

Boomers: The Next 20 Years

Distinctive Frontiers of Technology

Boomers will continue to pioneer distinctive uses of technologies and adopt new technological innovations that meet their needs as they reach later life.

Boomers have been influenced by successive waves of technology throughout their lives. As they grew up, they were shaped psychologically by the threat of mutually assured destruction and the promise of the space race. Boomers were the first generation to grow up as part of a mass television audience, inculcated into popular culture from early childhood. This generation also experienced the emergence of other media including the transistor radio, cable TV, VCRs, and, more recently, mobile phones. Living in the era of Moore's Law, boomers have come to expect that digital technologies will continue to become steadily smaller, more powerful and cheaper. The effects of technology have permeated many areas of their lives. They have participated in blurring the line between media consumers and media producers, and pioneered the personalization of technology for work and for play.

Given their familiarity with adopting and adapting to new technologies, boomers will surely be less technologically conservative as they age than previous cohorts. Their sheer numbers will spur innovations that support an aging population. Boomers will also craft distinctive uses for new technologies and media: their modes of participation will be different from those of younger cohorts, but will interact dynamically with them.

Technology and Independence

The tension between autonomy and community is a deep one in American culture. Boomers' lives have been defined by this tension between individuality and self-sufficiency on one hand and the desire to create and enjoy community on the other. Now they face this tension with the technologies that can support them as they age.

The combination of personal computers and the Internet has put enormous power in the hands of individuals. As entrepreneurs, millions of boomers have made use of these low-cost resources to launch new businesses. As consumers, boomers have actively used online tools to access information and helped to create a vibrant interactive marketplace that caters to their needs. As they age, boomers will utilize technologies to retain autonomy over their own bodies, their mobility, and their lives. They will be particularly attuned to tools that support self-help and that enable extended capacity.

Technology and Community

While technology can isolate individuals from person-to-person contact, the rise of new social media represents a powerful counter-trend. Technology is allowing people to connect, communicate, and collaborate in new ways, locally and globally. As boomers reach later life, they will inevitably find themselves in need of support from others, and technology presents new opportunities to help meet this need. They will connect and reconnect with multiple generations of their families and with friends, professionals, and strangers with common interests. This area is rife with opportunities to facilitate these interactions.

Healthspan: Promises and Costs

Perhaps in no other area has technology had as profound an effect as in health care. It has been the source of dramatic advances in the diagnosis, prevention, and treatment of many illnesses and has contributed greatly to the extension of life expectancy for Americans in the 20th century. At the same time, the "technological treadmill" has been a major contributor to the steady growth in health care expenditures, which now account for fully 16% of GDP and have been projected to reach 20% of GDP by 2016 .

If anything, the pace of change in health care is likely to accelerate further as we begin to see the full impact of advances in biotech, genetic medicine, and stem cell and digital technologies. For example, applications of genomics are making possible the advent of truly individualized medical treatments, while emerging mobile technologies offer the prospect for delivering care whenever and wherever it is needed and to improve management of chronic diseases.

The great question is whether these innovations will further exacerbate the crisis of affordability in health care or will help control costs and improve efficiency in health care services. The perception of these innovations is also key: they run the risk of being seen as intrusive options that impinge on privacy and personal autonomy, despite their capacity to support extended independence.

Boomers: The Next 20 Years is a three-phase study of how baby boomers will age over the coming decades. The first phase mapped boomers' 20-year horizon, identifying seven big stories that will shape their future. The second phase was an ethnographic study of boomers to define ten Action Types that help us understand how different boomers will make different choices as they confront the challenges of the future. The final phase uses these insights to create focused forecasts of the boomers' world.

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Learning On The Job

Even boomers who are not natural early adopters are likely to have been exposed to new technologies at the workplace. Computers have become pervasive in the work environment and at least minimal computer literacy is now a requirement for many jobs. And as more and more resources move online, the benefits of being on the Web have grown more compelling, providing boomers with greater incentives for getting online.

“When I first was hired [there was no Internet] as far as we were concerned. But our work environment has changed incredibly over the last 10 years, and we’ve learned by the seat of our pants.”

—Susan P., librarian, age 56

“I’m not too computer literate, except for what I do on my job. And the kids at work helped me maneuver and find what I needed. There’s a lot of resources out there. Not being computer literate and not having a computer at home, I have had to depend on my time at work to use the tool. But the people at work helped—they taught me how to Google. I had never done that before.”

—Mary F., call center worker, age 59

Embracing Change

Many boomers are keenly aware of the scope of changes brought by technology in the relatively recent past and appreciate the benefits offered by technology. They realize that activities they take for granted today would have seemed like science fiction to their grandparents. And they look forward to equally far-reaching changes that will continue to occur for the remainder of their lives and beyond.

“Think about what transportation was like in the 1800s. It would take days to get on a horse and carriage to go to Seattle. So you [would] live in your little town and never know anybody other than the people in your little town. Well, I converse with people on the other side of the planet. It’s amazing, and I think it’s brought the whole world together.”

—Steve B., Web site manager, age 46

“I will always continue to learn. I don’t see myself as not ever [not] learning something new. The Internet and everything is still evolving, and I imagine that I will continue to evolve with it.”

—Cindy E., Web site worker, age 47

Helping Others

In many cases, boomers have been the pioneers in their families in learning about and adopting new technologies. To the degree that previous generations have not felt the need to learn about computers, their boomer children have taken on the responsibility for accessing information and services for them.

“Lots of times I go online to find things [for my mother]. She doesn’t have access or know how to do something like that, so that’s a big help, because I can find a lot of stuff out online . . . I went on to see about how to apply for social security. Then I looked at the differences in mutual funds versus stocks [and] what the interest rates are on CDs.”

—Barbara J.

Business manager and part-time bartender, age 46

A number of powerful external trends will shape the world that boomers will live in as they age.

New Cognitive Horizons

Today, more than half of all adults over the age of 85 suffer from some degree of mental handicap, ranging from mild cognitive impairment to late-stage Alzheimer's Disease. At the same time, neurological research, cognitive enhancements and new measures of intelligence are broadening the spectrum of cognitive experience. In addition to pharmaceutical research, programs on computers and personal devices promise to do for cognitive fitness what exercise equipment has done for physical fitness.

QUESTIONS: How will boomers respond to the cognitive effects of aging? How much influence do they actually have over their cognitive health in later life?

Amplified Individuals

Human reality is being recast in fundamental ways. Individuals are able to extend their biological capacities with powerful new drugs and devices, and their individual expressions are amplified and enhanced in an extended digital world. With the emergence of technologies that can provide better-than-normal performance, the world of people with disabilities is becoming an active zone of innovation that offers potential benefits for everyone. Boomers will benefit from and contribute to this innovation as they get older and experience greater physical challenges and chronic health problems.

QUESTIONS: How much risk are boomers willing to accept in experimenting with new and unorthodox approaches to maintaining their health? How successful will they be in extending their capacity to remain active and independent? Will these enhancement technologies be seen as luxuries for the affluent or mainstream applications that should be available to everyone?

Open Innovation

The power of collaborative, non-proprietary development was first demonstrated in the world of software where open-source software (e.g., Linux and Firefox) and resources (e.g., Craigslist and Wikipedia) have shown that this alternate model can create highly robust and valuable products. This approach has now spread to other areas such as education (open courseware), pharmaceuticals, and consumer products, and is likely to become an even more important source of innovation in the future.

QUESTIONS: How will these new modes of development and production impact the cost of critical goods and services? How readily will boomers, raised with idealistic expectations but also imbued with competitive, capitalistic values, adopt this new paradigm? To what extent will they participate in open, collaborative development of new products that meet their distinctive needs?

Massively Rich Information Environments

Increasingly ubiquitous sensor networks are providing the foundation for an emerging infrastructure that will be able to monitor the world from the smallest to the largest scales. These may be self-organizing networks of tiny sensors that monitor personal health and local environmental conditions. Or they may be large-scale platforms of sensors that use common protocols to support broad surveillance programs. For example, the National Science Foundation has funded creation of the National Ecological Observatory Network (NEON) that will cover the United States to collect data about the impact of urban development, the spread of invasive species and infectious diseases, and climate change on a national scale. These kinds of resources will provide powerful new tools for decision-making but will also raise difficult questions about what information will be collected and who will control access to it.

QUESTIONS: How will these new environments balance the tension between the prospect of empowerment and concern about intrusiveness? How will the availability of entirely new types of information about daily life and environmental conditions impact boomers' decision-making?

Timeline of New Technologies in Boomers' Lives

1945-49

Atomic bomb developed; TV commercially available

Hydrogen bomb developed; Univac (first commercial computer) introduced; transistor radio invented

1950-54

1955-59
ages 0-9

DNA structure discovered; polio vaccine developed; Sputnik launched

ICBMs; color TV; birth control pill made widely available; laser invented

1960-64

1965-69
ages 0-19

Moon landing; first mini-computer; first handheld calculator introduced; first human heart transplant; LSD use spreads

ARPANET (precursor to Internet) launched; first barcoded products introduced

1970-74

1975-79
ages 10-29

Cray-1 supercomputer created; Microsoft founded; Betamax home VCR introduced; Concorde enters service

Space Shuttle launched; Sony Walkman, IBM PC introduced; CNN begins; Apple Macintosh computer

1980-84

1985-89
ages 20-39

First mobile cell phone; Challenger disaster

Netscape browser introduced; Hubble Telescope launched

1990-94

1995-99
ages 30-49

Dolly the sheep cloned; Google founded; Viagra created

Nanotech emerges; TiVo, iPod introduced; Human genome decoded

2000-04

2005-09
ages 40-59

HDTV launched; Toyota Prius; iPhone introduced; Facebook; YouTube founded

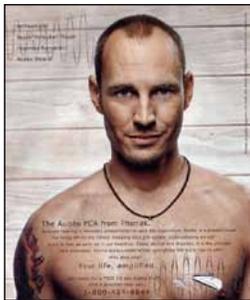
The Extended Body: Intervening in Aging Effects

As boomers begin to experience greater physical and cognitive challenges from the effects of aging, technologies aimed at reducing moderating or even reversing these effects will thrive. These will walk a fine line between appealing to the “forever young” narrative and one that simply seeks to disassociate aging with senescence.

Relying on technology-heavy medicine to extend capacity

While some boomers dive into low-technology diets and exercise regimes for their health maintenance, our interviews were replete with surgeries and treatment regimes developed in boomers’ lifetimes and now considered routine, from heart surgeries to knee implants. Mike Diaz experienced the more extreme end of these interventions, when a university medical center was able to use experimental diagnostics and treatments to halt the progress of a degenerative nerve disease. Elective pharmaceutical and implant technologies are also gaining ground, among boomers such as Bill and Liz Stapleton, who are part of a group of friends who are using hormone treatments to maintain their physical vigor.

Reframing technology to remove the stigma of disability



The inevitability of physical decline with age is not likely to be revoked and boomers will make increasing use of assistive technologies to compensate for a range of deficits. But expect many of these technologies to be redefined and repositioned to lessen their negative connotations and to emphasize their power to extend and enhance boomers’ independence.

The Audeo PCA from Phonak is not positioned as a hearing aid, but as a “sleek, stylish and discrete Personal Communications Assistant” that is “the ultimate tech accessory” for those with hearing loss. It provides, in Phonak’s words, “Your Life, Amplified.”

Seamless integration of new technologies



One of the most promising opportunities in marketing new technologies to boomers is to make the technology itself disappear by being seamlessly integrated into familiar, everyday products and devices. This will allow technology to provide useful functions that compensate for the physical problems of later life without calling attention to itself or to the limitations of users. Many common products will be re-engineered to optimize their usability for aging boomers by providing the ability to monitor a wide range of health functions and other forms of useful support.

NTT DoCoMo, Japan’s leading mobile phone carrier, has developed a line of phones, called Raku-Raku (“simple”), specifically designed for older users. Functions include such things as an extra-bright display, a built-in magnifier to assist in reading small type, and a noise cancelling circuit to improve speech comprehension. The latest model, the Raku-Raku V, includes a built-in step counter and a heart-rate monitor as well as the ability to link wirelessly to external health monitoring devices.

Connecting Anywhere, Anytime

Boomers will adopt technologies for accessing resources and for connecting with others wherever they are. For some this is a purposeful strategy to resequence their life stages, while for others it is merely a new mediation of a traditional role they appreciate and seek to fill. Digital reputation and strong ties of kinship over distance are powerful forms of wealth generation.

Resources go virtual



The power of computing resources already available to individuals is already substantial and will grow even larger in the near future. Before long, the ability of individuals to tap the equivalent power of today's supercomputers will be widespread. At the same time, today's limits on bandwidth will soon seem quaint. (In Japan, typical household broadband services currently offer download speeds of 60 MBPS, compared to about 5 MBPS in the United States.) The result will be the emergence of applications that will provide easy access to a growing range of resources that will lessen boomers' dependence on existing institutions. For example, as work is decoupled from

physical workplaces, boomers will have greater opportunities to keep working while pursuing personal goals.

Carol.com is designed to transform the health care industry through the creation of a true marketplace in which consumers can compare health care services, practitioner credentials, quality dimensions, and costs. The service is currently available to residents of Minneapolis and St. Paul, MN.

Accessing health care everywhere



New technologies are making it possible to deliver health care wherever patients are and at times that are most convenient for them. Increasingly intelligent mobile devices connected to increasingly smaller and more sophisticated sensors are making it possible to provide ongoing monitoring of a wide range of vital functions. Coupled with emerging technologies for "behavioral telehealth," these devices will provide a new platform to help boomers better manage the chronic diseases that they will develop in later life. While current applications are focused on specific health problems, future technologies will provide a broad platform for mobile health management.

3G Doctor is a U.K. start up that allows patients to have a live two-way consultation with a physician over a video-enabled mobile phone. The service is tied to an online health record to facilitate diagnosis.

Lifelong learning: from K to gray



In an information society, no ability is more valuable than the ability to learn. And the importance of learning does not stop with the end of formal schooling. More than 92 million adults take at least one "work related" or "personal interest" class, and one-third of them use some form of distance education.¹ As online education becomes richer and more pervasive, boomers will make use of it to learn new skills to remain employable or for re-careering and to learn about topics that are of interest to them.

Ed2Go provides online courses for more than 1,600 U.S. colleges and universities. More than one million students have taken ed2go courses, and 42% of them are over the age of 48. The company is now embarked on an initiative to attract more older learners.

Supporting Peers, Forging Communities

While studies typically find that boomer's participation in social media is low compared to other cohorts, they often overlook the pace at which their participation is growing.²

Boomers will harness many of these tools and ones yet to emerge to facilitate taking care of themselves and each other. They are forging connections not only with other boomers but with other cohorts as well around common causes of business, crafts, health, and family.

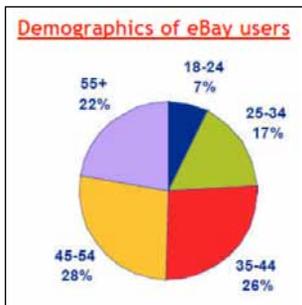
Multi-generation networked families



In an increasingly mobile world, it is not uncommon for families to become widely separated geographically, with boomers' children and grandchildren living across the country or even in distant countries. But communications technologies such as email, instant messaging, and mobile and Internet-based video-telephony are allowing families to remain closely connected through frequent communications. As the costs of long distance communications approach zero, it will become increasingly easy for widely separated family members to share even small details of daily life. (It has been said that being able to get pictures of grandkids is the killer online application for many older adults.)

Kindo is a U.K.-based company that provides families with private spaces where they can communicate with each other and share genealogical information about ancestors. The company has been described as a "Facebook for Families."

Entrepreneurs online



In his book *Free Agent Nation*, Daniel Pink introduces the concept of "E-tirement," which he defines as the use of technology to permit retirees to continue working while enjoying the freedom to travel and to live wherever they wish. In fact, a large proportion of eBay sellers are older adults: a 2005 report from eBay indicated that 50% of eBay sellers are over the age of 45, and 22% are 55 and older.³ Expect Boomers to rely heavily on technology, including options that support remote work and distance learning, to help them remain employed and employable as they reach later life. For example, Trudy Klein, 58, in the Rocky Mountain area, has turned her personal passion for wellness into entrepreneurship as a network marketer and personal coach in wellness and nutrition products. She sells and engages actively with online communities around her business with people across age groups and all over the world.

Building boomer enclaves



There have been a fair number of attempts to create online communities for Boomers and for seniors: SeniorNet, the earliest of these, actually began in the late 1980s (as a pre-Internet service running on a text-only bulletin board) and still is active more than 20 years later. Newer ventures aimed at Boomers include Third Age.com, Eons, Boomj, and TeeBeeDee. None have been huge successes, and the question remains whether simply being a member of the Boomer generation is a sufficiently compelling identity to attract a large number of users (it is also true that attempts to create an "AARP for Baby Boomers" have not succeeded). More likely to be successful are niche communities that focus on the common interests of specific groups of Boomers such as health issues, politics, personal relationships, travel. Still open is the question of whether these will be free-standing communities or sub-groups of larger social networks such as

Facebook, which is attracting a growing number of older participants.

SeniorNet, the longest-running online community for older adults, has been operating for more than 20 years and still is quite active.

About the Project:

Baby boomers are perhaps the most widely studied generation in United States history. Everything about this group has been the subject of scrutiny: their shopping behavior, media preferences, living arrangements, politics, and more recently, their views of retirement and needs for financial planning. Most of these research studies aim to define current attitudes and segment a market that dominates by its sheer size. Few research efforts, however, take a longer view.

How will baby boomers live out their lives over the next two decades—decades when the world will come to grips with unprecedented challenges and innovations? How will they navigate new ecologies of risk, highly politicized foodscapes, emerging sustainability practices, a renaissance of civil society, and a continuing personalization of faith? **Boomers: The Next 20 Years** seeks to answer these questions.

Boomer Action Types:

This project has developed a set of Boomer Action Types: ten different modes of decision-making that define boomers' strategies for seeking meaning and satisfaction in their lives. These Action Types offer important clues to boomers' orientation toward the future.

- 1. Crafting an Environment:** A blend of equal measures of creativity and control in these boomers drives a focus on crafting their personal worlds—and expressing themselves through their crafts.
- 2. Aging Sustainably:** Aging Sustainably means understanding the importance of balance between homes and environments, retirement and finances, and relationships and legacies.
- 3. Forging Family:** For these boomers who focus on forging and maintaining intimate family bonds, family is not just a given; it is something they have discovered and worked for through adversity.
- 4. Serving Faithfully:** As a central precept of their lives moving forward, these boomers follow their faith into service to others. Through service, they create value for their communities, their peers, and to themselves.
- 5. Reinventing the Self:** In a constantly changing world, these boomers adapt by remaking their bodies, interests, and skill sets—perpetual reinvention.
- 6. Rebuilding a Life:** After experiencing significant setbacks, these boomers have designed new paths that may be quite different from anything they had anticipated or planned but offer opportunities for finding satisfaction in unexpected places.
- 7. Powering Through:** What constitutes success may differ, but these boomers are all about success. Their goals are clearly defined and they're determined to achieve them and set new ones to pursue.
- 8. Lost in Transition:** In dealing with unexpected problems, these boomers have lost faith in the goals that motivated them. They are struggling to create a new framework that will provide security and satisfaction.
- 9. Still Questioning:** Work identity drives these boomers, an identity still more in the making than for most. In their quest for something in their futures, they actively distance themselves from their pasts.
- 10. Coming Home:** Returning to the childhood home gives meaning to these boomers. With an instinct for freedom, they are now exploring values of commitment, care giving, and comfort.

SOURCES:

1. Source: NCES 2004–05 Adult Learning Report.
2. Source: Steven King, http://genylabs.typepad.com/small_biz_labs/2008/06/boomers-and-soc.html
3. Source: www.20plus30.com/blog/2005/10/demographics-of-ebay-users.html

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