might still decide to keep the old product because of switching costs, which, in effect, create a weak form of lock-in. The expectation that switching costs on the Internet would be high was one of the main drivers behind the race for 'eyeballs' and 'clicks', whose levels determined the stock market valuation of many companies

(more traditional metrics such as price/earnings ratios were not considered to be suitable for Internet start-ups).

The common belief was that once customers got used to the set-up of a website, and once they had provided their customer information, they would not want to switch any more because of switching costs. This belief turned out to be fatal for many companies that spent heavily on marketing and customer acquisition only to find out that their customers were happily switching to other websites when a competitor offered better value.

Four sources of switching costs can be identified: (1) *switching costs from relearning*, (2) *switching costs because of customized offerings*, (3) *switching costs because of incompatible complementary products*, (4) *switching costs resulting from customer incentive programmes*. These are now defined:

- *Switching costs from relearning* are a result of having to get used to a new product. Users of software programs who switch from one provider to another often stick with the old product for as long as they can to avoid relearning costs. Consider the cases of BrunPassot and CitiusNet featured in Part 3 of this book. These companies had developed proprietary B2B software platforms to interact with their corporate customers. Once the customers got used to this software and had trained their personnel to use it, switching to a competitor would have entailed considerable relearning.

  Similarly, Internet users get used to the functionalities of a specific website and might not want to switch to another website. The more website-specific the knowledge is, the less likely it is that a person will switch to another website. In other cases, such as with search engines where the usage is easy and intuitive, switching costs are minimal. This was another reason that helped Google to become, within a matter of months, the most popular search engine. (At the same time, this lack of lock-in is also the greatest danger that Google faces today as competitors, such as Microsoft, start investing heavily into search-engine development.) As the Internet continues to mature and users become more accustomed to using it, relearning-induced switching costs are likely to decrease.
- *Switching costs because of customized offerings* result from a firm's ability to adapt a website to the specific needs and preferences of individual customers. For instance, as customers make purchases and search for books, Amazon.com learns about their preferences and is then able to make customized recommendations based on previous purchase patterns. If customers want to switch to a competitor, they first need to 'teach' their system through a number of purchases before the latter can provide them with the same level of customized offerings.
- *Switching costs because of incompatible complementary products* result from the inability to use the new product in combination with old products. An illustrative example of this was the introduction of the CD player, which rendered the existing vinyl record collection of music lovers worthless if they decided to switch to the new technology. Similar situations exist today as consumers are contemplating switching from the traditional video tape to the DVD or upgrading their PC, which might lead to incompatibilities with other hardware and software components.
- *Switching costs resulting from customer incentive programmes* occur when firms offer customers benefits in return for their loyalty. A prominent example here is

the frequent flyer bonus programmes offered by airlines, where passengers earn free upgrades or free tickets after having flown a certain number of miles with the specific airline. In the online world, ChateauOnline, for instance, awards frequent shoppers with webmiles to increase their loyalty.

For consumers, it is sensible to consider overall costs, including switching costs, when deliberating a new purchase. With hindsight, it is surprising that switching costs received so much attention during the Internet boom years, since the above-mentioned types of switching had been around before. Therefore, there was really no need to gain market share as rapidly as possible and to invest heavily into new technology. History has shown that in most cases, if a new entrant offers a substantially better product, then it will most likely drive the weaker product out of the market, even if there are substantial switching costs. [8]

Network effects[9]

Network effects are present when a product becomes more useful to consumers in proportion to the number of people using it. There are two types of network effects: *direct* and *indirect*.

- *Direct network effects*. The strength of these effects depends directly on the number of users of a given device or technology that exhibits a network effect. An example of a product with strong direct network effects is the telephone. While a single telephone by itself is essentially worthless, it becomes very valuable when large parts of the population own a telephone and can use it to communicate with each other. Similarly, the Internet increases in value for the individual user as the number of users increases. Bob Metcalf found that the value of a network increases proportionally to the square of the number of people using it. Thus, if you double the number of participants in a given network, the value for each individual participant doubles, which leads to a fourfold increase in the overall value of the network.[10]
- *Indirect network effects*. Similar effects also apply with products that require complementary goods, such as video recorders and video games. Their value increases as the size of the installed user base increases, because more companies offer complementary products such as video tapes and games cartridges.

Whether a firm can benefit from network effects depends largely on the nature of the network. If network effects exist in a publicly owned platform that is open to all firms, then network effects benefit the whole community but do not accrue special benefits to any individual party. The telephone and the Internet, for instance, are open networks where the benefits of network effects accrue largely to customers. If, on the other hand, network benefits are specific to a particular website or community, then the operator of this site can reap benefits from these network effects (for a discussion of virtual online communities and network effects, see e-Business Concept 7.2).

In electronic commerce, a vivid example of network effects is eBay. On a stand-alone basis, this online auction platform is not very valuable at all; its value comes from the millions of users who post products for sale and search for products to buy. This results in a highly liquid market, where it is easy to match sellers and buyers.

E-BUSINESS CONCEPT 7.2

Virtual online communities and network effects

The concept of the 'virtual online community' stems from the idea of moving a community from the physical marketplace to the digital market space in order to create network effects among participants. To illustrate what a virtual online community is and what it looks like, we need to determine what purposes a community serves in the real world. Communities aggregate groups of people who have some kind of common interest (e.g. sports, cars, diseases, etc.). Communities in the physical world can be organized into clubs or teams, or they can be a loosely connected group of people. The common thread is, however, that people are drawn to communities because the latter provide an engaging environment in which one can connect with others and interact on specific interests.

The four essential purposes of communities are: (1) *communication*, (2) *information*, (3) *entertainment* and (4) *transaction*. The Internet can fulfil some, albeit not all, of these purposes as well as or even better than communities in the physical world. Building on these different purposes, it is possible to distinguish the following community types that focus on individual purposes:

- *Communities of interest and relationship* focus mainly on communication between users and sharing information. Users interact regularly on many different topics about their personal lives. Tesco.com, for instance, partners with iVillage (www.ivillage.co.uk), the online community for women, which offers discussion forums on topics such as pregnancy, baby care, parenting, diet, fitness and relationships. (For more details, see the Tesco.com case study, p.000).
- *Communities of fantasy* focus mainly on providing entertainment. In these communities, users, who in most cases are not aware of each other's identity, relate in a purely fictional setting while playing mult-user, Internet-based video games.
- *Electronic communities of transaction* are not communities in the traditional social sense; instead, they are focused primarily on selling and buying. eBay is the premier example of a transaction-centred community. Nordea's Solo marketplace, which brings together merchants from different fields, also has its main focus on transactions.

Virtual online communities have been trying to incorporate as much as possible from the above-listed community types into their own community, primarily to create a strong bond of loyalty between the community and its members. The underlying hope is that customers who see many of their needs met in a specific virtual online community are likely to build a high level of loyalty and to keep visiting this community over and over again.

The value of online communities depends primarily on the number of users visiting the website. Therefore, network effects are of utmost importance in the context of online communities. A firm that enters the market early can achieve a competitive advantage, since it has a head-start in building a critical mass of community members. The latter provide the following benefits:

- *User-generated content*. By posting through the website classified ads and opinions on bulletin boards, community members can create a significant amount of user-generated content. The book reviews that customers write at Amazon.com provide additional information for other customers searching for books. Furthermore, the possibility of evaluating the quality of reviews by other further increases the value of user-generated content.

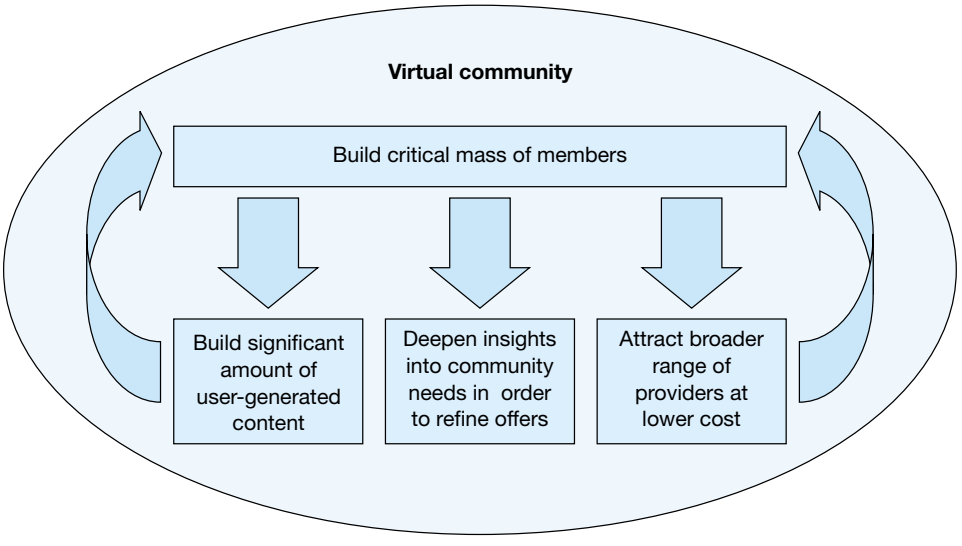
- *Data-mining*. Analyzing user activities provides insights about community members' needs, which in turn helps to refine offerings accordingly. eBay is constantly scanning the events and activities in its virtual communities, and adapts offerings and services accordingly.
- *Commercial content*. The larger the membership base of a community, the more attractive it becomes for advertisers as well as for product and service providers. The latter can place advertisements and hypertext links on the Web page and offer discounted prices to community members.

The above features make a given community even more attractive for prospective members, who, upon joining in, add to this cycle of self-reinforcement (see Exhibit 7.3).

As always, creating value for customers is just one side of the equation. In addition, it is also essential to find ways to capture part of that value by charging customers (or other parties) for benefiting from online communities. Revenues in virtual communities are typically generated from the following sources:

- *Advertising* was the most popular source of revenues during the Internet boom days, since many firms were willing to invest heavily in online advertising. Many of these firms received vast amounts of capital from venture capitalists or through their initial public offerings (IPOs). Since their main aspiration was growth, they spent a large part of their budget on marketing and online advertising. Furthermore, although the effectiveness of Internet-based advertising had not been studied closely, its popularity, especially among online communities, was due to the inflated estimates of its impact. However, when the stock market collapsed and more detailed research showed that online advertising did not live up to its promise, the importance of advertising as a source of revenue declined significantly in comparison with other sources.

Exhibit 7.3 Virtual communities generate self-reinforcing effects once a critical mass of members is achieved



- *Usage fees* are charged for the actual time that a user spends in an online community. Many Internet service providers, such as AOL and Terra Lycos (see the case studies in this book), collect revenues from usage fees. However, the drawback of this approach is that it sometimes makes community members limit their usage as much as possible in order to reduce costs. This, in turn, also reduces the potential for other revenues coming from transaction or content fees.
- *Subscription fees* entail a flat monthly charge for the usage of an online community and have recently become more common. They are easy to collect, since they are based on a monthly charge and do not limit the time a user wants to spend in the community.
- *Content fees* are charged for the downloading of individual items such as a newspaper or magazine article or a song. In the early years of the Internet, content fees were difficult to charge because online payment systems were not developed enough to make payments for low-priced items (such as a newspaper article) economically viable. With the advent of online micro-payment systems (such as Paybox.net, described in the case study, p. 000), charging content fees has become increasingly common.
- *Transactions* are at the core of communities that focus on the buying and selling of goods. The eBay community model, for instance, relies primarily on charging sellers a transaction fee for each transaction made. In the Solo marketplace, Nordea uses a combination of subscription fees and transaction fees for companies that sell through its marketplace.

Furthermore, the strength of the network effects is increased through the information that is posted about sellers and buyers, who both get rated by their peers on criteria such as timeliness of delivery, payment and quality of the products sold. eBay users who have received strong peer ratings are likely to continue using eBay because of their reputation, which makes it easier for them to sell items. eBay, as the operator of the community, can capture parts of the value, e.g. through fees for posting products.

Through its book reviews, Amazon.com has also created network effects. As more customers use its website and post their comments about books and other products, Amazon.com becomes more valuable to other customers, who can now retrieve information from many different reviewers about any given book. Other companies, such as www.ciao.com, have turned customer reviews into a complete business model, where they create a website that consists primarily of consumer ratings of different kinds of product.

In all of the above-mentioned examples, the value of the services offered by a firm increases with a larger number of users involved. Online file-sharing service providers such as Kazaa and Gnutella show similar network effects. The value of their service also depends largely on the number of users who are signed up and willing to allow other users to download music files from their computers.

From the individual customer perspective, switching from a network that is built around a large installed user base is sensible only if everybody else switches as well. It is possible, at least in theory, that a company with strong network effects can induce customers to stay in spite of the advent of new competitors with superior products. Users decide not to switch because they do not want to lose the compatibility with other users. If all users could agree to switch to the new product, however, then they would be better off to do so as well.

The logic of the Internet boom years was that if companies wanted to generate strong network effects, then they needed to quickly generate large market share, even if the costs for doing so were high. Part of this thinking was also that quality in comparison with competitors was not of central importance, because it was assumed that barriers to entry would increase as a result of network effects, making it difficult for newcomers to veer away customers. However, network effects, when they existed, often did not turn out to be strong enough to keep customers at one website. In fact, there are only very few instances, such as the online auctioning, where network effects are sufficiently strong to have a substantial impact on user value.

Additionally, even if network effects are strong, this does not necessarily mean that consumers will not switch to a new, superior product. When choosing between an existing and a new product, customers do not look only at the existing situation; they also anticipate its future evolution – otherwise, CD players, for example, because of their need for CDs, would never have become popular. Thus, as has always been the case, in order to succeed new entrants need to demonstrate the superiority of their product and to give the impression among the general public that their product presents the most attractive features for the future.

7.2.2 Early-mover disadvantages[12]

Firms entering the market early with a new technology do not necessarily achieve a competitive advantage over their rivals. In fact, there are a number of reasons why a late entrant might actually accrue some benefits. These reasons are (1) *market uncertainty*, (2) *technological uncertainty* and (3) *free-rider effects*.

Market uncertainty

During the early stages of an innovation cycle, it is very difficult to clearly establish what customers' needs are. During the 1900s, Internet start-ups were trying out various business models and value propositions, many of which have misjudged the actual consumer needs.

In banking, for instance, there was a much higher desire for security, trust and face-to-face interaction than was anticipated initially when many online financial institutions entered the market. In the end, however, banks with established brand names and branch networks were in a better position than their online competitors to fulfil customer needs through a multichannel banking approach.

Market uncertainty is aggravated if the market is not ready for a new product or service. Consumers need to get used to a new product or service before it becomes valuable to them. However, they will not do so unless there is already a sufficient number of providers in the market. On the other hand, providers will not invest unless they believe that there will be enough consumers to make their investment worthwhile. Thus, both sides face a 'chicken-and-egg' situation, which results in uncertainty regarding future developments.

Technological uncertainty

Betting on wrong technologies can be as problematic as overestimating market demand. In mobile electronic commerce, for instance, early adopters of the wireless application protocol (WAP) found that this highly praised technology did not deliver on its promises to create superior customer value. Instead, it proved to be very cumbersome to use, with a complicated 35-step procedure to configure a mobile phone for WAP access, long connection time (over 60 seconds), and the tiny screen space of a handset. As a result, market pick-up was much lower than expected.

When 12Snap launched its mobile auctioning service, the company did not know whether mobile technology with the small screens and clumsy keypads would be suitable for this type of business. As it turned out, it was not, and 12Snap had to completely overhaul its strategy by moving into a different business in order to survive.

Third-generation (3G) mobile phones are facing the same type of uncertainty at the time of writing. European telecommunication firms bid billions of euros for the acquisition of 3G licences to be able to enter the market early. Yet, as of now, it is still uncertain whether the investment in this specific technology will pay off.

Free-rider effects

Learning effects can constitute a first-mover advantage. However, if they cannot be kept proprietary, then competitors will benefit from them without having to make the same mistakes as the first-mover(s). In general, developing a market as a first mover is more expensive than just imitating it.

Many traditional bricks-and-mortar retailers who were initially hesitant to enter the online business and then embraced the Internet profited greatly from the failed experiences of the early movers. They leveraged their well-known brand and installed customer bases to quickly overtake their pure online competitors. Thus, for example, WalMart in the USA has become one of the largest Internet retailers by leveraging its strong brand name and synergies with its store network.

SUMMARY

- This chapter dealt with the impact of the Internet on the horizontal boundaries of a firm. It first analyzed the concepts of economies of scale and scope, where scale refers to the quantity of goods sold and scope measures the variety of goods sold.
- The chapter then analyzed the trade-off that companies traditionally needed to make between richness and reach, and how the Internet helps to dissolve this trade-off. Reach refers to the number of people exchanging information, while richness is defined by bandwidth, customization and interactivity.
- Next, the chapter discussed timing issues for market entry in e-business. More specifically, it analyzed the different types of early-mover advantages and disadvantages that an Internet venture can exploit (or should avoid). Early-mover

advantages include (1) learning effects, (2) brand and reputation, (3) switching costs and (4) network effects. Early-mover disadvantages include (1) market uncertainty, (2) technological uncertainty and (3) free-rider effects.

- Finally, the chapter discussed the rise of virtual online communities and their individual purposes (e.g. interest and relationship, fantasy and transactions). It also highlighted the self-reinforcing effects in virtual communities.

REVIEW QUESTIONS

1. Define the concepts of economies of scale and scope.
2. Why do companies need to make a trade-off between richness and reach? How can the Internet help dissolve this trade-off?
3. Outline the timing issues for market entry in e-business.
4. What are the advantages and disadvantages that early movers in e-business should exploit or avoid?
5. Define the concept of virtual online communities and their individual purposes. Explain the self-reinforcing network effects in virtual communities.

DISCUSSION QUESTIONS

1. Demonstrate through an actual example, other than those provided in this chapter, how the Internet helped companies to achieve economies of scale and scope.
2. Illustrate each type of early-mover advantage through an e-business example. Discuss how an e-business venture can exploit early-mover advantages and whether they are sustainable over time.
3. Provide an e-business example for each type of early-mover disadvantages. Explain how an Internet venture can avoid these disadvantages.
4. Illustrate through an actual example each type of virtual communities. Within the context of each example, discuss the extent of the self-reinforcing network effects.
5. Critically assess how the Internet helps companies to dissolve the trade-off between richness and reach. Defend your arguments through actual examples.

RECOMMENDED KEY READING

- For a discussion of economies of scale and scope, see D. Besanko, D. Dranove, M. Shanley and S. Schaefer, *Economics of Strategy*, John Wiley, 2003, pp. 72–95.
- A good discussion and critique of the effect of switching costs and network effects in e-business companies can be found in S. Liebowitz, *Re-thinking the Network Economy*, Amacom, 2002, pp. 13–48. C. Shapiro and H. Varian look at the same issues in *Information Rules*, Harvard Business School Press, 1999, pp. 83–226.
- S. Rangan and R. Adner discuss early-mover advantages in the context of electronic commerce, 'Profits and the Internet: seven misconceptions', *Sloan Management Review*, 2001, Summer, pp. 44–46.
- P. Evans and T. Wurster developed the concept of the trade-off between richness and reach in *Blown to Bits*, Harvard Business School Press, 1999, pp. 23–38.

USEFUL WEBLINKS

- **www.aol.com**
- **www.ciao.com**
- **www.google-watch.org**
- **www.ivillage.co.uk**
- **www.walmart.com**
- **www.yahoo.com**

NOTES AND REFERENCES

1 A detailed discussion of the concepts of economies of scale and scope is contained in D. Besanko, D. Dranove, M. Shanley and S. Schaefer, *Economics of Strategy*, John Wiley, 2003, pp. 72–95.
2 Economist staff, 'Make it cheaper, and cheaper', *The Economist*, 13 December 2003, pp. 6–7.
3 P. Evans and T. Wurster developed the richness and reach concept in their book *Blown to Bits*, Harvard Business School Press, 1999, pp. 23–38.
4 S. Rangan and R. Adner discuss the pitfalls of early-mover advantages in the Internet world in the article 'Profits and the Internet: seven misconceptions', *Sloan Management Review*, 2001, Summer, pp. 44–45.
5 For different types of early mover advantages, see D. Besanko, D. Dranove, M. Shanley and S. Schaefer, *Economics of Strategy*, John Wiley, 2003, pp. 438–446. W. Boulding and M. Christen point out that there are also important early-mover disadvantages in 'First-mover disadvantage', *Harvard Business Review*, 2001,October, pp. 20–21.
6 The importance of learning and experience first received attention through the development of the experience curve: B. Henderson, 'The experience curve reviewed', in C. Stern and G. Stalk. (eds.), *Perspectives on Strategy*, John Wiley, 1998, pp. 12–15.

7 J. Cassidy discusses the story of Amazon in *Dot.con*, Perennial, 2003, pp. 135–150.
8 S. Liebowitz refutes the frequently cited QWERTY keyboard and VHS/Betamax examples in *Re-thinking the Network Economy*, Amacom, 2002, pp. 47–48.
9 A good discussion and critique of the impact of network effects on e-commerce companies can be found in S. Liebowitz, *Re-thinking the Network Economy*, Amacom, 2002, pp. 13–48. S. Rangan and R. Adner also discuss network effects in e-commerce in 'Profits and the Internet: Seven Misconceptions', *Sloan Management* Review, 2001, Summer, pp. 44–46.
10 George Gilder coined the term 'Metcalf's Law' in 1993. The article can be found at www.discovery.org.
11 For a condensed discussion of the concept of virtual communities, see J. Hagel and A. Armstrong, 'The real value of on-line communities', *Harvard Business Review*, 1996, May–June, pp. 134–141. The same authors also wrote a more extensive book on the topic, *Net Gain*, Harvard Business School Press, 1997.
12 For a detailed discussion of first-mover disadvantages, see M. Liebermann and D.B. Montgomery, 'First-mover (dis-) advantages', *Strategic Management Journal*, 1998, Vol. 19, No. 12, pp. 47–49.

CHAPTER 8

Impact of the Internet on the vertical boundaries of a firm

Chapter at a glance

Related case studies

Case Study		*Primary focus of the case study*
4	Euro-Arab Management School	'Make-or-buy' decisions in e-learning
6	Amazon *v* Bol	'Make-or-buy' decisions in retailing
10	Advance Bank	'Make-or-buy' decisions in financial services
11	Ducati *v* Harley	'Make-or-buy' decisions in manufacturing

Learning outcomes

After completing this chapter you should be able to:

- Describe the spectrum of 'make-or-buy' options.
- Identify the main reasons that favour 'make' decisions.
- Identify the main reasons that favour 'buy' decisions.
- Describe the concept of value-chain deconstruction and the role of the Internet within this concept.
- Understand the concept of unbundling the corporation.

INTRODUCTION

While horizontal boundaries determine the size of a firm, a firm's vertical boundaries focus on the degree of integration of individual activities in a firm's value chain. The main question is: 'Which activities within the value chain should a firm perform by itself and which ones should it outsource to external providers?'

Consider the merger of AOL and Time Warner in 2000. The two firms merged because they wanted to create an integrated value chain in the media industry that spanned from content production to content delivery. Substantial synergies were expected from this merger. As it turned out, these synergies proved difficult to realize and many critics argue that it would have been better to keep the two firms separate.

From a more historic perspective, let us consider the evolution of the PC industry. In 1985, IBM, which then dominated this industry, conducted all the activities of the value chain, from the development of micro-processors, to marketing, sales and distribution. As a result of open standards and the increased use of mass production, this integrated value chain became more fragmented over time. Today, as shown in Exhibit 8.1, companies focus on (and dominate) individual parts of the PC industry value chain.

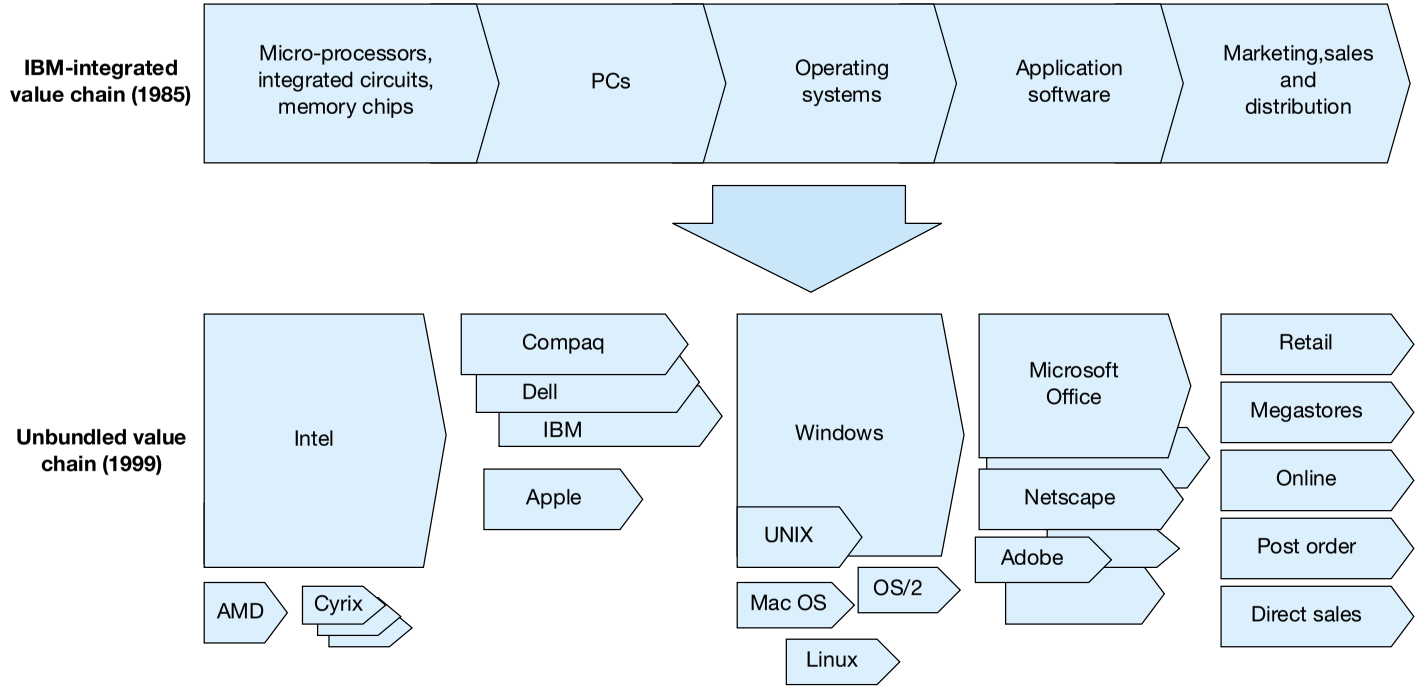
The above-mentioned examples illustrate how companies can choose from a variety of options available to them for making a product or service. They can decide to perform some activities internally ('make') or 'purchase' them on the open market ('buy'). The different options that a companies can choose from are as follows:

- *Market transactions* entail the purchase from an external provider on an individual one-by-one contractual basis.
- *Long-term contracts* entail the purchase from an external provider on a contractual basis, spanning over an extended period of time.
- *Alliances* entail the close co-operation of two separate firms that join up in the production of a certain product or service.
- *Parent/subsidiary constellations* entail the set-up of a distinct firm that operates separately from, yet under the auspices of, the parent company.
- *Internal production* entails a process that is managed completely internally, without any outsourcing to external providers.

At one end of the spectrum, firms that rely heavily on input from external providers include car manufacturers, such as DaimlerChrysler and BMW, and sports-goods manufacturers, such as Nike and Adidas. Another example is Dell, which concentrates on tightly integrating different suppliers to deliver the components for the PCs that it assembles and sells. At the other end of the spectrum, highly integrated firms, such as Procter & Gamble and Nestlé, perform most functions internally, ranging from R&D and production to marketing and distribution.

Many e-business analysts have argued that the increased use of the Internet makes it more attractive to rely more heavily on external providers and perform fewer activities internally. In order to assess this claim, we need to analyze the different factors that favour 'make' and 'buy' decisions and determine how the Internet affects them.

Exhibit 8.1 During the past decade, the PC industry has become increasingly fragmented



Source: Adapted from D. Heuskel, *Wettbewerb jenseits von Industriegrenzen*, Campus, 1999, p. 53.

8.1 Reasons determining 'make-or-buy' decisions in e-business

8.1.1 Reasons favouring 'make' decisions

There are three main reasons that favour performing activities in-house (i.e. the 'make' option). These are (1) *a strong linkage between activities*, (2) *confidentiality of information* and, most importantly, (3) *high transaction costs*.

Strong linkage between activities

We discussed extensively in Section 5.2.2 the importance of linkage between activities. When it is crucial for a company to tightly integrate different activities of its value chain, these activities should be performed internally if that is the only way to realize the integration. Creating close links throughout the value chain can help a firm either to provide superior customer benefit through reinforcement of activities or to lower costs through an optimization of efforts.

Confidentiality of information

Confidentiality of information is another reason that can lead a firm to perform activities internally. The sharing with external providers of critical information about R&D processes, customer information and production methods may undermine the firm's competitive advantage. Microsoft, for instance, refuses to provide other software-developing firms with the source code for its software because it fears that doing so would eventually result in a leak in the public domain.

High transaction costs

Most important, however, are usually the costs relating to the actual transaction process, also called transaction costs.[1] These consist of costs that a firm incurs when it relies on the market to make a product or provision of a service. Transaction costs appear because buyers and sellers usually have diverging interests, which make them act opportunistically. The seller wants to maximize profits by charging as high a price as possible, while the buyer wants to keep costs down by paying as little as possible. To avoid *opportunistic behaviour*, a company needs to invest time and effort to search for an appropriate business partner, negotiate conditions, and monitor and enforce the contract.

Which factors determine whether a firm acts opportunistically, and how does the Internet influence these factors? We will now look at two main factors that drive opportunistic action and, therefore, strongly influence transaction costs: these are *asset specificity* and *information asymmetry*.

- *Asset specificity* refers to the investments that need to be made in order to set up a transaction between two or more parties. Before the advent of the Internet, companies that wanted to engage in electronic transactions with one another had to invest in proprietary electronic data interchange (EDI) systems, which were costly

to install and could generally be used with only a very limited number of partners. Once such a system was in place, the parties were locked into the agreement because of the high investment and the limited choice of partners.

Imagine the case of the tire manufacturer Tire Inc., which sources rubber from the rubber producer Rubber Corp. In order to optimize the production flow, Tire Inc. has agreed to install an EDI system that connects it to the IT system of Rubber Corp. The two companies draw up a contract and delivery takes place as planned. Subsequently, Rubber Corp. informs Tire Inc. that they need to raise prices by 20%, knowing that Tire Inc. needs to keep the business relationship going to recover the investment in the EDI system. Tire Inc. might decide to accept the raise, or to take Rubber Corp. to court, or to terminate the relationship altogether. In any case, there will be substantial costs involved for Tire Inc. Knowing what might await them next time, Tire Inc. decides to produce the rubber internally, thereby avoiding the transaction costs.

Now, let us think about what this scenario might look like today. Through the Internet, Tire Inc. would connect to the system of Rubber Corp., thereby substantially reducing the costs for specific IT investments. Rubber Corp. at the same time would not be inclined to try to raise prices because they know that Tire Inc. could easily switch suppliers. Therefore, transaction costs are now much lower due to lower asset specificity, which makes it more likely that Tire Inc. outsources activities to external providers.

- The second important factor that influences transaction costs is the degree of *information asymmetry* between the involved parties. Often, a buyer lacks vital information about a seller because they do not know the track record of the seller, and vice versa. If a buyer can hide past cases of fraud, then they are much more inclined to act opportunistically in the future and to try to commit fraud again.

  This type of information asymmetry is also easier to remedy through the Internet. Through virtual communities, such as those at eBay, buyers can rate the quality of sellers and sellers can rate the reliability of buyers. This has a twofold effect. First, any buyer who is considering a purchase can base their decision on the track record of the seller. If a seller has hundreds of positive ratings, then it is very likely that they will also fulfil their promises during the next transaction. Second, as the number of positive ratings increases, sellers are more likely to maintain their high standards in order to protect their reputation. Thus, a self-reinforcing virtuous cycle is set in motion through the rating system, which deters opportunistic behaviour, thereby also reducing transaction costs.

Because of the lower asset-specific investment and the improved information, it is sensible to assume that the Internet reduces transaction costs. This should, in turn, make it more attractive to outsource parts of the value chain to external providers.

8.1.2 Reasons favouring 'buy' decisions

Today, many companies rely heavily on sourcing parts and services from external suppliers. There are four main reasons for doing so: (1) *high economies of scale*, (2) *high capital requirements*, (3) *specialized know-how* and (4) *higher efficiency of the open markets*.

High economies of scale

A firm that produces only for its own use usually requires a much smaller quantity than a supplier that produces for many different firms. Therefore, the external supplier has the possibility to reap much larger economies of scale than the individual firm that decides to make the part by itself. Dell, for instance, could decide to build its own factories for producing the micro-chips that it uses in the PCs it sells. However, the investment required for doing so internally is too large, relative to the expected output, and would make every chip produced prohibitively expensive. Therefore, Dell sources the chips from specialized manufacturers, such as Intel and AMD, which also supply many other computer manufacturers with chips. In fact, Dell has chosen this approach with almost all of its inputs. Since it is a large customer for most of its suppliers, it is in a position to capture large parts of the economies of scale in the form of low prices.

High capital requirements

If the production of a specific part requires a major upfront investment, such as the construction of a specialized plant, then it may be sensible to find an external supplier who already has the required facilities in place. Doing so might be more expensive on a per-unit basis, yet it reduces the overall risk. Webvan, for instance, might have fared better if it had relied more on external suppliers when it set up its online grocery business. Instead, Webvan organized itself all parts of the value chain and invested heavily in a custom-built IT platform, highly automated warehouses and a large fleet of delivery trucks, only to find out that the business model did not work the way it was anticipated. The expensive IT platform, the warehouses and the trucks were later sold during the bankruptcy proceedings for a fraction of their original prices.

Specialized know-how

Specialization effects are likely to be related to economies of scale. A firm that produces large quantities of goods also tends to build up over time substantial know-how regarding R&D processes and production methods. This specialized know-how should then lead to lower-cost production and higher quality standards, or both. Consider Amazon.com's delivery system. The company owns large warehouses to organize the logistics of incoming and outgoing shipments. Yet, for the actual shipment process, Amazon.com relies on specialized logistics firms, such as UPS, DHL and Federal Express, which possess strong experience in logistics and delivery and have optimized their processes over time.

Higher efficiency of the open markets

Finally, external suppliers are often more efficient because they are facing permanent competitive pressure from other companies within their specific industry. If performed internally, the production of a sub-product or the provision of a service can become highly inefficient over time because of a lack of control, thereby causing unnecessary costs. External firms producing that same product, on the other hand,

do not enjoy the same type of 'protection' and are therefore forced to constantly maintain high levels of efficiency, thus keeping down costs.

8.2 Value-chain deconstruction through the Internet[2]

The concept of deconstruction builds on the foundations of transaction cost theory. The fundamental idea of this concept is that traditionally integrated value chains within industries get unbundled and are reconfigured as a result of two main developments. These are (1) the separation of the *economics of things (physical goods)* and the *economics of information (digital goods)* and (2) the *blow-up of the trade-off between richness and reach.* (The limitations of the concept of deconstruction are discussed in Critical Perspective 8.1.)

Let us take a closer look at the first point. How do the economics of things and information differ? When physical goods, such as a chair or a table, are sold, ownership is transferred from the seller to the buyer. Informational goods, on the other

CRITICAL PERSPECTIVE 8.1

The limitations of deconstruction and unbundling

How should we evaluate the applicability of the 'unbundling' concept? Its proposition is similar to that outlined in the concept of deconstruction.[4] Both state that different parts of the value chain, here called businesses, should be reconfigured so that the trade-offs and compromises inherent in integrated firms can be resolved. The examples of eBay and Dell, where deconstruction has worked out very well, thereby rewarding the two companies with high profitability, need to be contrasted with other companies engaged in e-business where this type of deconstruction has been more limited. There are different reasons why deconstruction might not be appropriate for a firm:[5]

- *Lack of linkage between externally and internally performed activities*. Amazon.com, for instance, initially set out with a highly deconstructed business model in which the focus rested on the front end of interacting with the customer. Back-end warehousing and logistics were to be left to external suppliers. However, integrating the front end with external logistics providers turned out to be more cumbersome than anticipated, and thus it became impossible to deliver the promised customer benefit in terms of speed of shipment, quality and reliability. Amazon.com therefore decided to reintegrate parts of the value chain by setting up a proprietary warehousing system.
- *Increased convergence and ease of imitation*. When key steps of the value chain that previously constituted substantial sources for competitive advantage are outsourced to external providers, this creates the risk that competitors turn to the same vendor, thereby making purchased inputs more homogeneous. Doing so decreases possibilities for differentiation and increases price competition. Furthermore, it also lowers barriers to entry because new entrants only need to assemble purchased inputs rather than build their own capabilities.

hand, can be used many times, with low (if any) incremental costs. Take a newspaper article that is published online. It does not impact costs much if it is read by ten or ten thousand people. Furthermore, physical goods are location-dependent. They cannot be moved easily, and they often take up substantial space. Information, on the other hand, can be sent across the globe quickly and requires only disk storage space on a computer server.

In the past, the two different types of economics were combined within a unified business model, which led to compromises. Consider the example of a used-car dealership. What are the reasons for customers coming to used-car dealerships? They want to find out about different choices, go for a test drive, get an attractive financing scheme, and receive a warranty and maintenance services.

In order to provide the customer with as much information as possible about products, it makes sense to put many cars on display, so that customers can easily compare between different models and make a more informed purchasing decision. On the other hand, since the information about cars is held in the physical car, maximizing the number of cars in the showroom conflicts with the desire to keep down costs by limiting showroom space and inventory. A further compromise is that, for sales purposes, it is sensible to build large car dealerships in central locations to maximize the number of cars on display. For servicing purposes, however, it would be much better to have small repair shops located near the car owners' homes.

The Internet auction eBay has effectively deconstructed the used-car business, thus becoming the largest used-car dealership in the USA. Like a traditional car dealer, eBay tries to offer as wide as possible a choice of cars, but unlike physical dealers it is not constrained by physical space on a car lot. eBay acts as an integrated market maker for sellers, thereby offering unsurpassed choice. Through the deconstruction and reconfiguration of the value chain with external partners, eBay can offer higher benefits to consumers at reduced costs.

How does it work? Sellers wanting to sell their car on eBay face the problem of not being able to convince potential customers of the quality of their car. To remedy this, eBay is partnering with the certified vehicle inspection chain PepBoys, which inspects the car, for which the seller can download a coupon from the eBay website and then post this information on the eBay site. The information about the state of the car is even better than in the traditional marketplace, where the buyer, who normally does not know much about cars, has to inspect the car themselves. eBay has also partnered with financing companies and with neutral third-party payment operators, who, to prevent fraud, act as a proxy and send the payment from buyer to seller.

Overall, this deconstruction leads to a development called *de-averaging of competitive advantage*. Here, a firm picks out individual parts of the value chain and decides to compete on only one dimension through larger scale, higher degrees of specialization, or other factors that contribute to competitive advantage, while outsourcing other activities to external providers.

8.3 Unbundling the corporation through the Internet[3]

The concept of 'unbundling the corporation' is very similar to the deconstruction approach. It also argues that companies need to rethink the traditional organization and unbundle their core businesses (or core activities) as a result of falling transaction costs made possible by the Internet. (The limitations of this concept are discussed in Critical Perspective 8.1.)

The 'unbundling' concept recognizes that a corporation consists of the following three core businesses (see Exhibit 8.2):

- *Customer relationship management*, which focuses on the interfaces between the firm and its customers: these interfaces include activities such as marketing, sales and service. Their common goal is to attract and retain customers. For example, the branchless Advance Bank focused on the customer-relationship-management business while outsourcing its product innovation to external financial providers and minimizing its infrastructure requirements through its direct banking approach.
- *Product innovation*, which focuses on R&D but also includes activities further down the value chain such as market research to find out about consumers' preferences: the globally operating firm IDEO, which designs products and services for large corporate customers, is a prominent example of a company focusing primarily on the product innovation business.

- *Infrastructure management*, which focuses on logistics and support functions: this business includes the building and management of physical facilities, such as plants, retail outlets and truck fleets, for high-volume production and transportation processes. Through its extensive physical retail network, Tesco.com is very strongly involved in managing the infrastructure business.

The reason why the different businesses conflict with one another is that they have differing economic, cultural and competitive imperatives (see Exhibit 8.3):

- *Economics.* In product innovation, speed, which allows a firm to introduce new products sooner than the competition, is the most valued asset. However, in the customer relationship and infrastructure management business, what matters most are, respectively, economies of scope (getting a large share of the consumer wallet) and economies of scale.
- *Culture.* Product innovation focuses on creative employees who are responsible for developing new ideas. This is mirrored in flexible pay schemes and work schedules that are designed to make employees content. The customer-relationship business, on the other hand, focuses on the external customers, while the focus of the infrastructure business is on costs. To operate large-scale operations efficiently, it is necessary to create a culture of standardization, predictability and efficiency.
- *Competition.* For a successful product innovation, it is essential to gain access to skilful and talented employees. Developing innovations often does not require large start-up costs, as is illustrated by the founders of some of the e-commerce success stories (e.g. Amazon.com, eBay, Yahoo). Therefore, in product innovation, there are usually many small players, of which few will succeed. In both of the other businesses, however, competition tends to be driven by economies of scope and/or scale, which leads to a consolidation where few big players dominate the competition.

The problem for integrated firms is the difficulty of optimizing simultaneously scope, speed and scale; therefore, firms need to make trade-offs. For instance, in order to maximize scope, a retailer should provide a vast variety of products, possibly also from external stores.

This is what Amazon.com has been doing with its Zshop system, which allows other used-book retailers to sell their products through the Amazon.com website. Doing so makes the site more attractive for customers because they find not only the new Amazon.com offerings but also used books, which are generally cheaper. From a scope perspective, this makes a lot of sense. However, if doing so leads to fewer orders originating from Amazon.com, then this would then result in a lower utilization of physical infrastructure, such as warehouses, thereby compromising the company's economies of scale.

SUMMARY

- This chapter dealt with the impact of the Internet on the vertical boundaries of a firm. It first analyzed the degree of integration of individual activities of the value chain. More specifically, it discussed which activities a firm should perform ('make') by itself and which activities it should source ('buy') from external providers:
  - Reasons that favour 'make' decisions in e-business include strong linkage between activities, confidentiality of information and high transaction costs.
  - Reasons that favour 'buy' decisions include high economies of scale, high capital requirements, specialized know-how and higher efficiency of the open markets.
- The chapter then discussed value-chain deconstruction through the Internet. This deconstruction results from the separation of the economics of physical goods and that of digital goods, and from dissolving the traditional trade-off between richness and reach.
- Next, the chapter analyzed the unbundling of the traditional organization as a result of falling transaction costs made possible by the Internet. The unbundling concept distinguishes three core businesses in a corporation: (1) product innovation, (2) infrastructure management and (3) customer relationship management. These three businesses have different imperatives regarding economics, culture and competition.

REVIEW QUESTIONS

1. Describe the different organizational options along the make-or-buy spectrum.
2. In general, which factors determine whether a firm should make or buy a product or a service?
3. Why should a company consider deconstructing its value chain through the Internet?
4. Outline the concept of unbundling the corporation, and explain its underlying rationale.

REVIEW QUESTIONS

1. Illustrate through different examples how the Internet enables companies to integrate activities across their value chain.
2. Provide examples of Internet ventures that favour (or have favoured) either 'make' or 'buy' decisions.
3. Explain how a company deconstructs its value chain through the Internet, illustrating your answers through an actual example.
4. Provide two examples from two different industries (one about physical products and one about digital goods) that demonstrate the concept of unbundling the corporation.
5. Critically assess the deconstruction and unbundling concepts, and show their limitations using e-business examples.

RECOMMENDED KEY READING

- R. Coase wrote the first influential article on transaction cost theory in 'The nature of the firm', *Economica*, 1937, 4, pp. 386–405. O. E. Williamson provided an additional foundational perspective on this topic in *Markets and Hierarchies: Analysis and Antitrust Implications*, Free Press, 1975.
- P. Evans and T. Wurster developed the concept of deconstructing the value chain in *Blown to Bits*, Harvard Business School Press, 1999. For a condensed version of this concept, see, by the same authors, 'Strategy and the new economics of information', *Harvard Business Review*, 1997, September–October, pp. 71–81.
- J. Hagel and M. Singer wrote the article 'Unbundling the corporation', *Harvard Business Review*, 1999, March–April, pp. 133–141.
- M. Porter criticizes the deconstruction and unbundling concepts in 'Strategy and the Internet', *Harvard Business Review*, 2001, March, pp. 72–74.

USEFUL WEBLINKS

- www.ideo.com
- www.amd.com
- www.intel.com

NOTES AND REFERENCES

1 Transaction costs are an important concept to explain firm structures. For a detailed discussion of the impact of the Internet on transaction costs, see A. Afuah, 'Redefining firm boundaries in the face of the Internet: are firms really shrinking?', *Academy of Management Review*, 2003, Vol. 28, No. 1, pp. 34–53.

2 For more detailed discussions of the concept of deconstruction, see P. Evans and T. Wurster, *Blown to Bits*, Harvard Business School Press, 1999, pp. 39–67, and D. Heuskel, *Wettbewerb jenseits von Industriegrenzen*, Campus, 1999, pp. 57–72.

3 For a detailed discussion of this concept see J. Hagel and M. Singer 'Unbundling the Corporation', *Harvard Business Review*, 1999, March–April, pp. 133–141.

4 J. Rayport and J. Sviokla developed a similar concept to the two concepts mentioned here. It proposes an unbundling along the dimensions of content, context and infrastructure. Since the findings are essentially the same as in the deconstruction and unbundling concepts, we do not elaborate further on this concept. However, for a detailed discussion of this concept, see J. Rayport and J. Sviokla, 'Managing in the market space', *Harvard Business Review*, 1995, November–December, pp. 141–150.

5 M. Porter, 'Strategy and the Internet', *Harvard Business Review*, 2001, March, pp. 72–74.