

Barriers and Impacts of Technology Use Among the Elderly

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Introduction

The incorporation of a more virtual and technological world can go several ways pertaining to the way the elderly feel about it. Some of the elderly may find the inclusion of technology in their everyday lives fascinating, as a way to connect with people online, for example, using a simple application like Facebook. However, the elderly that were introduced to a world where technology was quite limited may find it harder to grasp onto the current trends in the excessive uses of technology; like in online shopping or self-checkout machines at grocery stores. Creating user-friendly technology is significantly important for businesses/facilities and they should consider all people of every class to ensure a satisfactory experience for all of their consumers. Specifically, we hope to get a better understanding of how to ensure that the elderly are able to fairly access and navigate through new technology easily with limited prior technological skills in order to encourage them to join the current virtual world.

Literature Review

With the evolution of technology over the years, it is important to realize that there are still some barriers that need to be overcome, especially when it comes to the elderly. According to Niehaves and Plattfaut (2014) there is “as much as 84% of the variance in technology adoption among the elderly” (p. 708). With such a high variance of reception towards newer technology it is important to look deeper at the factors as to why this is the case. More explicitly, the elderly can fall under the impression that they do not have the ability to use technology simply because they don’t feel confident while doing so. The elderly also struggle to find the reason why they would need technology when they have lived through life without it already. Security and privacy are another barrier that the elderly can struggle with when it comes to the

comfort of using new technology products. These challenges can all cause the lack of usage of technology from the elderly and exclude them from several activities that they wish to be a part of.

Considering the thoughts of the elderly with the adoption of new technology, a range of perspectives have been discussed. For example, elderly participants specifically explain when they don't think technology is needed, "'When I don't need it, when it is too difficult to understand, and when I just don't want to.' Another participant responded, 'There are times the old fashion way makes more sense. Easier to do it [the] old way versus learn new [way]'" (Fausset et al., 2013, p. 55). From this, it can be comprehended that the elderly become discouraged to find the need to bother using technology when they feel like it is too difficult to use and lose confidence in trying and not figuring it out. This is significant because something like creating tutorials on how to use specific technology products could be useful to the elderly. Relevantly, at one of the community service sites, Alzheimer's San Diego, a series of tutorial videos are being created for the elderly that contain the steps of how to navigate through the organization's website. This can encourage elderly clients to participate in some of their events and activities and allow them to feel like they can be a part of the community too.

With the elderly increasingly joining the online community, privacy and security concerns have also remained present. One participant in the panel was asked about the use of a specific technology and their concern with privacy and they responded with, "When you get Uber, if you don't log out and sign off each time, they know where you are all the time. I don't like that." When asked if they planned on continuing to use Uber, their response was "No, I don't" (Frik et al., 2019, p. 5). This particular participant is mitigating the risk by choosing to

avoid the technology all together. There were many other misconceptions and uncertainties about technologies among the elderly participants which in most cases was tied to usability issues.

Some suggestions for the technology developers is to be more transparent, and design security and privacy controls that account for these misconceptions and uncertainties among the elderly in order to instill more confidence going forward with emerging technologies.

Research Question

How can organizations increase elderly adoption of their technology resources?

Research Design

Interview Questions

1. On a scale of 1 - 5 how likely are you to use new technologies (like social media, online shopping, online counseling)?
2. How confident are you in using technology for searching the Internet or navigating through websites?
3. Which new technologies have you found most helpful in your life?
4. What do you dislike, if anything, in technology that could make you hesitant to use it?
5. What are some ways that you think would help you feel more comfortable using newer technology?
6. What do you think those who lack “computer skills” miss out on the most in the online world?
7. How would you like organizations to facilitate you when it comes to using newer technologies and accessing up-to-date information?

Target Audience

The target audience for this research will be focused on ages 65 and older. The goal is to find individuals with various backgrounds of using technology to see if there are any similarities in the interviewee's responses. One of the interviewees will be found from one of the service organizations discussed below, while the others will be found outside the organizations.

Interview Format

The interviews will all be conducted using Google forms. This gives the individuals more time to consider their responses. Also, the volunteers are working mainly remotely so it is more efficient for both sides. It is planned to have all interviews done by Monday, October 3 in order to give enough time for the interviewers to analyze the data collected.

Service Organizations

The Alzheimer's San Diego organization offers support for the elderly who may be struggling with Alzheimer's or other forms of dementia. Their main mission is described as "Brain Health for All". They are able to provide this support through educating clients in webinars or live classes. These classes can help with educating clients of their conditions and about their diagnosis. They also offer support groups for people with Alzheimer's to join and talk to people who will listen and understand them. With addition to in-person classes and events, Alzheimer's San Diego offers classes virtually and support groups online so that anyone can join. Through the creation of tutorial videos, this organization can greatly influence the elderly to join in. In relevance to this research project, providing the elderly this option to join an online community can be helpful in encouraging the elderly to be a part of online services too. It was found best to interview an elderly person outside of the organization site because the volunteer is

not working directly with elderly clients and more relevant data can be obtained from a person of the target audience.

The Smiles for Seniors Foundation is dedicated to assisting seniors in various aspects of their life. Their mission statement is "To alleviate some of the pressure and fear many seniors have of not having enough to survive or having to choose between medication and rent." Established in 2007, this nonprofit saw a need to assist a group of individuals that were/are being overlooked. Because a lot of seniors struggle to make the leap to newer technology, this nonprofit has taken the initiative to meet their seniors where they are. Whether they want to connect through snail mail, phone, or through their website they accept all forms of communication. Recently they have taken the initiative to upgrade their website to make it more user friendly to make the option of connecting via their website more feasible and appealing. This organization is continuing to learn and improve to make it easier for seniors and sponsors to join forces and make daily life more enjoyable.

My Bucketlist Foundation is a nonprofit organization that serves the senior community utilizing the advancements in technology to assist in their overall well being. The mission statement of My Bucketlist Foundation is, "To encourage movement and companionship for seniors while sharing the value of volunteerism with the next generation." David Evans, the Founder of My Bucketlist uses virtual reality to help the elderly with rehabilitation, stress management, phobias, and exercise. He's currently looking to rebrand and upgrade his website, start a blog, and host a raffle with activities in hopes of spreading awareness about the many health benefits that virtual reality has within the elderly community. In order to gather the most

diverse and accurate sample of data, it's been determined that it would be more favorable to conduct the interview outside of this organization.

Conduct Research

For an interview, a 66 year old elderly woman, Badea Hamdalla, took the role as the interviewee (see Appendix A). Although she is not associated with the Alzheimer's San Diego nonprofit organization, it was determined that she would be an acceptable fit for this interview because she fits the target audience of being an elderly person of 65 or older.. She is also a retired cosmetic company promoter where she spent several years promoting and selling a company's products at malls and conventions. She has only ever promoted products in person and never really used technology to promote these products, but she notices the way digital marketing has taken over throughout the years. With this, her point of view of the barriers and usage of technology in today's world is beneficial and can be helpful data for the topic of this research.

The individual interviewed from Smiles for Seniors Foundation was Andrew Serianni (see Appendix B). Andrew is 67 years old which fits the criteria set for our target research participant audience. He is one of the people at Smiles for Seniors that is the point of contact for many people within the organization. Some of his duties at the organization include answering phone calls, assisting the seniors that are in the program, and fundraising for the organization. While Smiles for Seniors has a website with all the information on it, the main source of contact has been through phone and snail mail. The organization is now implementing a new user friendly website to hopefully help more seniors quicker and easier.

The last interview conducted was from a 72 year old elderly woman, Christy Demond (see Appendix C). She is a retired public school teacher and has made investments over the years

in the stock market and in real estate. Christy is not affiliated with My Bucketlist Foundation's nonprofit organization, but fits the target audience for this research because she's over 65 years of age. Today she manages her portfolios, conducts meetings via Zoom, and uses technology to stay in touch with family and friends. She feels very confident using technology, searching the web and realizes the importance of staying up to date with the latest trends but is very cautious about how and where she makes financial transactions in order to avoid anyone gathering her personal information.

Findings

An assortment of responses were obtained from the three interviews. Common themes were observed between the interviewee's responses, but there were also some differences. Starting off with common themes, it was found that the interviewees provided similar thoughts when it came to their dislikes in technology. All three based their responses off of security issues. More specifically, it was noted that scams and the spread of personal information are what cause them to avoid the use of technology. Another common theme that was gathered from the data was the interviewee's responses to what they felt a person who isn't reliable on technology might be missing out on. Christy's response covers all of the interviewee's points where she states "Missing out on all the information and conveniences that being online has to offer. Such as shopping, email, staying connected with friends and family, news and current events" (Quote from Appendix C). When asked about their perspectives of making technology more accessible to the elderly, a final common theme was found. They all brought up the idea of having tutorial videos to guide them through more difficult technology resources. These were the common themes found amongst the participant's responses.

In terms of differences that were analyzed through the data from the interviews, it was noticed that each interviewee stands in a different position when it comes to their use and reliability of technology. From a range of 1-5, Badea Hamdalla chose 3, Andrew Serianni chose 4, and Christy Demond chose 5. When asked about their confidence in using technology there were a few mixed responses, Badea's varied the most. She specifically claims "Not very confident but I can do a quick google search but need help with something like registering online or buying things online" (Quote from Appendix A). Andrew and Christy were more on the confident side. Finally, when asked for their opinions of what technologies they may find most helpful, there were a variety of responses. In particular, they responded with: Google, Siri, Bluetooth, YouTube, streaming services, email and Zoom. These are the key similarities and differences that were obtained from the interviews.

The use of digital technology has changed how people interact, get news, and shop. With more tasks moving online, there are distinct barriers and obstacles which may prevent the elderly population from accessing the internet and new technologies. How can organizations increase elderly adoption of their technology resources? Based on the interview responses it can be inferred that protecting personally identifiable information, avoiding online scams, privacy, and a lack of confidence in their ability to learn about the technology resources were the biggest concerns and challenges (Appendices A, B, and C). However, given these limitations the respondents were generally optimistic about the outlook of technology and the advantages it offers. According to all three participants, those that lack "computer skills" miss out on staying connected with friends and family. To help facilitate an environment that is more inviting, it was suggested by the interviewees that organizations can do a better job of providing more support by

way of phone, live chat, and readily accessible how-to videos with secure links to help reduce barriers and increase adoption of technology resources within the elderly community.

Conclusions

By looking at the common themes in the data obtained from the interviews, some concerns and ideas lead to possible solutions to the research question. The research topic surrounds the idea of the issue of the limited accessibility of technology for the elderly. Throughout the process of researching, thoughts and recommendations were brought to light and conclusions were made. Prioritizing security, providing detailed tutorials, and showcasing potential benefits to joining the online world were concluded to be some major possible propositions to solve the research question. These points were concluded based off of the findings from the interview data that was collected from a few different sources.

The results of the findings from the interviews helped serve as support for the conclusions that were made. Based on the findings, a few of the interviewees brought up scams and other security issues as the main reasons as to why they avoid the use of technology. With this, the concept of prioritizing security for elderly users on the Internet can be done by securing personal information and limiting the amount of information required. This can be beneficial in helping them feel more secure while accessing websites. Another solution to organizations increasing the elderly's usage of their online resources is providing detailed tutorials. In the interview responses, all three of the interviewees proposed the idea of having tutorials available to them to help guide them through the use of technology. It can be inferred that step-by-step tutorials would be helpful to the elderly's online experience with an organization. The final conclusion that was made focused on the way that the elderly miss out on opportunities and

benefits of technology due to the fact that they have limited knowledge and experience with today's modern technology. Based on the findings, the interviewees felt like they mainly miss out on keeping in touch online, and on other benefits of technology like shopping online or instant news notifications. Creating a more inviting environment could help encourage the elderly to join in on these trends in technology. These ideas are all in favor of advancing the elderly's use of an organization's online resources and other opportunities.

A principle that stood out when reflecting on the data and material found on the topic of elderly adoption of newer technologies was the digital divide. The digital divide can depict a gap between various groups of people. For example, there could be a digital divide between people in different socioeconomic statuses or even between genders. According to the Stanford Center on Longevity, "While many older adults are well-versed in technology, as a group they lag behind younger populations" (Nash, n.d.). By continuing to search for ways to bridge this gap, more seniors have the opportunity to use the resources available to them in newer technology.

Recommendations

In terms of recommendations for future research and action for advancing the elderly's usage of technology resources, a few different suggestions were discussed. These recommendations specifically include considering the cost of technology, providing tools that detect potential scams, and implementing assistive technology all for the purpose of influencing the elderly's utilization of organization's online services. With the elderly community commonly relying on a fixed income, it is important to consider the impact that the prices of technology can have on them. Offering low-cost high speed internet solutions as well as grants to the elderly community is one action that can be taken to bridge the digital divide. It was found that the

elderly community is generally more nervous when it comes to scammers, so providing resources that can identify potential scams could offer the elderly more confidence in the online world. Lastly, there could be more research on the perspectives of the elderly with disabilities to get an idea of how effective assistive technologies are and their direct recommendations to improve them.

It is important to explore how the local and state level can assist in increasing the adoption of technology in the elderly community. As the government agencies and many medical practices are migrating to remote services, elderly people who require healthcare or receive government assistance may have difficulty gaining access to these critical services. Although there is not one answer to bridging the digital divide among older adults, ages 65 and older, there are a few recommendations. At the local level, senior community centers and libraries that have computer labs can assist elders in going online. Additionally, there are non-profit organizations devoted to helping seniors adapt to new technology, stay connected with friends and family, and address any privacy and security concerns. Computers and the digital world, like any new item, can be tough to manage at first. However, it's imperative that the elderly have access to an organization's online resources and can further develop their confidence with technology.

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Appendix A

Interview with 66 year old elderly women: Badea Hamdalla

This interview was organized through a google form. These are the written responses from the interviewee to the questions that were included in the form.

On a scale of 1 - 5 how likely are you to use new technologies (like social media, online shopping, online counseling)?

- She chose 3.

How confident are you in using technology for searching the Internet or navigating through websites?

- Not very confident but I can do a quick google search but need help with something like registering online or buying things online.

Which new technologies have you found most helpful in your life?

- Siri and Google

What do you dislike, if anything, in technology that could make you hesitant to use it?

- It is too hard to understand with a bunch of ads popping up and not knowing if a website is reliable or real or not.

What are some ways that you think would help you feel more comfortable using newer technology?

- Having a tutorial video or write-up of how to do basic things in a website or having a live help chat box on every website.

What do you think those who lack “computer skills” miss out on the most in the online world?

- Being able to communicate online with other people, managing a social media account, and online benefits like finding coupons for shopping.

How would you like organizations to facilitate you when it comes to using newer technologies and accessing up-to-date information?

- I would like a live chat box on an organization's website or a video showing how to use their website or even an area where you can say you need help and be called by phone and be helped quickly.

Appendix B

Interview with 67 year old elderly man: Andrew Serianni

This interview was organized through a google form. These are the written responses from the interviewee to the questions that were included in the form.

On a scale of 1 - 5 how likely are you to use new technologies (like social media, online shopping, online counseling)?

- He chose 4.

How confident are you in using technology for searching the Internet or navigating through websites?

- Very, except when it ask for to much personal information.

Which new technologies have you found most helpful in your life?

- Google.

What do you dislike, if anything, in technology that could make you hesitant to use it?

- There are a lot of scams out there preying on older people. Also all the passwords are a bit too much.

What are some ways that you think would help you feel more comfortable using newer technology?

- more tutorials to access new technology.

What do you think those who lack “computer skills” miss out on the most in the online world?

- Keeping in touch with friends and family, and having the world at your fingertips.

How would you like organizations to facilitate you when it comes to using newer technologies and accessing up-to-date information?

- By phone.

Appendix C

Interview with 72 year old elderly woman: Christy Demond

This interview was organized through a google form. These are the written responses from the interviewee to the questions that were included in the form.

On a scale of 1 - 5 how likely are you to use new technologies (like social media, online shopping, online counseling)?

- She chose 5.

How confident are you in using technology for searching the Internet or navigating through websites?

- Very confident.

Which new technologies have you found most helpful in your life?

- Bluetooth, YouTube, streaming services, email and Zoom.

What do you dislike, if anything, in technology that could make you hesitant to use it?

- I don't like all of the information they gather when signing up for a website. I don't want my personal information getting out there. Also, when purchasing items online I'm very careful to use websites that have a lock in the address bar to avoid my card information being stolen. I don't use my laptop in my public hotspots or hotels because I'm not sure that they are secure and I never do financial transactions on my cell phone only from my laptop at home.

What are some ways that you think would help you feel more comfortable using newer technology?

- Being able to readily access tutorials on any new technology and troubleshooting issues.

What do you think those who lack “computer skills” miss out on the most in the online world?

- Missing out on all the information and conveniences that being online has to offer. Such as shopping, email, staying connected with friends and family, news and current events.

How would you like organizations to facilitate you when it comes to using newer technologies and accessing up-to-date information?

- I really like how-to videos and find that to be the most helpful for me. The organizations could provide secure links to those videos. I also like online live chats.