A PYMNTS AND VISA COLLABORATION

THOW WE WILL PAY

CONSUMERS, CONNECTED DEVICES AND THE FUTURE OF PAYMENTS



THIS STUDY ANSWERED THREE QUESTIONS ABOUT CONSUMERS, CONNECTED DEVICES AND PAYMENTS PREFERENCES

CONSUMERS KEPT ONE- AND SEVEN-DAY DIARIES AND WERE ASKED TO RECORD ANSWERS TO THESE QUESTIONS ABOUT DEVICE OWNERSHIP AND USAGE:

- Which connected devices do consumers own today?
- How do they use them to pay?
- How might they consider using them to pay in the future?



THIS STUDY POLLED A SAMPLE OF CONSUMERS WITH SMARTPHONES

WE RECEIVED RESPONSES FROM 2,584 U.S. CONSUMERS.

- O We drew a random sample of approximately 2,600 shoppers from the United States.
- We required that each shopper own at least one smartphone to participate.
- We asked these consumers general questions about device ownership and usage, including specific connected device use cases.
- We also asked these consumers to complete a seven-day and oneday diaries to better understand their overall purchasing patterns, and their use of connected devices in support of those experiences.













THE STUDY GENERATED MORE THAN SIX MILLION DATA POINTS AND A WEALTH OF INFORMATION ABOUT CONSUMERS' CONNECTED DEVICE OWNERSHIP, USAGE OF THOSE DEVICES AS RELATED TO PAYMENTS, INTEREST IN SPECIFIC CONNECTED PAYMENTS USE CASES AND WHERE CONSUMERS SEE OPPORTUNITIES FOR USING CONNECTED DEVICES AS PAYMENT METHODS IN THE FUTURE.

HOW CONNECTED ARE WE? THE FIVE CONNECTED CONSUMER PERSONAS

SEVENTY-FIVE PERCENT OF CONSUMERS OWN CONNECTED DEVICES IN ADDITION TO A SMARTPHONE, COMPUTER OR TABLET.

Sample By Persona Type (N=2,584)

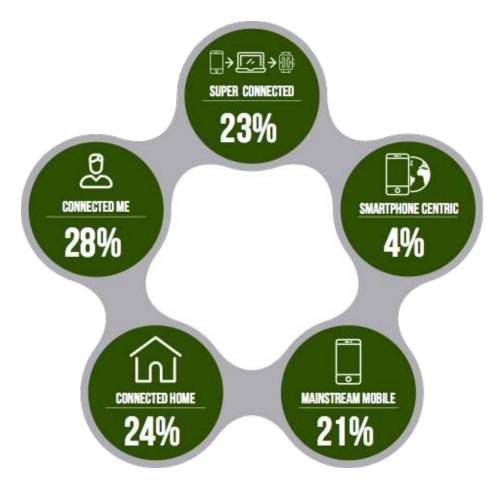
- **○** Smartphone-Centric:
 - This group just owns just a smartphone.
- Mainstream Mobile:

This group owns a smartphone and a tablet or computer.

○ Connected Home:

Like Mainstream Mobile, plus own connected home devices (voice-activated devices, smart appliances).

- Connected Me:
 - Like Mainstream Mobile plus own wearables (activity tracker, smart watch or smart sports watch).
- Like Mainstream Mobile plus own six or more Connected Me or Connected Home devices.



OWNERSHIP AND USAGE OF CONNECTED DEVICES ARE LIFESTYLE-DRIVEN

THERE IS VIRTUALLY NO DIFFERENCE IN THE AGES OR INCOME OF CONNECTED DEVICE USERS.

Who Owns
Which Connected
Devices And Why

4%

of all consumers own only a smartphone

75%

of all consumers own a connected device that is not a smartphone, computer or laptop.

O The most popular connected device after a tablet or laptop is



a video game console





an activity tracker



Nearly as many connected consumers own



voice-activated devices





as smart watches





The "Super Connected" own six or more devices are early adopters of leading-edge technology such as voice-activated devices (e.g. Alexa, Allo), smart cars and wearables...



"Connected Home" consumers own devices that are more entertainment and homecentric, such as video game consoles, smart thermostats and voice-activated devices.



"Connected Me" consumers own devices that are more person-centric, such as activity trackers and smart athletic watches.

CONSUMERS SEE CONNECTED DEVICES AS A WAY TO ELIMINATE BUYING FRICTION

MORE THAN SIXTY PERCENT OF CONSUMERS FIND SHOPPING TEDIOUS AND FRUSTRATING





of consumers say that buying and paying for things — both online and in a physical store — is inefficient, unproductive and time consuming, and could be improved.



of consumers made a purchase in a physical store over a seven-day period.



purchased something online over a seven-day period — and did so in 11 of the 19 categories once reserved for shopping in a physical stores such as household furnishings, home supplies, jewelry and even groceries.



view using connected devices as a way to eliminate friction from how they buy and pay for things — both on- and offline.



CONSUMERS FIND "AUTO PAY" APPEALING

BUT THEY ALSO WANT TO KNOW THAT THEIR DATA IS PRIVATE AND WHAT THEY ARE BEING CHARGED IS ACCURATE

Consumers are interested in using connected devices to enable a seamless payment experience.



of consumers would like to auto pay for things they buy — without having to physically initiate checkout or stop at a counter in a store to do so.



The Super Connected are eight times more likely to want their appliances to auto refill/auto pay



of consumers view connected devices as a way to pay for things while going about their day-today activities: eating breakfast, commuting, cleaning up after dinner, cooking and taking care of the kids.

Consumers want control over how their data is used and secured.



of consumers want to know that their data is private when using connected devices to pay for things



of consumers worry that they won't be charged the proper amount when using connected devices to pay for things



of consumers aren't worried about learning how to use new connected devices to help them shop and pay

CONSUMERS TRUST THEIR BANKS/BANKCARD NETWORKS TO POWER THEIR CONNECTED PAYMENTS EXPERIENCES.

77 PERCENT OF CONSUMERS WANT THEIR BANK /BANKCARD NETWORK TO POWER THEIR CONNECTED PAYMENTS EXPERIENCE.



view their financial institutions/bankcard networks as the most trusted enabler of a connected device enabled payment solution.



trust Amazon to enable a connected payment experience



trust large technology enablers to provide such a solution, e.g. Google, Apple, Microsoft



view Facebook as a trusted enabler of a connected payments experience



GETTING TO KNOW THE CONNECTED CONSUMER

WHO'S CONNECTED, WHICH DEVICES DO THEY OWN AND WHY DO THEY USE THEM TO MAKE PURCHASES TODAY?

THE AVERAGE CONSUMER OWNS MORE THAN FOUR CONNECTED DEVICES

THE SUPER CONNECTED ARE THE EARLY ADOPTERS OF VOICE-CONTROLLED ASSISTANTS AND WEARABLES.

- Forty percent of the Super Connected own a voicecontrolled assistant and 79 percent own an activity tracker.
- Only half of the Mainstream Mobiles own a tablet.
- Only the Super Connected own smart clothing.

| | ALL Combined | SMARTPHONE Centric | MAINSTREAM Mobile | CONNECTED Home | CONNECTED Me | SUPER Connected |
|---|-----------------|-----------------------|----------------------|-------------------|-----------------|--------------------|
| Average Number of Devices | 4.4 | 1.0 | 2.5 | 3.9 | 4.3 | 7.1 |
| Smartphone | 100% | 100 | 100 | 100 | 100 | 100 |
| Computer/Laptop | 92% | 0 | 96 | 94 | 94 | 99 |
| Tablet | 70% | 0 | 53 | 70 | 70 | 96 |
| Game Console (e.g. PlayStation, X-Box) | 47% | 0 | 0 | 73 | 37 | 83 |
| Activity Tracker (e.g. Fitbit) | 41% | 0 | 0 | 0 | 81 | 79 |
| Reader (e.g. Kindle) | 21% | 0 | 0 | 23 | 10 | 54 |
| Smartwatch (e.g. Apple Watch) | 15% | 0 | 0 | 0 | 20 | 40 |
| Voice-Controlled Assistant (e.g. Amazon Alexa, Google Home) | 14% | 0 | 0 | 12 | 5 | 42 |
| Connected Thermostat (e.g. Nest) | 9% | 0 | 0 | 8 | 2 | 26 |
| Virtual Reality Headset | 7% | 0 | 0 | 7 | 2 | 23 |
| Smart Sports Watch | 6% | 0 | 0 | 0 | 5 | 18 |
| Smart Accessories (e.g. ring or wristband) | 5% | 0 | 0 | 2 | 1 | 19 |
| Wearable Camera | 5% | 0 | 0 | 5 | 1 | 14 |
| Smart Refrigerator | 3% | 0 | 0 | 2 | 1 | 10 |
| Smart Clothing (e.g. Owlet Baby Socks, Sensor Running Socks) | 1% | 0 | 0 | 0 | 0 | 5 |

CONNECTED CONSUMERS ARE MORE ALIKE THAN THEY ARE DIFFERENT

AGE, INCOME AND GENDER ARE NOT PREDICTORS OF CONNECTED DEVICE OWNERSHIP, INTEREST OR USAGE.

- O Connected device ownership and usage tends to align with lifestyle and is not incomeand age-dependent.
- The Super Connected are more likely to be college educated with slightly larger households and with higher incomes — but only slightly.
- Mainstream Mobile tend to be slightly older than those who are more connected.

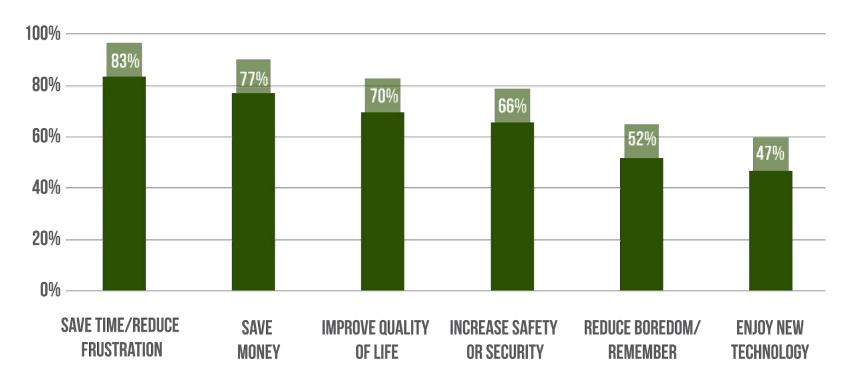
| | ALL Combined | SMARTPHONE Centric | MAINSTREAM Mobile | CONNECTED Home | CONNECTED Me | SUPER Connected |
|------------------------|-----------------|-----------------------|----------------------|-------------------|-----------------|--------------------|
| Average Age | 41.4 | 41.6 | 43.2 | 40.8 | 41.3 | 40.6 |
| Average Income | 78.3 | 76.7 | 76.4 | 78.1 | 79.3 | 79.3 |
| Average Household Size | 2.9 | 2.8 | 2.6 | 3.1 | 2.8 | 3.3 |
| College-Educated | 46.6% | 34.8% | 43.5% | 36.8% | 52.0% | 54.5% |
| Female | 50.0% | 45.5% | 50.0% | 49.9% | 56.5% | 44.0% |
| Have Children | 50.0% | 51.6% | 60.2% | 47.7% | 55.8% | 36.2% |

SAVING TIME IS WHAT DRIVES INTEREST IN USING CONNECTED DEVICES TO PAY

CONSUMERS VIEW CONNECTED DEVICES AS A WAY TO ELIMINATE PAYMENT FRICTION WHEN SHOPPING.

Q. What Is "Very" Or "Extremely" Important When Using Connected Devices To Pay?

- Eighty-three percent of consumers say using connected devices to pay will save time and/or reduce their frustration in making a payment.
- In doing so, consumers say that connected devices will improve their quality of life.
- Overall, consumers are less interested in using connected devices "just because" they are new technologies.



CONNECTED CONSUMERS VIEW CONNECTED DEVICES AS A WAY TO IMPROVE PAYMENT SECURITY

SAVING MONEY IS ALSO SOMETHING CONNECTED CONSUMERS VIEW AS VERY IMPORTANT.

| | ENTIRE Sample | SMARTPHONE Centric | MAINSTREAM Mobile | CONNECTED Home | CONNECTED ME | SUPER Connected | |
|------------------------------|------------------|-------------------------------|----------------------|-------------------|-----------------|--------------------|--|
| | Percent | Index Mainstream Mobile = 100 | | | | | |
| Save Time/Reduce Frustration | 83% | 117.1 | 100.0 | 117.4 | 120.3 | 126.6 | |
| Save Money | 77% | 116.1 | 100.0 | 125.9 | 120.3 | 125.6 | |
| Improve Quality Of Life | 70% | 135.3 | 100.0 | 119.1 | 119.6 | 127.2 | |
| Increase Safety or Security | 66% | 120.0 | 100.0 | 120.8 | 125.1 | 130.0 | |
| Reduce Boredom/Remember | 52% | 132.4 | 100.0 | 100.5 | 104.0 | 120.6 | |
| Enjoy New Technology | 47% | 135.1 | 100.0 | 120.9 | 112.9 | 142.1 | |
| | | | | | | | |

SEAMLESS CHECKOUT APPEARS TO BE THE "KILLER APP" FOR THE CONNECTED DEVICE

THERE IS STRONG INTEREST IN USING CONNECTED DEVICES TO PAY, EVEN FOR DEVICES AND USE CASES THAT DO NOT YET EXIST.

Q. Which uses cases are of most interest when using a connected device to facilitate a payment with a merchant?

- O Consumers place a strong emphasis on devices that make payments part of a seamless buying experience.
- O Devices that enable "auto payment" are interesting to all connected consumers.
- Devices that enable "auto ordering" and payment are less interesting to all consumers.

| | ENTIRE SAMPLE SMARTPHONE N CENTRIC | | MAINSTREAM Mobile | CONNECTED Home | CONNECTED Me | SUPER Connected |
|--|---------------------------------------|-------|----------------------|-------------------|-----------------|--------------------|
| | Percent | | Index Main | stream Mobile | = 100 | |
| Auto Pay At Store | 44% | 89.5 | 100.0 | 118.6 | 125.5 | 154.5 |
| Pay At Pump | 41% | 91.6 | 100.0 | 116.6 | 130.6 | 169.8 |
| Auto Fit/Auto Buy Clothing | 40% | 80.9 | 100.0 | 111.0 | 124.1 | 142.5 |
| Auto Pay At Restaurant | 37% | 85.8 | 100.0 | 134.5 | 133.3 | 178.2 |
| Auto Parking Spot Discovery/Auto Pay | 36% | 65.5 | 100.0 | 109.8 | 131.5 | 157.9 |
| Auto Car Trouble Alerts/Auto Pay For Repairs | 34% | 97.8 | 100.0 | 121.1 | 132.0 | 164.9 |
| Auto Home Trouble Alerts/Auto Pay For Repairs | 30% | 101.1 | 100.0 | 122.9 | 145.6 | 169.1 |
| Fridge/Pantry Auto Orders Grocery | 27% | 112.2 | 100.0 | 113.7 | 138.8 | 189.2 |
| Window Shop/Auto Buy And Pay | 25% | 111.1 | 100.0 | 114.3 | 125.9 | 159.7 |
| Appliances Auto Order Refills (Excluding Fridge) | 25% | 119.2 | 100.0 | 134.0 | 157.9 | 221.0 |
| Car Personal Assistant Initiates Order Ahead | 24% | 109.2 | 100.0 | 114.6 | 138.4 | 202.6 |
| Auto Order For Worn Out Shoes/Clothes | 15% | 127.3 | 100.0 | 95.7 | 137.4 | 181.8 |
| | | | | | | |

CONNECTED DEVICE DATA SECURITY, PRIVACY AND TRANSPARENCY CONCERN ALL CONSUMERS

THESE CONCERNS COULD DETER CONSUMERS FROM ADOPTING NEW CONNECTED DEVICE PAYMENTS USE CASES.

- Consumers expressed concerns over being charged incorrectly when payments are automatically made via a connected device.
- Twice as many consumers expressed concerns about data privacy than learning how to use new technology.
- For the Super Connected device reliability is nearly as much of a concern as data security when using connected devices to enable new ways to pay.

Q. What would keep you from using a connected device to pay a merchant?

| | ENTIRE Sample | SMARTPHONE Centric | MAINSTREAM Mobile | CONNECTED Home | CONNECTED ME | SUPER Connected |
|---|------------------|-----------------------|----------------------|-------------------|--------------|--------------------|
| | Percent | | Index Ma | instream Mobil | e = 100 | |
| Data Privacy | 76% | 85.4 | 100.0 | 109.8 | 108.8 | 108.8 |
| Data And/Or Product Security (Theft) | 71% | 80.5 | 100.0 | 108.2 | 105.6 | 112.1 |
| Ability To Verify The Correct Products And Amounts Charged | 69% | 81.8 | 100.0 | 109.7 | 112.0 | 114.5 |
| Reliability Of The Technology | 67% | 68.7 | 100.0 | 110.8 | 106.2 | 116.7 |
| Cost To Use Technology | 59% | 89.6 | 100.0 | 114.2 | 106.5 | 116.7 |
| Loss Of Detailed Knowledge Of Spending | 54% | 79.6 | 100.0 | 107.1 | 106.1 | 112.4 |
| Reduction In Customer Service | 40% | 103.3 | 100.0 | 99.8 | 98.5 | 112.9 |
| Difficulty In Learning To Use The Technology | 36% | 103.3 | 100.0 | 96.3 | 94.4 | 109.3 |
| | | | | | l | |

CONSUMERS TRUST CARD ISSUERS AND CARD NETWORKS TO ENABLE CONNECTED DEVICE PAYMENT EXPERIENCES

SEVENTY-SEVEN PERCENT OF CONSUMERS TRUST BANKS OR BANKCARD NETWORKS TO POWER THEIR CONNECTED PAYMENT EXPERIENCES.

Q. Who do you trust to enable a connected device payments experience?

- O Banks are, by far, the most trusted by consumers to enable connected device payments.
- The more connected a consumer is, the more he or she tends to trust financial services providers to enable new connected device use cases.

| | ENTIRE Sample | SMARTPHONE Centric | MAINSTREAM Mobile | CONNECTED Home | CONNECTED ME | SUPER Connected |
|--|------------------|-----------------------|----------------------|-------------------|-----------------|--------------------|
| | Percent | | Inde | ex Mainstream | Mobile = 100 | - |
| Bank And Bankcard Networks (Bank, V, MC) | 77% | 76.0 | 100.0 | 104.6 | 104.0 | 108.8 |
| My Bank | 68% | 71.8 | 100.0 | 110.9 | 107.9 | 111.3 |
| Card Networks (V, MC, AmEx, Disc) | 49% | 64.5 | 100.0 | 111.3 | 109.6 | 133.5 |
| Amazon | 48% | 102.8 | 100.0 | 149.8 | 150.6 | 183.3 |
| Bankcard Network V, MC) | 42% | 56.3 | 100.0 | 111.7 | 108.1 | 134.2 |

CONSUMERS LIKE AND TRUST CARD PRODUCTS WHEN PAYING FOR THINGS — BOTH ON AND OFFLINE

SPEED AND TRUST ARE WHAT MOST CONSUMERS LIKE ABOUT USING CARDS AND MOBILE OVER CASH.

Q. Why do you use cards and what would make you use cards more?

- O Sixty-one percent of all consumers say speed or trust is most important reason for using credit or debit cards.
- Two-thirds of people prefer using credit or debit cards or mobile options over cash.
- Seventy-seven percent of people would patronize stores even if they dropped cash.
- Sixty percent of consumers would want to use cash sometimes, even if they could pay with cards and mobile everywhere.

| | ENTIRE Sample | SMARTPHONE Centric | MAINSTREAM Mobile | CONNECTED Home | CONNECTED Me | SUPER Connected | |
|--|------------------|-----------------------|----------------------|-------------------|-----------------|--------------------|--|
| | Percent | | Mainstrear | m Mobile Ind | ex = 100 | | |
| What is most appealing about paying with a card or device? | | | | | | | |
| It is faster and more convenient. | 34% | 105.1 | 100.0 | 111.6 | 96.0 | 99.4 | |
| I trust the payment network to keep my information secure (e.g. Visa, MasterCard). | 26% | 75.4 | 100.0 | 96.3 | 101.1 | 111.2 | |
| I can collect rewards. | 21% | 113.9 | 100.0 | 81.9 | 95.2 | 81.8 | |
| It feels safer to not carry cash in my wallet. | 19% | 107.0 | 100.0 | 107.7 | 112.4 | 109.4 | |
| Select the statement that represents your position on making payments. | | | | | | | |
| I never use cash and I am excited to be able to pay everywhere using my card and mobile devices. | 26% | 82.6 | 100.0 | 108.2 | 119.6 | 121.7 | |
| I sometimes use cash but prefer to use my card or mobile device. | 64% | 105.4 | 100.0 | 99.1 | 97.8 | 98.5 | |
| I always use cash and prefer it to my card or mobile device. | 10% | 104.4 | 100.0 | 88.7 | 73.6 | 65.7 | |
| If a store I visit frequently went cashless (exclusively accepting electronic | and mobile | e payments), I | would: | | | | |
| Continue to shop there using card or mobile device. | 77% | 82.6 | 100.0 | 112.9 | 111.6 | 105.8 | |
| Shop there more frequently. | 14% | 169.5 | 100.0 | 62.4 | 74.3 | 101.9 | |
| No longer shop there. | 8% | 109.4 | 100.0 | 73.0 | 63.7 | 60.1 | |
| Select the option you agree with most to complete the statement, "I can | imagine m | yself not using | cash to make | e payments | | | |
| If cards were accepted everywhere today. | 32% | 90.5 | 100.0 | 89.7 | 97.8 | 93.9 | |
| If mobile payments were accepted everywhere. | 13% | 129.9 | 100.0 | 80.5 | 87.9 | 96.9 | |
| If both cards and mobile payments were accepted everywhere today. | 40% | 96.9 | 100.0 | 113.3 | 117.3 | 127.5 | |
| Only if I do not have cash in my wallet and an ATM is not nearby. | 15% | 102.8 | 100.0 | 110.9 | 81.5 | 61.5 | |

THE CONNECTION TO PAYMENTS

HOW DO CONNECTED CONSUMERS VIEW BUYING AND PAYING?

CONNECTED CONSUMERS BUY MORE THINGS — THE MORE CONNECTED, THE MORE THEY BUY

THE SUPER CONNECTED LIKE TO BUY EXPERIENCES, ELECTRONICS AND ACCESSORIES, LIKE JEWELRY.

Q. What purchases did you make over the last seven days?

- Not surprisingly, consumer spend is concentrated on clothing and food.
- The Connected Me are more likely to buy personal care services and travel than the Connected Home group.
- O Connected Home are more likely to buy entertainment-related items.
- O The Smartphone-Centric spend more on accessories and home repair.

| | ENTIRE Sample | SMARTPHONE Centric | MAINSTREAM Mobile | CONNECTED Home | CONNECTED Me | SUPER Connected |
|--|------------------|-----------------------|----------------------|-------------------|-----------------|--------------------|
| | Percent | | Mainstream | Mobile Index | = 1 00ed | |
| Clothing, Apparel Or Footwear | 69% | 92.4 | 100.0 | 107.9 | 116.7 | 131.1 |
| Food To Consume At Home | 64% | 85.5 | 100.0 | 110.1 | 111.4 | 115.4 |
| Personal Care Products | 56% | 67.6 | 100.0 | 112.0 | 112.7 | 133.4 |
| Household Supplies | 53% | 81.1 | 100.0 | 115.1 | 104.9 | 130.8 |
| Gasoline | 50% | 72.1 | 100.0 | 108.4 | 108.2 | 118.3 |
| Food To Consume Away From Home | 41% | 59.1 | 100.0 | 102.7 | 106.2 | 123.8 |
| Healthcare Goods And Medications | 36% | 62.6 | 100.0 | 116.8 | 123.6 | 162.4 |
| Household Furnishings Or Equipment | 28% | 91.4 | 100.0 | 122.1 | 115.2 | 168.1 |
| Entertainment Other Than Reading Material | 26% | 52.3 | 100.0 | 163.5 | 139.0 | 258.7 |
| Goods Or Services For Pets | 26% | 44.7 | 100.0 | 126.3 | 137.5 | 197.8 |
| Reading Material (Books, Newspapers, Magazines) | 23% | 63.4 | 100.0 | 117.8 | 139.3 | 189.8 |
| Accessories Such As Jewelry | 22% | 128.7 | 100.0 | 129.7 | 130.0 | 210.2 |
| Electronics (Tablet, Computer, Smartphone, Etc.) | 22% | 95.5 | 100.0 | 152.0 | 126.5 | 224.4 |
| Tobacco Or Alcohol | 19% | 65.7 | 100.0 | 125.1 | 98.7 | 145.6 |
| Automobile Services | 18% | 77.7 | 100.0 | 129.9 | 109.7 | 174.7 |
| Personal Care Services | 17% | 53.3 | 100.0 | 95.3 | 138.0 | 184.7 |
| Travel Services Such As Airline Or Bus Tickets | 16% | 49.4 | 100.0 | 110.2 | 124.5 | 189.0 |
| Housing While Away From Primary Home (E.G. Hotels) | 14% | 53.3 | 100.0 | 128.1 | 155.2 | 245.5 |
| Household Repair Services | 10% | 117.9 | 100.0 | 190.5 | 169.2 | 325.7 |
| None Of These | 3% | 90.2 | 100.0 | 40.2 | 19.1 | 5.0 |

CONNECTED CONSUMERS STILL SHOP AT PHYSICAL STORES

ALMOST 80 PERCENT OF CONSUMERS VISITED A PHYSICAL STORE OVER A SEVEN-DAY PERIOD AND MADE A PURCHASE.

Q. What did you use to pay for the things you purchased in the last seven days?

- The Super Connected are much more likely to shop using a connected device than any other connected persona.
- O They are also seven times more likely to use a voice-controlled assistant.
- They are more than five times more likely to use a car with connected capabilities.
- And, while infrequent, the Super Connected are much more likely to use other connected devices to pay for things.

| | ENTIRE Sample | SMARTPHONE Centric | MAINSTREAM Mobile | CONNECTED Home | CONNECTED Me | SUPER Connected |
|--|------------------|-----------------------|----------------------|-------------------|-----------------|--------------------|
| | Percent | | Indexed to | Mainstream N | Nobile = 100 | |
| Visiting A Store | 77% | 99.0 | 100.0 | 98.0 | 98.4 | 97.3 |
| Using A Website On Mobile/tablet | 28% | 43.3 | 100.0 | 110.9 | 115.1 | 153.6 |
| Online, Using A Desktop | 25% | 79.2 | 100.0 | 120.1 | 119.5 | 162.1 |
| Using An App On A Mobile/tablet | 18% | 90.5 | 100.0 | 116.3 | 115.6 | 154.3 |
| Placing An Order Over The Phone | 10% | 174.3 | 100.0 | 116.0 | 108.1 | 166.0 |
| Connected Or Smart Tv | 2% | 240.7 | 100.0 | 106.3 | 84.5 | 193.9 |
| Car With Connected Capabilities | 2% | 350.4 | 100.0 | 229.4 | 122.9 | 561.1 |
| Game Console (E.G. Playstation, X-box) | 1% | 159.3 | 100.0 | 185.9 | 294.4 | 594.7 |
| Voice Controlled Assistant | 1% | 0.0 | 100.0 | 175.9 | 129.6 | 680.5 |
| Other Option | 1% | 0.0 | 100.0 | 117.1 | 231.6 | 740.0 |
| Activity Tracker (E.G. Fitbit) | 1% | n/a | n/a | vl | vl | vl |
| Smartwatch (E.G. Apple Watch)/smart Sports Watch | 0% | n/a | n/a | n/a | γl | vl |
| Smart Refrigerator | 0% | n/a | n/a | vl | vl | vl |
| Wearable Camera (E.G. Go Pro) | 0% | n/a | n/a | vI | n/a | vl |
| Smart Clothing Or Accessories | 0% | n/a | n/a | n/a | n/a | vl |

[&]quot;vl" indicates "Very Large." In these cases, the Mainstream Mobile response was zero and therefore the persona index could not be calculated. In that case, the response would be very large compared to the base unless the response for that persona was zero as well.



[&]quot;n/a" means that both the persona and Mainstream Mobile were zero.

CONSUMERS USING CONNECTED DEVICES TO BUY THINGS IS NOW WIDESPREAD

PURCHASING VIA A CONNECTED DEVICE OVERTAKES SHOPPING IN A PHYSICAL STORE IN KEY CATEGORIES.

Q. Where did you shop and which device did you use to make the purchase over the last seven days?

- Shopping at physical stores is still the most common way to shop, particularly for groceries, gas and home supplies.
- In 11 out of 19 categories, 50 percent or more of consumers purchased online over a seven-day period.
- Online via any connected device beats physical stores in entertainment, reading materials, travel, household repairs, electronics, household furnishings and clothing for all consumers.

| | VISITING A Store | ANY Online | USING A Website on Mobile/Tablet | ONLINE, Using a Desktop | USING AN APP On a Mobile/Tablet | PLACING AN Order over The Phone |
|--|---------------------|---------------|--|-------------------------------|---------------------------------------|---------------------------------------|
| Tobacco Or Alcohol | 99% | 7 | 4 | 3 | 2 | 2 |
| Gasoline | 96% | 7 | 4 | 2 | 2 | 2 |
| Food To Consume At Home | 93% | 48 | 25 | 22 | 20 | 17 |
| Household Supplies | 87% | 42 | 21 | 20 | 16 | 5 |
| Personal Care Products | 86% | 44 | 23 | 21 | 17 | 5 |
| Food To Consume Away From Home | 85% | 47 | 22 | 18 | 18 | 17 |
| Healthcare Goods And Medications | 81% | 50 | 20 | 19 | 17 | 15 |
| Goods Or Services For Pets | 80% | 47 | 23 | 23 | 13 | 7 |
| Personal Care Services | 76% | 50 | 25 | 24 | 16 | 12 |
| Clothing, Apparel Or Footwear | 73% | 76 | 44 | 43 | 26 | 8 |
| Automobile Services | 69% | 54 | 27 | 25 | 16 | 11 |
| Household Furnishings Or Equipment | 66% | 72 | 41 | 35 | 20 | 10 |
| Accessories Such As Jewelry | 64% | 63 | 35 | 30 | 22 | 8 |
| Travel Services Such As Airline Or Bus Tickets | 62% | 97 | 50 | 32 | 10 | 9 |
| Housing While Away From Primary Home (E.G. Hotels) | 55% | 93 | 49 | 29 | 14 | 13 |
| Electronics (Tablet, Computer, Smartphone, Etc.) | 54% | 78 | 46 | 42 | 28 | 11 |
| Entertainment Other Than Reading Material | 46% | 76 | 44 | 36 | 35 | 12 |
| Reading Material (Books, Newspapers, Magazines) | 43% | 75 | 40 | 34 | 30 | 7 |
| Household Repair Services | 42% | 74 | 36 | 31 | 29 | 13 |

ROUGHLY 60 PERCENT OF CONSUMERS DISLIKE THE CURRENT SHOPPING EXPERIENCE

ALL CONSUMERS - ACROSS ALL CHANNELS - FIND SHOPPING TIME-CONSUMING AND INEFFICIENT.

Q. How would you describe your shopping experience over the last seven days?

- O Most (approximately 60 percent) don't find shopping fun or productive, regardless of how or where they shop.
- More than 25 percent of consumers say shopping is time-consuming and inefficient.

| | ENTIRE Sample | SMARTPHONE Centric | MAINSTREAM Mobile | CONNECTED Home | CONNECTED ME | SUPER Connected |
|--------------------------------|------------------|-----------------------|----------------------|-------------------|-----------------|--------------------|
| Percentage Of Respondents | | | | | | |
| Productive | 39% | 32 | 40 | 39 | 40 | 38 |
| Fun, Stimulating | 39% | 47 | 38 | 38 | 3 | 41 |
| Time Consuming | 27% | 26 | 25 | 27 | 24 | 30 |
| Index (Mainstream Mobile =100) | | | | | | |
| Productive | 97.0% | 79.7 | 100.0 | 97.5 | 99.3 | 93.7 |
| Fun, Stimulating | 102.5% | 123.1 | 100.0 | 99.1 | 100.8 | 106.9 |
| Time Consuming | 105.5% | 104.2 | 100.0 | 106.5 | 95.0 | 117.4 |

TWO-THIRDS OF CONNECTED CONSUMERS THINK THE SHOPPING EXPERIENCE COULD BE BETTER

ALL CONNECTED CONSUMERS SEE ROOM FOR IMPROVEMENT WHEN BUYING THE BASICS: FOOD AND CLOTHING.

- Q. Based on the items you bought over the last seven days, do you see an opportunity for improving how you made those purchases?
- The areas in which most consumers would like to see payment method improvements in a physical store include groceries, household supplies, prescriptions, household furnishings and repair services (home and auto repair).
- For all but the Smartphone-Centric, the areas in which most consumers would also like to see improvements online include travel and hotel bookings.

| | ENTIRE Sample | SMARTPHONE Centric | MAINSTREAM Mobile | CONNECTED Home | CONNECTED Me | SUPER Connected |
|---|------------------|-----------------------|----------------------|-------------------|-----------------|--------------------|
| | Percent | | Index Main | stream Mobile | = 100 | |
| Any Of These | 66% | 74.2 | 100.0 | 106.1 | 109.1 | 124.2 |
| Gasoline | 27% | 54.9 | 100.0 | 102.0 | 100.1 | 126.4 |
| Food To Consume At Home | 24% | 66.9 | 100.0 | 123.5 | 112.8 | 123.7 |
| Household Supplies | 24% | 57.3 | 100.0 | 118.1 | 97.1 | 150.3 |
| Personal Care Products | 20% | 55.7 | 100.0 | 115.5 | 99.2 | 168.2 |
| Clothing, Apparel Or Footwear | 20% | 103.3 | 100.0 | 96.9 | 116.7 | 138.4 |
| Healthcare Goods And Medications | 16% | 84.6 | 100.0 | 135.5 | 118.1 | 212.4 |
| Food To Consume Away From Home | 11% | 45.4 | 100.0 | 115.5 | 85.5 | 139.4 |
| Household Furnishings Or Equipment | 11% | 102.2 | 100.0 | 147.1 | 132.2 | 249.5 |
| Automobile Repair Services | 10% | 74.8 | 100.0 | 122.9 | 114.4 | 192.0 |
| Goods Or Services For Pets | 8% | 51.1 | 100.0 | 135.2 | 162.3 | 292.3 |
| Travel Services Such As Airline Or Bus Tickets | 7% | 24.5 | 100.0 | 133.2 | 112.5 | 208.7 |
| Electronics (Tablet, Computer, Smartphone, Etc.) | 6% | 133.3 | 100.0 | 167.1 | 97.2 | 193.4 |
| Household Repair Service | 6% | 144.3 | 100.0 | 165.8 | 174.0 | 291.9 |
| Personal Care Services | 6% | 0.0 | 100.0 | 99.6 | 188.3 | 256.6 |
| Housing While Away From Your Primary Home (E.G. Hotels) | 5% | 102.2 | 100.0 | 113.9 | 144.3 | 242.4 |
| Accessories Such As Jewelry | 5% | 129.1 | 100.0 | 112.4 | 91.1 | 256.6 |
| Tobacco Or Alcohol | 5% | 49.0 | 100.0 | 99.1 | 54.8 | 164.3 |
| Entertainment Other Than Reading Material | 4% | 87.6 | 100.0 | 146.4 | 154.6 | 256.6 |
| Reading Material (Books, Newspapers, Magazines) | 3% | 0.0 | 100.0 | 484.0 | 577.0 | 769.9 |

CONSUMERS DON'T YET SEE HOW CONNECTED DEVICES CAN MAKE THE SHOPPING AND PAYMENT EXPERIENCE BETTER

CONSUMERS MOST WANT IMPROVEMENT IN THE CATEGORIES THAT THEY VIEW AS "ESSENTIALS" - ESPECIALLY GROCERIES

Q. For which activities would you find it valuable to have a connected device available to make a purchase?

- O Shopping and cleaning were the only activities in which more than 10 percent of consumers saw an opportunity for a connected device to improve how they purchase while going about their day-to-day activities.
- The Super Connected see more ways that connected devices could make it easier to buy things while they are going about their daily activities.

| | ENTIRE Sample | SMARTPHONE Centric | MAINSTREAM Mobile | CONNECTED Home | CONNECTED Me | SUPER Connectors | | |
|-----------------------------------|------------------|-------------------------------|----------------------|-------------------|-----------------|---------------------|--|--|
| | Percent | Index Mainstream Mobile = 100 | | | | | | |
| Grocery Shopping | 18% | 60.0 | 100.0 | 113.3 | 113.3 | 160.0 | | |
| Cleaning House | 12% | 112.5 | 100.0 | 162.5 | 237.5 | 200.0 | | |
| Shopping, Not Including Groceries | 11% | 87.5 | 100.0 | 150.0 | 125.0 | 187.5 | | |
| Paying Household Bills | 10% | 57.1 | 100.0 | 128.6 | 128.6 | 200.0 | | |
| Watching Tv | 9% | 62.5 | 100.0 | 112.5 | 100.0 | 137.5 | | |
| Preparing Meals | 9% | 33.3 | 100.0 | 166.7 | 166.7 | 216.7 | | |
| Doing Laundry | 9% | 42.9 | 100.0 | 157.1 | 100.0 | 171.4 | | |
| Cleaning Kitchen After Meals | 9% | 33.3 | 100.0 | 166.7 | 166.7 | 216.7 | | |
| Commuting To Work | 7% | 83.3 | 100.0 | 100.0 | 116.7 | 150.0 | | |
| Recreational Activities | 6% | 250.0 | 100.0 | 150.0 | 150.0 | 200.0 | | |
| Eating Dinner | 6% | 50.0 | 100.0 | 125.0 | 150.0 | 200.0 | | |
| Working At Main Job | 5% | 125.0 | 100.0 | 125.0 | 100.0 | 175.0 | | |
| Eating Lunch | 5% | 75.0 | 100.0 | 100.0 | 125.0 | 175.0 | | |
| Eating Breakfast | 4% | 100.0 | 100.0 | 133.3 | 133.3 | 166.7 | | |
| Caregiving | 3% | 0.0 | 100.0 | 400.0 | 200.0 | 400.0 | | |
| Yard Work | 2% | 200.0 | 100.0 | 100.0 | 100.0 | 300.0 | | |

CONSUMERS SEE SMART CARS AND WEARABLES AS IMPORTANT ENABLERS OF THE CONNECTED PAYMENT EXPERIENCE

CONSUMERS VIEW THE SMARTPHONE AS IMPORTANT, BUT NOT THE DEVICE THAT WILL TRANSFORM THEIR SHOPPING AND BUYING EXPERIENCE

Q. For the kinds of purchases you made today, which devices would you find valuable in improving that experience in the future?

- O Consumers like and use connected devices today, but they have trouble seeing how those devices can improve a seamless buying experience in the future.
- O Despite the widespread ownership and usage of smartphones, more than 60 percent of consumers do not think they are using a device that will deliver a seamless buying experience.
- Connected consumers view smart accessories, smart cars and wearables as devices that could enable a more seamless buying experience in the future.

| | ENTIRE Sample | SMARTPHONE Centric | MAINSTREAM Mobile | CONNECTED Home | CONNECTED ME | SUPER Connected | | |
|----------------------------|------------------|-------------------------------|----------------------|-------------------|-----------------|--------------------|--|--|
| | Percent | Index Mainstream Mobile = 100 | | | | | | |
| Smartphone | 38% | 55.6 | 100.0 | 113.9 | 102.8 | 105.6 | | |
| Smart Car | 14% | 69.2 | 100.0 | 115.4 | 92.3 | 115.4 | | |
| Tablet | 9% | 28.6 | 100.0 | 114.3 | 100.0 | 171.4 | | |
| Smart TV | 6% | 33.3 | 100.0 | 100.0 | 83.3 | 116.7 | | |
| Smart Accessories | 6% | 220.0 | 100.0 | 60.0 | 100.0 | 160.0 | | |
| Smart Watch | 4% | 200.0 | 100.0 | 100.0 | 400.0 | 800.0 | | |
| Game Console | 3% | 0.0 | 100.0 | 300.0 | 100.0 | 500.0 | | |
| Voice-Controlled Assistant | 2% | 400.0 | 100.0 | 100.0 | 100.0 | 300.0 | | |
| e-Reader | 2% | 200.0 | 100.0 | 200.0 | 100.0 | 300.0 | | |
| Smart Sport Watch | 1% | vl | n/a | γl | vl | vl | | |
| Smart Clothing | 1% | 200.0 | 100.0 | 100.0 | 100.0 | 200.0 | | |

vl" indicates "Very Large." In these cases, the Mainstream Mobile response was zero and therefore the persona index could not be calculated. In that case, they would be very large compared to the base unless the response for that persona was zero as well.



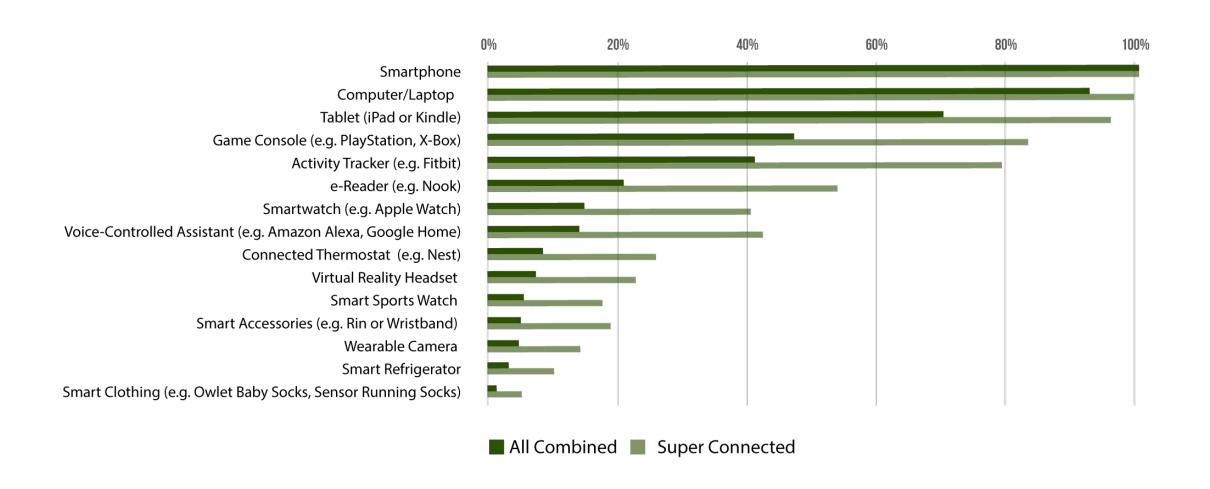
[&]quot;n/a" means that both the persona and Mainstream Mobile were zero

GETTING TO KNOW THE SUPER CONNECTED CONSUMER

HOW DO THEY USE CONNECTED DEVICES TODAY, HOW DO THEY SEE USING THEM IN THE FUTURE AND HOW DOES THAT COMPARE TO ALL CONSUMERS?

THE SUPER CONNECTED ARE MUCH MORE LIKELY TO OWN CUTTING-EDGE CONNECTED DEVICES

THE SUPER CONNECTED ARE MORE THAN SEVEN TIMES MORE LIKELY TO OWN A VOICE-ACTIVATED ASSISTANT.

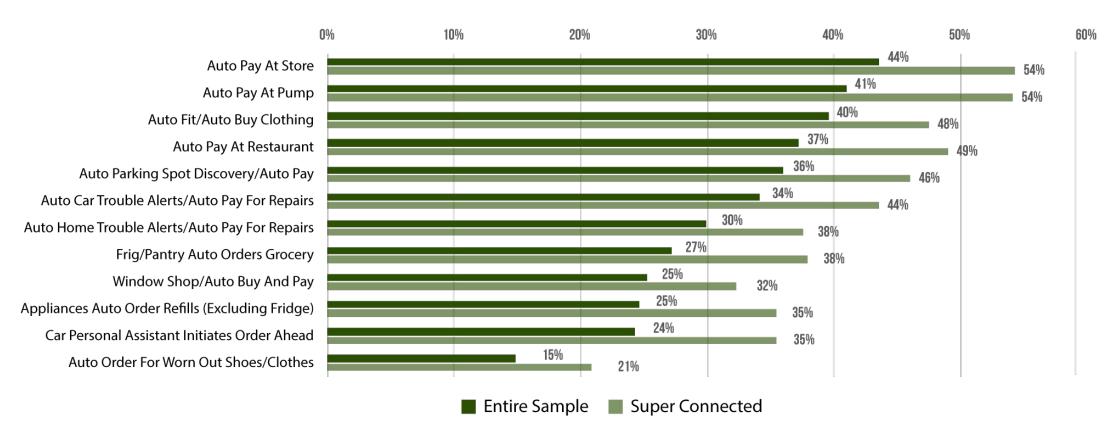




THE SUPER CONNECTED ARE MORE INTERESTED IN SEAMLESS PAYMENTS ACROSS ALL NEW USE CASES

FIFTY-FOUR PERCENT OF THE SUPER CONNECTED ARE INTERESTED IN USING AUTO PAY AT A STORE OR AT THE PUMP.

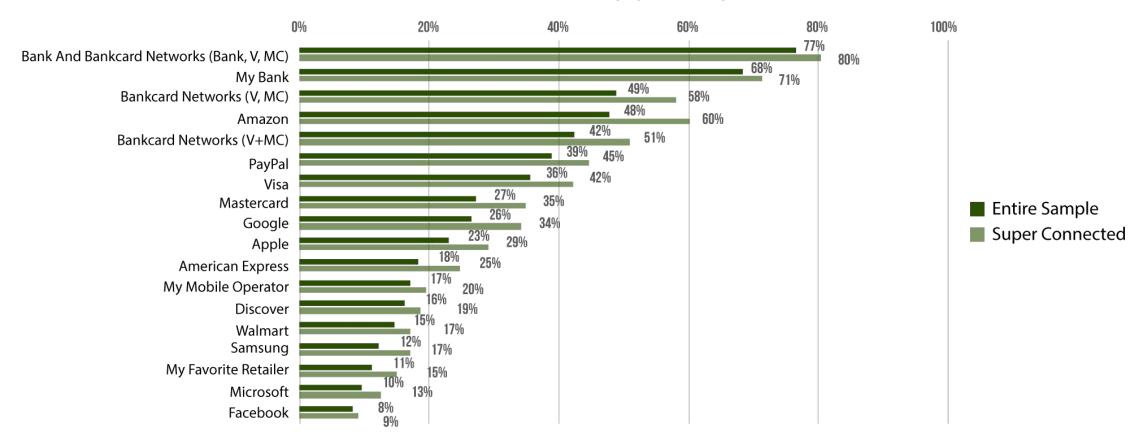
The Super Connected view connected devices as a way to make paying for things a seamless experience across almost every aspect of their lives.



THE SUPER CONNECTED TRUST BANKS TO ENABLE A CONNECTED DEVICE PAYMENT EXPERIENCE

EIGHTY PERCENT TRUST THEIR BANKS AND BANKCARD NETWORKS TO ENABLE THEIR CONNECTED PAYMENT EXPERIENCES.

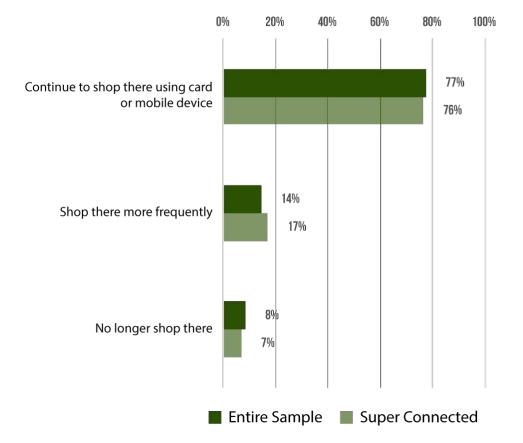
Even the Super Connected take a dim view of social networks and technology companies as the enabler of their connected payments experience



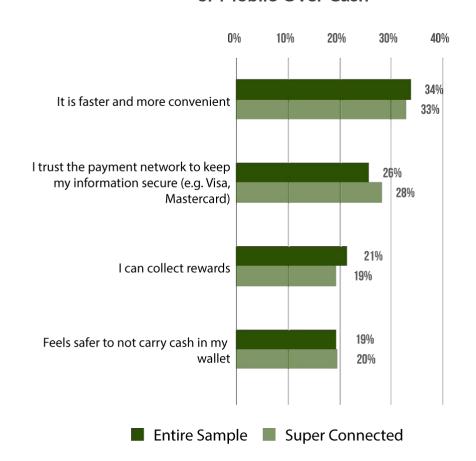
THE SUPER CONNECTED VALUE SPEED AND TRUST WHEN USING CARDS AS MUCH AS ALL CONSUMERS DO

REWARDS ARE LESS IMPORTANT TO THE SUPER CONNECTED, AND SPEED AND SECURITY ARE SLIGHLTY MORE IMPORTANT.

Consumers' Reaction To Having Their Favorite Stores Go Cashless



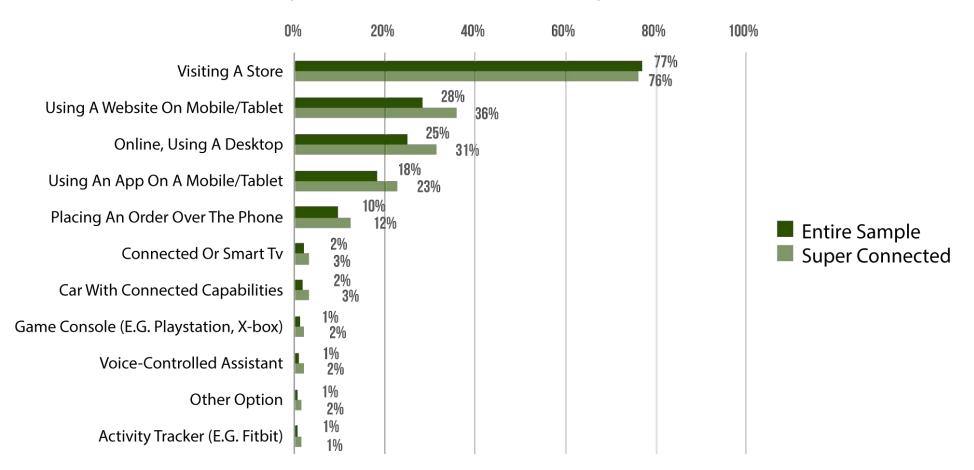
Why Consumers Say They Like Using Cards or Mobile Over Cash



THE SUPER CONNECTED SHOP AT PHYSICAL STORES AS MUCH AS EVERYONE ELSE

BUT, THE SUPER CONNECTED ARE MORE LIKELY TO USE ONLINE CHANNELS TO MAKE PURCHASES.

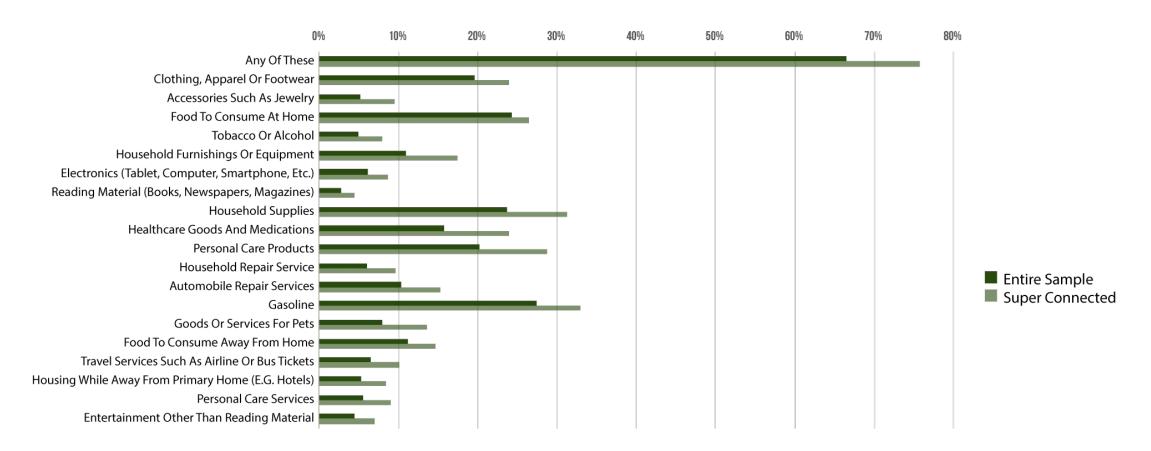
The Super Connected still use their laptops to buy things, but are early adopters of voice activated speakers and connected cars to make purchases



SUPER CONNECTED ARE MORE LIKELY TO BELIEVE HOW THEY BUY THINGS COULD BE BETTER

SEVENTY-FIVE PERCENT OF THE SUPER CONNECTED SEE ROOM FOR IMPROVEMENT IN AT LEAST ONE OF THESE BUYING EXPERIENCES.

The things that the Super Connected buy in physical stores are the areas in which they view the most opportunity for improvement

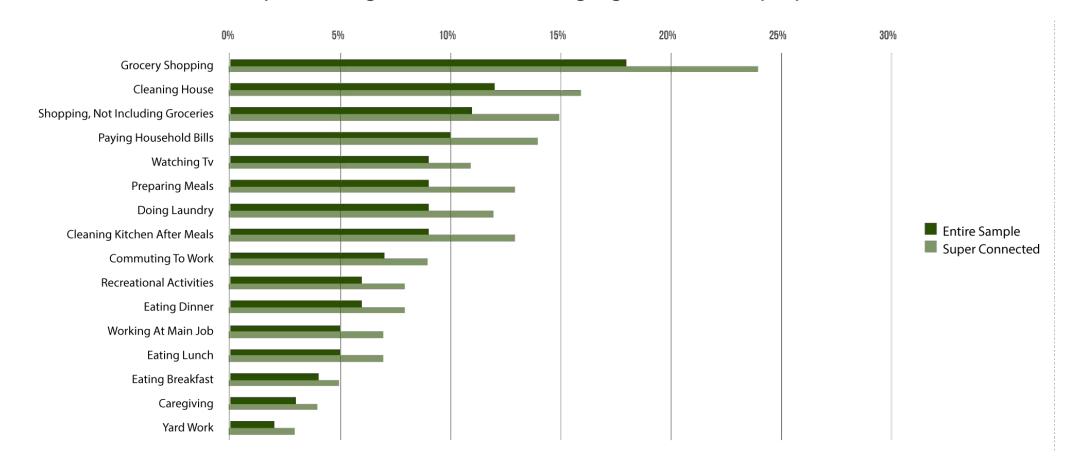




THE SUPER CONNECTED WANT DEVICES TO HELP THEM BUY THINGS WHILE THEY PERFORM OTHER ACTIVITIES

MORE THAN ANY OTHER CONNECTED GROUP, THE SUPER CONNECTED SEE HOW USING CONNECTED DEVICES TO PAY CAN ADD VALUE TO EVERY ACTIVITY THEY UNDERTAKE.

The Super Connected see connected devices as a way to "contextualize" commerce by enabling the purchase of goods and services while going about their every day lives







For the most up-to-date results, visit: http://www.pymnts.com/how-we-will-pay/