

# Analysis of Internet Core Trends

*Woo Jin Kim, Matt Mackenzie, Mamunur Rashid*

*2019-11-20*



# Contents

<b>Introduction</b>	<b>5</b>
Data Dictionary . . . . .	5
<b>1 Data Sources</b>	<b>19</b>
<b>2 Data Transformation</b>	<b>21</b>
<b>3 Missing Values</b>	<b>23</b>
<b>4 Results</b>	<b>25</b>
<b>5 Interactive Component</b>	<b>27</b>
<b>6 Conclusion</b>	<b>29</b>



# Introduction

Introduction

## Data Dictionary

In order to more easily explore and line up the data, the dictionary below was constructed. Note, that feature names that appear in parenthesis were the original names of the columns, and were renamed to more easily understand the features.

### Identifiers

Feature

Years

Question/Description

Values

comp

Both

NA

1 (Complete); 2 (Non-complete); 3 (Over Quota Complete); 4 (Screen-outs / Contacts)

cregion

Both

Regionfrom respondent reported zip code

1 (Northeast); 2 (Midwest); 3 (South); 4 (West)

int\_\_date

Both

Interview date (NOTE: Final interviewer date, adjusted for interviews that are done early in the AM)

NA (NA)

lang

Both

Language the interview was conducted in.

1 (English); 2 (Spanish)

respid

Both

NA

NA (NA)

sample

Both

How survey was done.

1 (Landline); 2 (Cell phone)

state

Both

State from respondent reported zip code

NA (FIPS)

## Demographics

Feature

Years

Question/Description

Values

age

Both

What is your age?

1 to 96 (Exact age); 97 (97 or older); 98 (Don't know); 99 (Refused)

birth\_place (birth\_hisp)

## Both

Were you born in the United States, on the island of Puerto Rico, or in another country?

1 (U.S.); 2 (Puerto Rico); 3 (Another county); 8 (Don't know); 9 (Refused)

density

## Both

Population density from reported zip code

1 to 5 (Pop density quintiles by zipcode)

education (educ2)

## Both

What is the highest level of school you have completed or the highest degree you have received?

1 (Less than high school); 2 (High school incomplete); 3 (High school graduate); 4 (Some college, no degree); 5 (Two-year associate degree); 6 (Four-year Bachelor's degree); 7 (Some postgraduate or professional schooling); 8 (Postgraduate or professional degree); 98 (Don't know); 99 (Refused)

employment (emplnw)

## Both

Are you now employed full-time, part-time, retired, or are you not employed for pay?

1 (Employed full-time); 2 (Employed part-time); 3 (Retired); 4 (Not employed for pay); 5 (Have own business/self-employed); 6 (Disabled); 7 (Student); 8 (Other); 98 (Don't know); 99 (Refused)

hispanic (hisp)

## Both

Are you of Hispanic, Latino, or Spanish origin, such as Mexican, Puerto Rican or Cuban?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

house.income (inc)

## Both

What was your total family income from all sources, before taxes?

1 (Less than \$10,000); 2 (10 to under \$20,000); 3 (20 to under \$30,000); 4 (30 to under \$40,000); 5 (40 to under \$50,000); 6 (50 to under \$75,000); 7 (75 to under \$100,000); 8 (100 to under \$150,000); 9 (\$150,000 or more); 98 (Don't know); 99 (Refused)

house.num\_adults (hh3)

Both

How many, including yourself, are adults, age 18 and older?

1 to 7 (Exact people); 8 (8 or more); 9 (Don't know/Refused)

house.num\_people (hh1)

Both

How many people, including yourself, live in your household?

1 to 7 (Exact people); 8 (8 or more); 9 (Don't know/Refused)

marital

Both

Are you currently married, living with a partner, divorced, separated, widowed, or have you never been married?

1 (Married); 2 (Living with a partner); 3 (Divorced); 4 (Separated); 5 (Widowed); 6 (Never been married); 8 (Don't know); 9 (Refused)

pol.lean (partyln)

Both

As of today, do you lean more to the Republican Party or more to the Democratic Party?

1 (Republican); 2 (Democrat); 8 (Don't know); 9 (Refused)

pol.party (party)

Both

In politics TODAY, do you consider yourself a Republican, Democrat, or independent?

1 (Republican); 2 (Democrat); 3 (Independent); 4 (No preference); 5 (Other party); 8 (Don't know); 9 (Refused)

race (racecmb)

Both

Which of the following describes your race?

1 (White); 2 (Black or African-American); 3 (Asian or Asian-American); 4 (Mixed race); 5 (Some other race); 9 (Don't know/Refused)

sex

Both

NA



1 (Male); 2 (Female)

usr

Both

USR from respondent reported zip code.

R (Rural); S (Suburban); U (Urban)

## Devices

Feature

Years

Question/Description

Values

device.cellphone (device1a)

Both

Next, do you have a cell phone, or not?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

device.cellphone.smart (smart2)

Both

Is your cell phone a smartphone, or not?

1 (Yes, smartphone); 2 (No, not a smartphone); 8 (Don't know); 9 (Refused)

device.game (device1d)

Both

Do you have a game console?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

device.pc (device1c)

Both

Do you have a desktop or laptop computer?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

device.tablet (device1b)

Both

Do you have a tablet computer?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

house.not\_cell (qc1)

Both

Is there at least one telephone INSIDE your home that is currently working and is not a cell phone?

1 (Yes home telephone); 2 (No, home telephone); 9 (Don't know/Refused)

house.working\_cell (ql1a)

Both

Does anyone in your household have a working cell phone?

1 (Yes, someone in household has cell phone); 2 (No); 9 (Don't know/Refused)

working\_cell (ql1)

Both

Do you have a working cell phone?

1 (Yes, have cell phone); 2 (No, do not); 9 (Don't know/Refused)

## Internet

Feature

Years

Question/Description

Values

internet.freq (intfreq)

Both

About how often do you use the internet

1 (Almost constantly); 2 (Several times a day); 3 (About once a day); 4 (Several times a week); 5 (Less often); 8 (Don't know); 9 (Refused)

internet.method (q20)

2019

Overall, when you use the internet, do you do that mostly using your cell phone or mostly using some other device?

1 (Mostly on cell phone); 2 (Mostly on something else); 3 (Both equally); 4 (Depends); 8 (Don't know); 9 (Refused)

internet.mobile (intmob)

Both

Do you access the internet on a cell phone, tablet or other mobile handheld device, at least occasionally?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

internet.use (eminuse)

Both

Do you use the internet or email, at least occasionally?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

service.confirm (bbhome2)

Both

Just to confirm, you use a dial-up connection to the internet at home, and not a higher-speed broadband connection?

1 (Yes, dial-up); 2 (No, higher speed connection); 8 (Don't know); 9 (Refused)

service.past (bbsmart1)

2019

Did you EVER at some point in the past have a broadband internet subscription at home?

1 (Yes, had broadband); 2 (No, did not have broadband); 8 (Don't know); 9 (Refused)

service.reason.availability (bbsmart3e)

2019

Reasons why you do not have high-speed internet at home... Broadband service is not available where you live, or is not available at an acceptable speed?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

service.reason.biggest (bbsmart4)

2019

Thinking of the reasons why you do not have broadband service at home, which of them is the MOST important?

1 (Subscription too expensive); 2 (Computer too expensive); 3 (Smartphone does everything); 4 (Other options); 5 (Not available/acceptable); 6 (Some other reason); 8 (Don't know); 9 (Refused)

service.reason.computer (bbsmart3b)

2019

Reasons why you do not have high-speed internet at home... The cost of a computer is too expensive?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

service.reason.options (bbsmart3d)

2019

Reasons why you do not have high-speed internet at home... You have other options for internet access outside of your home?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

service.reason.other (bbsmart3f)

2019

Reasons why you do not have high-speed internet at home... Some other reason I haven't already mentioned?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

service.reason.other.text (bbsmart3foe@)

2019

Reasons why you do not have high-speed internet at home... Some other reason I haven't already mentioned?

TXT (NA)

service.reason.smartphone (bbsmart3c)

2019

Reasons why you do not have high-speed internet at home... Your smartphone lets you do everything online that you need to do?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

service.reason.subscription (bbsmart3a)

2019

Reasons why you do not have high-speed internet at home... The monthly cost of a home broadband subscription is too expensive?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

service.speed (bbhome1)

Both

Do you subscribe to dial-up internet service at home or a higher-speed broadband service such as DSL, cable, or fiber optic service?

1 (Dial-up); 2 (Higher-speed); 3 (Both); 4 (Access internet only using cell phone or tablet); 5 (No home internet access); 8 (Don't know); 9 (Refused)

service.subscribe (home4nw)

Both

Do you currently subscribe to internet service at HOME?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

service.want (bbsmart2)

2019

Would you like to have high-speed internet at home?

1 (Yes, interested); 2 (No, not interested); 8 (Don't know); 9 (Refused)

## Social Media

Feature

Years

Question/Description

Values

sm.freq.facebook (sns2c)

Both

About how often do you visit or use Facebook?

1 (Almost constantly); 2 (Several times a day); 3 (About once a day); 4 (Several times a week); 5 (Less often); 8 (Don't know); 9 (Refused)

sm.freq.instagram (sns2b)

Both

About how often do you visit or use Instagram?

1 (Almost constantly); 2 (Several times a day); 3 (About once a day); 4 (Several times a week); 5 (Less often); 8 (Don't know); 9 (Refused)

sm.freq.snapchat (sns2d)

Both

About how often do you visit or use Snapchat?

1 (Almost constantly); 2 (Several times a day); 3 (About once a day); 4 (Several times a week); 5 (Less often); 8 (Don't know); 9 (Refused)

sm.freq.twitter (sns2a)

Both

About how often do you visit or use Twitter?

1 (Almost constantly); 2 (Several times a day); 3 (About once a day); 4 (Several times a week); 5 (Less often); 8 (Don't know); 9 (Refused)

sm.freq.youtube (sns2e)

Both

About how often do you visit or use YouTube?

1 (Almost constantly); 2 (Several times a day); 3 (About once a day); 4 (Several times a week); 5 (Less often); 8 (Don't know); 9 (Refused)

sm.use (snsint2)

2018

Do you ever use social media sites like Facebook, Twitter or Instagram?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

sm.use.facebook (web1c)

Both

Do you ever use Facebook?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

sm.use.instagram (web1b)

Both

Do you ever use Instagram?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

sm.use.linkedin (web1h)

Both

Do you ever use LinkedIn?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

sm.use.pinterest (web1g)

Both

Do you ever use Pinterest?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

sm.use.reddit (web1i)

2019

Do you ever use Reddit?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

sm.use.snapchat (web1d)

Both

Do you ever use Snapchat?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

sm.use.twitter (web1a)

Both

Do you ever use Twitter?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

sm.use.whatsapp (web1f)

Both

Do you ever use WhatsApp?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

sm.use.youtube (web1e)

Both

Do you ever use YouTube?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

## Dependencies

Feature

Years

Question/Description

Values

depend.cellphone (pia15b)

Both

How hard would it be for you to give up your cell phone or smartphone?

1 (Very hard); 2 (Somewhat hard); 3 (Not too hard); 4 (Not hard at all); 5 (Impossible); 6 (Do not use / Do not have); 8 (Don't know); 9 (Refused)

depend.internet (pia15c)

Both

How hard would it be for you to give up the internet?

1 (Very hard); 2 (Somewhat hard); 3 (Not too hard); 4 (Not hard at all); 5 (Impossible); 6 (Do not use / Do not have); 8 (Don't know); 9 (Refused)

depend.sm (pial5d)

Both

How hard would it be for you to give up social media?

1 (Very hard); 2 (Somewhat hard); 3 (Not too hard); 4 (Not hard at all); 5 (Impossible); 6 (Do not use / Do not have); 8 (Don't know); 9 (Refused)

depend.television (pial5a)

Both

How hard would it be for you to give up your television?

1 (Very hard); 2 (Somewhat hard); 3 (Not too hard); 4 (Not hard at all); 5 (Impossible); 6 (Do not use / Do not have); 8 (Don't know); 9 (Refused)

## **Society**

Feature

Years

Question/Description

Values

society.overall (pial11)

2018

Overall, would you say the internet has mostly been a good or bad thing for society?

1 (Good thing); 2 (Bad thing); 3 (Some of both); 8 (Don't know); 9 (Refused)

society.personal (pial12)

2018

Personally, would you say the internet has mostly been a good or bad thing for society?

1 (Good thing); 2 (Bad thing); 3 (Some of both); 8 (Don't know); 9 (Refused)

society.text (pial11ao@)

2018



What is the main reason you think the internet has been a good or bad thing for society?

TXT (NA)

society.text.exists (pial11a)

2018

What is the main reason you think the internet has been a good or bad thing for society?

1 (Answered)

## Books

Feature

Years

Question/Description

Values

books.audio (books2b)

Both

Thinking about all of the books you have read in the past 12 months, were any of those audio books?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

books.ebook (books2c)

Both

Thinking about all of the books you have read in the past 12 months, were any of those e-books?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

books.printed (books2a)

Both

Thinking about all of the books you have read in the past 12 months, were any of those printed books?

1 (Yes); 2 (No); 8 (Don't know); 9 (Refused)

books.read (books1)

Both

During the past 12 months, about how many books did you read either all or part of the way through?

0 (None); 1 to 96 (Exact number); 97 (97 or more); 98 (Don't know); 99 (Refused)

## Other

Feature

Years

Question/Description

Values

weight

Both

NA

NA (NA)

# Chapter 1

## Data Sources

Data Sources



## Chapter 2

# Data Transformation

Data Transformation



## Chapter 3

# Missing Values

Missing Values





## Chapter 4

# Results

Results



## Chapter 5

# Interactive Component

Interactive Component



## Chapter 6

# Conclusion

Conclusion