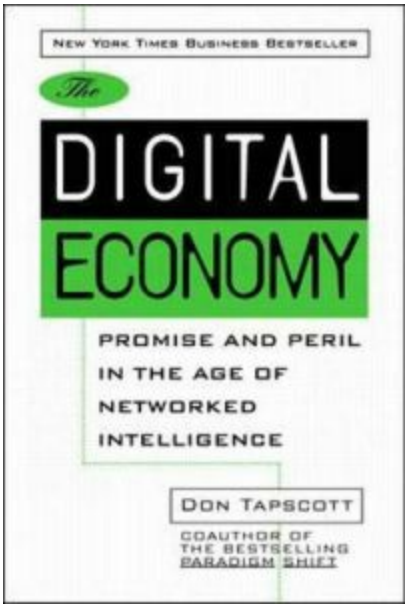

Book The Digital Economy

Promise and Peril in the Age of Networked Intelligence

Don Tapscott
McGraw-Hill, 1997

Recommendation

Don Tapscott provides an overview of the way the digitalization of information is transforming the economy and projects the likely changes ahead from his perspective in 1996. The book suggests ways to exercise leadership effectively in this transformed, networked world. However, since this thoughtful, well-organized book was written several years ago, it is mainly of historical interest now, because of the rapid changes in the digital world. Still, it is useful to apply some of the themes Tapscott developed when you consider how the digital economy is continuing to evolve. *BooksInShort* recommends this well-written book for a general audience as well executives and managers who are interested in the unfolding of the new economy.

Take-Aways

- The Age of Networked Intelligence is dawning.
- This new world is giving rise to a new economy, politics, and society.
- This might be called the "age of sand," since it is based on particles of silicon and glass fibers made from sand.
- The new age is molecular, since old corporations are disaggregating into smaller units, like molecules.
- New technologies make it not only possible, but also efficient, to eliminate the middleman between consumers and producers.
- Immediacy is more important than ever for business success.
- Information is now digitized into bits that can be stored in computers or sent across the globe at the speed of light.
- This transformation offers much promise, but creates many potential dangers, including increased social stratification, a threat to privacy, unemployment of displaced workers, and social upheaval.
- The new economy is networked; individuals and organizations are linked together.
- With networking, small companies can get better access to resources and economies of scale, thus can compete better against larger companies.

Summary

The Rise of the Age of Networked Intelligence

The new "Age of Networked Intelligence" is giving rise to a new economy, politics, and society based on digitalization. As it leads to the transformation of business and the renewal of government, it also enables individuals to "reinvent" themselves. While this transformation offers much promise, it also has many potential perils, such as increased social stratification, the invasion of privacy, unemployment of displaced workers, and social upheaval. The outcome will depend on the way businesses and society act in response to the new technology.

> “A new medium of human communication is emerging, one that may prove to surpass all previous revolutions. The computer is expanding from a tool for information management to a tool for communication.”

Businesses will find their operations transformed much more by the new technology than they ever were by the Business Process Re-engineering (BPR) trend of the early 1990s. Those efforts to make processes more streamlined and reduce costs generally failed. BPR provoked both open and passive resistance, particularly when it led to downsizing. By contrast, the changes provoked by the digital economy will be even more massive, and involve far more than just changing processes to control costs. Companies must commit to using information technology to improve customer service, to become more responsive, and to increase innovation.

> “In the new economy the gap between consumers and producers blurs.”

This new economy is based on digitizing information. In the old economy, information flow was based on physical objects or relationships: cash or checks, face to face meetings, displays of blueprints and maps. However, now all information can be transformed into digital form. This digital information can be "reduced to bits" which can be either stored in computers or sent at light speed through networks across the world. This change is extremely dramatic, "as significant as the invention of language itself." This transforms global business into a "knowledge economy." An increasing amount of the economy’s added value will come through brainpower rather than muscle power.

> “In an economy based on bits, immediacy becomes a key driver and variable in economic activity and business success.”

While it is not yet clear who will build this new information highway, the growing consensus advocates encouraging more competition and less regulation to stimulate private sector innovation and investment. According to this view, national governments should act more as referees to protect the public interest rather than trying to control directly the way the technology develops. The evolution of technology should be left to the private sector.

The Major Themes or Characteristics of the New Economy

You can better take advantage of the new economy if you understand the major overlapping themes that distinguish it from the old one. These are:

1. The new economy is a "knowledge economy." Expect an increasing shift to knowledge work. More and more, the key assets of your company will be "intellectual assets". Take steps to measure and manage this intellectual capital more effectively. Anticipate new, smart products, which contain chips that store information. For instance, chips in clothes and or hardware items can contain information on where and when the item was manufactured, who produced it, and who purchased it. Industry will develop smart houses, roads, cars, tires, radios, TVs, telephones, and other products.
2. The new economy is a "digital economy," in which information is put in digital form as bits. Thus, a great deal of information can be compressed and transmitted at the speed of light. The transmission quality far exceeds that of an analog system.
3. Physical things become increasingly virtual with this shift from analog to digital information. This changes the very "metabolism" of the economy, the types of institutions people develop, and business relationships. For instance, expect the development of virtual business parks, corporations, coupons, government agencies, jobs, malls, offices, stores, and even virtual water coolers, where people participate in on-line chats.
4. The new economy is a "molecular economy." The old corporation is being "disaggregated" and replaced by "dynamic

molecules and clusters of individuals and entities." This will happen in many different industries. For instance, the mass media has become "molecularized" into millions of channels.

5. The new economy is a "networked economy," in which molecules are further integrated into networks. Small companies can now overcome the main advantages of large companies: economies of scale and better access to resources. As larger companies disaggregate into smaller more effective molecules, smaller companies will have the advantage of being more agile, independent, and flexible.
6. Middlemen will be eliminated. This disintermediation will occur because consumers and producers can easily communicate directly, without intermediaries.
7. The computer, communications, and content industries are converging to provide the new economy's infrastructure. This combination will be a $1.5 trillion industry by 2005.
8. Innovation is characteristic of this new economy. As change becomes more rapid, products become obsolete quickly. Companies may need to make some products obsolete so they can introduce new, improved products. Often you will find that customers can't express their own needs, so you must be able to imagine what they might want. You must now "innovate beyond what your markets can imagine."
9. Another theme is "prosumption," in which the gap between consumers and producers is blurring. This happens as consumers provide more input into the production process about what they want. Thus, you must establish procedures to learn more about the needs and tastes of your customers, so you can respond accordingly.
10. Immediacy is critical because the new economy is based on "real time enterprise." The economy can now continuously and immediately adjust to changing business conditions based on new information. You can make use of this by setting up an electronic data interchange (or EDI) with your suppliers or those you supply. Be prepared to change what you produce almost continually. For instance, consumer electronics products typically have a two-month life span.
11. The new economy is global. More and more, you need to develop alliances with other individuals and companies, conceivably anywhere in the world, since old boundaries are becoming obsolete. Information technology greatly expands the possibilities for collaboration.
12. Discordance is unfortunate but inevitable, since these revolutionary technological and economic changes are beginning to create great conflict and upheavals. The split between haves and have-nots is growing, in that only those workers who have access to the new infrastructure can participate fully in today's social and economic life. By contrast, those who lack knowledge or access will be left out, leading to increased social stratification which could destabilize society.

Adapting to the Growing Digital World

You can adapt your company to this digital, knowledge-based world. You need to create an inter-networked business based on five levels of development. In this new "hierarchy of promise," all five levels work together to succeed based on developing "enabling technologies that improve performance at each level. The levels are:

1. The individual - The individual needs to be committed to performing and learning effectively, perhaps with the help of personal multimedia.
2. The high-performance team - Make your teams more effective through improved business processes and job redesign, and the use of competing work groups.
3. The integrated enterprise level - Achieve organizational transformation by creating an "enterprise info-structure" that permits improved communication.
4. The extended enterprise level - Consider "recasting external relationships" using "inter-enterprise computing" to improve your expanded operations.
5. The inter-networked business - Build on the previous levels to create wealth and improve social development, using the entire "net" to help.

The Growth of Businesses and the Role of the Government

In this inter-networked world, more and more businesses are going digital and more and more networking opportunities are possible. For example, health care might be transformed on the individual level by using personal multimedia, including 3D visualization tools, to permit doctors to diagnose illnesses. At the work group level, new possibilities have developed for high-performance health care teams, with access to better information so they can better provide health care. On the integrated enterprise networks, integrated

health care delivery systems can be developed, and at the extended enterprise level, community and regional networks can link hospitals. While this may be a prototype, health care could put this program into immediate action to offer better quality care and better managed costs.

> "In the new economy the key assets of the organization are intellectual assets, and they focus on the knowledge worker."

Inter-networking is already happening. For instance, Federal Express has used the power of networking to create a tracking system that its employees and its customers can use to follow the progress of a package. Customers can also use their networks and enter their own data to request a pick-up, create their own shipping label, and arrange billing. This approach not only contributes to customer satisfaction, but reduces costs by cutting the time FedEx employees have to spend doing the work.

> "The new age could be aptly dubbed the 'age of sand.' The affairs of commerce, business transactions, human communications, and the insights of science are all reduced to charges on particles of silicon or racing through glass fibers - both derived from sand."

Still other digital businesses are based on creating ideas, designing new products, setting up new sales systems, and manufacturing customized components for products. This endless potential is made possible by the power of connectedness and computing in the digital age.

In turn, governments around the world will have to adapt. A growing number of people are calling for "better, cheaper government," and are showing a deep lack of trust in government. Increasingly, people feel that "government doesn't work" and want government to be reinvented, to offer better controls, accountability, and responsiveness. Government itself can use electronic systems to become more cost-effective and to respond more quickly to citizens. The government can also provide more information on-line, so citizens can be better informed about what their government is doing.

Exercising Leadership in a Digital World

To succeed in this digital world, be more of a leader than a manager. This means being responsive to change. Be ready to develop a vision of how your organization will respond to this transformation. Such leadership doesn't necessarily have to come from one individual or one corporate entity, in line with the more traditional way of thinking of leadership. Rather, in the future, expect vision to become increasingly "achieved and transmitted collectively." Technology is creating "whole networks of human intelligence and new knowledge power" within corporations as people work together in new ways to transform both themselves and their organizations.

> "Middleman functions between producers and consumers are being eliminated through digital networks. Middle businesses, functions, and people need to move up the food chain to create new value, or they face being disintermediated."

Exercise leadership in this new environment six key ways:

1. Look for paths to "take control of your own destiny" and shape your own future.
2. Become a leader for learning; help others learn.
3. Participate in collective leadership activities; develop strategies collectively.
4. Use digital technologies and computer networks to communicate with and guide others.
5. Involve your CEO. Inter-networked leadership is incomplete unless the CEO is involved.
6. Learn to use the new technologies yourself, including getting on the Net.

About the Author

Don Tapscott chairs the Alliance for Converging Technologies, which conducted a multimillion-dollar investigation into the information highway and its impact on business. He consults, speaks, and writes on information technology. He is the author of the best-selling *Paradigm Shift* and three other widely read books. He is also president of the New Paradigm Learning Corporation, a consulting firm specializing in helping organizations manage the transition to the digital economy.