Research Article

Older Generation Disenfranchising: A Health and Business Perspective on Digital Portals, Login Friction, and Exclusion

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Abstract

Artificial intelligence (AI) and digital transformation are widely promoted as universally beneficial, promising improved efficiency, security, and convenience. However, these systems frequently overlook a critical reality: not all users are equally prepared to navigate increasing digital complexity. Many suggest this is a significant advancement, but automation, lacking a "real person" to ask questions of or to issue directives to, is a significant obstacle. Older adults face disproportionate barriers that restrict access to essential services, including healthcare, utilities, and financial platforms. Age-related changes in memory, vision, dexterity, and confidence—combined with escalating authentication requirements such as complex passwords and multi-factor authentication—create significant friction and exclusion. Evidence consistently shows that older adults adopt digital tools at lower rates, use fewer functions, and report less confidence in completing common online tasks. These barriers have measurable implications for healthcare access, medication adherence, customer satisfaction, and business performance. This article examines the persistence of the digital divide among older adults, analyzes authentication and portal usability as key drivers of exclusion, and proposes an applied framework for inclusive design. Addressing digital disenfranchisement is not only a public health imperative but also a business necessity as older populations continue to expand in size and economic significance. Improvement is increasing but remains below the ideal level. It is also noted that a significant number of patients do not utilize the electronic domains at all, 57-64%. This would be expected from the more acute patient, aged with many of the main barriers below. 23-29% of this group remain without digital technology devices to use. (SpringerLink)

Key Evidence (2024–2026) continues to contain the main barriers present in prior years.

- Low digital health literacy
- Usability challenges in portals and apps
- Anxiety around technology and security
- Disparities are tied to socioeconomic status and rurality.
- Lacking access or availability to electronic devices

Main facilitators

- Support from caregivers and health professionals
- Training and tailored digital literacy programs
- Technologies designed with older adults in mind.
- Better interface usability and accessibility features

New directions

- AI to support older adults' tech use in user friendly manners.
- Focused participatory design involving older users.
- Emphasis on health equity and inclusive development

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Introduction

Digital transformation has accelerated across every sector of modern life. Healthcare organizations increasingly rely on patient portals; utilities prioritize digital self-service; financial institutions promote online account management; and public services shift toward web-based platforms. While these developments may reduce operational costs and improve efficiency, they also assume that all users can successfully engage with increasingly complex digital systems.

This assumption is particularly problematic for older adults. As individuals age, changes in memory, vision, dexterity, and confidence can make digital systems harder to use. Many older adults become progressively excluded from healthcare, utilities, financial services, and other essential services. This exclusion is not anecdotal; it represents a systemic issue with demographic, behavioral, and business implications.

Background: The digital divide remains—especially for older adults

The term "senior" encompasses a wide range of individuals, often spanning ages 50 to 85+, including those experiencing cognitive decline, limited digital familiarity, disability, or economic hardship. Despite the perception that digital fluency is universal, research consistently demonstrates that older adults lag younger generations in internet adoption, confidence, and independent use of online tools.

Pew Research Center findings show that many adults aged 65+ require assistance learning new devices and lack confidence in performing common digital tasks [1,2]. Friemel [3] similarly confirms that age is a strong predictor of reduced digital adoption.

Older adults tend to go online less frequently, use fewer features, and avoid complex digital tools. This pattern has major implications for healthcare access, customer satisfaction, and service outcomes.

Authentication systems as a primary barrier

Modern authentication systems are frequently designed with an assumption of high digital literacy. Many platforms require users to manage multiple security tasks, including:

- Usernames and account IDs
- Complex passwords
- Multi-factor authentication (MFA)
- CAPTCHA challenges
- Biometric prompts
- Security questions and verification workflows

For many older adults, these features function less as safeguards and more as friction points.

Cognitive load and usability challenges

Login systems require rapid recall, adaptation to inconsistent password rules, and repeated re-learning. These demands disproportionately affect older adults experiencing age-related cognitive changes [4]. Research also suggests that older users often avoid advanced features such as secure transactions or multi-step authentication due to perceived difficulty or fear of errors [5].

In practice, a login page or password reset is not a simple step; it becomes a psychological and functional barrier.

Healthcare access as a critical case study

Healthcare systems increasingly rely on patient portals.

- Access to medical records
- Appointment scheduling
- Provider messaging
- Test results
- Prescription management

These portals universally require secure login credentials.

A recent poll indicates that while many adults aged 50–80 have used a patient portal, comfort and confidence vary widely. Lower-income and underrepresented groups are significantly less likely to use portals effectively [6]. Additionally, older adults with chronic conditions often use digital tools in narrower, more limited ways [5].

A typical portal experience

A common portal scenario illustrates the problem:

"After three failed attempts…the account is locked. A reset email is sent to an address the user rarely checks."

This cycle—complex passwords, lockouts, expiring reset links, and multi-step verification—creates a high-friction experience at moments when healthcare needs may be urgent.

Utilities and essential services: No escape from digital dependency

Utilities such as electricity, water, gas, and internet services have shifted heavily toward digital self-service models. Organizations have:

- Reduced phone support
- Closed in-person service branches
- Implemented automated chatbots.
- Added layered verification for password resets.

For older adults with limited digital fluency or physical

challenges, these systems can feel hostile. Norman [7] emphasizes that poor design often treats user error as the problem rather than the system itself.

Psychological and social consequences of digital exclusion

Digital exclusion is not merely inconvenient—it can affect well-being and health outcomes. Older adults who lack internet use are more likely to experience loneliness and psychological distress [8]. Anxiety, technostress, and fear of making mistakes further reduce engagement [9].

This exclusion contributes to measurable outcomes, including:

- Reduced patient engagement.
- Lower satisfaction
- Higher churn and service switching
- Negative word-of-mouth
- Poorer medication adherence

From a business perspective, these outcomes directly affect cost, loyalty, and service quality.

Why businesses overlook older adults

Several forces contribute to organizational decisions that unintentionally disenfranchise older users.

Efficiency and cost reduction

Digital transactions are cheaper than staffed support. However, provider efficiency does not equal user accessibility.

Assumptions about universal adoption

Broadband access does not guarantee digital fluency. Age, education, income, and physical ability still shape adoption [2,3].

Security over usability

Security teams often prioritize complexity over accessibility, unintentionally excluding vulnerable users.

Design blind spots

Systems are often built for an "average user" assumed to be digitally fluent. This is a design failure, not a user failure [4,7].

Older adults as a valuable market segment

Older adults are economically significant and represent a growing share of the population. Many have:

- Stable incomes
- Consistent bill payment patterns
- Long-term provider relationships
- High lifetime value

Excluding older adults is not only inequitable but also a business risk. Consequences include:

- Increased call-center volume
- Reduced digital engagement.
- Switching to more accessible providers
- Negative influence on peers and family networks
- Worsening health outcomes

Demographic trends confirm that this population is expanding [10,11].

Evidence on adoption and barriers

Older adults' adoption of digital health and public services depends heavily on:

- Perceived usefulness
- Confidence
- Availability of support

—not simply internet access [12-16].

Key barriers include:

- Vision, dexterity, and cognitive challenges
- Anxiety and fear of errors
- Cost of devices or broadband
- Lack of tailored training opportunities

These systemic barriers strongly influence whether older adults engage or disengage from digital systems.

A framework for reducing digital disenfranchisement

A practical approach to reducing exclusion should include multiple parallel strategies.

Provide multi-modal access

Digital platforms should not be the only access channel. Organizations should offer:

- Phone-based authentication support.
- SMS codes without app navigation complexity
- Assisted login workflows.
- Offline service alternatives when needed.

Simplify authentication

Reducing cognitive load improves usability without eliminating security. Options include:

- Passphrases rather than complex passwords

- Biometrics (with informed consent)
- One-time PINs delivered by phone
- Contextual risk scoring rather than universal MFA.

Design for accessibility

Older users benefit from:

- Screen magnification compatibility.
- High-contrast themes
- Voice input support
- Large clickable areas
- Reduced clutter and simplified layouts

Invest in training and support

Organizations should partner with libraries, senior centers, and community groups to provide guided training and digital coaching.

Collect and act on feedback

Organizations should track:

- Drop-off points
- Error-prone screens
- Failed authentication workflows

And use this data to improve design and retention.

Conclusion

Older adults are not a monolithic group. Many want to be digitally empowered and will adapt with the right support. However, assuming they will "catch up" without intentional design is exclusionary.

Security without access becomes exclusion, and modernization without inclusiveness becomes discrimination.

Addressing these issues is not charity; it is essential for long-term business viability, customer loyalty, and equitable access to healthcare and essential services. Older adults

It remains up-to-date information from studies 2023 -2025, that engagement of seniors remains lower than that of younger adults, estimated at 42% participation.

Studies have shown that **telehealth care can reduce overall healthcare costs by about 10% - 15%, particularly in areas like post-operative care and virtual consultations https://pmc.ncbi.nlm.nih.gov/articles/PMC12659148/?utm_source=chatgpt.com

A review focusing on telehealth in geriatric care found cost reductions of approximately US $223 to $3,846 per event/visit. These cost savings are most likely realized by older adults who can engage with digital health platforms effectively https://pubmed.ncbi.nlm.nih.gov/41299270/?utm_source=chatgpt.com (2025)

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