

Gran Got Tech: Inclusivity and Older Adults

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Introduction

Forget the cliché of the grandchild helping grandma use her phone. Grandma cannot use her phone because it was not designed for her. Ubiquitous mass-market tools should not present obvious and avoidable hurdles to everyday users. There are immediate usability problems: impossibly small buttons, unreadable text, new control widgets, hidden features, etc. These are things that can and should be quickly addressed. But here, I would like to focus more on the utility and emerging mental models that are seriously side-lining older adults.

Every generation has its own mental models of the world. In Tom Standage's (1998) fascinating book *The Victorian Internet*, he provides several examples of how emerging technology scrambled everyone's way of thinking. Take the introduction of the telegraph. In one example, a mother brought a bowl of sauerkraut to the telegraph office, insisting that they send it (across the wire) to her son on the battlefield. This mother, with good intentions, mixed up the atoms and the bits, which perhaps is understandable if you do not have a suitable mental model. Such is the case today. Many older adults have mental models of things in their world, that is, beliefs about how things operate, that do not align with the design model represented by the system image (Norman, 2013). And that causes confusion and frustration.



Older Adults and the Growing Digital Divide

Even before the pandemic, the digital divide for older adults was substantial. But since the pandemic, these barriers have gotten higher and more serious. Consider the following examples:

- **Online banking:** Trying to make a simple online banking transaction requires solving a CAPTCHA™ (try identifying the fire hydrants with reduced eyesight on a small display!) and multi-factor authentication (MFA), which requires juggling multiple accounts and often two devices. Several layers can include the entry of old passwords and the creation of new ones with seemingly bizarre sequences (to older users) of characters that demand they be included. The net impact of this is that these same customers often go to bank branches for routine services, the very behavior banks are trying to eliminate as a high cost to both the user (in time) and the bank (in expense). The increasingly cashless society in which we live pushes us to use our phones as payment devices. For many older adults, this will not happen as it is currently implemented.
- **On-line portals (healthcare):** As the access to healthcare services increasingly moves online, older adults are directed to make appointments, get test results, and communicate with their providers through an online portal. MFA is often a required step to get access to this portal. Critically, this MFA model requires users to go to another channel (text or email). However, a cursory glance at many older adults' email accounts shows a signal-to-noise problem. My father, for example, has clicked on too many messages he should not have, meaning there is so much spam that deciphering the signal (MFA message) from the noise (spam) is challenging at best. Although broadening access to services online is good for a large segment of our population, it increasingly isolates others who find it hard to understand the interlocking pieces.
- **Electronic ticketing:** I recently purchased tickets to an event for my 92-year-old father. The only means of receiving tickets is via a mobile app. My father can barely make or receive a phone call on his device. The steps to getting mobile tickets—the only option available—are simply beyond his capability: downloading an app, transferring the tickets, retrieving the tickets from email (which he does not have on his phone), and scanning the ticket at the gate. This usability gap means that if he were on his own, he would be excluded from the event because he lacks the technical skill to get the tickets. Paperless ticketing is generally a good trend, but this example is one of many that shows how these experiences can be challenging. We've all had that anxiety of our phone running out of power before we had to show our electronic ticket, but at least most of us can get the ticket.
- **Access to entertainment and smart speakers:** Connecting to a streaming service often requires scanning a QR code. Many older adults fail to understand the concept of QR codes, let alone juggle the devices and complete the multiple steps to activate the services. QR codes can offer great simplicity. Furthermore, most older adults grew up in a world where there were three or four channels on a television set. The array of options today is dizzying. As a result, many platforms offer voice search. Older adults may have more difficulty using voice user interfaces (VUIs) than younger adults. Current VUIs have significant adoption barriers related to communicating with these devices and setting them up with additional hardware like mobile phones (Sin et al., 2022).

As I have shared my observations online about UX and older adults, I have heard from dozens of former colleagues and others who have similar stories to tell. Many of us can identify with how the poor usability and excessive functionality of digital devices and websites put us in the position of being the "help desk" for our elderly parents. This really does not have to be the case. We should strive to minimize the existing friction for successful and enjoyable interactions. More inclusive design for older adults should reduce users' frustration and relieve the burden of support.

It is important to clarify a few things here:

1. I am not saying that older adults cannot learn these things, but often, these functions are occasional or even single-trial events in which there is little precedent from which to learn. Some exposure to similar models makes it more accessible.
2. Many of these functions are implemented for increased privacy, security, revenue protection, and fraud prevention. Most people with average tech skills can manage this despite the friction. The principle behind MFA, in particular, is good. It is just that it presents unique and sometimes substantial obstacles to older users.
3. I do not want to sound whiny or preachy; however, as much as those of us in user experience advocate and design for the intended populations, our lived experiences and preferences creep in, and we design interfaces that we would like to use or are in vogue—often to the exclusion of other user groups like older adults.

Yet despite the friction in these examples, older adults are rapidly embracing technology.

Older Adults Are Increasingly Adopting Technology

Global trends show that older adults are increasingly adopting technology. In the UK, smartphone use has more than doubled, whereas in 2021, 88% of all adults have a smartphone (Uswitch, 2022) in the US, and smartphone use has increased from 25% in 2013 to 53% in 2020 (Pew, 2021). Overall, computer usage is also quite high, with 75% of UK and 65% of US older adults using them (ONS, 2021; Pew, 2021). Similar trends of doubling in less than ten years were also reported in Canada, Australia, and Japan (World Population Review, 2023).

Social media use by older adults has also increased. In the UK, it has jumped from 46% in 2016 to 63% in 2020 (ONS, 2021), whereas in the US, 45% of adults over 65 are reported to use social media (Pew, 2021).

The Pew Research Center (2021) also reported that older adults use the internet to search for the following: health-related items, such as looking up health information (61%), filling prescriptions online (38%), and participating in online support groups (26%); entertainment and leisure activities, such as streaming video (32%), listening to music (28%), and playing games (26%); and staying connected to loved ones, with 61% using video chat or videoconferencing services to communicate with family and friends. Other studies (AARP, 2023) found that over 90% use email, 79% look up information (such as for travel), and at least 70% use the internet to pay bills.

This adoption and usage will only increase as the older adult population increases.

The Population Is Aging

Generally, the population is aging, according to a report from Our World in Data (Richie & Roser, 2019). Some areas, like Africa and South Asia, are not aging as quickly. Still, if we narrow our focus to the more prosperous and large economies, we find that they are almost all increasing in the population of older adults. Predictions point to an increasing percentage of older adults by 2060 in Japan (40%), US (23%), Germany (44%), the UK (26%), and China (30%) (World Population Review, 2023).

All this is to say, as a user group, older adults are a significant part of our user base, and they should be addressed. I see many recruitment screeners from clients, and I am sorry that most of them—even for mass-market products—exclude older adults for no reason other than age.

Why Do We Care?

Older adults want to be online, and they increasingly are. However, as technology becomes increasingly more complex, there will continue to be barriers that may disproportionately affect older adults. Their ability to participate and engage with technology may become more difficult. There are implications for this further exclusion, such as difficulties in financial transactions, access to healthcare, and connection with government and social service agencies, to name a few.

The net result is that older adults, although wanting to use technology to stay connected, may find themselves further isolated if the technology is not usable. That isolation can be in the form of social media, the inability to order food online, or anyway the digital world is moving. Further, there is the risk that their data could be compromised if they fall prey to identity theft or endless phishing schemes. As the world pushes for more digital interaction, we must focus on older adults.

In many ways, the problems of inclusivity for older adults are different from those of other user groups, and in other ways, they have elements in common. There are so many dimensions to older adults when it comes to inclusivity: visual, cognitive, physical impairments, learnability, etc.

The issues are in front of us, and the digital world is moving fast: How do we avoid leaving older adults behind?

What Can We Do?

There is good news about what we can do. We already have the tools we need, although we have not sufficiently applied them to the problems. These are some ideas:

1. **Define older adult user groups.** Market researchers and product managers can do a better job of understanding the user base for their products. Even though there is a general understanding of older adult users, more can be done to quantify both the market size and the market opportunity. It is unreasonable to expect that disposable income, willingness to pay, and brand loyalty will favor brands that design for older adults. This is not only a commercial issue. Governments are increasingly delivering services to their populations digitally. They must stay in tune with the capabilities of older adults to efficiently and effectively deliver those services.
2. **Gain better understanding of the users.** As UX designers, a fulsome understanding of the knowledge, skills, and capabilities (perhaps in the form of personas) would deepen the appreciation for older adults as users. These are tools we use all the time for other groups; we just need to do it more and better as we work toward greater inclusivity. Can we run design or participatory design workshops? In some cases, this might be possible.
3. **Design for radical simplicity.** The desire in UX design is to make things as feature-rich as possible, often at the expense of usability. For example, few everyday devices show more obvious contempt for users, especially older adults, than the TV remote. There are dozens of memes for “grandma’s remote” that take a TV remote with 45 buttons and tape over all but six (power, volume [+/-], channel [+/-], and mute) because “grandma” kept pressing the wrong buttons. It is not her fault the design is out of control. Apple TV, Chrome, and Roku seem to have embraced this with simple designs. But what about other devices? I have tried to put my father’s phone in simple modes on both Apple and Android, but this is still too much. Other so-called senior phones? Nope. Yet there is a market for the simple pocketknife instead of the Swiss army knife.
4. **Be creative about the many points of friction.** For fraud prevention and identity, I do not have a satisfying resolution. The current methods (MFA) are such high barriers to entry that they are the root cause of the lack of inclusivity. Technical solutions are emerging in the cybersecurity and identity space where we might see some breakthroughs. In other areas (such as ticketing), friction is unnecessary. Providing options to print QR codes as tickets should be obvious.
5. **Employ empathy in research.** It is often problematic for us to imagine the difficulties older adults might have without being in their shoes. However, some assistive technologies allow designers to mimic visual or physical impairments (such as arthritis). This technology could enlighten designers during design. For an example, see the University of Cambridge’s Inclusive Design Toolkit: <https://www.inclusivedesigntoolkit.com/>

6. **Do more testing with older adults.** The easiest and most obvious way to see if the proposed designs work is to put them in front of users. If we have done the market analysis and user research, we now must bring them into testing sessions. Getting them to testing may take some effort. Older adults are often not well represented in most recruiters' databases, so even if they are included (required) in the screening, these users can be challenging to get into face-to-face research, not only because of recruitment, but also potentially for mobility reasons. We also see that they may be more reluctant than other user groups. For remote research, there is an inherent selection bias because participants need to be technically competent just to join the session. This requirement may exclude the very participants we are trying to engage. But to be inclusive, we may need to put in that extra effort to get representative users.

The increased use of technology shows that older adults find value and utility in both tools and software. Why are they using this technology? The rest of us use technology for the same reasons: to stay connected, make transactions, and discover new information. The frequency and duration of use may differ across generations, but technology adoption among seniors can hardly be ignored.

As a profession, we sell ourselves as researching and designing inclusively for our users. Yet, we can do much better when developing useful and usable products for older adults. We have good design processes and interface patterns, but somehow the confluence of these things with older adults' skills, backgrounds, and knowledge has yet to happen. This is a call to action to be more inclusive of older adults in our design and research.

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About the Author



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Bob Schumacher is Founder and Managing Partner of Bold Insight UK. He has more than 30 years of experience in UX and human factors research. He has owned and run UX research firms on three continents and helped found the UXAlliance. With a passion for global user research, Bob was editor for *The Handbook of Global User Research* and recently co-authored the book *AI and UX*. He has written user interface standards for electronic medical records for the US National Institute of Standards and Technology as well as standards for voice and graphical user interfaces. He frequently lectures on the latest trends in UX research. You can count on Bob for a good farm metaphor, a single-malt recommendation, a favorite "extreme" cheese to pair with a Rioja, and he knows how to text. Bob holds a PhD in Cognitive and Experimental Psychology from the University of Illinois, Urbana-Champaign. bob@boldinsight.co.uk