



In recent years, technologies such as video chat, voice control, text-to-voice and voice-to-text have rapidly grown in popularity and have made their way into the realm of consumer electronics (CE), forever changing the ways in which we interact with our devices. In today's high tech and mobile society, devices with such capabilities are beginning to appear everywhere. From our mobile phones, to our cars, to our televisions, to our computers and even into our living rooms, these technologies are shaping up to be the face of how we interact with technology in our day to day lives. What trends are we seeing with these technologies and how are consumers utilizing them? In what ways can these technologies be improved upon as they continue to develop and evolve?

Market Size

- Over 100 million people ages 50 and over currently reside in the United States. This segment represents nearly one third of the overall U.S. population.
- This age segment is projected to increase to about 135 million people by 2030 and constitute approximately 37% of the overall U.S. population (a 5% increase).
- The highest expenditures for this age segment compared to younger age groups include healthcare, personal care, and entertainment.

Source: US Census Bureau / AARP / CEA

While American adults ages 50 and over are quite similar to younger adults regarding their CE and technology usage behaviors, there are a number of distinct differences. Therefore, it is important for CE device manufacturers and retailers, along with technology developers, to consider the unique needs and desires of adults ages 50 and over because this age segment is sizable in both their numbers and spending power.

CEA recently conducted its Eye on Emerging Technology study covering four technologies: video chat, voice control, text-to-voice and voice-to-text. This AARP sponsored analysis brief examines the results from that study to provide insight into how the 50+ segment of the U.S. population differs from their 18-49 year old counterparts when it comes to the four technologies, with a specific focus on voice control.

Awareness and Interest in Emerging Technology

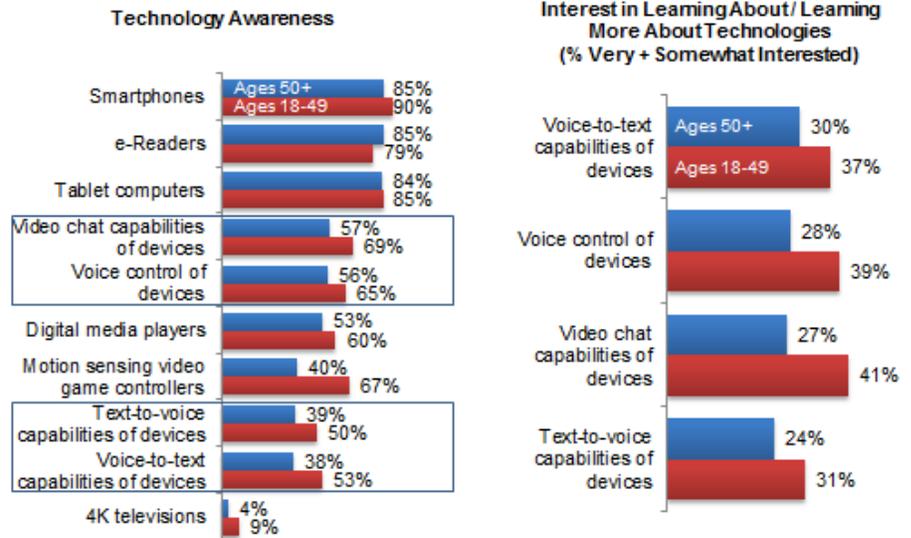
- Awareness of video chat, voice control, text-to-voice and voice-to-text technologies often available as features on consumer electronics devices is moderate among those ages 50+ and is consistently lower than awareness among those ages 18-49.
 - Specifically looking at those ages 50+, video chat capability awareness is the highest of the four technologies with around half (57%) of older Americans aware, compared to a significantly higher 69% of Americans ages 18-49.
 - Awareness of voice control of devices closely trails with 56% of those ages 50+ aware of the capability (65% 18-49).
 - Following, four in ten (39%) older Americans are aware of text-to-voice capabilities of devices (50% 18-49).
 - Of the four technologies, awareness of voice-to-text capabilities is the lowest among the 50+ population with 38% aware, again considerably lower than that for younger Americans (53%).



- Consumers of all ages express interest in learning about or learning more about these four capabilities with highest interest shown again by younger consumers.

- Interest in learning about or learning more about the technologies is highest among older Americans for voice-to-text capabilities (30%), closely followed by voice control of devices (28%), video chat capabilities (27%) and text-to-voice capabilities (24%).

Figure 1



- Among those ages 18-49, interest is greatest for video chat capabilities (41%), followed by voice control of devices (39%), voice-to-text capabilities (37%) and text-to-voice capabilities (31%), all significantly higher than interest among their 50+ counterparts.

- What sources do U.S. consumers rely upon to learn about new consumer electronics and technologies? Many turn to the Internet, friends, family members, co-workers or television.

Base: Online U.S. adults (ages 50+ n=374, ages 18-49 n=665)
 Q. Which of the following technologies, if any, have you seen or heard anything about in the past 12 months?
 Q. How interested or uninterested are you in learning about, or learning more about, each of the following technologies?

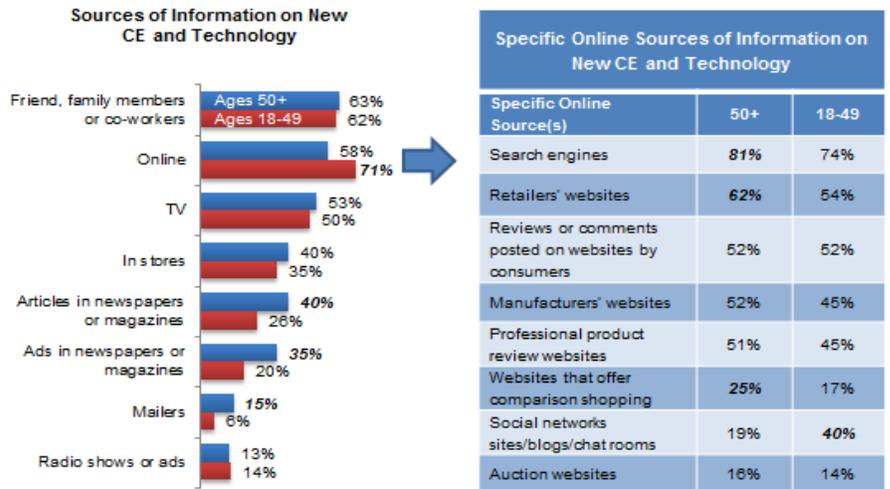
- Older U.S. adults are significantly more likely to rely upon articles in newspapers or magazines (40%) as sources for information on new CE and technology than are those ages 18-49 (26%), as well as ads in newspapers or magazines (35% versus 20%) and mailers (15% versus 6%).
- Conversely, younger U.S. adults are significantly more likely to rely upon the Internet as a source for information on new CE and technology when compared to those ages 50+ (71% versus 58%, respectively).
- Among those who utilize the Internet in searching for information on new CE or technologies, search engines are the most popular source, regardless of age, followed by retailers' websites, reviews or comments posted on websites by consumers and manufacturers' websites.
 - When looking for information on new consumer electronics, U.S. adults ages 50+ are significantly more likely to turn to search engines than are their younger counterparts (81% versus 74%, respectively), retailers' websites (62% versus 54%) and comparison shopping websites (25% versus 17%).
 - On the other hand, those ages 18-49 are significantly more likely to visit social network sites, blogs or chat rooms when looking for such information than are those ages 50+ (40% versus 19%, respectively).



Ownership of Capable Devices

- Ownership of devices capable of the technologies included in the study (video chat, voice control, text-to-voice and voice-to-text) is significantly lower among older U.S. adults compared to younger Americans. It is noteworthy, however, that ownership is consumer-reported, meaning they may own a device that is capable, yet they could be unaware of it having such a capability.
- While ownership of similar devices is significantly lower among those ages 50+, a considerable number of these consumers do own devices capable of video chat (57%), voice-to-text (31%), text-to-voice (28%) and voice control (24%).

Figure 2



Base: Online U.S. adults (ages 50+ n=374, ages 18-49 n=665)

Q. Where do you typically learn about new consumer electronics and technologies?

Base: Online U.S. adults who learn about new consumer electronics and technologies via the Internet (ages 50+ n=217, ages 18-49 n=469)

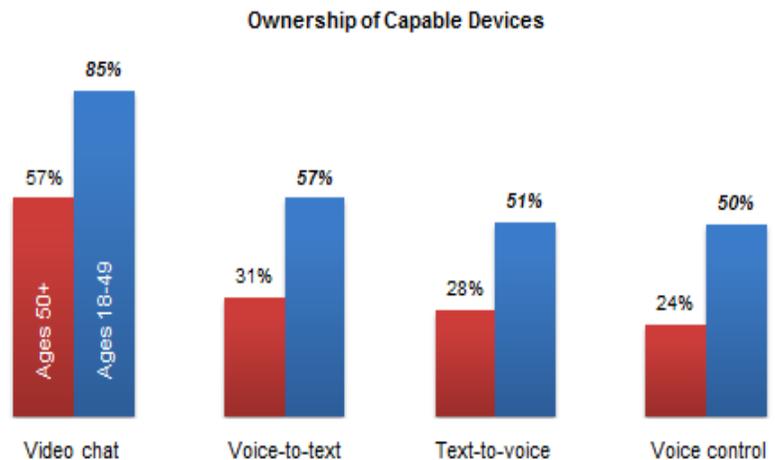
Q. You indicated typically using the Internet to learn about new consumer electronics and technologies. What types of online sources do you use?

Voice Control

Voice control technology usage, satisfaction, likelihood to recommend and interest in the technology are comparable between both younger and older consumers, which suggests that voice control technology possesses strong market potential among all consumers, regardless of age.

- One quarter (24%) of U.S. adults ages 50+ own at least one device capable of voice control technology. Among them, the most commonly owned devices include smartphones (16%) and desktop computers (5%).

Figure 3



Base: Online U.S. adults who own electronic devices (ages 50+ n=370, ages 18-49 n=658)

Q. Which of the devices that you own are capable of [technology]?

Usage

- More than half (56%) of voice control capable device owners over the age of 50 report they use the feature on their device(s) at least occasionally with two in ten (20%) that use the feature either daily or several times a week.
- Among those ages 50+ that are using the voice control capabilities of their device(s), many (68%) are doing so while at home. Additionally, we see nearly four in ten who are utilizing the technology while driving/ commuting (38%) and while on-the-go (36%), followed by 20% while at work.



- Of interest, those over the age of 50 are significantly less likely to use the capability while driving or commuting than are those under age 50.
- What tasks are consumers ages 50+ completing with the assistance of their voice controlled devices? Making phone calls tops the list with nearly half (46%) of 50+ users reporting specific usage as such. This is distantly followed by conducting Internet searches (21%), getting directions (18%) and navigating the device (9%).

Figure 4

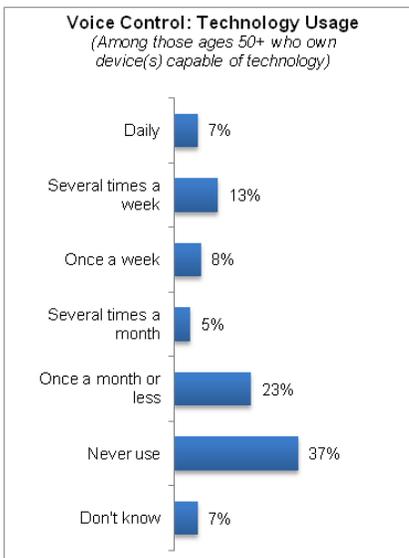


Base: Online U.S. adults ages 50+ who own electronic devices (n=370)

Q. Which of the devices that you own are capable of voice control or allow you to use voice instructions to control the device?

- Notably, 50+ users are considerably more likely to use the voice control capability of their devices to assist in making calls or finding contacts when compared to those under age 50.

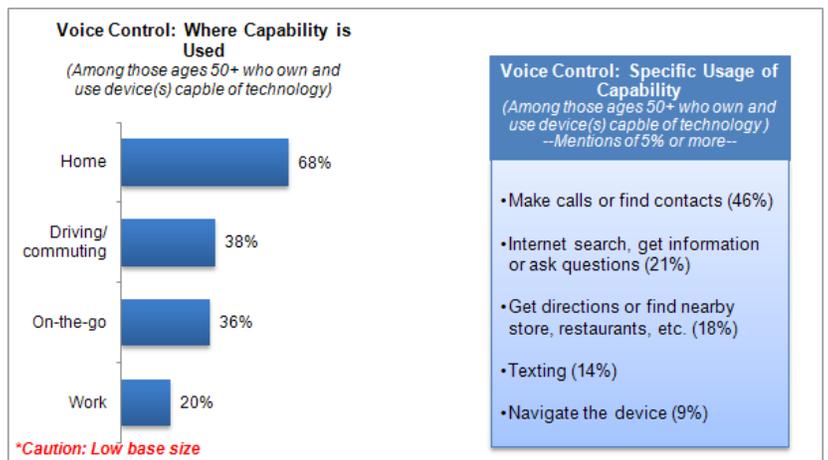
Figure 5



Base: Online U.S. adults ages 50+ who own electronic devices capable of voice control technology (n=84)

Q. How often do you use the voice control capability of your device?

Figure 6



Base: Online U.S. adults ages 50+ who use the voice control capability on their device(s) (n=48*)

Q. Where do you use the voice control capability of your device?

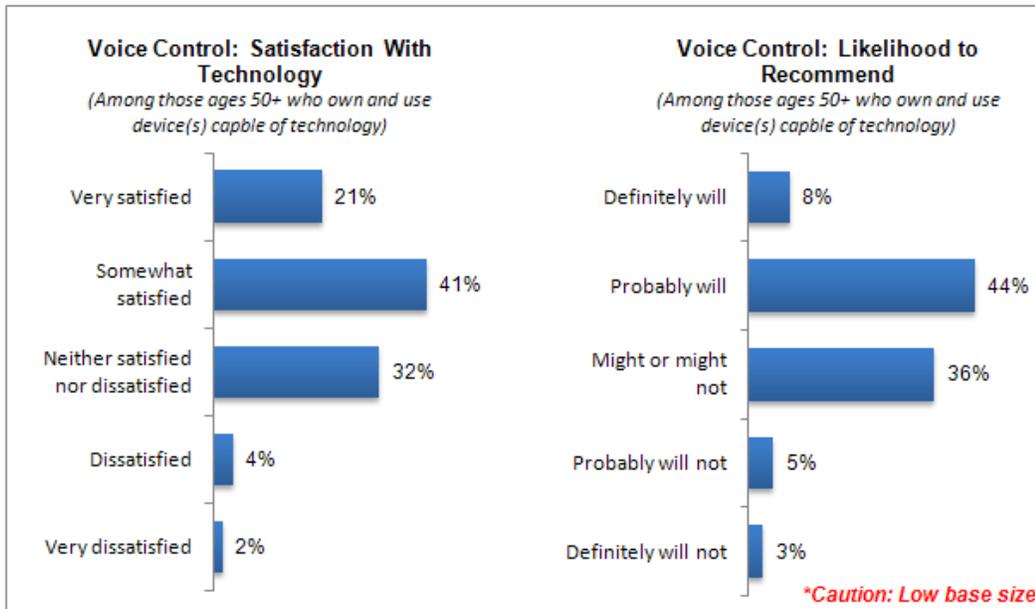
Satisfaction and Likelihood to Recommend

- Overall, satisfaction with voice control technology among those 50+ is generally high. Six in ten (62%) 50+ users are satisfied.
- Although satisfaction with voice control technology is high among the 50+ population, many acknowledge there is room for future improvements. Specifically, four in ten voice control users ages 50+ would like to see improved reliability (40%) and functionality (38%). Improved audio quality (35%), ease of use (34%) and speed (26%) are also important to many 50+ consumers in terms of how the technology can be improved in the future.



- When asked how likely they would be to recommend the voice control technology of their device(s), slightly more than half (52%) of 50+ users say they are likely.

Figure 7



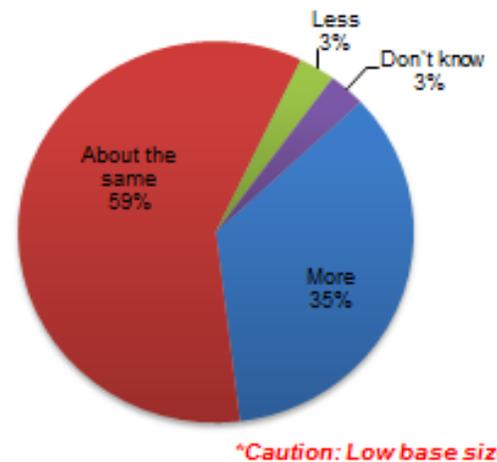
Base: Online U.S. adults ages 50+ who use the voice control capability on their device(s) (n=48*)
 Q. Overall, how satisfied or dissatisfied are you with using voice control on your device(s)?
 Q. How likely or unlikely are you to recommend the voice control capability of your device to someone you know?

Future Usage Expectations and Adoption Trends

- Over the next year, slightly more than one third (35%) of current voice control users over the age of 50 expect to use the capability of their device(s) more often, while nearly six in ten (59%) expect usage to remain the same.
- Among those over age 50 who do not currently own a device capable of voice control technology, three in ten (31%) express interest in future ownership.
- Smartphones (63%) top the list of preferred devices to support the technology, closely followed by laptop or notebook computers (59%), then desktop computers (49%).
 - Notably, consumers over the age of 50 who are interested in owning a capable device are significantly more interested in owning a laptop, notebook or desktop computer, while younger consumers are significantly more interested in smartphone or tablet ownership.

Figure 8

Voice Control: Expectations for Future Usage
(Among those ages 50+ who own and use device(s) capable of technology)



Base: Online U.S. adults ages 50+ who use the voice control capability on their device(s) (n=48*)
 Q. Do you expect to use the voice control capability of your device more, less or about the same amount 12 months from now?



In Summary

Awareness, Interest and Ownership of Emerging Technology

- Awareness of video chat, voice control, text-to-voice and voice-to-text technologies often available as features on consumer electronics devices is moderate among those ages 50+ and is consistently lower than awareness among younger consumers.

- Specifically looking at those ages 50+, video chat capability awareness (57%) is the highest of the four technologies, followed by voice control of devices (56%), text-to-voice (39%) and voice-to-text (38%) capabilities.

- Consumers of all ages express interest in learning about or learning more about these four capabilities with highest interest shown again by younger consumers.

- Among the 50+ population, interest in learning about the four technologies is highest for voice-to-text capabilities (30%), but is closely followed by interest in learning more about voice control of devices (28%), video chat capabilities (27%) and text-to-voice capabilities (24%).

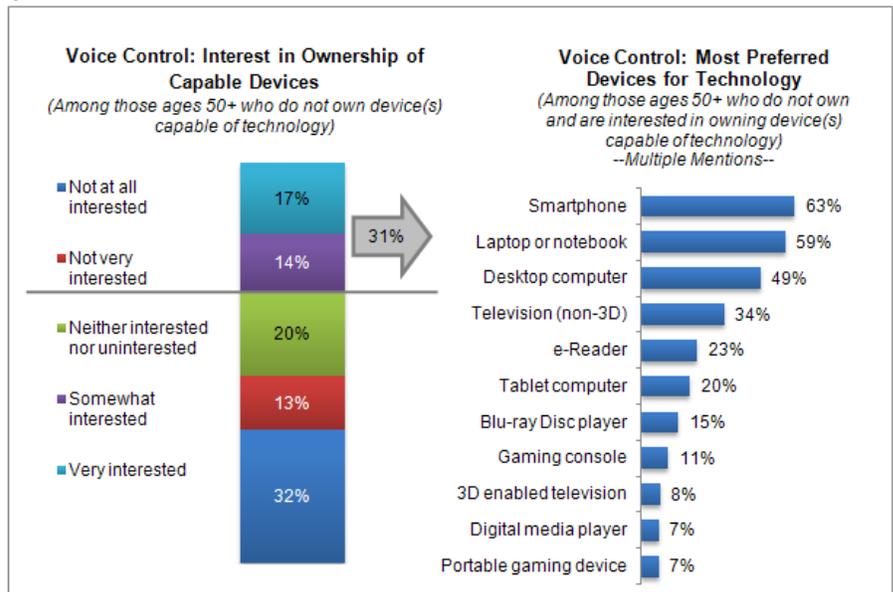
- Ownership of capable devices is significantly higher among younger U.S. adults across all four capabilities.

- Despite this, a considerable number of consumers over age 50 currently own devices capable of video chat (57%), voice-to-text (31%), text-to-voice (28%) and voice control (24%).

Voice Control

- One quarter (24%) of U.S. adults ages 50+ own at least one device capable of voice control technology. Among them, the most commonly owned devices are smartphones or desktop computers.
- More than half (56%) of voice control capable device owners over the age of 50 report they use the feature on their device(s) at least occasionally. Most are using the technology while at home, while others benefit from it while driving or commuting, while on-the-go or while at work. Making calls or finding contacts is the most common use, distantly followed by searching the Internet, getting directions, texting and navigating the device.
- Overall, satisfaction with voice control technology among those 50+ is generally high with six in ten (62%) users who are satisfied.

Figure 9



Base: Online U.S. adults ages 50+ who do not own devices capable of supporting voice control technology (n=206)

Q. How interested would you be in having a device capable of voice control?

Base: Online U.S. adults ages 50+ who do not own devices capable of supporting voice control technology and are interested in owning one (n=64)

Q. Which of these devices would you like to use for voice control?



- Although satisfaction with voice control technology is high among the 50+ population, many acknowledge there is room for future improvements. Specifically, voice control users ages 50+ would like to see improved reliability, functionality, audio quality, ease of use and speed in the future.
- When asked how likely they would be to recommend the voice control technology of their device(s), slightly more than half (52%) of 50+ users say they are likely.
- More than nine in ten (94%) users over the age of 50 expect to use the voice control capability of their device(s) more or about the same amount over the next 12 months.
- Among those ages 50+ who do not currently own a device capable of voice control technology, nearly one third (31%) express interest in future ownership, at parity with interest among those ages 18-49.

In Conclusion

Although awareness and usage of each of the four technologies – video chat, voice control, text-to-voice and voice-to-text – is considerably higher among younger U.S. adults, a sizable number of consumers over the age of 50 are taking advantage of the benefits offered by the technologies. With high satisfaction and strong likelihood to recommend among current users, coupled with considerable interest in learning about the technologies among those who are not current users, each technology is poised for strong growth within the 50+ market. Therefore, CE manufacturers and technology developers should continue to fine-tune these technologies in order to provide consumers of all ages with the best possible user experience.



CEA
Consumer Electronics Association

Spotlight on Americans 50+

Methodology

The report described herein was designed and formulated by the Consumer Electronics Association (CEA)[®]. Data from this analysis brief was sourced from CEA's *Eye on Emerging Technology* study. The quantitative study was administered via Internet web form to an online national sample of 1,039 U.S. adults between August 25 and 30, 2012. The margin of sampling error at 95% confidence for aggregate results is +/- 3.1%. For Americans 50+ the sampling error is +/- 4.8%.

CEA members can access CEA's *Eye on Emerging Technology* study reports at <http://members.CE.org>.

About CEA

The Consumer Electronics Association (CEA) is the preeminent trade association promoting growth in the \$204 billion U.S. consumer electronics industry. More than 2,000 companies enjoy the benefits of CEA membership, including legislative advocacy, market research, technical training and education, industry promotion, standards development and the fostering of business and strategic relationships. CEA also owns and produces the International CES - The Global Stage for Innovation. All profits from CES are reinvested into CEA's industry services.

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About AARP

AARP is a nonprofit, nonpartisan organization with a membership that helps people age 50 and over have independence, choice and control in ways that are beneficial and affordable to them and society as a whole, ways that help people 50 and over improve their lives. Since 1958, AARP has been leading a revolution in the way people view and live life.

About AARP's Innovation@50+ initiative:

The Innovation@50+™ initiative aims to spark entrepreneurial activity across public and private sectors. Anchored by the AARP social mission – to enhance the quality of life for all as we age – the initiative enlists the expertise of visionary thinkers, entrepreneurs, the investment community, industry and not-for-profits to spur innovation to meet the needs and wants of people over 50.

On the ground, the initiative catalyzes research and helps shape a marketplace ethos by promoting core, unifying principles such as "design for all." It stimulates new business models that reflect the broad transformation in how the 50-plus life is being re-imagined. Lastly, the initiative prepares 50-plus people to communicate with, access, engage and thrive in a new "longevity economy."

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