2019 Technology Survey
Older Adults Age 55-100

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2019 Technology Survey

Older Adults age 55 – 100

Executive Summary

As research and reports continue to surface on the older adult population, the overall lack of detail on the respondents remains consistent. It is standard and accepted to place all older adults age 65+ in the same category, with very little segmentation or identification of differences in life stages. In the category of technology, these two identifiers are necessary to clearly understand at what point in our lives do or will we disconnect ourselves?

Since 2011, Link·age Connect, a Cincinnati, Ohio, based research consultancy (working exclusively with an older adult population), has been conducting research on the technology use among this cohort. While this data is important to key stakeholders in the category, it certainly is not the ONLY source to determine strategy, product development or marketing decisions. The process of aging, along with the complexity of the network around the older adult, play important roles in the decision-making processes, adoption of technologies and the purchasing patterns of older adults. All should be considered and equally studied.

The 2019 Technology Study was completely reformatted (from previous studies in 2016 and 2011) to allow the newer technologies, including smart home, communication and others. It provides updated data on the demographic in terms of their ownership and use of various technologies in the categories of Communication & Entertainment, Safety & Security, and Health & Wellness, broken down in 5-year age increments beginning with age 55. The study was fielded through the entire month of February 2019 across the United States in electronic format only.

With the 50+ population representing approximately 115 million in the United States alone today and the expectation for that number to reach 132 million by 2030 (from the US Census Bureau), it is now more important than ever to understand the older adult consumer. Retailers, service providers and product manufacturers' businesses will depend on knowing and understanding how this consumer thinks, acts, lives their lives and wants to interact with today's technologies.

According to a recent AARP study _2019 Tech & the 50+ Survey_, annual expenditure on technology among the 50+ consumer was $639 Million (November 2017 – October 2018). Based on this number, this category of spend will equate to $84 Billion by 2030. This is a number that should certainly catch the attention of many companies producing these devices today. However, it isn't JUST about the dollars that this demographic is spending, but also about the personality of this consumer.

This report identifies insights and opportunities within the three categories explored that will help companies begin to better understand this demographic and more effectively provide the products and services that meet their needs.

Survey Report & Conclusions

Our Respondents

The total number of people age 55 and older who completed the survey was 1,105. The chart below provides the age breakdown of our respondents who answered the question (n=876).
- 64% Female/36% Male
- 50% Are Married
- 36% Own Their home
- 46% Live Alone

Among our 1,105 respondents, 208 are directly represented by the affordable housing segment.**

*For this study, these respondents (n=208) are residents of multiple campuses in the Greater Dayton, Ohio, geography. The average income of this group is $12,300 annually.
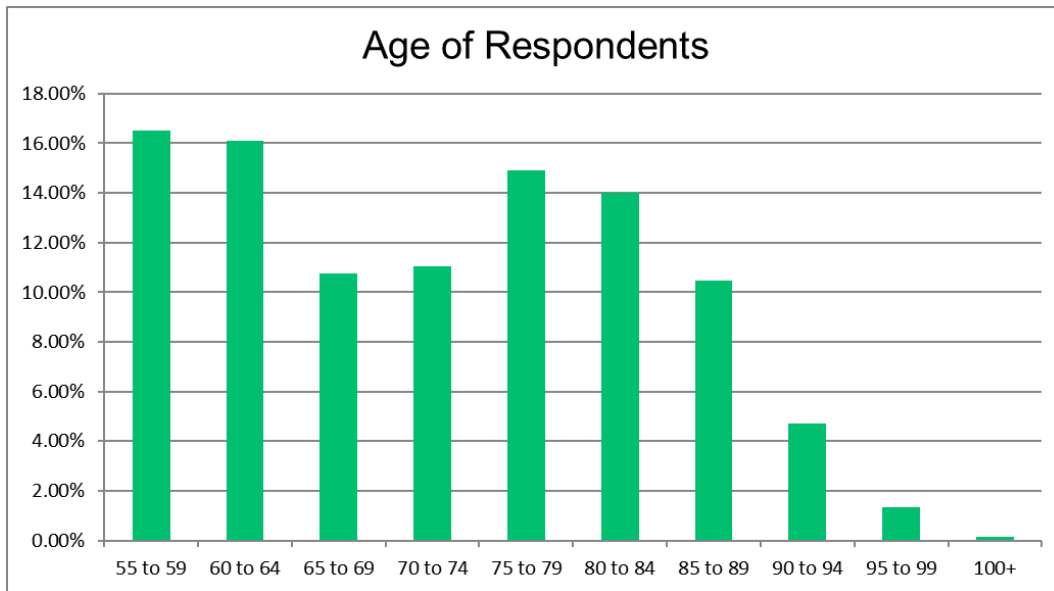
Key Findings

While the respondents report owning many of the common technologies today, such as smart phones, tablets, PCs and laptops, they aren't as interested as their younger cohorts to get the latest and continue updating. In fact, most of our respondents reported having no interest in learning about new technologies across all three categories that we surveyed. If the device works for them, they are more likely to keep it much longer.

Just over three quarters of our respondents reported having WIFI in their homes. This usage is consistent across all age segments from 55-100; however, it is not consistent across income levels. There is nearly a 60% difference in WIFI accessibility in the homes of higher income brackets vs. lower. This disparity could highly impact many factors as people age, especially if they are living alone.

Although the numbers for ownership of newer smart home technologies are still quite low, the ownership of smart TVs has increased significantly over the past couple of years. This is likely due to the supply in the marketplace that most retailers sell more smart televisions than other models. This is also consistent with our past research that this is one technology older adults will continue to replace (and many times upgrade) as they age, regardless of age, finances or tech savvy. Consistency in those who have WIFI and are using the internet remains across all ages as well, with a slight increase in usage among the 80-89 age segment.
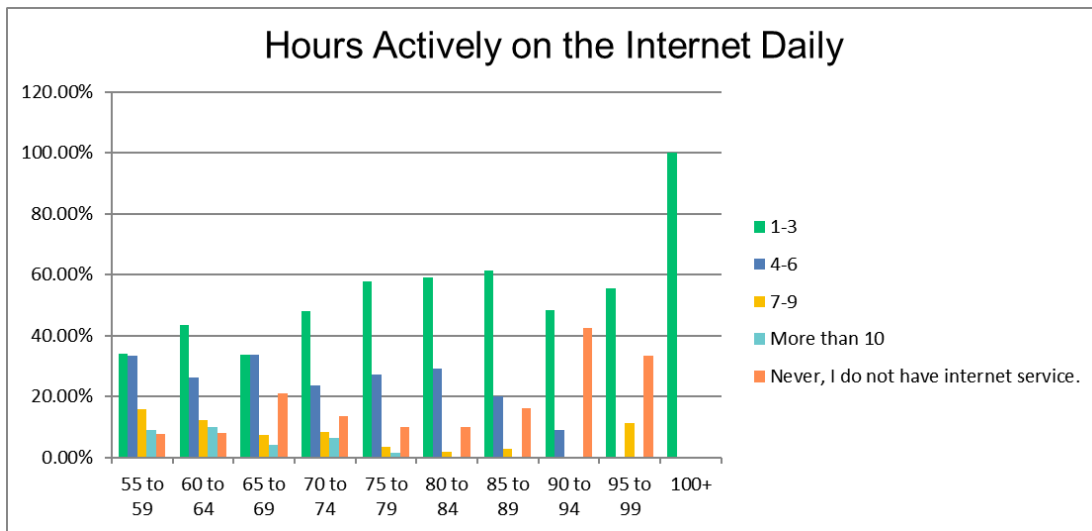
The data reported in the higher ages of 90-100+ in all categories as well as the data for the 7 to more than 10-hour usages for ages 75-100+ not a significant sample size

Those who are 85 today have lived through what one might argue as the most drastic evolution and development of technology of any age group and likely for all time. These older adults have adopted and adapted to technology their entire lives, from the telephone, modern appliances, personal computers, the internet and email, social media, cell phones, tech-packed vehicles and the list goes on and on.

Yet, in all categories of technology in this study, those who do not own the devices are largely not interested in learning about them either. This remains consistent with past research we have conducted that showed as people age, they simplify their lives, allowing more time for personal interaction and less time for things that

"busy" them or take away from time with family and friends. This will provide great challenges for those companies continuing to automate their services. They need to consider allowing for the personal interaction older adults are looking for, regardless of how tech savvy they may be. It isn't necessarily about teaching older adults to use a technology. It very well could be that they have used it and walked away from it because they do not want it in their lives any longer.

"I think technology is taking over people's lives and it takes away from relationships with people. It's fine if that is the way you are inclined but if you are not, sometimes you feel kind of left out." Female Age 95-99

Communication Technologies

With today's rapid evolution of technology in general, this category in particular seems to be developing at a hyper fast speed. It seems that before we can get the devices home, they are in need of an update or they are obsolete all together. So, how is one, on a fixed income, able to financially afford the newest technology, much less those with physical challenges of restricted vision (i.e., macular degeneration), tremors, neuropathy and many others that make these devices nearly impossible to use?

"I do believe technology is everywhere around us and even though I am a senior, I am able to accept our changing aspects of communication, etc. It is exciting in many ways!" Female Age 85-89

Ownership is high, and allocation of financial resources and interest for new is low. Among all age groups in this category, ownership of many devices is high, and is continuing to grow year-over-year. In addition, those well into their later years in life are continuing to own these devices.

Tablet Ownership

Smartphone Ownership
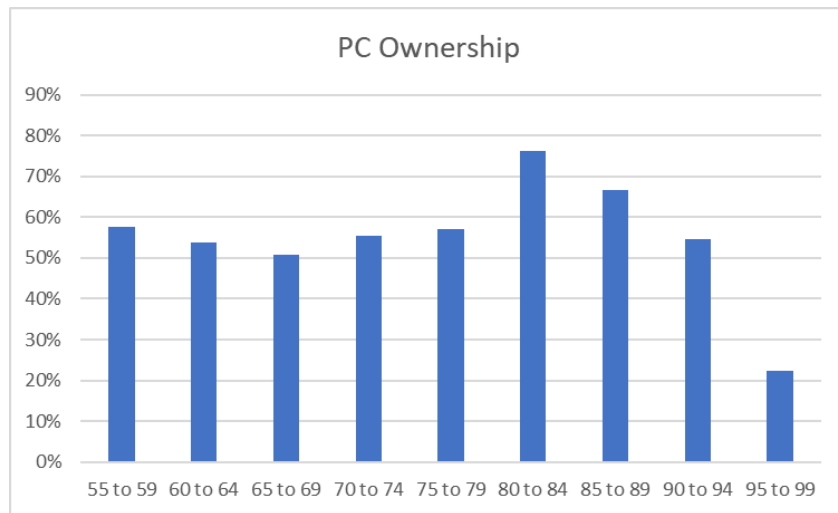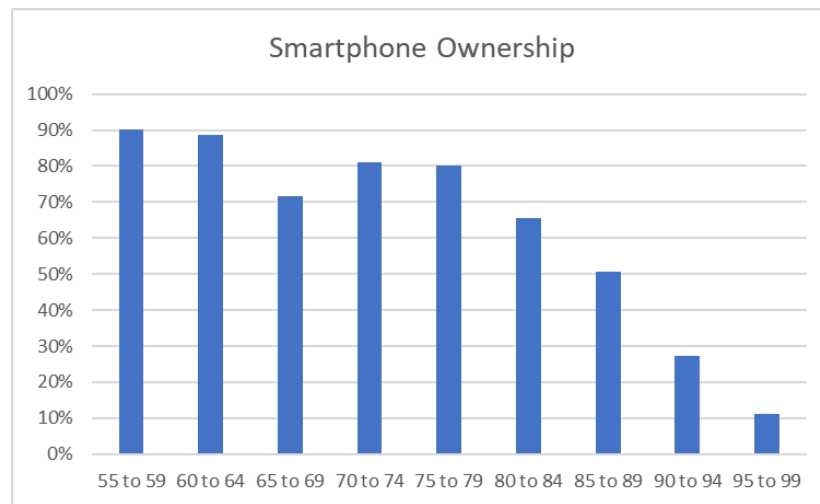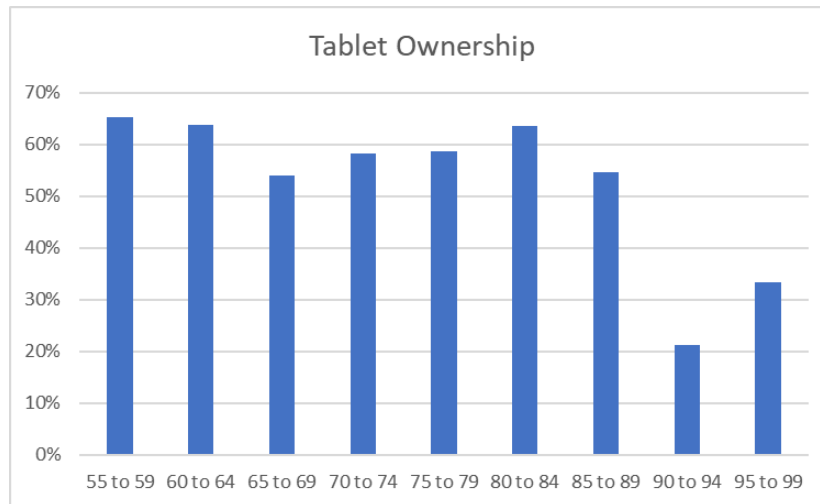
Smart phone ownership continues to grow more rapidly than other technologies, likely caused by the lack of supply of other types (flip phone, standard mobile phone). Below is a chart that represents our data compared to a follow-up study we conducted to a PEW Survey conducted from September 29, 2016 – November 6, 2016 _Tech Adoption Climbs Among Older Adults_, showing smart phone ownership among older adult age segments:

Mobile Phone Ownership Among Older Adults

Age	Link·age Connect Study 2016	Link·age Connect Study 2019
65-69	61%	72%
70-74	54%	81%
75-79	53%	80%
80-84	27%	65%
85+	19%	
85-89		50%
90-94		27%

Similarly, WIFI access and internet usage in the homes of older adults continues to climb, becoming more of a standard in homes of ALL. In this study, we discovered a misunderstanding of technology terminology that is worth noting. We asked separately if the respondents had a *Wired Internet Connection* and *WIFI (Wireless Internet Access).* Of our respondents, 46% said they had a Wired Internet Connection and 78% reported having WIFI, which leads to the conclusion that the language used by the industry is not clearly understood by this consumer.

"Computers and internet have changed my life and made life so much easier." Female Age 75-79

About 50% of our respondents spend an average of 1-3 hours per day on the internet with this number increasing slightly to about 60% in the 75-89 age bracket. (See table in the Key Findings section). They are spending this time performing a variety of tasks, with the top three being:
>	1.) Research/Travel/Current Events
>	2.) Online Shopping
>	3.) Banking and Bill Pay

Others that topped the list were personal social media, reading newspapers and magazines and sending/reading email. For the first time in our studies, we asked about virtual medicine, streaming of movies, tv and sports. Although these numbers were not in the top three or four, the table below represents the percentage of our respondents that are performing these tasks regularly.

Frequently Performing Via the Internet

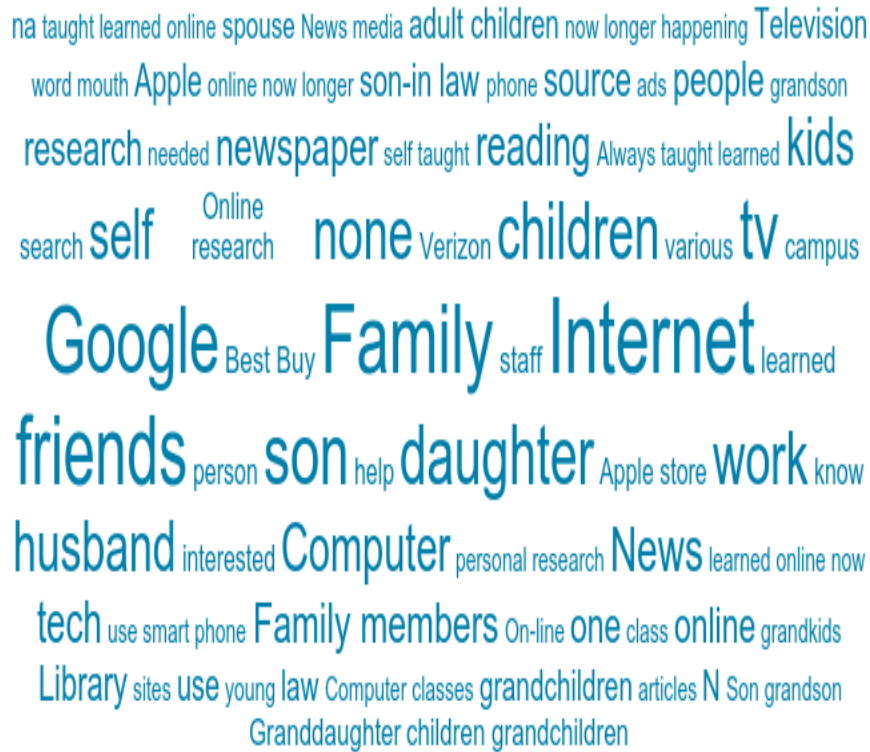|	
Watch You Tube Videos	33%
Connect via Video Chat (Facetime, Skype, etc.)	27%
Stream Movies	22%
Stream TV Programs	19%
Stream Sports	8%
Video Chat with Physician or Other Medical Professional	4.5%

Although the respondent numbers are much lower than the general respondents, there are significant differences in our affordable housing group and our general respondent group in this category of technology. The primary difference is ownership of devices.

Tech Ownership

Device	All Respondents (n=1,105)	Affordable Housing Respondents (n=208)
Land Line	**59%**	**30%**
Flip Phone	**14%**	**24%**
Smart Phone	**80%**	**51%**
Personal Computer	**69%**	**25%**
Tablet	**68%**	**26%**
Laptop	**69%**	**25%**
WIFI in Home	**90%**	**33%**
Smart TV	**59%**	**25%**

There have been numerous studies published on the positive effects of technology in all aspects of a person's life, including physical, psychological and spiritual. Access to these devices provides socialization, engagement, chronic disease management, intellectual and cognitive stimulation and many more that can heavily impact the overall health of an older adult. There is a tremendous opportunity to aggressively seek cost-effective solutions for this growing demographic.

For each category of technology, the challenge of how people learn also comes: Not only awareness as to what is out there and what does it do, but also how to use it. This is not just a challenge with older adults, but it becomes more complicated with the older adult consumer. Especially in the category of Communication, many times with the older the consumer, there is a higher incidence of the customer and the consumer being two (or more) individual people. As a person ages, adult children and other loved ones take on the role of provider. Whether they do this on their own or upon request from the older adult, the marketing and education needs must be directed to all stakeholders. The companies who will ultimately own this space will be those who clearly understand this dynamic and market accordingly. We asked the question of the number one source for learning about communication technologies. We asked in an open-ended format to hear, in the words of the actual CONSUMER, who their trusted sources are. As you can see in this word cloud, they are the Internet, Family, Google and Friends.

na taught learned online spouse News media adult children now longer happening Television word mouth Apple online now longer son-in law phone source ads people grandson research needed newspaper self taught reading Always taught learned kids search self Online research none Verizon children various tv campus Google Best Buy Family staff Internet learned friends person son help daughter Apple store work know husband interested Computer personal research News learned online now tech use smart phone Family members On-line one class online grandkids Library sites use young law Computer classes grandchildren articles N Son grandson Granddaughter children grandchildren

And consistent with their trusted source for finding out about new technology are their methods for learning about technologies in the communication category, with on-line coming out at #1. The close 2nd and 3rd are one-on-one training and a class or workshop with people their own age.


Learning About Communications Tech

| Category	Percentage
Watching a DVD	~3%
My physician or other health care provider	~3.5%
Other	~4%
Class/Workshop with all age groups	~7%
No interest	~7.5%
Watching a streamed video	~9.5%
Observing friends and family	~14%
Class/Workshop with people my own age	~16.5%
One on One Training	~17%
Online information or news media	~18.5%
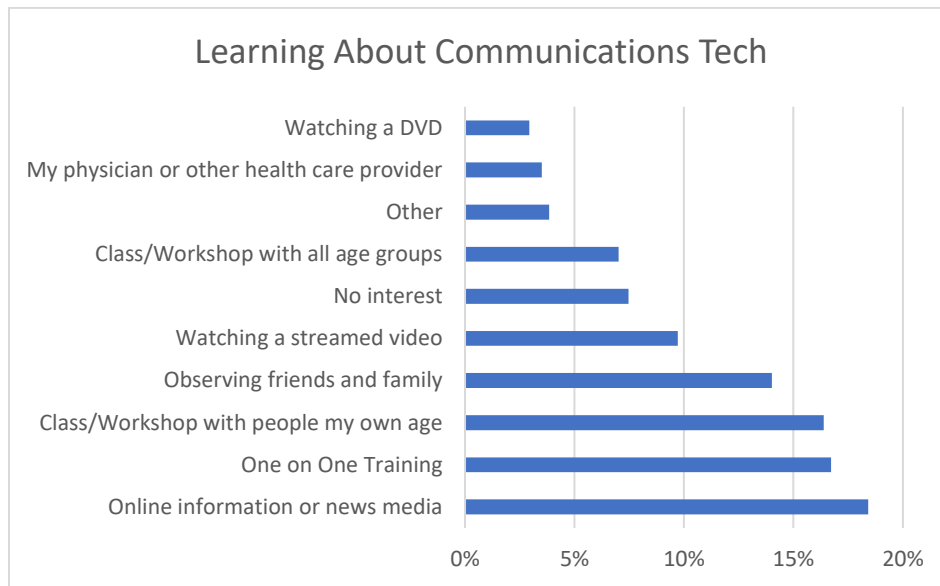
Safety/Security Technologies

Over the past one to two decades, this category has also evolved. Gone are the days of the home security system hard wired to each door and window, hitting your code on the touchpad and making the mad dash for the door. Also fading quickly are the personal alarm pendants that hang from a plastic chain around one's neck. Replacing all of this are high-tech, streamlined platforms that have hardware integrating with smart devices, tablets and the ability to share with family and friends. What does all of this mean for older adults? Peace of mind, or at least one would hope. But whose peace of mind? The older adult's? In this category, many times the older adult is the last person consulted. Ironically, safety is a major concern of this demographic.

In this category, we probed medical alarm pendants, panic buttons, home alarm systems and home monitoring. There are so many devices today that have motion detectors and sensors in them. Most people consider these convenience or novelty items, and most are, unless you are being singled out as NEEDING something to monitor YOU. Our respondents told us just that. Of those who do not have these devices, they REALLY are not interested in them. 29% told us that they currently own a Medical Alarm Pendant, which is not surprising considering that 45% of our respondents rent an apartment, condo or villa in a senior living community. 23% have a home alarm system. About 16% claim ownership of both panic buttons and home activity monitoring sensors. But again, just about half of our respondents for all four of these devices do not own one…nor are they interested in owning one. It makes one contemplate, of the two items which they DO own, how often, if at all, are they using them? This is a question for the next study.

The ownership of these devices, when broken down by age, is consistent with what one would believe to be true, that the older the adult, the higher the ownership of medical alarms, panic buttons and sensors. The

ownership of home alarms is consistently low among all age segments in our study; even though the newest technology in this category is much more cost effective and requires little, if any, capital investment by the consumer.

Medical Alarm Ownership

Panic Button Ownership

Home Alarm Ownership

Home Activity Sensors Ownership
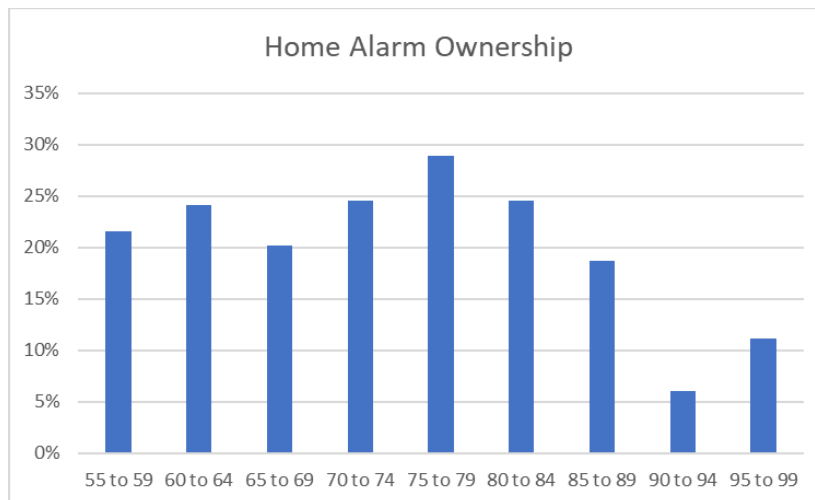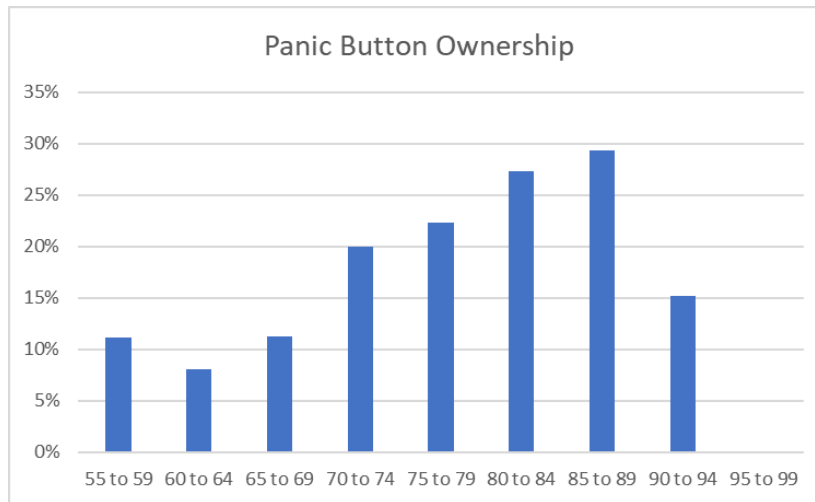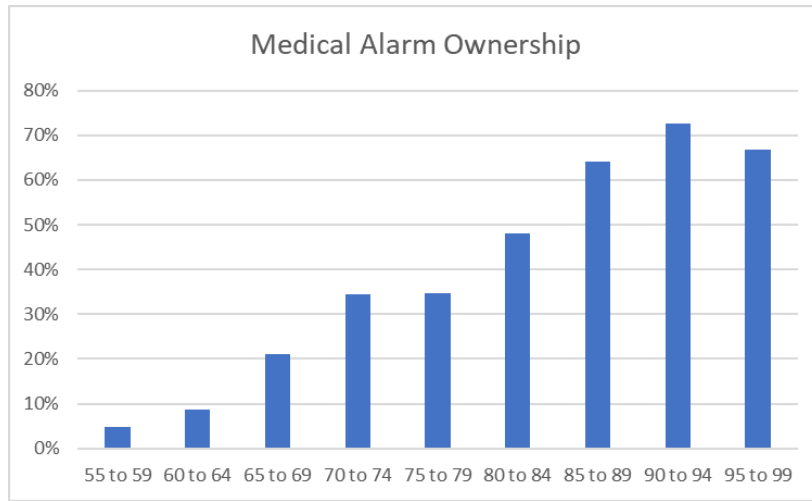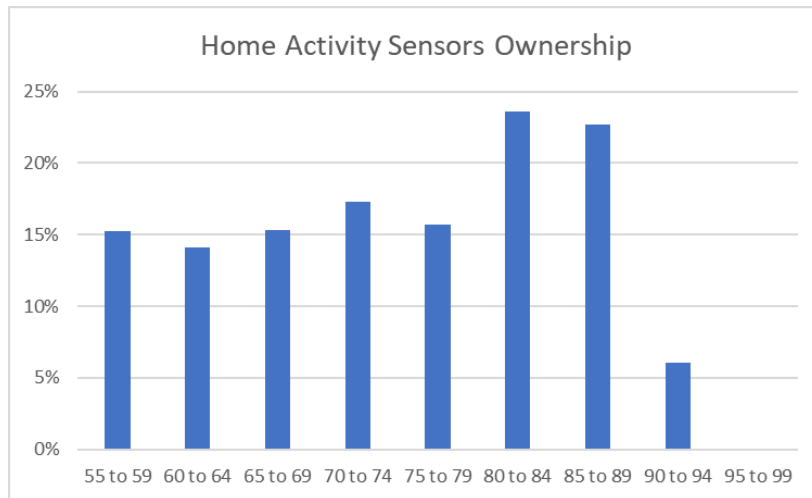
These results also make us want to conduct further studies. We need to consider taking a deeper dive into the terms "Safety" and "Security". Throughout many of our past studies, older adults have told us that safety and security IS a concern for them. Do they not consider these items a means by which to keep them safe and secure? Is there a disconnect in the marketing of the true benefits? We need to discover this demographic's definition of these terms, as well as the barriers they perceive in achieving safety and security in their lives.

Perhaps the disconnect is happening in the methods by which they are learning about these things. In this particular category, the number one method for learning about it is the internet. This is quite different from past studies that cited their physician as the top method for learning about ALL technologies. As we will see in the Health & Wellness category, this still remains. This could be heavily influenced by the privacy that searching and learning on the internet gives individuals. When they feel it might be time for one of these products to enter their home or life, they can easily research in the privacy of their homes. However, what you find on the web when you search the term "Safety and Security" Technologies are items that have more to do with smart home technologies (cameras, smart locks, home automation, audio/video door bells and peep holes). They are also looking to friends and TV for their sources (see word cloud below), which also makes perfect sense, given the channels and types of programs they watch most frequently have more advertising for these products, and many of their friends may already own these devices. Note also that almost 15% of our respondents have no interest in learning more about this category of technology.

Learning about Safety, Security and Smart Home Technology
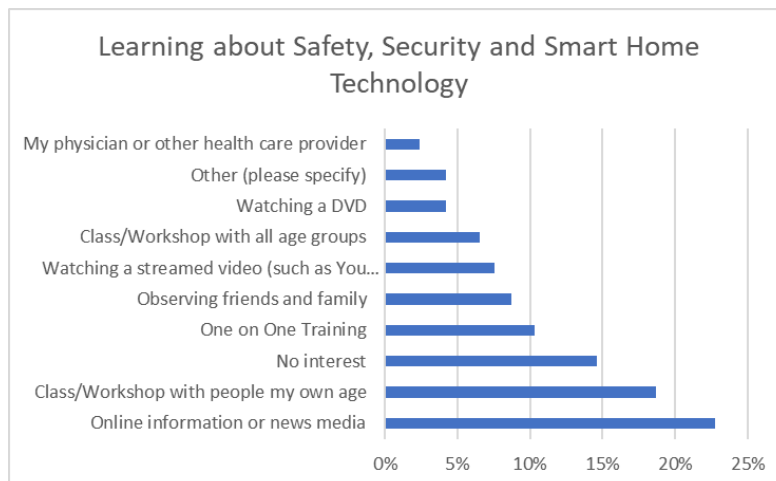
And when asked what their number one source is for learning about technology in this category, they are trusting the same as the methods that they stated above, including the internet, TV, friends and family (illustrated in the word cloud below).


Smart Home Technologies

This was the first technology study in which we included smart home as a category (we included smart door bells, smart light bulb, electrical outlets, thermostats and robotic vacuums). Smart speakers (including Alexa, Google Home etc., were included in the Communication Technologies category of this survey). Although the numbers are low in comparison to other age cohorts, this is a number that is expected to grow substantially in the next few years. There are many technologies now integrating with smart home devices/smart speakers, such as Alexa or Google Home, that cross all categories of technology. This integration, along with the general affordability of these devices, will make it easier for older adults to own them. In addition, many of these devices are quite easy to install and use. The largest barrier for entry and scale into the older adult demographic is WIFI accessibility in the home. Even though 78% of our respondents reported having WIFI in their homes today, the remainder, 22%, do not; and that number is primarily made up of the lowest income bracket. Having access to affordable WIFI will be a primary requirement when considering possible technology solutions for those at or below the poverty level.

Even though our respondents reported not having an interest in these technologies, they seem to be catching on to them quicker than many others in years past.   The smart speakers did not have widespread availability in 2016 when we conducted our last Tech Survey. In this survey, 22% report owning a smart speaker (even

well into their 80's), and another 17% are interested. This item topped all others for interest in ownership. This is not surprising given it's affordable and is easy to use. The below chart represents our respondents' smart speaker ownership by age.
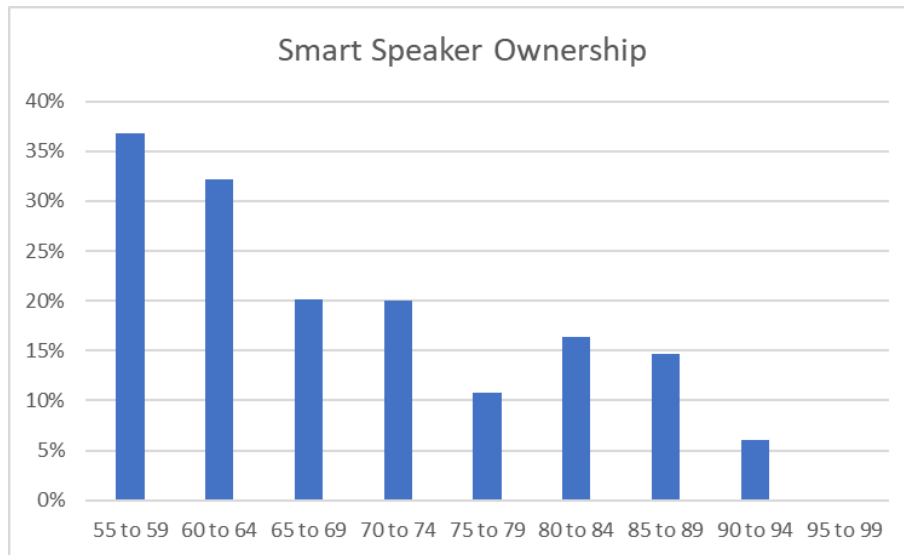

The benefits of this category for an older adult are also something to consider. Many of these products offer peace of mind for consumer and loved one alike without compromising on the dignity of the older adult. In fact, these are the same technologies that all of the other age cohorts are using in their homes. Consider an individual with visual impairment or tremors. Simply ask Alexa to adjust the thermostat or turn the volume up on the television. Smart speakers just made these tasks do-able for this person rather than relying someone else to do it, or more likely, just living without it happening.

Health & Wellness Technologies

In all of our past studies, as well as many that others have conducted, this is the category that just about ALL shy away from, until it is needed. There have been many advancements in the technology field to assist in monitoring our health and help us create more proactive measures to stave off illness and/or age-related challenges. The key to these products comes down to marketing (what is the message to the consumer?), cost, and ease of implementation/use. As you will see from the responses in this study, how to deliver all three has not yet been fully discovered, and the person that they rely on most to give them this information doesn't know enough about most of them to help.

When we probe in the area of Health & Wellness, simply using those words alone heightens the individual's awareness of their health status. These words in our culture have come to mean ailments and illnesses, the connotation of which is how to "fix" you. This meaning, whether good or bad, usually draws more negative responses and more reactive ownership, in deep contrast to the category of Communication, which is a much more positive and proactive ownership. The only exception to this statement is the ownership of fitness trackers. For those who have the money to buy them, fitness trackers are primarily purchased to provide an incentive to all ages to keep moving. As you can see from the below chart, these items are more commonly

owned than all the other devices. In addition, most of the other devices polled are directly correlated to a chronic condition and, in many cases, are provided or paid for by the insurance carrier (private or Medicare/Medicaid).

## Use of Health and Wellness Tech
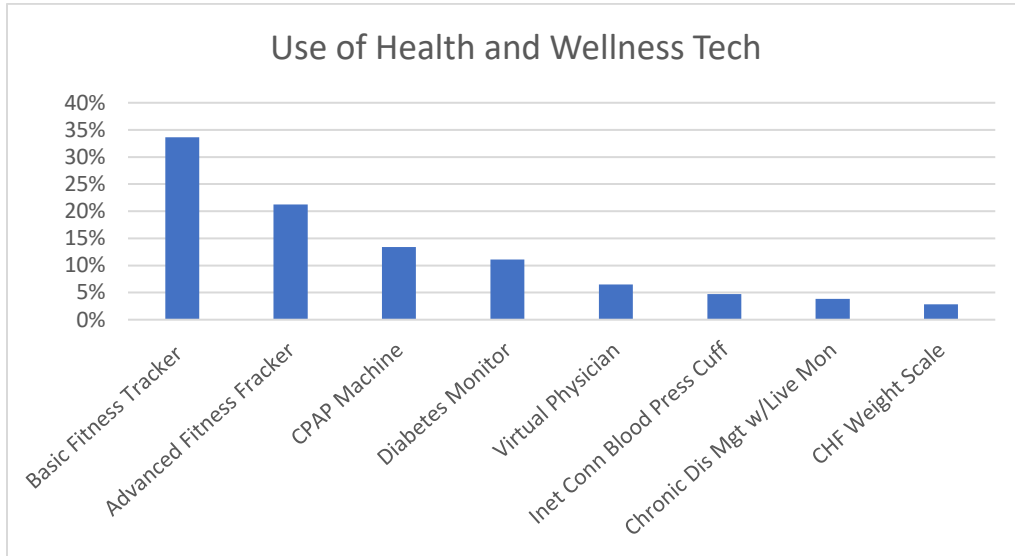
When it comes to health and wellness and the technology to support it, this demographic is still relying more heavily on their physician or health care professional as their method for learning about it. In some cases, clinical practitioners know about the devices used to monitor chronic conditions and how their patients can go about getting them; however, most are not aware of or well-versed on many of the new technologies that help support health and promote wellness.

"I feel like well-meaning individuals in the health services community are making technology recommendations without adequate understanding and assessment of risks to individuals and communities." Male Age 70-74

Learning about Health and Wellness Tech

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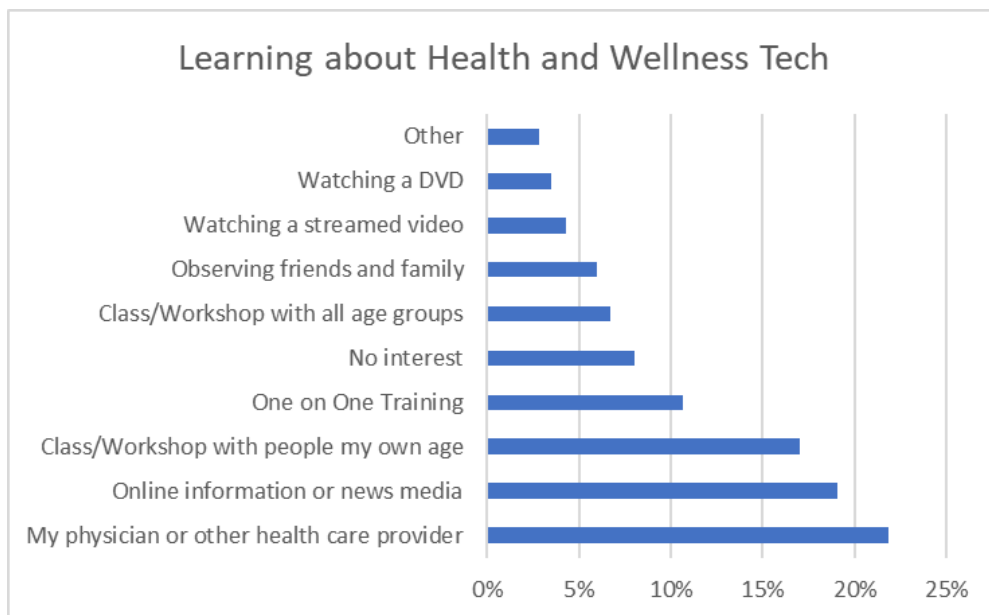
And then there is the issue of cost to the consumer. Again, this category brings about a completely different mindset, at least in older adults. For Health & Wellness technology, because it has to do with their health care (in their minds), it must be learned from their Health Care Professional AND paid for by someone else, be it private insurance, Medicare or Medicaid. They do not want to learn anything about it, nor do they want to spend any of their money on it. Yet, we know that there are many technologies, including those mentioned in this study, that can help improve health outcomes of an individual by the positive emotional and psychological results they produce.

As depicted in the word cloud below, our respondents are going to the internet, family and friends, yet they still rely heavily on their Health Care Professionals as their source for learning about this category of technology.
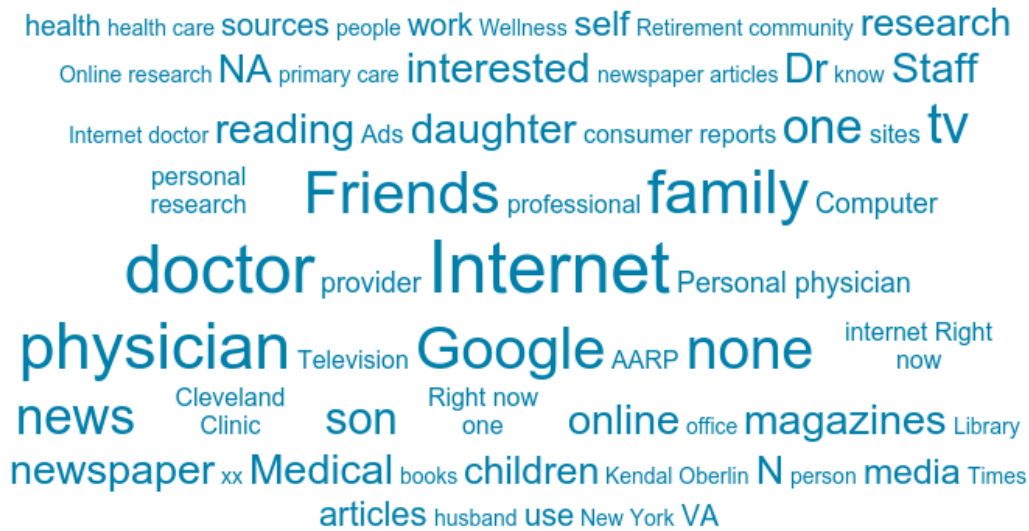
No matter the category of technology, or the specific device, we need to always remember that the personality of the individual is a key indicator of whether or not they will adopt it into their life or reject it. If a person has been one to adopt these things all through their lives, this will not change as they age. They MAY simplify and not acquire anything new for that reason, but not necessarily because they are not tech savvy. It always comes down to the person.

In Conclusion

Even though almost 30% of our respondents reported having no interest in allocating financial resources to any category of technology, the remainder ARE willing to spend money on technology. It is not surprising as we sum up this information that they are more willing to spend it on Communication and Entertainment tech when they chose one. This tells us that as people age, we need to better incorporate health management into these devices more efficiently and effectively if we expect anyone to use them. Much of this is already taking place. However, the market remains fragmented, and the older adult's awareness of the many options available to them is limited at best.

It is also telling us that there is a tremendous amount of potential growth and new customer acquisition for companies who incorporate market research on this demographic, especially in the category of Communication and Entertainment, into their strategy. Currently, products such as the television, tablet, and mobile phone, ARE working for them. They are spending money on these items and upgrading when they need to be replaced. The key points in "selling" to this demographic are frugality, practicality and simplicity. But we cannot assume to know the depth of each of these key points without involving this demographic in our research and development.
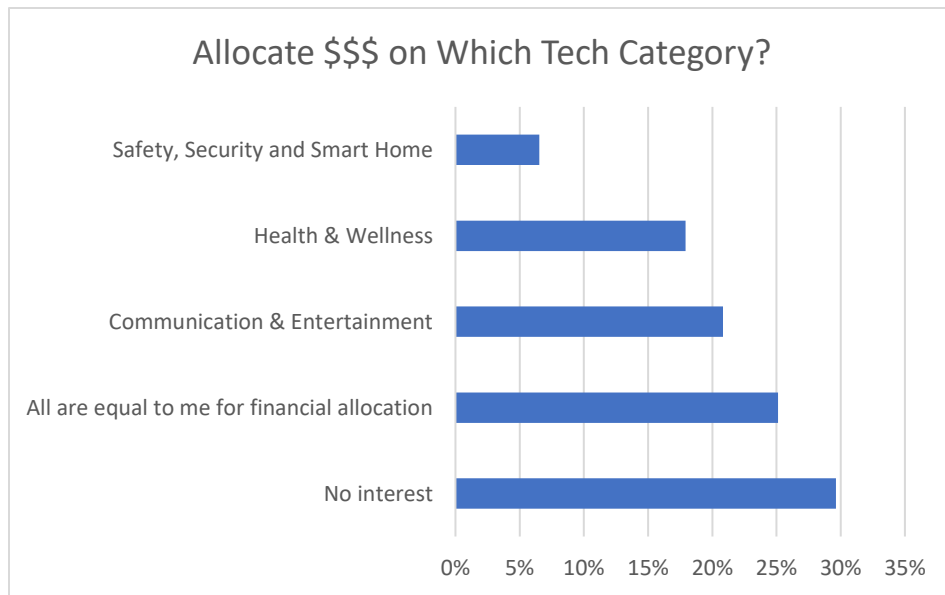
The benefits that older adults see in technology are many; and as we mentioned at the beginning of this report, they have adopted and adapted to technologies for their entire lives. We must do a better job of understanding their lifestyle, their wants and their needs and then WORK with them to build the technology to meet the identified needs. Once we consistently do that, we will have products that work for this demographic and are used.
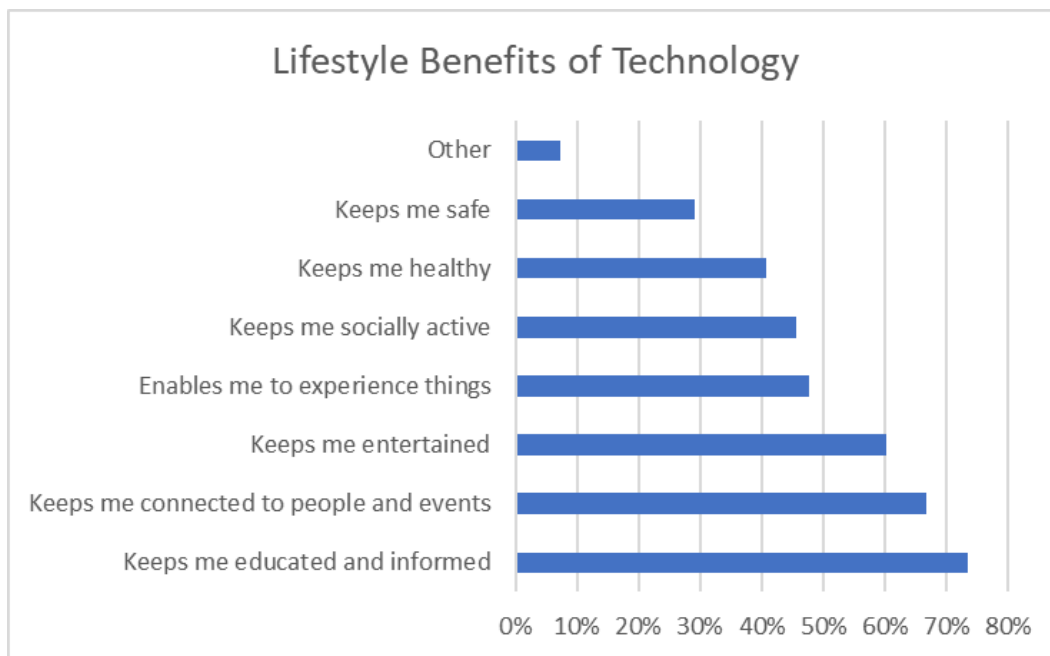
2019 Link·age Connect Technology Survey

"At my age, health, wellness and medical technology should perhaps be my greatest interest. Not so; I like the old-fashioned TV and desktop computer for access to information." Female Age 85-89

"Helps me stay informed, keeps my house safe, helps me plan travel, helps me manage finances, makes me concerned about privacy." Male Age 65-69

"I enjoy learning new technology and it keeps me informed and entertained." Female Age 75-79
"The technology is so crucial to stay connected and not feel so alone." Female Age 60-64

"It enhances every aspect of life as one ages, providing stimulation that keeps your mind alert and connections to friends and family that sustain you." Female Age 85-89

Lifestyle Benefits of Technology

Category	Percentage
Other	~7%
Keeps me safe	~29%
Keeps me healthy	~41%
Keeps me socially active	~45%
Enables me to experience things	~47%
Keeps me entertained	~60%
Keeps me connected to people and events	~66%
Keeps me educated and informed	~73%

Note on the above graph of the benefits of technology, that the top three have nothing to do, directly, to the health state of the individual. Studies have shown us though that these top three can heavily impact the health state of an individual, especially if they are older, living alone, and have any limitations to mobility.

In the words of our respondents, the biggest barriers that keep them from adopting new technology today is the complexity, understanding it all, the cost, and having no easy way to learn it. These certainly should be barriers that we can overcome. After all, if we take these barriers away for older adults, we will take them away for all. Non-tech savvy individuals are not classified by their age. There are plenty in the younger

2019 Link·age Connect Technology Survey

cohorts that feel the same way. The below word cloud represents the answers given by our respondents as to what they feel is the greatest barrier to technology adoption today.

The flip side of this are the barriers for companies to penetrate this growing market. How can companies better access and sell to the older adult consumer? This remains a difficult task due to fragmentation of the consumer, the complexity of the potential number of people involved in the buying decision and the willingness of the consumer to spend the money. However, it is not impossible. There are things that we know for certain, and these are the most important to this demographic:

- Trust – The older adult consumer must trust the company from whom they are buying. Perhaps those attempting to sell to them should consider those companies that have become trusted resources for older adults and sell into them vs. trying to reach the individual older adult.
- Personal Contact – Whether tech savvy or not, as we age, we want to have personal contact with people. The idea of a completely automated transaction from start to finish is no longer appealing to many older adults, even though they may have been living that way for several years; they now have the time and desire to have personal contact and conversations with others.
- Frugality – Regardless of the net worth of the individual, most older adults become very frugal with their dollars. They will spend money on something if they feel it will enhance the lifestyle they wish to live or assist in keeping them independent longer.
- Simplicity – As we age, we ALL simplify. As relative as it is, older adults do not want a complicated life. They pare down, live within their means and only bring things into their lives that they view as necessary and easy, or enhance their lifestyle.
- Education – Accessible Education is a key component in this category. Overall, they do not want to "fumble" their way through the learning process. It is a waste of time. They want to learn how to properly use things and we must figure out a way to make that happen.

- o *"I am eager to learn, but relationships are my priority."* Female Age 90-94
- o *I find it frustrating when setting up a new electronic device such as a printer, computer, phone, etc. Instructions are supposed to be simple, but there always seems to be something missed. Need a person to walk me through it."* Female Age 85-89

Over the next couple of years, as we hit the all-time high in numbers of older adults globally, the more a company understands this group, the better chance they will have to succeed as a business, any business. Take the time and invest the resources to get to know older adults as your customers. Do not assume that you know them already or think you know what they need. These are CONSUMERS and they WILL impact your business.

From this study, we have learned that opportunities exist in awareness, education and cost. Many of the newer products on the market are not known by the older adult population yet speak to many of the things they expressed in this survey. We need to do a better job of reaching this consumer, either directly or through the various organizations and businesses that they frequent. Begin to think differently about your marketing strategy to your older adult customer, then make sure the language you use in this message will resonate with them. It should go without saying, but unfortunately, with this demographic, product development and full ad campaigns are launched without testing with the older adult consumer. This must change.

Many expressed the desire for additional education about devices and how to use them. As our culture continues to automate all aspects of education from tutorials on "how to" to on-line college degrees, this demographic isn't buying it. They want the human touch. They want to learn "hands on" with others. Teaching older adults how to use these devices, in the manner in which they want to learn, could prove to benefit them as they age and become less mobile and socially active; and it will definitely impact your business.

Cost is always a concern, with ANY demographic, but with older adults, there are a number of factors which make getting this one right imperative. The fact that older adults are on a fixed income, makes them more discriminating on what and how they spend their disposable income. If they do not believe they need it, they will not spend ANY amount of money on it. Even if one of their adult children or another loved one purchase something for them, many times they will not use it if they feel they do not need it, or they will feel guilty because their loved one spent so much money on them. However, if they believe it will add value to their lifestyle and is a good value for their dollar, they will spend the money. Take the time to test price and perceived value of products/services with the older adult consumer.

The bottom line is that spending time and money on the front end, as well as getting the things that matter most to the older consumer right, will save time, money and maybe your business in the long run. After all, this is now the largest population on the planet. It is one that carries more loyalty than their younger cohorts, one that does their homework on who they choose to do business with, and one that will give you all the information you need to succeed with them, if you just ask.

In their Words

Every time we conduct a study, whether it be focus groups, surveys, or product testing, we always learn so much from the words of our respondents that come unprompted or freeform. This survey has been no exception. Throughout this report, you have seen a few of the quotes that our respondents provided in either answering "other" to a question or one of the freeform text answers they gave. On the following pages, we have published many of these freeform comments about technology. We have not included all of the comments.

In analyzing these freeform comments, we recognized in the younger age segments, a consistent theme of safety and security of personal information. We have separated those comments from the rest. It is also important to remember as you read these comments, that in order to complete this survey, the respondents needed to be on some sort of a device as we ONLY fielded the survey in an electronic format.

We hope you find them as enlightening and informative as we always do!

Safety and Security of Personal Information

"I don't want anything that can be hacked, controlling or protecting the inside of my house." Male Age 60-64

"It greatly benefits our lives in all ways specified in this survey, but I am a cautious user, aware of data being collected about us with each usage, often sold to third parties I know nothing about." Female Age 70-74

"It is all too easy to get into online accounts and smart home technology." Female Age 65-69

"Like how it can be helpful in day to day life. Don't like the unknown, i.e., "someone" can easily drop in on conversations, turn on cameras, turn on your phone without your knowledge. Creepy!" Female Age 60-64

"Technology comes with other issues such as cyber security liabilities." Male Age 55-59

"Technology has the capability of connecting, educating, empowering, and activating people to improve the quality of their own lives, their community, and the world at large. It will be important to keep online information free from Russian and other bought-and-paid for biased influences, to keep technology useful for the advancement of humankind, rather than for the manipulation of the masses by a few unscrupulous controllers. Female Age 55-59

"Terrified of on-line banking and credit cards as I've been hacked several times." Female Age 60-64

"Do not like the idea of how easily people and services can monitor and access information about us." Female Age 60-64

<u>Additional Comments – All Topics</u>

"If it makes sense for a senior, then I adopt it. Otherwise, if it doesn't fit my lifestyle, I don't take advantage of the technology." Female Age 80-84

"As long as it is not intrusive, it is a great educational and entertainment source." Female Age 80-84

"At times technology is not available to rapidly changing aspects that are difficult to keep up with or get its significance to my lifestyle as a retiree." Female Age 85-89

"Because I have so much electronic equipment – a laptop, an office style printer/copier/fax, three tablets, an Echo Dot, an iPhone – I feel as though I am overloaded with stuff." Female Age 70-74

"Car tech also helps with safety, Bluetooth, back-up camera." Male Age 85-89

"Challenging but enjoyable." Male Age 85-89

"Dependable and mature technology is a wonderful thing." Male Age 85-89

"Difficult to learn how to use it for seniors." Female Age 80-84

"Educates me." Female Age 75-79

"Enjoying having the ability to connect through internet and the flexibility of entertainment through our cable/internet/TV." Female 65-69

"Even though I'm in my 70's would like to learn more about getting around on my computer."
Female Age 70-74

"Finding time to learn to use and to fix technology is the biggest problem. I enjoy what technology can accomplish – what I use and what others use to help me." Female Age 75-79

"For my wife only." Male Age 90-94

"Found this survey revealed to me some of the new technology which might interest me and make my life better." Male Age 85-89

"Glad I lived this long to enjoy it." Female Age 90-94

"I absolutely LOVE technology. I can look up Bible passages without a book, I have so many learning places I can go to find out things that are in the here and now." Female Age 80-84

"I am not very tech savvy but do enjoy it." Female Age 80-84

"I am often frustrated by the complexity of technology and wish I didn't need any of it!" Female Age 70-74

2019 Link·age Connect Technology Survey

"I am willing to learn by attending classes." Female Age 90-94

"I consider technology an important part of life and not a toy or a substitute form human interaction." Male Age 70-74

"I do not know what I will do when/if my husband dies before me as he is a total whiz and solves 95% of my problems and teaches me most of what I need." Female Age 75-79

"I feel that I should learn to do banking on line and on-line shopping." Female Age 80-84

"I find it interesting, but the advancements come so rapidly it is hard to keep up and the expense is ridiculous." Female Age 60-64

"I have a love/hate relationship with it. I think it is intrusive but useful if used carefully and thoughtfully." Female Age 70-74

"I have spent almost my entire work life as an Information Technology executive and consultant. I can't visualize my life without it, but I don't see the need for more than I already have!" Male Age 80-84

"I like it, it has made many things in my life simpler. At times I feel that if I have to learn one more thing I will scream, but it is keeping me current with the world." Female Age 75-79

"I like using the computer and enjoy learning new ways to use it. I like my cell phone now that I know how to make the sound louder." Female Age 85-89

"I love it, my life would be really dull without it." Female Age 85-89

"I L-O-V-E Technology!" Female Age 80-84

"I love using technology – when it works. It frustrates me when it doesn't. That usually seems to be due to problems with bandwith or WIFI connection." Male Age 70-74

"I need to know more. Walk into Best Buy and feel like a dummy!" Male Age 85-89

"I need to use tech in order to learn. Don't use it enough to reach advanced levels." Male Age 85-89

"I prefer to use it when I want to and not be run by it or tied to it." Female Age 75-79

"I recently got a smart phone and it's taken me quite some time to learn how to navigate around it." Female Age 80-84

"I still prefer reading a paper newspaper, book, magazine, but I enjoy email and Facebook on my personal computer." Female Age 85-89

"I think technology is great but how much do we need?" Female Age 85-89

"I think technology is wonderful and everyone can use it if it is communicated with all ages in mind." Female Age 70-74

"I think the beginning of it is hard and easier for young people to adapt to." Female Age 95-99

"I want to stay current with technologies and continue to learn about new stuff." Female Age 70-74

"I was given on iWatch for Christmas. It has an app to alert 911 if I should fall. I'm sure I do not use it nearly as much as I could and I would like to learn more." Female Age 75-79

"I welcome new technology and I'm excited about it for the future." Female Age 70-74

"I'm always willing to learn more to keep up with what's going on in the technical field so I can keep up with the world." Female Age 70-74

"I'm just pleased to know what I do about technology." Female 90-94

"In many ways technology has improved our way of life even if we don't understand it fully." Female Age 90-94

"Interested in new technology, but not obsessed by it." Female Age 75-79

"It enhances every aspect of life as one ages, providing stimulation that keeps your mind alert and connections to friends and family that sustain you." Female Age 85-89

"It excites me but is very expensive." Female age 80-84

"I would be interested in participating in educational courses pertaining to computers." Female Age 90-94

"I would be lost without it." Female Age 80-84

"I would like classes about the telephone and also more information about using the internet." Female Age 85-89

"I would like more information and or classes." Female Age 85-89

"It is a benefit but scary." Male Age 80-84

"It is a challenge to older retired people." Female Age 90-94

"It is exciting and amazing." Female 75-79

"It is hard to stay current but worth it." Female 70-74

2019 Link·age Connect Technology Survey

"It is hard to keep up with the constant changes but so nice to have these items." Female Age 85-89

"It is a very exciting field for me and I love using it in limited ways." Female Age 80-84

"It's great when it works. It's no fun when you don't know how to use the devices or options, or applications." Female Age 80-84

"It's helpful." Male Age 80-84

"It's wonderfully helpful and entertaining, but judicious use is necessary." Female Age 80-84

"Keeping up with the changes in computers keeps my mind expanding (or trying to)!" Female Age 85-89

"Look forward to learning the Breezy tablet program." Female Age 90-94

"Love my Breezie." Female Age 80-84

"Many apps ignore vision problems of my age group." Male Age 90-94

"More attention needs to be paid to ways of helping seniors continue to use technology as they age." Male Age 80-84

"Most of the devices are very expensive and we are not willing to pay for any unnecessary purchases at our ages." Female Age 80-84

"Most software does what the designer wants to do, not what I want to do. I don't care about half the stuff the technology can do – it just gets in the way." Male 75-79

"Need to be simple and plain for seniors." Female 70-74

"Often it is too hard for me to understand." Female Age 95-99

"Over the years it (technology) has come a long way and is a benefit to many people." Female Age 95-99

"Please make it more affordable and easier to learn. Offer free hands on classes." Female 60-64

"Rapid changes in technology making current uses obsolete." Male Age 80-84

"Some devices are unnecessarily complicated with inadequate documentation." Male Age 80-84

"Technology changes so rapidly it's hard to keep up. There are so many online sources it's hard to know which is best or most informative." Female Age 75-79

"Technology has many benefits for sure. It has enabled many with disabilities to remain connected. BUT, movement has been engineered right out of our lives. If folks don't choose to move, they won't!" Female Age 60-64

"Technology has the ability to make life better IF you know how to access and use it." Female Age 60-64

"Technology is changing and advancing at an unbelievable rate. Use of technology has negative as well as positive effects. It is difficult to evaluate new technology with respect to its ongoing value." Male Age 85-89

"Technology is great if you understand it. So many senior persons are either afraid of what can be done or the expense is more than what can be afforded. Who teaches older folks? Certainly not many sources for that kind of training." Male Age 75-79

"Technology is making a lot of people lazy. Stop trying to make us all alike." Female Age 80-84

"Technology is moving so fast it is impossible to maintain an awareness of constant changes." Male Age 85-89

"Technologies pace is hard to keep up with. Also, can't believe there is not some way to replace passwords! Eye, finger recognition…" Female 70-74

"The biggest factor is how it is always changing, out-of-date the minute you buy it." Female Age 80-84

"The rapid advance makes my head spin." Male Age 80-84

"Too much too fast." Female Age 80-84

"Tough to keep up." Female 55-59

"Useful but hard to learn utilization." Male Age 80-84

"Very useful and much more than I can comprehend." Male Age 80-84

"Whatever happened to human touch?" Female Age 60-64

"What's next? Stay tuned! Always exciting. Like so many things, both wonderful and dangerous." Female Age 70-74

"When hacking is no longer an issue, I'll be more interested." Female Age 80-84

"Wonderful stuff for the young but at my age I don't buy ripe bananas. I just need enough to ease the burdens of old age at an inexpensive cost" Male Age 90-94

"Would like to learn more." Male Age 85-89

"Would like to see much more, but simpler, voice command technology." Male Age 75-79

2019 Link·age Connect Technology Survey

Appendix

2016 Technology Survey – Older Adults, Age 59-85+ April 2016
https://www.ageinplacetech.com/files/aip/Linkage%202016%20Technology%20Survey%20April%202016.pdf

Tech Adoption Climbs Among Older Adults – May 2017
https://www.pewinternet.org/2017/05/17/tech-adoption-climbs-among-older-adults/

AARP 2019 Tech and the 50+ Survey – January 2019
https://www.aarp.org/content/dam/aarp/research/surveys_statistics/technology/2019/2019-technology-trends.doi.10.26419-2Fres.00269.001.pdf

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