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growing up digital

The Rise of the Net Generation



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Author of the International Bestseller
The Digital Economy

Growing Up Digital

Other Books by Don Tapscott

Paradigm Shift: The New Promise of Information Technology,
cowritten with Art Caston

*The Digital Economy:
Promise and Peril in the Age of Networked Intelligence*

Who Knows: Safeguarding Your Privacy in a Networked World,
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meaning that companies will have to give products and services away and find new models for retrieving revenue. They will also want to purchase any commodity, such as grocery staples, online. The new formula will be N-Gen + the Net = electronic commerce. The Net is becoming a new medium for sales, support, and service of virtually anything, as tens of millions of Net-savvy purchasers come of age.

All this spells trouble for the brand as N-Geners send their smart software agents onto the Net to select everything from cookies to cars. The experience with the N-Gen to date indicates that advertising may be turned on its head as well. This should change our thinking regarding what it means to be a retail company, as every company can directly reach N-Gen customers through their media.

If we listen to the N-Gen, we can learn what products and services will be successful in the future—from financial services to real estate.

Growing Up Not Digital

In *The Digital Economy*, I discussed the issue of a digital divide. If left purely to market forces, the digital economy could foster a two-tiered society, creating a major gulf between information haves and have-nots—those who can communicate with the world and those who can't. As information technology becomes more important for economic success and societal well-being, the possibility of “information apartheid” becomes increasingly real. Such a “digital divide” may mean that for many children *N-Gen* means *Not-Generation*.

For example, in the United States there is a direct relationship between family income and access to computers and the Net. This correlation also exists between the higher- and lower-income schools. Some observers argue that this is just a temporary problem, but our research shows that the digital divide is actually widening, not disappearing. As the new technology trickles into poorer neighborhoods and schools, the better-off children are leapfrogging others—getting not only better access, but a wider range of services, faster access, the best technology, and, most importantly, increasing motivation, skills, and knowledge. This not only exacerbates the fluency gap but also the gap in different economic classes' capacity to learn and to have successful lives. Have-nots become know-nots and do-nots.

The widening digital divide also correlates with a growing wealth gap in the United States. Recent trends show a severe bipolarization of wealth in which the top 20 percent of households—those worth \$180,000 or more—have 80 percent of the country's wealth. The top 20 percent of households command a 49 percent share of total income earned in the United States. Their income has grown by 20 percent in the past 10 years versus a 1 percent growth among all households. This skewing of income and wealth is happening faster in the United States—the leading new econo-

“one-size-fits-all learning.” New technologies are increasing not only intellect but the amount we can teach our children, and also how much they retain. This issue is investigated further in the chapter on N-Gen learning.

Having said this, the first three years of life are the most important in terms of the development of intelligence, and the digital media is currently used very little by this age group. As the technology matures, we can expect that even very young children may begin to benefit.

Spatial Orientation

Children develop a number of *spatial operations* at different stages of development. These deal with distance, directions, and the relationships between objects in their world. How is this process affected when the children participate in a virtual world?

When psychologists discuss *spatial orientation*, they are referring to operations on the immediate environment. There is no evidence that this is different for N-Generations. While N-Generations understand the basic operation of spatial distances, as did previous generations, they appear to lack appreciation of global distances. They may be the first generation with a truly global perspective. The world to them is (to use a term of Nicholas Negroponte) “the size of the head of a pin.”¹⁴ My daughter happily chats with people from anywhere on the planet as if they were next door, oblivious to the question of where they are.

Someone who has been very close to these kids over many years is Coco Conn, director of the project Cityspace. Coco has been working with N-Generations to help them create virtual cities. Cityspace confronts children with the task of cooperatively building environments—creating virtual streets, buildings, rooms, even furniture. To do this, they must negotiate with other children from multiple locations. They must collaborate regarding the ownership and use of material that they can’t hold or touch. In the non-cyberworld, whoever is holding the doll or baseball largely controls how that object is used. But the virtual objects of the cyberworld require kids to develop more sophisticated negotiation skills and a clearer understanding of the concept of ownership. As children begin to work in such environments, their concept of space and distance change, to name a few.

“The United States is insular, and children know very little about the cultures of other countries. The Net will change this,” says Coco. “It will allow the kids to navigate to other countries and spend time with non-American kids. It will create a different matrix in their minds of the world.” She describes how adults picture the world as a big ball with other countries being far away, and to get to another country you have to get on a plane and fly there. Adults write-off large parts of the world because we can’t imagine ourselves actually ever going there. In this generation’s mind, the grid will be much different, with them understanding that decisions they

- Jupiter Communications. *The 1997 Online Kids Report*.
- Katz, Jon. *Virtuous Reality*. New York: Random House, 1996.
- Kinder, Marsha. *Playing with Power in Movies, Television and Video Games*. University of California Press, 1991.
- Kraut, Scherlis, Mukhopadhyay, Manning, Kiesler, et al. *HomeNet: A Study of Electronic Communication by Families and the Transformation of Home Computing*. Human Computer Interaction Institute, Carnegie Mellon University, 1996.
- Loftus, Geoffrey, and Loftus, Elizabeth. *Mind at Play*. New York: Basic Books, 1983.
- Martin, Chuck. *The Digital Estate: Strategies for Competing, Surviving, and Thriving in an Interneted World*. New York: McGraw-Hill, 1996.
- McLuhan, Marshall. *Understanding Media: The Extensions of Man*. Toronto, Ontario: The New American Library of Canada, 1966.
- Mead, G. H. *Mind, Self and Society*. Chicago, Illinois: University of Chicago Press, 1934.
- Miller, Eric. *In the Shadow of the Baby Boom*. New York: EPM Communications Inc., 1994.
- Miller, Riel. *Measuring What People Know: Human Capital Accounting for the Knowledge Economy*. Paris, France: OECD Publications, 1996.
- Moore, James F. *The Death of Competition: Leadership and Strategy in the Age of Business Ecosystems*. New York: Harper Business, 1996.
- National Center for Education Statistics. *A Back to School Special Report: The Baby Boom Echo*. August 1996.
- Negroponte, Nicholas. *being digital*. New York: Random House, 1995.
- Papert, Seymour. *The Children's Machine*. New York: BasicBooks, 1993.
- Papert, Seymour. *the connected family: bridging the generation gap*. Atlanta, Georgia: Longstreet Press, 1996.
- Perelman, Lewis J. *School's Out*. New York: Avon Books, 1992.
- Piaget, Jean. *The Construction of Reality in the Child*. New York: Free Press, 1954.
- Piaget, Jean. *The Language and Thought of the Child*. New York: Harcourt, Brace & World, 1959.

- Tapscott, Don. *The Digital Economy: Promise and Peril in the Age of Networked Intelligence*. New York: McGraw-Hill, 1996.
- Tapscott, Don, and Caston, Art. *Paradigm Shift: The New Promise of Information Technology*. New York: McGraw-Hill, 1993.
- Tapscott, Henderson, and Greenberg. *Planning for Integrated Office Systems*. Toronto, Ontario: Holt, Rinehart & Winston of Canada, 1985.
- Toffler, Alvin, and Toffler, Heidi. *Creating a New Civilization*. Atlanta, Georgia: Turner Publishing, Inc., 1994.
- Turkle, Sherry. *Life on the Screen*. New York: Simon & Schuster, Inc, 1995.
- Turkle, Sherry. *The Second Self*. New York: Simon & Schuster, Inc, 1984.
- Wave 29 Teenage Research Unlimited, Inc. *Teenage Marketing & Lifestyle Update* Spring 1997.
- Wahlroos, Sven. *Family Communication: The Essential Rules for Improving Communication and Making Your Relationships More Loving, Supportive, and Enriching*. Chicago, Illinois: Contemporary Books, 1995.
- Zollo, Peter. *Wise Up to Teens: Insights Into Marketing and Advertising to Teenagers*. New York: New Strategist Publications, Inc., 1995.