# Field Interviewer Attitudes and Usability Issues Surrounding Bring Your Own Device (BYOD) for the 2020 Census

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*Disclaimer: Any views expressed are those of the authors and not necessarily those of the U.S. Census Bureau.*

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# Overview

- Field interviewer (enumerator) web survey

- Focus group discussion and worksheet

- Usability test of BYOD software installation on personal smartphones

# Web survey

# Enumerator web survey

- Open to 707 enumerators who worked the 2014 Census Test
- Focus of web survey:
  - Smartphone ownership and usage
  - Willingness to use personal smartphone for work purposes (BYOD)
  - Demographic questions
- 401 out of 707 (**56.7%**) of enumerators responded

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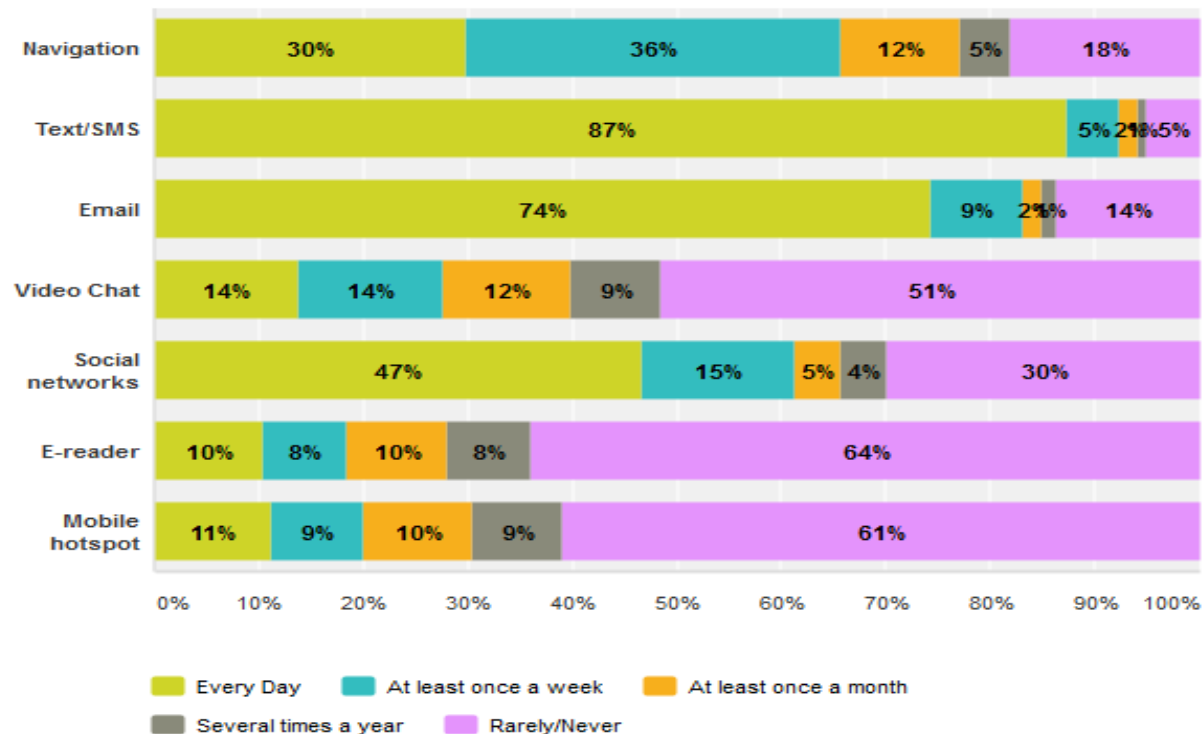U.S. CENSUS BUREAU
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# Smartphone ownership

- Ownership and personal usage
  - Almost 80% of respondents reported owning a smartphone for personal use
  - Respondents were about evenly split between iPhone and Android ownership

# Personal smartphone use



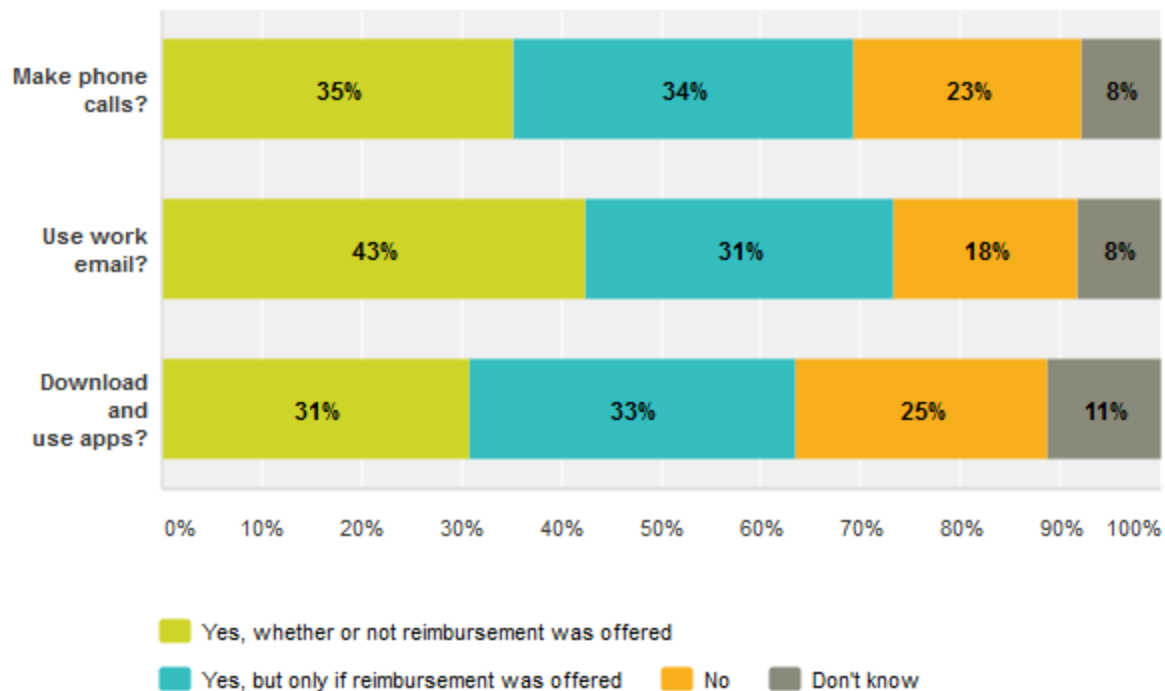How often do you use your smartphone for the following tasks?

Answered: 363    Skipped: 38

| Task | Every Day | At least once a week | At least once a month | Several times a year | Rarely/Never |
|---|---|---|---|---|---|
| Navigation | 30% | 36% | 12% | 5% | 18% |
| Text/SMS | 87% | 5% | 2% | 1% | 5% |
| Email | 74% | 9% | 2% | 1% | 14% |
| Video Chat | 14% | 14% | 12% | 9% | 51% |
| Social networks | 47% | 15% | 5% | 4% | 30% |
| E-reader | 10% | 8% | 10% | 8% | 64% |
| Mobile hotspot | 11% | 9% | 10% | 9% | 61% |

Legend: Every Day • At least once a week • At least once a month • Several times a year • Rarely/Never

# Willingness to use own phone



Would you be willing to use your own smartphone or tablet to...

Answered: 369    Skipped: 32

| | Make phone calls? | Use work email? | Download and use apps? |
|---|---|---|---|
| Yes, whether or not reimbursement was offered | 35% | 43% | 31% |
| Yes, but only if reimbursement was offered | 34% | 31% | 33% |
| No | 23% | 18% | 25% |
| Don't know | 8% | 8% | 11% |

Legend:
- Yes, whether or not reimbursement was offered
- Yes, but only if reimbursement was offered
- No
- Don't know

# Device preference

For doing the job for which you were hired by the Census Bureau, and assuming you had all the appropriate applications (apps) installed, would you rather use…

- **66%** A device issued by the government
- **6%** Your own personal device
- **27%** No preference

# Acceptable Use Policy (AUP)

Would you be willing to sign an employee policy stating that in order for you to use your own device as part of your employment, you must be responsible for backing up your personal data, you may not conduct illegal activity on your device, and accept that some of the specifications of your device (e.g., phone number, storage capacity, operating system version) will be known by the Census Bureau?

- **55%** Yes
- **45%** No

# Demographic differences

- **Age:** Smartphone ownership lower for 60+

- **Sex**:
    - Males were more likely to indicate would require reimbursement
    - Females were more likely to report being unwilling to use own device

# Focus group

# Focus group

- Held at the U.S. Census Bureau with 7 employees of regional offices who owned iPhones
  - 3 enumerators
  - 3 crew leaders
  - 1 Local Supervisor of Operations
- Goal of group was to discuss:
  - Acceptable Use Policy (AUP)
  - Reimbursement

# Focus group worksheet

- Focus group participants asked to fill out a worksheet as they arrived and at end of group

- 5-point scale evaluations of:
  - How well **understand** each section of the AUP
  - How **comfortable** with each section of the AUP

- Participants reported they were comfortable with and understood AUP

  - Increased after focus group

**Please rate your level of understanding of each of the following sections of the Acceptable Use Policy (AUP). Mark (X) one circle for each section of the AUP.**

| | Very Poor Understanding | Poor Understanding | Fair Understanding | Good Understanding | Excellent Understanding |
|---|---|---|---|---|---|
| 1. Policy Purpose | ○ | ○ | ○ | ○ | ○ |
| 2. Definitions | ○ | ○ | ○ | ○ | ○ |
| 4.1.1 Condition | ○ | ○ | ○ | ○ | ○ |
| 4.1.2 Loss or Theft | ○ | ○ | ○ | ○ | ○ |
| 4.1.3 Applications & Downloads | ○ | ○ | ○ | ○ | ○ |
| 4.1.4 Backup and File-Sharing | ○ | ○ | ○ | ○ | ○ |
| 4.1.5 Functionality & Feature Management | ○ | ○ | ○ | ○ | ○ |
| 4.2 Employee Safety | ○ | ○ | ○ | ○ | ○ |
| 4.3 Data and System Security | ○ | ○ | ○ | ○ | ○ |
| 4.4 Penalties | ○ | ○ | ○ | ○ | ○ |
| 6.2 Warranty and Replacement | ○ | ○ | ○ | ○ | ○ |
| 7.1 Termination of Employment | ○ | ○ | ○ | ○ | ○ |
| 7.3 Discovery | ○ | ○ | ○ | ○ | ○ |

# Acceptable Use Policy concerns

- During the discussion, concern over Acceptable Use Policy (AUP) sections on...
  - Loss/theft
  - Separation of work and personal information

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# Participant-identified BYOD pros

- Cost-savings for taxpayers

- Ease of implementation/transition

- Logistic ease for enumerators

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# Participant-identified BYOD cons

- Lack of separation of work and personal information

- Government access to personal data

- Enumerator behavior on a personally owned device

# BYOD reimbursement

- How tracked? What counts?

- Types of reimbursement discussed:
  - Data AND voice reimbursement
  - Voice reimbursement
  - No reimbursement

# Usability test

# Usability test

- Held following the focus group with same 7 participants

- Entailed both observation and self-evaluation

- Objectives:
  - Evaluate effectiveness, efficiency, satisfaction of BYOD software installation
  - Identify installation issues

# Measures

- **Effectiveness:** All participants installed software, but some required assistance

- **Efficiency:** Installation averaged 30 minutes – longer than expected

- **Satisfaction:** Most participants self-reported being satisfied with the installation

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# Usability concerns

- Some issues were identified, e.g.:
  - Confusion over **email/SMS messages** with download information and **passcodes**
  - Message about **prohibited applications** made participants uneasy
  - Inaccuracies in **download instructions**

# Takeaways

- Preliminary results on ownership, willingness to use own device seem to be positive

- Clear language in the AUP is important

- Reimbursement is a key issue warranting further research

# Thank you!

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