Methodology

• National telephone survey of 1015 adults age 18 and older
  • Conducted 12/31/2019 – 1/5/2020
  • Tracking from previous telephone study in December 2018
• National online survey of adults age 18 and older
  • Conducted 3/31/2020 – 4/1/2020, starting 20 days after COVID-19 was declared a pandemic by the WHO on 3/11/2020
    • 815 smart speaker owners
    • 428 do not own smart speaker; use voice-operated assistants on at least one other device (Voice-users/no smart speaker)
    • 417 do not use voice-operated assistants at all (Non-voice users)
  • Tracking from previous online studies from Spring 2017 and Spring 2018
• Ethnographic interviews in Denver, Kansas City, Orlando
  • Conducted in Feb 2020
Has your typical routine changed due to the outbreak of COVID-19?

Spring 2020
Base: Total U.S. Online population 18+

Total U.S. online population 18+

% saying yes

<table>
<thead>
<tr>
<th>Category</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>77</td>
</tr>
<tr>
<td>Age 18-34</td>
<td>75</td>
</tr>
<tr>
<td>Age 35-54</td>
<td>80</td>
</tr>
<tr>
<td>Age 55+</td>
<td>76</td>
</tr>
<tr>
<td>Men</td>
<td>75</td>
</tr>
<tr>
<td>Women</td>
<td>79</td>
</tr>
<tr>
<td>Have children under 18 in household</td>
<td>84</td>
</tr>
</tbody>
</table>
Since the outbreak of COVID-19, which best describes your daily routine?

- You are staying at home and not leaving to go out unless it is an emergency: 41%
- You only go out to places you believe are safe and/or necessary: 54%
- You are not changing your routine at all: 5%

Spring 2020
Base: Total U.S. Online population 18+
Since the outbreak of COVID-19, which best describes your work routine?

- You are working from home: 49%
- Your work has been eliminated, reduced, or postponed until further notice: 26%
- You are still required to work at your place of employment: 18%
- Your job is essential and related to the response of COVID-19: 16%

Spring 2020
Base: Age 18+, Full-time employed, part-time employed, or temporarily unemployed (61%)
26% of U.S. population 18+ are working from home and say their routine changed due to COVID-19

Spring 2020
Base: Total U.S. Online population 18+
24% of Americans 18+ own a Smart Speaker, or around 60 million people.

In 2019, 21% of U.S. adults 18+ owned a smart speaker, or around 53 million people.
Smart speaker owners

% owning type of smart speaker

- Any Amazon speaker: 78%
- Any Google speaker: 41%

Spring 2020
Base: Own a smart speaker
Smart speaker owners

How many smart speakers do you have in your home?

<table>
<thead>
<tr>
<th></th>
<th>One</th>
<th>Two</th>
<th>Three or more</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 2019</td>
<td>52%</td>
<td>27%</td>
<td>21%</td>
<td>1.9</td>
</tr>
<tr>
<td>Spring 2020</td>
<td>47%</td>
<td>24%</td>
<td>29%</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Base: Own a smart speaker
Smart speaker owners

Compared to the first month you owned your smart speaker, are you using your smart speaker…?

- More often: 43%
- About the same amount: 40%
- Less often: 17%

Spring 2020
Base: Own a smart speaker
## Smart speaker owners and smartphone voice users

### How often do you use the voice-operated personal assistant on your smartphone?

<table>
<thead>
<tr>
<th></th>
<th>Several times per day</th>
<th>Nearly every day</th>
<th>At least once per week</th>
<th>Less than once per month</th>
<th>Never/Phone doesn’t have voice-operated assistant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spring 2019</strong></td>
<td>19%</td>
<td>17%</td>
<td>17%</td>
<td>27%</td>
<td>20%</td>
</tr>
<tr>
<td><strong>Spring 2020</strong></td>
<td>20%</td>
<td>21%</td>
<td>22%</td>
<td>19%</td>
<td>18%</td>
</tr>
</tbody>
</table>

**Spring 2020**

*Base: Own a smart speaker and own a smartphone*
Smart speaker owners
How do you listen to audio most often?

<table>
<thead>
<tr>
<th></th>
<th>Smartphone or tablet</th>
<th>AM/FM Radio</th>
<th>Smart speaker</th>
<th>Computer or laptop</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spring 2019</strong></td>
<td>37%</td>
<td>23%</td>
<td>19%</td>
<td>6%</td>
<td>15%</td>
</tr>
<tr>
<td><strong>Spring 2020</strong></td>
<td>31%</td>
<td>25%</td>
<td>23%</td>
<td>8%</td>
<td>13%</td>
</tr>
</tbody>
</table>

Spring 2020
Base: Own a smart speaker
Voice Assistants
Do you currently ever use a voice-operated personal assistant...

- On any device: 63%
- On a Smartphone: 51%
- On your TV/TV remote: 24%
- In your car: 23%
- On a computer/laptop: 21%
- On a tablet: 19%
- On a household appliance: 9%

Spring 2020
Base: Total U.S. Online population 18+
56% of those who use a voice assistant on a smartphone say they keep the voice-operated personal assistant on their smartphone turned on all the time.

Spring 2020
Base: Use the voice assistant on smartphone
Voice-operated assistant users
How long have you been using voice-operated assistants of any kind?

- 1 year to less than 3 years: 39%
- 3 years to less than 5 years: 18%
- 5 years or more: 8%
- Six months to less than 1 year: 17%
- Six months or less: 18%

Spring 2020
Base: Ever use voice-operated personal assistants
Voice-operated assistant users

How often do you use voice commands?

<table>
<thead>
<tr>
<th></th>
<th>Several times per day</th>
<th>At least once per day</th>
<th>At least once per week</th>
<th>At least once per month</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>December 31, 2019-January 5, 2020</strong></td>
<td>20%</td>
<td>26%</td>
<td>25%</td>
<td>29%</td>
</tr>
<tr>
<td><strong>March 31-April 1, 2020</strong></td>
<td>25%</td>
<td>27%</td>
<td>22%</td>
<td>26%</td>
</tr>
</tbody>
</table>

Spring 2020
Base: Ever use voice-operated personal assistants
Voice-operated assistant users agree:

- Using voice-operated personal assistants makes your life easier: 68%
- Voice-operated personal assistant technology has improved recently: 65%
- You wouldn't want to go back to life without your voice-operated assistants: 41%

Spring 2020
Base: Smart speaker non-owners

#SmartAudioReport
Smart Speaker Non-Owners
Smart speaker non-owners

Have you ever heard of…?

- **The Amazon Echo/Amazon Dot** 59%
- **Google Home devices** 48%
- **Facebook Portal** 31%
- **The Apple HomePod** 25%
- **Sonos One** 19%
- **The Harmon/Kardon Invoke** 15%

% saying yes

*Spring 2020*

Base: Smart speaker non-owners
Smart speaker non-owners

% saying this is a reason they do not own a smart speaker

- It bothers you that voice-enabled smart speakers are always listening: 66%
- You worry that hackers could use voice-enabled smart speakers to get access to your home or personal information: 65%
- You do not trust the companies that make the smart speakers to keep your information secure: 58%
- You worry that voice-enabled speakers could allow the government to listen to your private conversations: 46%

Spring 2020
Base: Smart speaker non-owners
Agree/Disagree: **Smart speaker owners** vs. **Smartphone voice users**

- You worry that hackers could use your smart speaker / smartphone to get access to your home or personal information: 58% of smart speaker owners vs. 65% of smartphone voice users agree.
- It bothers you that your smart speaker / smartphone is always listening: 52% of smart speaker owners vs. 57% of smartphone voice users agree.
- You worry that your smart speaker / smartphone could allow the government to listen to your private conversations: 48% of smart speaker owners vs. 57% of smartphone voice users agree.
- You trust the companies that make the smart speaker/smartphone to keep your information secure: 55% of smart speaker owners vs. 57% of smartphone voice users agree.

*Spring 2020*

Base: Own a smart speaker/Smartphone voice users
Smart speaker non-owners

How likely are you to purchase a voice-enabled speaker in the next six months?

<table>
<thead>
<tr>
<th></th>
<th>Very likely</th>
<th>Somewhat likely</th>
<th>Not at all likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>All smart speaker non-owners</td>
<td>7%</td>
<td>27%</td>
<td>66%</td>
</tr>
<tr>
<td>Smart speaker non-owners who use voice commands</td>
<td>14%</td>
<td>38%</td>
<td>48%</td>
</tr>
</tbody>
</table>

Base: Own a smart speaker
46% of smart speaker owners who own a smartphone say they are using the voice-operated personal assistant on their smartphone more since getting a smart speaker.
Non voice-users

% interested in having voice assistant technology

- In a car or vehicle: 10%
- On your phone: 10%
- On your television: 8%
- In home appliances: 6%
- Other places: 4%
- At your work place: 2%

% saying yes

Spring 2020
Base: Non-voice users
How are people using voice commands?
# Smart speaker owners

How do you discover new skills or actions for your smart speakers?

<table>
<thead>
<tr>
<th>Method</th>
<th>% saying yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trial and error</td>
<td>38</td>
</tr>
<tr>
<td>Recommendations from friends or family</td>
<td>35</td>
</tr>
<tr>
<td>Emails from the smart speaker brand, such as Amazon, Google, or Apple</td>
<td>25</td>
</tr>
<tr>
<td>Searching your smart speaker app</td>
<td>23</td>
</tr>
<tr>
<td>Recommendations from your smart speaker</td>
<td>21</td>
</tr>
<tr>
<td>News/tech sites</td>
<td>19</td>
</tr>
<tr>
<td>Companies advertising that they have a smart speaker skill</td>
<td>11</td>
</tr>
</tbody>
</table>

Spring 2020

Base: Own a smart speaker

#SmartAudioReport
Own a smart speaker and use voice assistant on smartphone:

59% say the tasks completed using a smartphone voice-operated assistant are mostly different from the tasks completed using a smart speaker.

Spring 2020
Base: Smart Speaker owners who use voice assistant on smartphone
## Smart speaker owners vs. Smartphone voice users:
In a typical week do you request your [device] to…

<table>
<thead>
<tr>
<th>Task</th>
<th>Smart speaker owners</th>
<th>Smartphone voice users</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Play music</td>
<td>85%</td>
<td>51%</td>
<td>+34</td>
</tr>
<tr>
<td>Check the time</td>
<td>62%</td>
<td>40%</td>
<td>+22</td>
</tr>
<tr>
<td>Receive reminders</td>
<td>42%</td>
<td>21%</td>
<td>+21</td>
</tr>
<tr>
<td>Tell a joke or do something else funny</td>
<td>44%</td>
<td>25%</td>
<td>+19</td>
</tr>
<tr>
<td>Set a timer/alarm</td>
<td>65%</td>
<td>47%</td>
<td>+18</td>
</tr>
<tr>
<td>Get the weather</td>
<td>74%</td>
<td>58%</td>
<td>+16</td>
</tr>
<tr>
<td>Listen to an AM/FM radio station</td>
<td>45%</td>
<td>30%</td>
<td>+15</td>
</tr>
<tr>
<td>Play a game</td>
<td>24%</td>
<td>27%</td>
<td>-3</td>
</tr>
<tr>
<td>Read short stories</td>
<td>17%</td>
<td>20%</td>
<td>-3</td>
</tr>
<tr>
<td>Order food</td>
<td>18%</td>
<td>24%</td>
<td>-6</td>
</tr>
<tr>
<td>Find restaurants or businesses in your area</td>
<td>31%</td>
<td>38%</td>
<td>-7</td>
</tr>
<tr>
<td>Get the traffic</td>
<td>28%</td>
<td>36%</td>
<td>-8</td>
</tr>
<tr>
<td>Make a phone call</td>
<td>32%</td>
<td>46%</td>
<td>-14</td>
</tr>
<tr>
<td>Read or respond to a text message</td>
<td>Not asked</td>
<td>39%</td>
<td>--</td>
</tr>
</tbody>
</table>

Spring 2020
Smartphone voice assistant users request

8.8

different types of tasks on their smartphone in a typical week

Base: Smartphone voice users

Smart speaker owners request

10.8

different types of tasks on their smart speaker in a typical week

Base: Smart speaker owners
2019: Smart speaker owners request 9.4 different types of tasks on their smart speaker in a typical week.

2020: Smart speaker owners request 10.8 different types of tasks on their smart speaker in a typical week.

Spring 2020
Base: Own a smart speaker
Smart speaker owners and smartphone voice users agree:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Percent Agreeing</th>
</tr>
</thead>
<tbody>
<tr>
<td>The voice assistant on your smart speaker is better than the voice assistant on your smartphone</td>
<td>55</td>
</tr>
<tr>
<td>The voice assistant on your smartphone is better than the voice assistant on your smart speaker</td>
<td>45</td>
</tr>
</tbody>
</table>

*Spring 2020*

Base: Use voice-operated assistant technology on smartphone and on a smart speaker (82%)
How often does [device] misunderstand or mishear a request?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Smart speaker</th>
<th>Smartphone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Several times per day</td>
<td>11%</td>
<td>13%</td>
</tr>
<tr>
<td>At least once per day</td>
<td>22%</td>
<td>26%</td>
</tr>
<tr>
<td>At least once per week</td>
<td>30%</td>
<td>27%</td>
</tr>
<tr>
<td>At least once per month</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>Less than once per month</td>
<td>16%</td>
<td>12%</td>
</tr>
<tr>
<td>Never</td>
<td>9%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Base: Own a smart speaker
Base: Use voice-operated personal assistant on smartphone

Spring 2020
Smart speaker owners

“You don't know enough about your smart speaker to use all its features”

Spring 2019: 69%
Spring 2020: 61%

Base: Own a smart speaker
Smart Speakers with Screens
Smart speaker owners

Type of smart speaker owned

- Own smart speakers with and without screen: 30%
- Own smart speaker with screen only: 7%
- Own smart speaker without screen only: 63%

Spring 2020
Base: Smart speaker owners
Smart speaker owners

% owning a smart speaker with a screen:

Spring 2019: 31%
Spring 2020: 37%

Base: Own a smart speaker
Smart speaker owners
Type of smart speaker owned

<table>
<thead>
<tr>
<th></th>
<th>Spring 2019</th>
<th></th>
<th>Spring 2020</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Own a smart speaker with a screen only</td>
<td>4%</td>
<td>Own smart speakers with and without screens</td>
<td>27%</td>
<td>Own a smart speaker without a screen only</td>
</tr>
<tr>
<td>Own a smart speaker with a screen only</td>
<td>7%</td>
<td>Own smart speakers with and without screens</td>
<td>30%</td>
<td>Own a smart speaker without a screen only</td>
</tr>
</tbody>
</table>

Base: Own a smart speaker
Smart speaker non-owners

How likely are you to purchase a voice-enabled smart speaker that comes with a video screen in the next six months?

<table>
<thead>
<tr>
<th>Very likely</th>
<th>Somewhat likely</th>
<th>Not at all likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>8%</td>
<td>22%</td>
<td>70%</td>
</tr>
</tbody>
</table>

Smart speaker non-owners

Spring 2020

Base: Smart speaker non-owners

#SmartAudioReport
Own a smart speaker with a screen

% who agree: “You prefer your smart speaker with a screen over a smart speaker without a screen”

- Spring 2019: 60%
- Spring 2020: 65%

Base: Own a smart speaker with a screen
Own a smart speaker with a screen

% who agree: “Having a screen on your smart speaker makes it easier to use”

- Spring 2019: 66%
- Spring 2020: 74%

Base: Own a smart speaker with a screen
Own a smart speaker with a screen

% who agree: “The screen on your smart speaker has made it easier to discover new content”

Spring 2019: 66%
Spring 2020: 68%

Base: Own a smart speaker with a screen
Smart speaker owners

How often do you seek out new skills or actions to use on your smart speaker?

<table>
<thead>
<tr>
<th></th>
<th>Frequently</th>
<th>Occasionally</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own a smart speaker without a screen</td>
<td>3%</td>
<td>36%</td>
<td>45%</td>
<td>16%</td>
</tr>
<tr>
<td>Own a smart speaker with a screen</td>
<td>21%</td>
<td>50%</td>
<td>23%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Spring 2020

Base: Own a smart speaker
COVID-19 Related Behaviors
Smart speaker owners with children under 18 in household

% who agree: “You want to buy another smart speaker to entertain children in more rooms of the house”

- **Spring 2019**: 47%
- **Spring 2020**: 71%

% saying “yes, applies to you”

Base: Smart speaker owners with children under 18 in household
Smart speaker owners

% who ever listen to news on their smart speaker

- Spring 2019: 55%
- Spring 2020: 62%

Spring 2020
Base: Own a smart speaker
Smart speaker owners

Time spent listening to news on smart speaker in a typical week

<table>
<thead>
<tr>
<th></th>
<th>Less than one hour</th>
<th>1 hour to less than 3 hours</th>
<th>3 hours or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 2019</td>
<td>30%</td>
<td>40%</td>
<td>30%</td>
</tr>
<tr>
<td>Spring 2020</td>
<td>25%</td>
<td>43%</td>
<td>32%</td>
</tr>
</tbody>
</table>

Base: Own a smart speaker and listen to news programming on their smart speaker in a typical week
Top ten weekly smart speaker requests

- **Play music**: 85%
- **Get the weather**: 74%
- **Answer a general question**: 72%
- **Set a timer/alarm**: 69%
- **Check the time**: 62%
- **Get the news**: 56%
- **Listen to an AM/FM radio station**: 54%
- **Tell a joke or do something else funny**: 44%
- **Receive reminders from your smart speaker**: 42%
- **Get a sports score or update**: 38%

% that request item in typical week

---

Spring 2020
Base: Smart speaker owners

Smart speaker owners, routine changed and working from home due to COVID-19

#SmartAudioReport
All smart speaker owners

Smart speaker owners, routine changed and working from home due to COVID-19

% who ever listen to news on their smart speaker

- All smart speaker owners: 62%
- Smart speaker owners, routine changed and working from home due to COVID-19: 65%

Spring 2020

Base: Own a smart speaker

#SmartAudioReport
Smart speaker owners

Compared to before the COVID-19 outbreak, would you say you are using your smart speaker to listen to music and entertainment more, less or about the same?

<table>
<thead>
<tr>
<th></th>
<th>More</th>
<th>Same amount</th>
<th>Less</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smart Speaker owners</td>
<td>36%</td>
<td>55%</td>
<td>9%</td>
</tr>
<tr>
<td>Age 18-34</td>
<td>52%</td>
<td>39%</td>
<td>9%</td>
</tr>
<tr>
<td>Age 35-54</td>
<td>33%</td>
<td>58%</td>
<td>9%</td>
</tr>
<tr>
<td>Age 55+</td>
<td>18%</td>
<td>71%</td>
<td>11%</td>
</tr>
</tbody>
</table>

Spring 2020
Base: Own a smart speaker
Compared to before the COVID-19 outbreak, would you say you are using your smart speaker to listen to **news and information** more, less or about the same?

<table>
<thead>
<tr>
<th>Smart Speaker owners</th>
<th>More</th>
<th>Same amount</th>
<th>Less</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own a smart speaker</td>
<td>35%</td>
<td>56%</td>
<td>9%</td>
</tr>
<tr>
<td>Age 18-34</td>
<td>50%</td>
<td>36%</td>
<td>14%</td>
</tr>
<tr>
<td>Age 35-54</td>
<td>32%</td>
<td>62%</td>
<td>6%</td>
</tr>
<tr>
<td>Age 55+</td>
<td>16%</td>
<td>78%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Spring 2020
Base: Own a smart speaker
Takeaways

• Three-quarters of Americans 18+ say their routines have changed due to COVID-19, and their media habits have changed in response

• News is more important than ever with those who have experienced the most disruption

• Young people in particular are listening to more news as a result of the pandemic, with 50% of 18-34s indicating increased news consumption since the onset of COVID-19
Takeaways

• Voice assistant technology is in a state of evolution, not revolution, as people are using more kinds of skills and using the technology on speakers, TVs, and other devices
  • 63% of the total U.S. online population 18+ say they use voice-operated personal assistants of any kind
• The voice technology in smart speakers is seen as slightly better than the same technology in smartphones, which may be due to operating systems, and environmental factors
Takeaways

• Smart speakers with screens play a crucial role in skill discovery; audio-first devices are perceived as easier to use than audio-only devices

• Among non-owners of smart speakers, those who currently use voice assistants are 60% more likely than those who don't to purchase a smart speaker in the next six months