

# **Mobile Survey Data Collection and Management Using Participants Own Smartphones**

Paresh V. Patel,  
CEO SurveySignal

# Overview

- Different approaches to implementation
  - PDA approach
  - Local app approach
  - **SMS distribution approach**
- Introducing **SurveySignal**
  - Core features
  - How it works
  - User experiences
  - Security/Ethical issues
  - Resources

# Common approaches

## 1. The PDA approach

Criteria (various costs and efforts)	
Device costs	High
(Programming) effort involved in setting up customized protocol	Typically high, although some software exists (e.g., ESP)
Online access/data plan	Not needed (local storage), unless results need to be fed back in real-time
Compatibility issues	None (only one operating system)
Need to meet before and after experience sampling phase?	Yes
Special participant burden	Need to carry extra device and learn how to use it

# Common approaches

## 2. The local-app approach

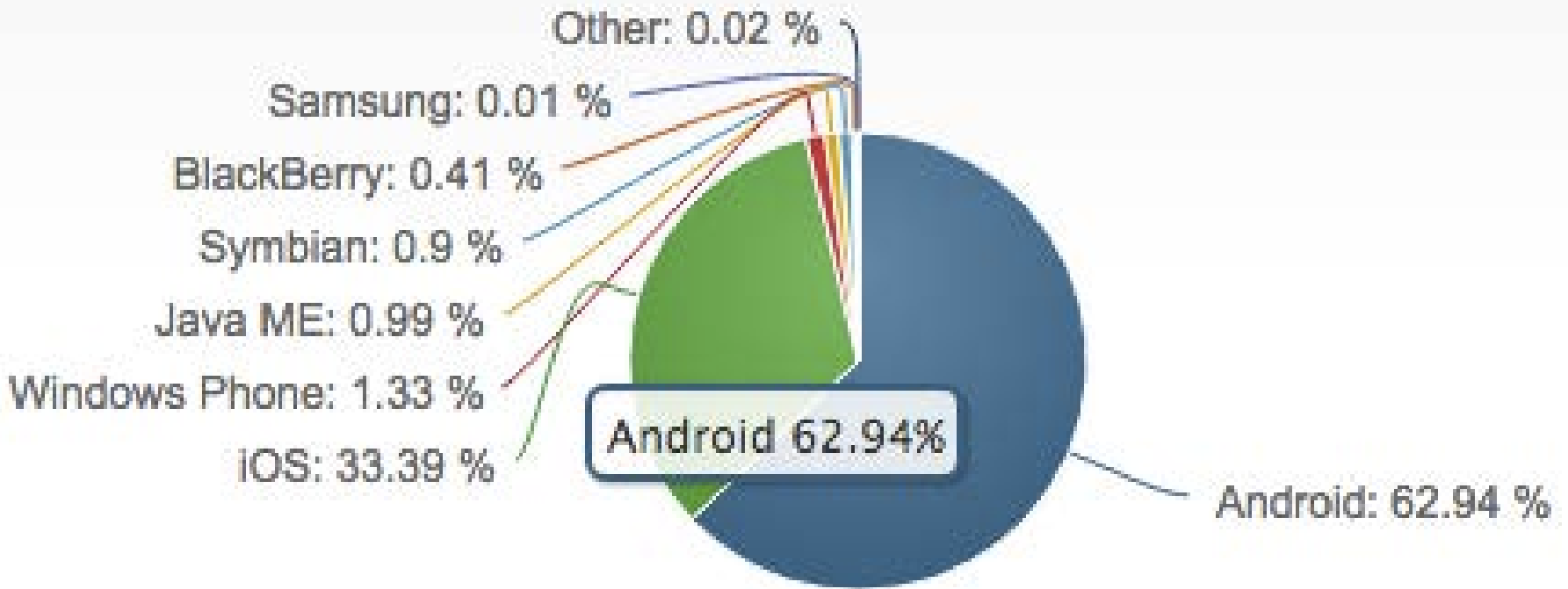
Criteria (various costs and efforts)	
Device and other costs	No device costs (if using participant's smartphone)
(Programming) effort involved in setting up customized protocol	Moderate to high, depending on application
Online access/data plan	Not needed (local storage), unless results need to be fed back in real-time
Compatibility issues	Yes (e.g. Android vs. iOS vs. Blackberry vs. Windows Mobile)
Need to meet before and after experience sampling phase?	Not necessarily, if people download and install app on their own
Special participant burden	Need to download and install the app

# Common approaches

## 3. The SMS approach

Criteria (various costs and efforts)	
Device and other costs	No device costs; Text messaging costs
(Programming) effort involved in setting up customized protocol	None (when user-friendly survey software is used)
Online access/data plan	Required
Compatibility issues	Minimal (mobile surveys display well on most smartphone browsers)
Need to meet before and after experience sampling phase?	Not necessarily
Special participant burden	None

# 2017 Operating Systems Market Shares (US)



# Development of easy-to-use web-based Software

(*SurveySignal*; Hofmann, W., & Patel, P. V. (2015), *SSCR*)

SMS distribution approach, combining

- (1) A simple and fast signup and smartphone verification system
- (2) Text messaging as a signaling and reminder device, according to fixed, random, or mixed schedules
- (3) Seamless integration with mobile-compatible survey software such as Qualtrics or SurveyMonkey

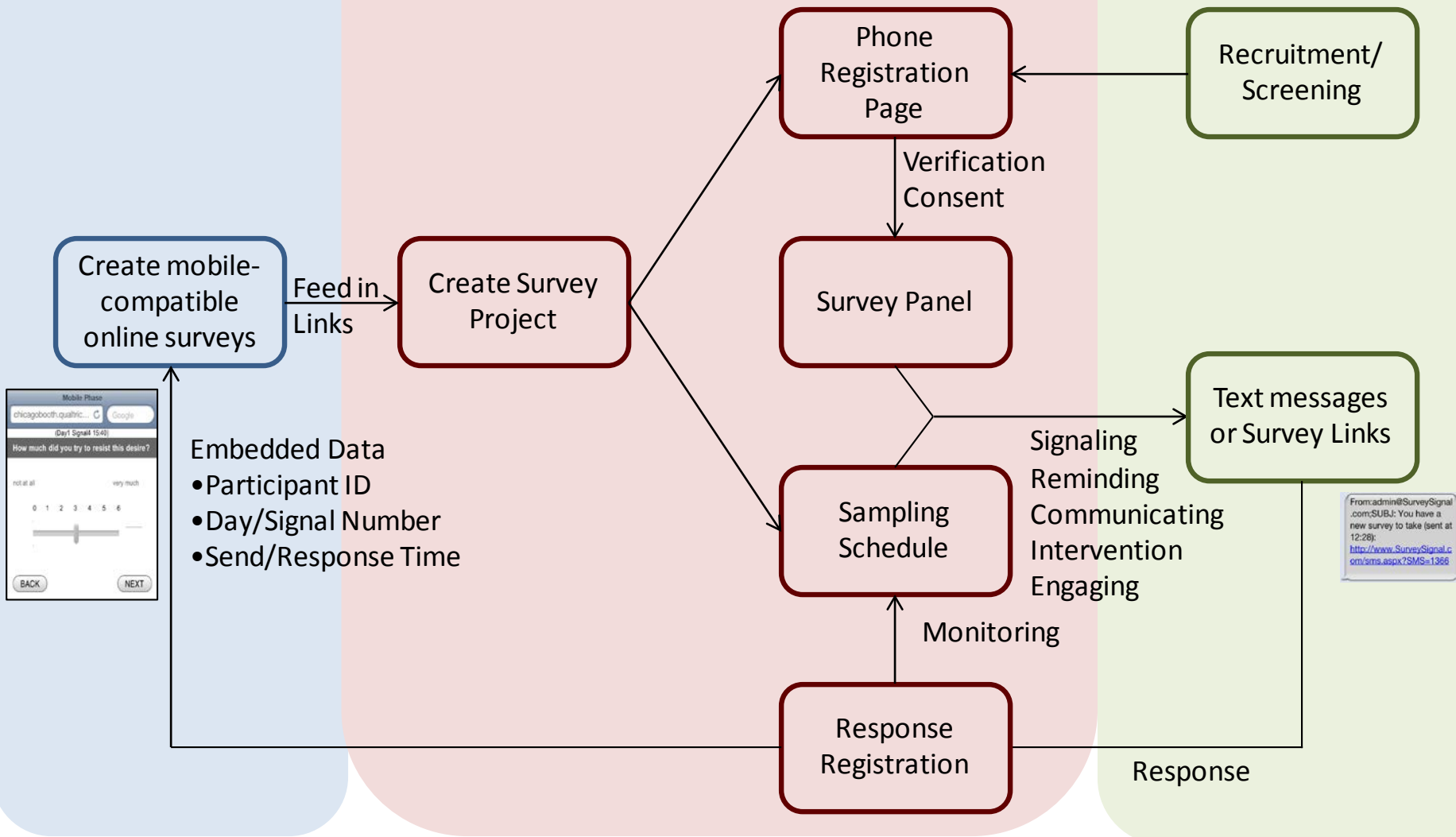
A screenshot of a survey interface on a smartphone. The screen shows three questions, each followed by a text input field. The questions are: 'How many Employees were on your payroll for the month of Mar 2017, that included the 12th of the month?', 'How many Women Employees were on your payroll for the month of Mar 2017, that included the 12th of the month?', and 'How many Production Workers were on your payroll for the month of Mar 2017, that included the 12th of the month?'. The phone's status bar at the top shows '100%' battery.

SurveySignal

# How it works



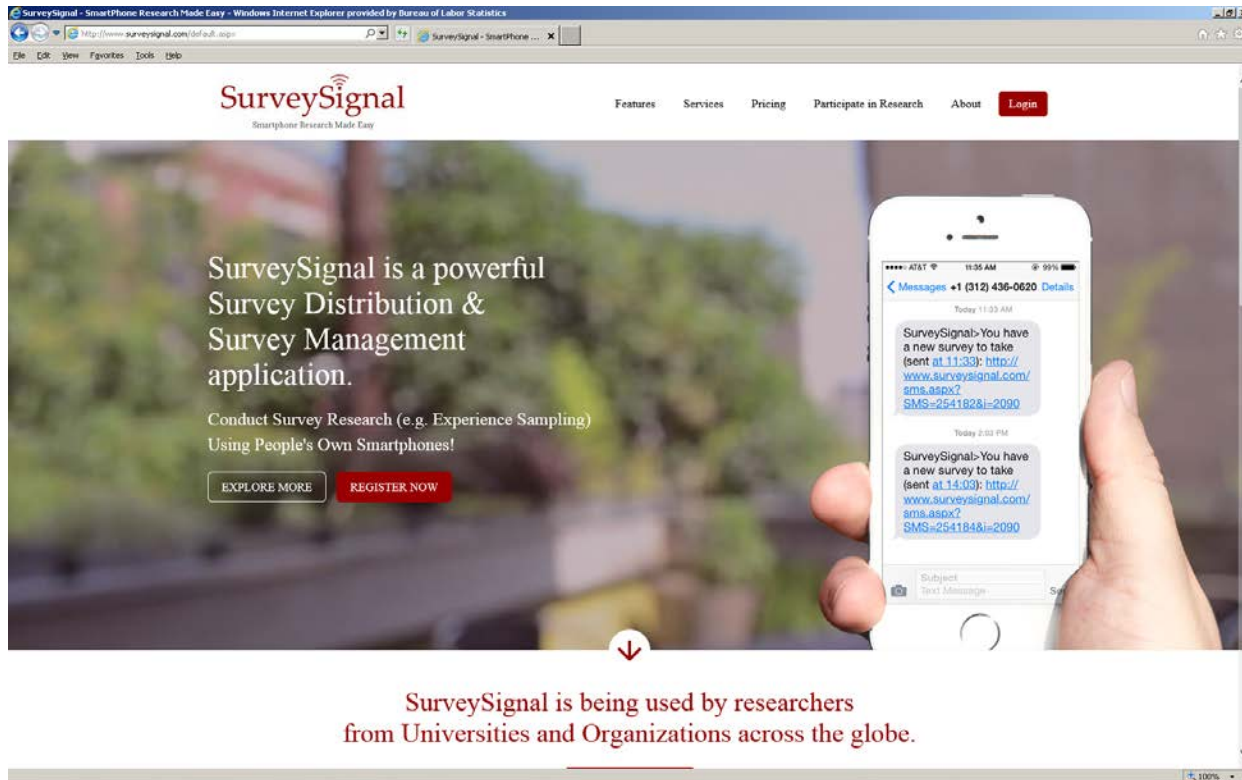
## SurveySignal





# SurveySignal Account

- Registering an account and exploring the system is free



The screenshot shows the SurveySignal website in a browser window. The page features the SurveySignal logo with the tagline "Smartphone Research Made Easy". Navigation links include "Features", "Services", "Pricing", "Participate in Research", "About", and a "Login" button. The main content area has a background image of a hand holding a smartphone. The phone screen displays two text messages from SurveySignal, each offering a new survey to take with a link to the survey page and an SMS number. Below the phone image, there are two buttons: "EXPLORE MORE" and "REGISTER NOW". At the bottom of the page, a text block states: "SurveySignal is being used by researchers from Universities and Organizations across the globe."

# SurveySignal

# Account Interface

The screenshot shows the SurveySignal account interface in a Windows Internet Explorer browser. The browser address bar shows the URL <http://www.surveymonster.com/survey.aspx>. The SurveySignal logo is visible at the top left. A dark sidebar on the left contains navigation links: Dashboard, My Surveys, Panels, Accounts, and Help. The main content area is titled 'My Surveys' and features a 'Create Survey' button in the top right corner. Below the button is a table listing various surveys with columns for Survey Name, Start Date, End Date, Active status, Survey Type, and action icons for Edit, Particip., Reports, Panel, and Email. An arrow points from the text 'Create an unlimited number of survey projects within a free online account' to the 'Create Survey' button.

Create an unlimited number of survey projects within a free online account

Survey Name	Start Date	End Date	Active	Survey Type	Edit	Particip.	Reports	Panel	Email
SPSP New Orleans	09/19/2012	09/19/2015	YES	ONE-SHOT					
Experience Sampling Example	09/19/2012	11/18/2013	YES	REPEATED					
Happiness Project	04/24/2013	04/24/2014	YES	REPEATED					
Customer Satisfaction Survey	04/12/2013	06/11/2013	YES	REPEATED					
Couples Study	02/15/2015	04/16/2015	YES	REPEATED					
Tracking Desires Study	03/10/2015	06/08/2015	YES	REPEATED					
Emotions and Cognition Study	06/28/2013	08/27/2013	YES	REPEATED					
Positive Interventions	11/07/2013	11/30/2013	YES	REPEATED					

# Customize the Schedule

SurveySignal - Windows Internet Explorer provided by Bureau of Labor Statistics

http://www.surveysignal.com/EditSurvey.aspx

SurveySignal

File Edit View Favorites Tools Help

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## Schedule Parameters

Survey Window Start Date	<input type="text" value="09/19/2012"/>
	<small>e.g. 04/06/2015</small>
Survey Window End Date:	<input type="text" value="11/18/2013"/>
	<small>e.g. 04/06/2015</small>
Daily Window Start Time	<input type="text" value="10:00"/>
	<small>e.g. 07:00 or 19:00</small>
Daily Window End Time:	<input type="text" value="20:00"/>
	<small>e.g. 09:00 or 21:00</small>
Mobile Survey starts after	<input type="text" value="1"/> <input type="button" value="v"/>
	<small>days</small>
Mobile Survey Duration	<input type="text" value="7"/> <input type="button" value="v"/>
	<small>days</small>
Number of Signals/Day	<input type="text" value="5"/> <input type="button" value="v"/>
Survey Schedule	<input type="text" value="FIXED"/> <input type="button" value="v"/>
Type of Randomization	<input type="text" value="FIXED"/> <input type="button" value="v"/>
Add Fixed Signals	<input type="text" value="1"/> <input type="button" value="v"/> <input type="button" value="Edit Fixed Signals"/>
Minimum Distance betw. Signals	<input type="text" value="30"/> <input type="button" value="v"/>

100%

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# Edit Survey Links

Specify which daily signal is connected with which individual survey

SurveySignal - Windows Internet Explorer provided by Bureau of Labor Statistics

http://www.surveysignal.com/editsurveysignalwindow.aspx

SurveySignal

Dashboard  
My Surveys  
Panels  
Accounts  
Help

Edit Experience Sampling Example

Home My Surveys Experience Sampling Example Edit Additional Fixed Signals

Edit Survey Participants Reports Use Panel Email

SURVEY SEGMENT WINDOW

Update Links Set all Links to 'inactive' Set all Links to 'active' Back

Survey ID	DAY	SIG	Segment Start Time	Survey Link	Active	Distribution	Reminder	Timeout
091912184440	1	1	10:00	http://chicagobooth.qualtrics.com/SE/?SID=SV_9N	ACTIVE	SMS	Off min.	12h
091912184440	1	2	12:00	http://chicagobooth.qualtrics.com/SE/?SID=SV_9N	ACTIVE	SMS	Off min.	12h
091912184440	1	3	14:00	http://chicagobooth.qualtrics.com/SE/?SID=SV_9N	ACTIVE	SMS	Off min.	12h
091912184440	1	4	16:00	http://chicagobooth.qualtrics.com/SE/?SID=SV_9N	ACTIVE	SMS	Off min.	12h
091912184440	1	5	18:00	http://chicagobooth.qualtrics.com/SE/?SID=SV_9N	ACTIVE	SMS	Off min.	12h
091912184440	2	1	10:00	http://chicagobooth.qualtrics.com/SE/?SID=SV_9N	ACTIVE	SMS	Off min.	12h
091912184440	2	2	12:00	http://chicagobooth.qualtrics.com/SE/?SID=SV_9N	ACTIVE	SMS	Off min.	12h
091912184440	2	3	14:00	http://chicagobooth.qualtrics.com/SE/?SID=SV_9N	ACTIVE	SMS	Off min.	12h
091912184440	2	4	16:00	http://chicagobooth.qualtrics.com/SE/?SID=SV_9N	ACTIVE	SMS	Off min.	12h
091912184440	2	5	18:00	http://chicagobooth.qualtrics.com/SE/?SID=SV_9N	ACTIVE	SMS	Off min.	12h
091912184440	3	1	10:00	http://chicagobooth.qualtrics.com/SE/?SID=SV_9N	ACTIVE	SMS	Off min.	12h
091912184440	3	2	12:00	http://chicagobooth.qualtrics.com/SE/?SID=SV_9N	ACTIVE	SMS	Off min.	12h
091912184440	3	3	14:00	http://chicagobooth.qualtrics.com/SE/?SID=SV_9N	ACTIVE	SMS	Off min.	12h

# Administration and Response Monitoring Tools

The screenshot shows a web browser window with the URL [surveysignal.com/Reports.aspx](http://surveysignal.com/Reports.aspx). The page title is "Customer Satisfaction Survey". The breadcrumb navigation is "Home > My Surveys > Customer Satisfaction Survey > Reports".

The left sidebar contains the following navigation items:

- Dashboard
- My Surveys**
- Panels
- Accounts
- Help

The main content area features a top row of five icons:

- Edit Survey
- Participants
- Reports
- Use Panel
- Email

Below this is a "Reports" section with six icons in a row:

- Schedule
- Daily Signals
- Signal Archive
- Participants
- Communication
- Appointments

At the bottom left of the main content area is a "Summary Stats" icon.

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# Participant Engagement

← → ↻ [surveysignal.com/SendParticipantMessage.aspx](https://surveysignal.com/SendParticipantMessage.aspx) ☆ 📺 🔊

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👤 3341 ?

🏠 Dashboard

📶 My Surveys


👤 Panels


🔒 Accounts


🔍 Help


## Customer Satisfaction Survey


🏠 Home > My Surveys > Customer Satisfaction Survey > Communicate

 Edit Survey

 Participants

 Reports

 Use Panel

 Email

### Send Message to Participants

From

Send via

Select Participants Group

Subject

Body

# Participant Custom Reminders

← → ↻ [surveysignal.com/SetAppointmentReminder.aspx](https://surveysignal.com/SetAppointmentReminder.aspx) ☆ 📺 🔊

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Help

## Set Appointment Reminder

From

Send via  SMS  
 EMAIL

Date   
e.g. 04/06/2015

Time   
e.g. 07:00 or 19:00

Select Participants Group

Subject

Body

**Set Appointment Reminder**

# Security/Ethical Issues

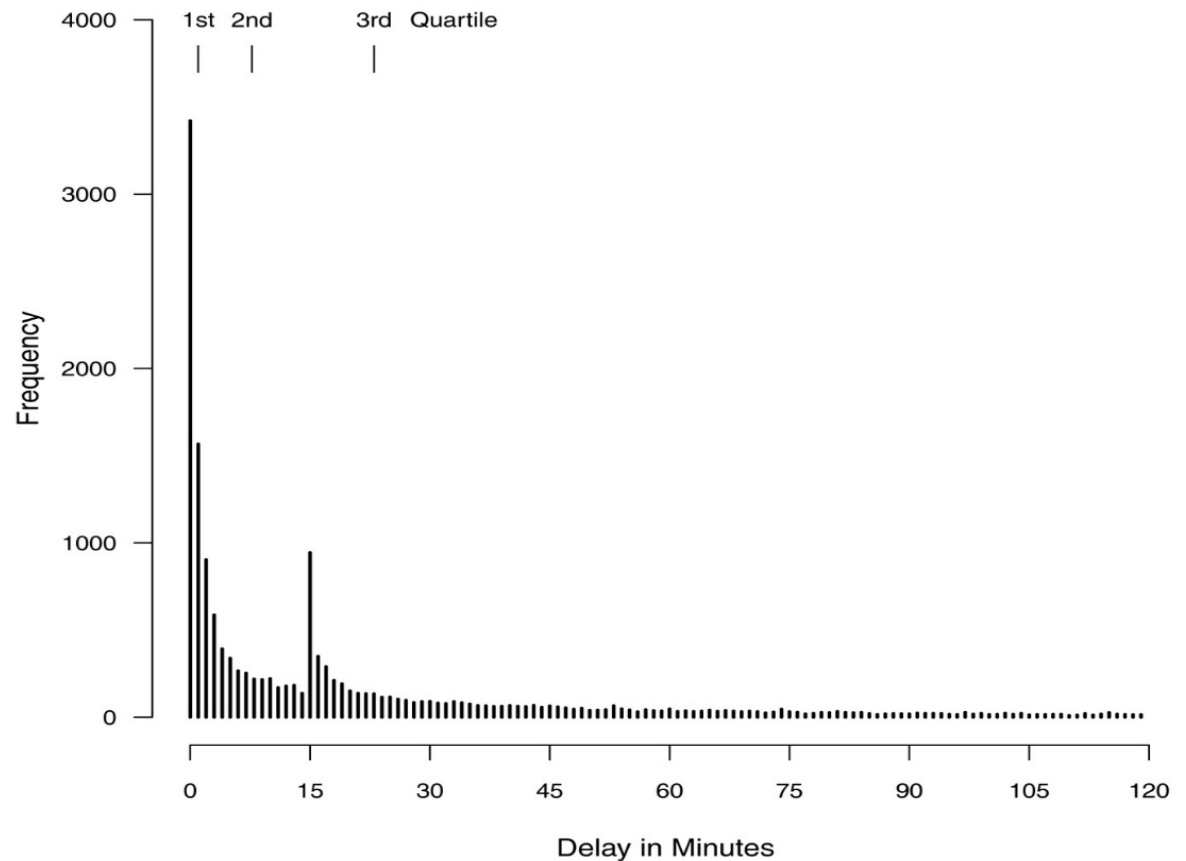
- Signup Security
  - Wireless phone check (optional)
  - Each phone number can be registered only once per study
  - Opt-in procedure during registration
- SurveySignal Participant Information
  - Protected within server architecture
  - Phone numbers never fully displayed (e.g., 77\*\*\*\*4326)
- Actual Survey Response Data
  - Collected within secure survey environment of choice (e.g., Qualtrics, SurveyMonkey, etc.)



# Benchmark data

(across 10 studies, n = 1,852)

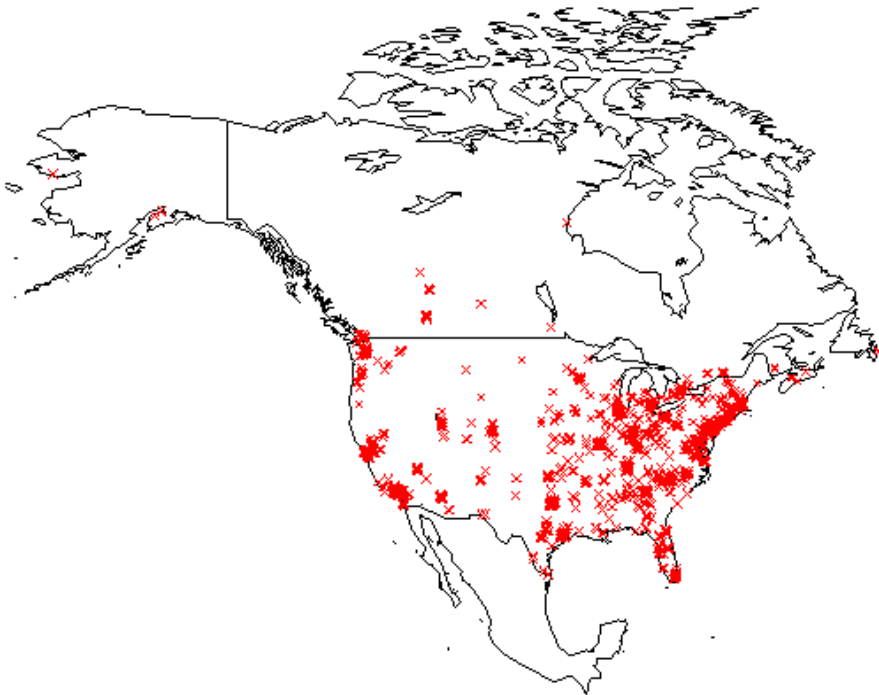
- Mean response rate: 77%
- Median response delay: 8 minutes
- Survey completion rate: 96%
- Reminders effective



# Current Research Examples

- **Example 1: Assessment**

Hofmann, Wisneski, Brandt, & Skitka (2014, *Science*):  
sampled morality in everyday life, including connections to  
momentary happiness N=1,252



# Potential Federal Uses of SurveySignal

- Bureau of Labor Statistics
  - Current Employment Statistics Survey
  - Quarterly Census of Employment and Wages Survey
  - Job Opening and Labor Turnover Survey
- Census Bureau
  - Current Population Survey
  - Survey of Income and Program Participation
- Energy Information Administration
  - Monthly Natural Gas Marketers Survey

# Resources

- [www.surveysignal.com](http://www.surveysignal.com)
- Email Support ([support@surveysignal.com](mailto:support@surveysignal.com))
- Custom Solution ([paresh.patel@surveysignal.com](mailto:paresh.patel@surveysignal.com))
- Online resources (within account)
  - Manual
  - FAQs
  - Parameter cheat sheet
  - Example survey project

**Thank you very much for your attention!**

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