



# Harvard Generations Policy Journal

## THE AGE *EXPLOSION:* BABY BOOMERS AND BEYOND

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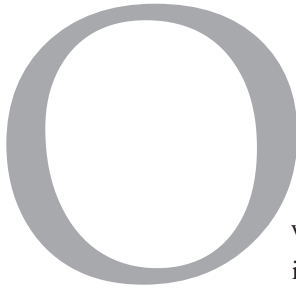
*The Age Explosion: Baby Boomers and Beyond* is a *pro bono* public service publication whose mission is to develop and implement creative, inter-generational national policies that will prepare the country for the aging of its baby boomers.

# Staying Connected: Baby Boomers and the Internet

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Over the last decade, the information and communication landscape has shifted substantially. Today, cellular phones are rapidly displacing the fixed phone line, and—even more importantly—the Internet has profoundly changed how we acquire information and communicate with others. The majority of baby boomers, who grew up with the technology, are now riding this Internet wave. Their access to the Internet is roughly comparable to that of Generation X. How will Internet usage play out as boomers age and make up the majority of retired Americans? And what are the policy implications of their usage?

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## **Boomers on the Internet Bandwagon**

Baby boomers who, in their younger years used the phone for communication and the television for information and entertainment, have made the Internet and other proliferating technology—cell phones, laptops, pagers, and e-mail—integral to their daily life. By contrast, a recent study of older Americans, who have traditionally been reluctant to adopt new technologies, found that only 17.7 percent of households with members over 50 had Internet access, less than half of the average for all households (41.5 percent).<sup>1</sup> And in the 2000

Department of Commerce Report on Internet usage, Americans 50 and older were called the least likely to use the Internet.<sup>2</sup> Many fail to see what value the Internet would provide for them and remain uninterested.<sup>3</sup>

Will boomer usage decline as well as this cohort ages? Or will they maintain their relatively high use of the Internet? An examination of six contributing factors sheds light on these questions and helps explain low usage by the current older generation. These are: (1) the distinctiveness of the current older generation; (2) cohort “effects”; (3) institutional factors; (4) age-associated disability factors; (5) social networks; and (6) perceived benefits and costs of the Internet.

### **1. The Distinctiveness of the Current Older Generations**

The current older generation differs from boomers along a number of dimensions that are associated with Internet usage, most notably education and income. Baby boomers enjoy relatively higher education and income levels than those of current retirees largely due to the post-World War II prosperity in which they were reared.

Within the general population, the difference between Internet usage among those with a bachelor’s degree as compared to those with a high school degree is striking: 40 percent versus 10 percent in 1997, and 80 percent versus 40 percent in 2001. Similarly, the usage rates for those households with income greater than \$75,000 was 79 percent versus 25 percent for those with income less than \$15,000 in 2001.<sup>4</sup> To the extent that education and income are currently driving the gap between older and younger Americans, one would expect boomers to have relatively higher usage rates compared to current retirees.

### **2. Cohort “Effects”**

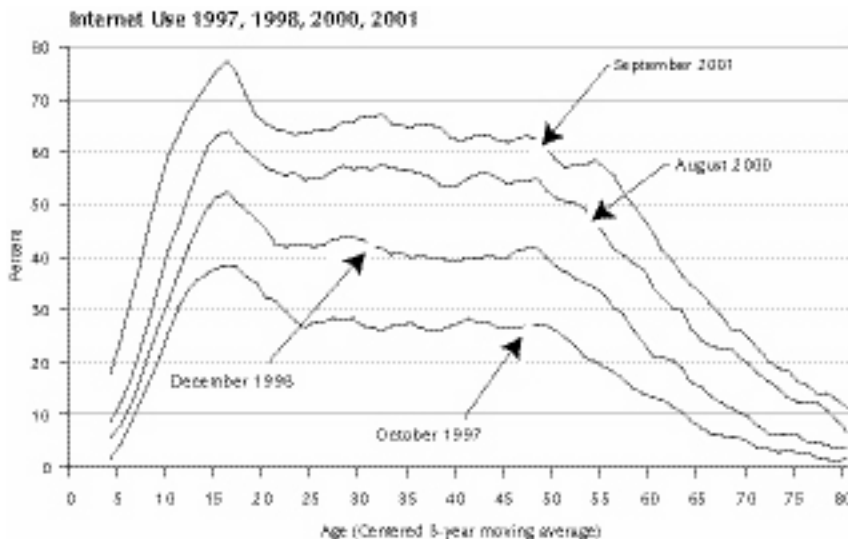
A second force linked to higher boomer use of the Internet and lower use by the older generation may be termed cohort “effects.” Technology adoption is in part a generational effect, where younger generations are “imprinted” with a new technology and where older generations are locked into an older technology. At the extreme version of this explanation, usage increases in a population only as older generations are replaced by succeeding ones.

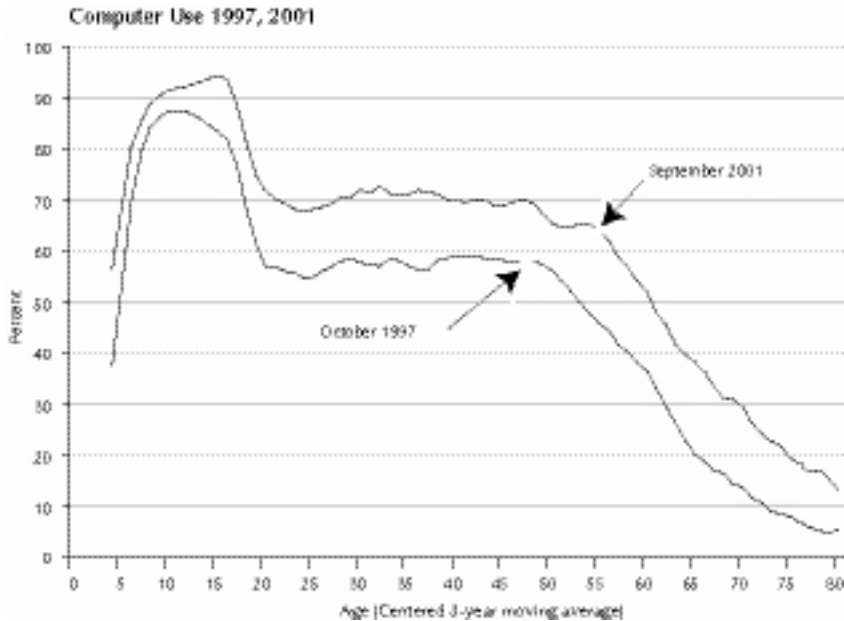
Cohort effects may also be driven by other “pathway” technologies which some cohorts have adopted and others have not. One reason for the rapid

spread of the Internet was the pre-existing diffusion of the personal computer over the preceding two decades. The use of the Internet by those who have a computer at home is vastly greater than by those who do not. Furthermore, although to a lesser extent, the spread of the Internet builds on the body of “techno-knowledge” that has evolved among boomers from use of cordless phones and answering machines, VCRs, cable boxes, the microwave, copying machines, ATMs, electronic calculators, and so on—even though their adoption of the Internet lags behind that of the present teenage generation.

Still, a purely cohort-based explanation for the adoption of the Internet does not make sense, because a majority of adults aged 55 and under use the Internet. Surprisingly, it is also not clear whether there are weaker cohort effects, although it is somewhat early to tell. In Figure 1, the average 16-year-old used the Internet far more than the average 25- to 45-year-old in 1997. However, in 2001, the average now-20-year-old used the Internet exactly as much as the average now-29- to 49-year-old.<sup>5</sup> If there were cohort effects, one would expect that “wave” observed at the teenage years in 1997 (as well as the drop off that begins at around age 50) to move right in subsequent years. Figure 1 does not show such a cohort effect, which suggests that age-correlated factors are not driving the differential use of the Internet.

**Figure 1: Computer and Internet Use at Any Location Age Distribution (3 year moving average), Percent of Persons age 3 to 80**





Source: NTIA and ESA, US Department of Commerce, using US Census Bureau Current Population Survey Supplements

### 3. Institutional Factors

A third force influencing boomer Internet usage involves institutional factors. In its annual report, *A Nation Online: How Americans Are Expanding Their Use of the Internet*, the National Telecommunications and Information Administration (NTIA) points out that the adoption of Internet technology is much higher for Americans within the work force. The overall usage of the Internet by those households where someone in the household uses the Internet at work is 77 percent; where there is no one who uses the Internet at work, the comparable number is 35 percent. Looking at the subset of households where the reference working person is 55 or over, the numbers are only slightly less: 72 percent and 26 percent, respectively.<sup>6</sup> This means that much of the difference between the usage rates of the young and old may be explained by (1) a difference in rates of employment and (2) a difference in the rate of Internet use among those who are employed.

Employment also likely explains the most striking feature of Figure 1: the plateau in usage from approximately age 23 to 53 for all four years in the data. Usage does not change with age despite massive differences between a 23-year-old and a 53-year-old with respect to income, career stage, and age at the birth of the Internet (cohort effects). This is almost certainly due to

the roughly similar labor force participation of 23-year-olds and 53-year-olds, where employment rates begin to taper off at 53.

With respect to the Internet, then, employment is a key variable driving usage. The question that the above analysis points to is how our institutions can adapt in response to the aging of our population and the potential that the Internet creates. It may be that the size of the baby boom cohort, combined with the continued increases in longevity, will result in policies that increase employment rates of older Americans. Employment rates of the 65-plus, we suspect, will increase, driven by choices around Social Security and medical insurance. To the extent this occurs, boomers will continue as avid Internet users. However, without the workplace and in the absence of other institutions evolving to support Internet usage, we would anticipate that usage could be affected negatively.

#### **4. Age-Associated Disability Factors**

Age-associated disability also plays an important role in Internet usage. Disability is associated with lower use of the Internet at all ages. The frequency of significant disabilities (in vision, hearing, walking, typing, and anything that affects the ability to leave the home) increases dramatically with age and can curtail Internet usage.

Disability actually affects Internet usage in two ways, directly and indirectly. Directly, it is related to ability of individuals to use the technology, e.g., there is a prerequisite level of manual dexterity and vision necessary to use standard technologies. Indirectly, it affects participation in the work force, which affects usage, as discussed above.

Currently, for those who are older than 65 without disability Internet usage is 25 percent; for those with a disability, usage is 10 percent.<sup>7</sup> It is unclear what will happen to the relative disability rates of baby boomers in the future. They may decline modestly due to advances in medical technology. Alternatively, the disabled may live longer, resulting in higher disability rates. We suspect, however, there will not be dramatic changes to overall disability rates in the future and that disability will continue to contribute to a gap between older and younger Americans in Internet usage as it does today.

## 5. Social Networks

Social networks present a fifth force influencing Internet use. Social networks tend to magnify the effects of other socially related categories. If people receive information from those that they communicate with, an individual within a group who lacks information will be at a disadvantage relative to an otherwise similar individual who comes from a well-informed group. This tendency is further exacerbated with respect to the diffusion of communica-

tion technologies. For example, the single most compelling Internet application, arguably, is e-mail, and the value of e-mail is roughly proportional to the number of people you know who use e-mail.

One might expect the Internet to spread from (generally young) early adopters of the Internet to older family members, who will find the Internet worthwhile because their children and grandchildren are already using the Internet. In fact, this is exactly what has occurred. A British study on Internet use by older people (55+) showed that staying in touch with loved ones is three times as important as any other use.<sup>8</sup>

In keeping with the pattern of the previous generation, the effects of social networks are likely to continue to play an important role in the use of the Internet by boomers. Boomers' decisions to use the Internet are not always independent. Usage by boomers in fact begets more usage by other boomers and will probably continue to do so.

*Boomers have systematically different perceived needs than older Americans, as well as different perceived costs to using the Internet.*

## 6. Perceived Benefits and Costs of the Internet

Finally, boomers have systematically different perceived needs than older Americans, as well as different perceived costs to using the Internet. On the minus side, many older people fail to see a good reason to get online.<sup>9</sup> Usage studies provide a clue. Unlike the younger boomers, older Internet users tend to shop less frequently online, play fewer online games, and also engage less often in online banking and other financial transactions, in part out of a con-



cern for confidentiality.<sup>10</sup> A study on the Internet use of present-day American grandparents discovered that, while 56 percent of grandparents have access to the Internet or online services, only 14 percent of them shop online for their grandkids.<sup>11</sup> And the 2001 NTIA report sees the current 50+ Internet users as the group least likely to engage in many of the online transaction categories surveyed.

Older Americans may be waiting for the “killer application” that is compelling enough to them to get on line. One can discern some hints of what these killer applications will look like from current usage patterns by older Americans. For two distinct purposes, older Internet users are using the web at least as frequently as their younger peers. The first purpose is to obtain health information online. With a 42.7 percent usage rate, older Internet users are more likely than any other age group to look for health information online.<sup>12</sup> Given the proclivity to develop health problems at higher age, older Internet users see a clear advantage, a value in going online and getting relevant information. Here, the Internet is able to provide a source of information that they apparently find unavailable otherwise. The second, and even more important, purpose is e-mail communication. The 2001 NTIA report reveals that older Internet users e-mail as frequently as young Internet users.

Digital photo and video technology will further increase the appeal of this category. Through media-rich e-mail and similar services, families can share the twenty-first-century version of their Kodak moments. This, it seems, makes all the trouble of going online worth the while of older people. The elderly are at a social/structural advantage, therefore, relative to other groups that remain on the other side of the digital divide (e.g., the poor, certain minority groups): they are more likely to know people who use the Internet. These factors will help keep the boomers connected, too.

Moreover, with the large number of relatively educated and affluent boomers retiring in the near future, it is likely that businesses will attempt to tap into this potentially lucrative market by developing and offering Internet services more custom-tailored to the needs of aging boomers, increasing the Internet’s benefit to them. For example, in June 2003, IBM, the impetus behind [www.seniornet.org](http://www.seniornet.org), a computer education site for those 50+ since 1986, announced the formation of a new team centered on adapting technologies for those with disabilities to aging boomers. These include voice-activated applications, on-screen keyboards, and easier understanding of Web

pages, as well as Webcasts and tools for older employees to facilitate use of corporate software and hardware.<sup>13</sup>

To the extent, therefore, that boomers perceive the Internet as friendlier and more useful to them as their ranks swell in the population of older Americans, their usage can be expected to continue and expand.

### **A Look Ahead: The Internet in 2030**

*The  
technology  
itself . . .  
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to develop,  
improving  
access for older  
Americans.*

Fast forwarding to the year 2030, with the older generation now predominantly comprised of boomers, it is likely that the future gap between the older and younger generations will be substantially smaller than it is currently. However, to the extent that differential employment rates and disability rates between older and younger generations remain, we suspect that a non-trivial gap in usage versus non-usage will last well into the year 2030.

But what about the influence of changes in the Internet itself? What changes can we anticipate? Computers will be vastly faster and band width infinitely greater. The cost of Internet access will almost certainly decrease substantially over the next 27 years as well. Finally, the technology itself, driven by market forces, will continue to develop, improving access for older Americans. These changes, singly and together, should further stimulate Internet usage by boomers and further reduce the gap between older and younger generations.

### **Policy Considerations**

What are the policy implications of the above discussion? We suggest three policy considerations:

1. That massive government subsidies to increase Internet usage among future older Americans are unlikely to produce the most efficient societal outcome for the money spent compared with efforts directed toward other demographic groups of lagging Internet usage.

2. That building institutions of shared learning and training of the Internet for future older Americans is a preferable policy alternative.
3. That, keeping in mind the segment of boomers and other Americans who will remain “un-plugged” to the Internet, government agencies need to be especially careful not to transition access to their services to the online world at the expense of offline access.

Our previous analysis highlights the role of institutions and social networks in which people are embedded—for example, employment settings—in fostering Internet usage. In fact, most of the lower usage rate by the current older population is due to a lack of similarly powerful forces, beyond family, encouraging the use of the Internet when these individuals exited the labor force. This points to the critical role that institutions which are important bulwarks in the lives of older Americans can play in facilitating access to the Internet. Such institutions include not only the government, but also, and perhaps more importantly, religious institutions and living facilities, from assisted living to nursing homes.

We are skeptical that large-scale government intervention would succeed in connecting future older Americans to the Internet. The type of government support that would be useful is suggested by a British study. According to this study, when asked what kind of government involvement they favored, a group of potential older Internet convertees suggested special learning facilities and public access points in libraries.<sup>14</sup> Hence, targeted government activity in these two areas seems to provide the best “bang for the buck.”

Another salient policy consideration is also the least technological one. Many government consumer-related technology initiatives are aimed at making it easier for citizens to interact with government agencies, e.g., by renewing a driver’s license online or submitting one’s tax returns electronically. Such initiatives focus on the front-end interface of the actual bureaucratic process. But even with the boomers’ predilection for the Internet, govern-

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ment must be careful, when venturing online, not to replace or restrict offline offerings. For example, e-government and e-voting initiatives should only complement, but never supplant, offline counterparts.

In the foreseeable future, as a number of older people—along with the poor, the rural, and the uneducated—remain unplugged, government agencies may want to streamline back-end processes rather than focusing on the front-end. It may be more valuable for the society at large to change processes within and between government agencies, but leave the offline interface to the citizens largely in place. Citizens would still gain. Processes would be faster and require less information duplication, yet there would be no danger of being left behind for those not online.

### Maintaining Connection

We therefore anticipate that, as they age and the Internet itself changes, significant numbers of boomers will stay plugged in to the Internet and collectively maintain a higher usage rate than that of the generation that preceded them. It is likely, however, that a number of age-related factors, such as disability, will keep the usage rates of boomers lower than those of following generations and that cohort-driven factors will keep the boomers' use of the next big communication technology substantially lower than that of younger Americans. This, in turn, suggests that structures—such as religious institutions, housing, special learning facilities, and libraries—as well as government policies that support Internet usage but allow for offline choices, will play important roles in keeping the boomers connected online.

### NOTES

<sup>1</sup> US Administration on Aging/Department of Health and Human Services, *A Profile of Older Americans* (2000).

<sup>2</sup> National Telecommunications and Information Administration/Department of Commerce, *Falling Through the Net* (2000): xvi.

<sup>3</sup> Age Concern, "The Use of the Internet by Older People" <[www.sourceuk.net/articles/a02673.html](http://www.sourceuk.net/articles/a02673.html)> (2002).

<sup>4</sup> National Telecommunications and Information Administration/Department of Commerce, *A Nation Online: How Americans Are Expanding Their Use of the Internet* (2002): 1.

<sup>5</sup> *Ibid.*: 14.

<sup>6</sup> *Ibid.*: 59.

<sup>7</sup> *Ibid.*

- <sup>8</sup> Age Concern: Twenty-eight percent use the net mostly to contact family and friends in the UK. Fifteen percent use it to stay in touch with loved ones abroad. Combined, this accounts for 43 percent, almost three times more than the third most stated use—that of checking websites about one’s hobbies.
- <sup>9</sup> A British study found that 41 percent of older people said they lacked the interest to explore the Internet, and 34 percent said they did not see how a computer could enhance their lives. Together, these two are the most important reasons given for non-use, followed by “lack of confidence to use IT” at 8 percent. Age Concern, “The Use of the Internet by Older People,” <[www.sourceuk.net/articles/a02673.html](http://www.sourceuk.net/articles/a02673.html)>.
- <sup>10</sup> NTIA/DOC, *op. cit.*, (2002): 73+.
- <sup>11</sup> AARP, *The Grandparent Study 2002 Report* (2002), 37.
- <sup>12</sup> NTIA/DOC, *op. cit.*, (2002): 32.
- <sup>13</sup> CNET Asia Staff, Special to CNET News.com. “IBM Tech Targets Baby Boomers,” (June 13, 2003).
- <sup>14</sup> Age Concern, *loc. cit.*