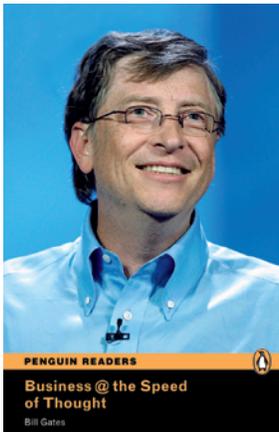




Business @ the Speed of Thought

Bill Gates



About the author

Bill Gates wrote his first software program when he was thirteen years old. Two points about the experience seem clear. First, the ability to control something huge at a time when he was too young to drive, gave him the power of certainty: the computer would always follow his program exactly. Second, there was immediate feedback: the program was right because either it worked—or didn't.

Bill Gates benefited from a private education which his parents paid for, but he had to pay for time online on the school computer. This, as he remembers, is what drove him to the commercial side of the software business. He got a job writing programs. Then, one summer day in 1972, he saw an announcement in a magazine. Intel had released the 8008 chip. He and his school friend, Paul Allen, wrote a program to analyze the data from traffic monitors on city streets and started their first company "Traf-O-Data". It was not a commercial success but he was on the road. When, two years later, Intel brought out the 8080 chip with 10 times the power of the 8008, he and Paul were able to write a version of BASIC for it, and, at the same time, found the company which came to be called Microsoft ... and the rest, as they say, is history.

Summary

The nervous system in the human body carries information from all parts of the organism to the brain. The information is analyzed instantly and a suitable response initiated. What would the world of business be like if every company had a digital nervous system which gathered data in real time from its internal processes and its external dealings with customers and suppliers? What if

the companies could respond at the speed that the human body responds when threatened? What if all data were collected and exchanged digitally and made available to all the people who matter? Bill Gates lays out a stunning vision of a Web lifestyle, in which the collection and exchange of information is made a simple part of everyday life. In the process, he details a blueprint for all company managers to empower their workforce and put their companies in the forefront of innovation in the brave new world of meeting customers' needs and wants at the speed of thought.

Chapter 1

An effective use of information technology is to think of it as a digital nervous system (DNS) which can respond as quickly as the human brain to any situation by providing a constant flow of information. Success or failure in business will depend on how well you manage the system. A good DNS will allow companies to see coming problems and explore new possibilities. This will also involve broader thinking. In today's world, everything is linked. The success of a company like Amazon.com which realized its possibilities by growing into far more than just a bookstore is a good example of this.

DNS provides the facts essential for dealing with the hard questions businesses face today. Most of these facts will come from customers, and communication with customers is vital for business success. But the information must be shared, not isolated in different departments. With this approach, a DNS can be used to develop a company-wide intelligence, linking all employees. It will also change the role of managers. Today's managers are more than sales team leaders; they are business "thinkers". Easy access to facts gives them the opportunity to identify strong and weak areas and take necessary action quickly. To create a good DNS, one needs to develop a picture of what information they need to be successful and come up with questions their DNS can provide answers to.

The first basic effect of DNS is to create a "paperless office". Routine tasks such as form filling can now be done electronically and tasks simplified and speeded up in the process. The result is a more efficient environment and employees who are released from boring routine tasks. This will free them to spend more time dealing with customers' needs.



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Chapter 2

The Internet has changed everything. People can now carry out activities such as shopping, paying bills, etc. electronically; they can connect more easily with other interest groups anywhere in the world; they can research information without leaving their homes or offices.

Critics of this web-based lifestyle say it destroys face to face contact. In fact, the opposite should be true. The web broadens horizons, allowing access to more people and a better quality of personal contact when that takes place. But what does all this mean for business? First, business needs to understand the three basic changes which are taking place: most customer contact will be digital and self service from now on; customer service will become more important; and companies will adopt DNS internally. People's roles in a company will also change at all levels. Bosses will need to be familiar with digital systems; middlemen will become more personalized service providers; lower-level employees will have a more interesting and active role due to digital access to information. One of the biggest challenges will be in getting a web infrastructure in place quickly and affordably, but competition will help.

Ways of managing projects will also change. Outsourcing or establishing specialized teams which can be disbanded when a project has been completed will save on cost and enable things to be done more quickly. There is still some resistance to speed issues, but most is cultural. People are universally accepting the need to move more rapidly to satisfy demand.

Chapter 3

Good managers should look for bad news, not deny it. They should create an environment where employees are not afraid to give bad news. To turn bad news into good, people first need to analyze the problems. Before organizing meetings to decide what to do, relevant data must be shared among all concerned so that they can come to the meeting fully prepared. There are two kinds of bad news: external and internal. External bad news almost always means customer problems. To deal with these, it is important to collect detailed information as quickly as possible. Access to DNS makes it possible to create "knowledge workers" who can analyze and respond to these problems effectively. A leader's role is to encourage teamwork and knowledge sharing, and to reward those who do this well. Internal bad news will most often

relate to production problems. Again, a good DNS can develop employees into "knowledge workers", released from routine tasks and able to respond to problems when they arise through access to the information they need. In modern organizations, employees at all levels should be neither bored nor work in isolation. In the digital age, managers need to make knowledge workers out of every employee.

Chapter 4

Three important areas in which DNS can increase efficiency are Health Care, Government, and Education. Traditionally, health care has been highly inefficient in handling information. Too often, doctors treat patient files like business records and are unwilling to share information. At the administrative level, DNS can cut down the huge amount of paperwork, allowing doctors and nurses to concentrate on their primary roles. All the many interfaces of the health care system can be interconnected so that access to data is available to any health care professional who needs it. The same is true of government. Here, five steps can be taken to simplify unnecessary complications: put all government employees on email; put government services online; attract investment through electronic commerce; remove rules that stop the communications industry from working effectively; improve the skills of citizens by using information technology at all levels of education. Doing all this will also reduce costs enormously. In education, PCs are now being used as a powerful learning tool. Emails between colleagues also helps to prevent the isolation a lot of teachers feel. Despite this, more needs to be done. The infrastructure of schools can be used to benefit the whole community through such things as information technology training for citizens on school premises. More also needs to be done to make PCs available to all pupils not just those that can afford them: through family contribution schemes supported by local businesses and community organizations to help the very poor. The goal is to establish connected learning communities in which everyone is involved.

Chapter 5

Business leaders of the future will succeed by using information technology to change how their company acts. They will use DNS to get rid of paperwork and simplify routine tasks; they will create "knowledge workers" with constant, easy access to data; they will move



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from a top-down style of management to giving employees individual responsibility. The digital age has its problems of privacy and security. But these can only be solved by joining the digital age enthusiastically, not hiding from it. All citizens should join the discussion about digital technology and make sure it is used to reflect the kind of society they want to create.

Background and themes

Microsoft has grown from the idea of a drop out from Harvard into one of the biggest corporations in the world. Its stranglehold on the computing world through the Windows operating system is often criticized and Bill Gates has been accused of wanting to control everything that happens in the world of technology from his Seattle base. But in this book, Gates argues that control from the center cannot work. As he says, it has been said for centuries that knowledge is power, but, according to Bill Gates, that power is only realized when the knowledge is shared rather than kept as a secret. All good managers know that true control in business involves finding out what is happening or has just happened and taking corrective action if necessary. In the book, he argues that the digital age has brought real time information about production and sales within reach. Furthermore, the power of smart analysis software means that knowledge workers can be given the high-quality data in real time that enables them to do what they do best—work out a solution to any problem which currently exists—rather than wade through a mass of routine data to find out what the problem actually is.

Discussion activities

Before reading

- 1 **Discuss:** Ask students to work in small groups and discuss the following:
 - a *Business @ the Speed of Thought* was first published in 1999. Its main theme was the importance of being able to gather information as quickly as our minds respond to the things around us. Has information technology achieved this? What problems remain? Give examples.
 - b Bill Gates uses the term: *digital nervous system*. What do you think this means? What are the practical implications?
 - c Is it better to share knowledge, or keep it secret? Discuss the advantages and disadvantages, then vote as a group for the way of handling knowledge you prefer.

Introduction

Before reading

- 2 **Guess:** Have students think about the following: *Microsoft has been described as “the world’s most successful software company”. But it wasn’t always successful. What was its biggest crisis? When did it occur? How did Microsoft manage the problem?*

After reading

- 3 **Check:** Have students check what they have learned from the Introduction: *What facts have you learned about Bill Gates’s life? Draw a time-line showing the main events in his career.*

Chapter 1

- 4 **Guess, discuss and check:** Ask students to discuss the following: *What are the five basic questions an information system must provide answers to for a business to be successful? Can you guess what these questions are? Discuss them with your partner and make a list. Check your answers as you read Chapter 1.*

While reading

- 5 **Discuss:** Stop reading at the end of paragraph 2, page 9. Pages 8 and 9 talk of the importance of getting information easily and the need to share it with anyone who needs it. Have students discuss the following: *Is this always a good idea? What do you think?*

After reading

- 6 **Research:** Using the Internet, research three companies to find examples of how they have used the author’s idea to improve their business. Examples could be: transferring routine from paper to digital form; giving product information which is easy to understand; providing electronic links to related areas, etc.
- 7 **Role play:** Have students work in pairs. *Student A* is a Microsoft Personnel Manager and *Student B* is a job applicant.
 - (a) The applicant asks questions and the manager explains the system, taking the information from page 17.
 - (b) The same Personnel Manager and the applicant after he/she has been offered a job. Now the manager explains what happens next, taking the information from pages 17 and 18.

Chapter 2

Before reading

- 8 **Predict:** Have students predict the following: *Can you think of five technological changes that modern industry will have to face in the future? The author mentions ten. Make a list and compare it with your partner’s. How many were the same as yours? Now check with the book when you read.*



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After reading

9 Discuss: The author talks about the different ways in which “the Internet has changed everything”. Divide the class into two groups.

The first group should argue that these changes have been positive.

The second group should argue the opposite.

Encourage the groups to use examples from the text and other sources to support their opinions.

10 Group work: Put students into groups of four. Each student must research a different part of the section entitled *Get to market fast*, make notes and report back to the group on how his/her company met the challenge of the section title.

Student A: Read again about the American car industry and Ford in particular (pages 49 and 50)

Student B: Read again about Intel (pages 50 and 51)

Student C: Read again about Banco Bradesco (pages 51 and 52)

Student D: Read again about Compaq (pages 52 and 53)

Chapter 3

Before reading

11 Guess, check and discuss: Tell students to discuss the following: *There are three ways to manage bad news.*

First, you can hide from it.

Second, you can deal with it when it comes.

Third, you can actively look for it.

Which way do you think the author recommends?

Later, check with the book. Do you agree with the author? Discuss with your partner.

After reading

12 Role play: Divide the class into groups of four. Each member of the group works for a company that is a little old-fashioned in the way it thinks. It has always had a good reputation for reliable employees, and a solid customer base. However, last year's sales figures were slightly lower than normal and there are signs that competitors might be gaining an advantage. The executives of the company have called a meeting. Have students choose one of these roles and discuss the best way forward for the company.

Role 1: You are modern-minded and anxious to make the best of all technology has to offer. In the past, not enough information was shared in the company. You believe this practice must stop and you think it is necessary to create “knowledge workers” in the company.

Role 2: You are very traditional. Your company has a very good reputation which it built up over many years. You have excellent employees who accept that management should come from the top down. Your sales only went down slightly last year and you think this was mainly due to general economic conditions. You see no reason to change anything.

Role 3: You are not very technically-minded and you think that information technology is complicated and only efficient for routine tasks. You think most problems can be solved through meetings to discuss the issues.

Role 4: You work in the production department.

When you have a problem, it takes too long to fix.

If you had more access to the information you need, you believe many of the problems could be solved a lot quicker. Because of this, you would like things to change.

Chapter 4

Before reading

13 Research: Tell students to work in pairs: *Up to now, health care, government, and education are three areas in which systems have been “highly inefficient”. With your partner, find some examples of inefficient practices in these three areas. You can go online to do this. Make a list and present it to the rest of the class.*

While reading

14 Research (continued): Have students work further on the research: *Read carefully about the five major steps government can take to improve efficiency on pages 85 and 86. Has government taken these steps? What do you think? Do some online research to find examples of the ways that things have improved and the way things could be made better. Can you find any examples of inefficient practices? Together with a partner, list your findings and present them to the rest of the class.*

After reading

15 Artwork: What are the ways in which the infrastructure of schools can benefit the whole community?

Have students work in groups of three, design and draw a plan of a technologically advanced school. They should label each area to show how space is being made available to the whole community outside school hours. They also decide what each space will be used for and also the part digital technology will play in their design.

Put on an exhibition of students' designs and vote as a class for the one they think is the best.

16 Group work and Research: Put students into groups of three. Each student must research a different part of the chapter, make notes and report back to the group on how a digital nervous system can work in this area.

Student A: Health care

Student B: Government

Student C: Education



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Chapter 5

Before reading

- 17 **Predict:** Have students work in pairs. They write a summary of the ways in which they think business leaders should use information technology to make their companies more successful. Then, as they read, they compare their ideas with the author's. Is there anything that they disagree with?

After reading

- 18 **Discuss:** Two of the biggest problems facing the digital age are the problems of maintaining privacy and security. In pairs, students answer these questions:
- What are the dangers with information technology that affect our privacy and personal security?
 - Are we becoming more watched and controlled by governments?
 - What can we do to lessen the bad effects of information technology?
- Make a list and discuss answers as a class.

Extra activities

- 19 **Research:** In pairs, have students research, prepare and give presentations about one of the following topics:
- Any young person who has achieved fame and success in a technological field whilst still at school.
 - Downloading: When is sharing information stealing?
 - Ways in which information technology could help solve one important problem facing the world. Examples could include:
Global warming
Fair trade
Natural disasters: floods, earthquakes, etc.
Organized crime

- 20 **Artwork and design:** Have students work in groups of three or four. Their task is to design a web page for their own company. They should consider (among other things):
- Its overall appeal in terms of appearance.
 - How easy it is for customers to get the information they need.
 - Any problems they can predict and answer in a "Frequently Asked Questions" (FAQ) file.
 - Ways of getting and recording customer feedback.
- When the groups have designed their web pages they should exchange them with the other groups. The class could then vote for the one they prefer.
- 21 **Role play:** Ask students to imagine a TV interview between a reporter and Bill Gates about the predictions made in his book: *Business @ the Speed of Thought*.
- Student A:* You are a TV reporter. It is almost ten years since Bill Gates wrote his book. What questions would you like to ask him about what he wrote. Make a list before the interview.
- Student B:* You are Bill Gates. Try and predict the kind of questions the reporter might ask you. How will you respond?

Vocabulary activities

For the Word List and vocabulary activities, go to www.penguinreaders.com.