Raddon
A Fiserv Company

Raddon Research Insights

Technology and Banking: How Consumers Are Adapting to the Digital World

Contents

Executive Summary

Technology has changed the way we do everything. We shop, work, watch TV, date, learn and communicate differently than we did just a few years ago. And we most definitely bank differently too.

Our society is more mobile and more digital than ever before – we can and do bank from anywhere, blurring the lines between digital and physical. Attitudes toward the formerly exclusive role of financial institutions in monetary transactions have changed as well, opening the door for other players to enter the field.

Surviving in this rapidly changing environment requires banks and credit unions to better understand technology, their customers and their competition. By examining both demographic and behavioral factors, financial institutions can identify what their customers want from them and whether they're likely to go elsewhere to get it. Understanding the consumer appetite for disruption is key to thriving in our increasingly digital world.

Key topics covered in this report include:

How Consumers Are Adapting to the Digital World

In 2007, Apple launched the iPhone onto an unsuspecting world. Since then, we have seen a remarkable transformation in how we live, work, play and conduct everyday transactions. The banking industry has by no means been immune to this change. Digitalization and virtualization of services have wholly transformed how banks and credit unions deliver their services, and the trend shows no sign of abating.

That said, banks and credit unions have in many cases been slow to recognize the threat that moving to a digital world has on their business model. From branches made obsolete to the evolution of currency itself, banking seems ripe for "disruption."

Disruption is nothing new to the financial sector. From the Lydian invention of coinage in the seventh century B.C.E. to the creation of credit cards in 1946, how we buy and sell goods and services has always been in flux. This period of digitalization seems particularly fraught with "creative destruction," as long-standing methods of payment disappear in favor of new methods that allow for quicker and cheaper transactions.

This study seeks to understand the consumer appetite for disruption. Are consumers looking to cut the cord with their bank and credit union and find an alternative? What technologies are driving their behavior? How are their attitudes changing? And how can an institution find the customers most and least susceptible to disruption?

Publication Date: July 2018.

Attitudinal Segments

Beginning with the 2017 study, "Generation Z: The Kids Are All Right – How High Schoolers Perceive Financial Needs and Opportunities," Raddon has been tracking three Attitudinal segments which reflect how consumers respond to the digitalization of banking. In this study of the overall population, we have found:

Conventionals (35% of study respondents) are consumers who prefer to conduct their banking business face-to-face at traditional providers, such as banks and credit unions. They believe in banks, although they are aware that differences exist among institutions. Most importantly, they are distrustful of technology companies entering the banking space to provide financial services.

Digitals (36% of study respondents) also prefer traditional financial providers, but they avoid face-to-face transactions in favor of electronic or digital channels. While they believe that technology companies will impact financial services, they feel they will still have to rely on traditional providers in the future.

Pioneers (29% of study respondents) are also digitally focused, but they have a sunny outlook on the potential of technology companies. They are fairly ambivalent about banks; while they like to conduct business both face-to-face and digitally, they think all banks are the same. They see a future without traditional providers; they might use banks and credit unions, but they will not rely upon them.

Conventionals

- Prefer face-to-face interactions
- Trust traditional institutions
- Tend to be older

Digitals

- Prefer electronic channels
- Trust traditional institutions
- Tend to be younger with higher income

Pioneers

- Prefer electronic channels
- Distrust traditional institutions
- Tend to be younger with lower income

When considering technology adoption and the risk that carries to financial institutions' future success, one can imagine the Pioneers being the vanguard of consumers looking to abandon traditional banking in favor of new solutions.

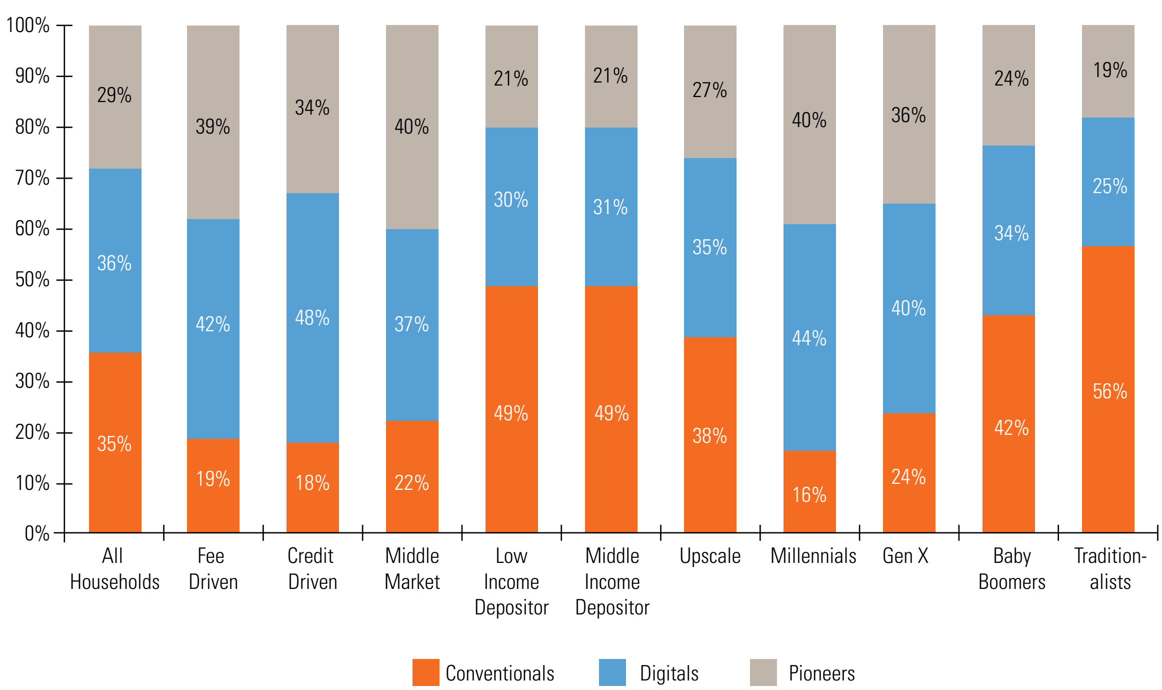
Raddon typically uses two segmentation schemes in all of its research: generational segments, which look at birth year, and Consumer segments, which consider age and income. Definitions of these segments can be found in the Survey Methodology section on page 43.

Certain demographic factors are more commonly correlated with being a Pioneer. Fee Driven and Middle Market Consumers are more likely to be Pioneers, with Credit Driven consumers being more strongly Digital.

But as Figure 1 shows, income seems less correlated with the tendency to be a Digital or a Pioneer than age. Traditionalists are, as one would expect, strongly Conventional, with Millennials being more Pioneer or Digital.

One should note that these are simply tendencies. One in five Traditionalists is a Pioneer, and one in six Millennials is Conventional – some young people prefer face-to-face contact, and some older people prefer the latest technology. By examining both demographic and behavioral factors, institutions can identify where on the spectrum customers or markets fall.

Figure 1: Attitudinal Segments, by Consumer and Generational Segments



Source: Raddon Research Insights

Pioneers are more likely to use a major bank as their primary financial institution (PFI) (44%, compared to 38% of all households) and much less likely to use a community bank (10%, compared to 17%).

One way to measure consumers' loyalty to their institution is to examine their Net Promoter Score (NPS), a metric developed by Bain & Company that seeks to boil loyalty down to a single question: On a scale of 0 to 10, would you recommend "Company X" to your friends and family? A score of 9 or 10 signifies a promoter, someone with a strong willingness to recommend; whereas a score of 0 to 6 represents a detractor, someone who may actively be discouraging potential customers. A 7 or 8 is passive, neither promoting nor detracting. One calculates the score by subtracting detractors from promoters, hence the "net" in "Net Promoter."

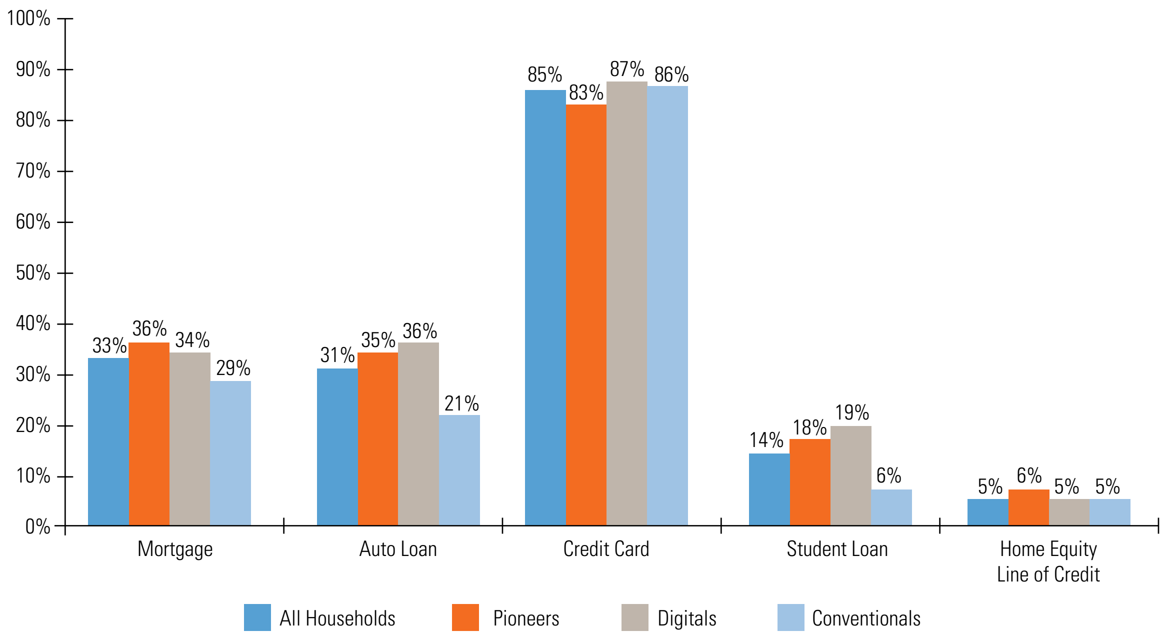
Pioneers' likelihood to recommend their PFI, as measured by their NPS, is relatively low. Their score is a 26, compared to a 37 for the Digitals and a 44 for the Conventionals.

Only 47% of Pioneers say that they are "extremely likely" to stay with their PFI, significantly lower than the other two segments (54% for Digitals, 66% for Conventionals).

Pioneers have relationships which could be at risk, given their relatively low loyalty, but because of their youth they have the smallest average balances of the three segments. The average Pioneer holds about $35,000 in deposits at all institutions, not too different from the average for all households, $38,000. Repeating the national pattern, institutions should note that while the average is low, the group does contain a few very high balance households: 12% have at least $100,000, while 28% have less than $1,000. Only 32% have an investment product, compared to 38% of all households.

Pioneers' loan usage reflects national usage trends. As Figure 2 shows, they may be slightly more likely to carry a mortgage or auto loan, but in general their loan usage does not vary significantly from the national average.

Figure 2: Loan Usage, by Attitudinal Segment



Source: Raddon Research Insights

The risk of losing Pioneers is not related to their current business but lies in their youth. If they abandon banking, those future loans, deposits and investments could leave with them.

Cryptocurrency: Do Consumers Care?

One of the more captivating and controversial developments in financial technology is cryptocurrency. Spurred by Bitcoin, and now with countless copycats, cryptocurrency posits the notion of currencies completely independent of the backing of sovereign nations or central banks.

These currencies could, in theory, be used anywhere and, being held virtually, would be completely untraceable and anonymous – hence, the "crypto-" part. They are held via blockchain technology, which basically serves as a ledger in the cloud. When a cryptocoin is bought or sold, that transaction is tracked not only on the purchaser's and seller's ledgers but on ledgers around the world. Doing this maintains an accurate value of the coins and keeps the coin secure from hacking, as one hack would not impact the other ledgers. Allowing your computer's memory to serve as part of this blockchain ledger helps earn you additional coins. In addition, your computer can be used to create new coins by being engaged in a time-consuming process of searching for particular data sequences. This process, called "mining," is critical to cryptocurrency success, as it keeps the creation of coins to a set, manageable level, limiting devaluation.

All this mining does come at a cost. There are estimates that the amount of electricity used solely on cryptocurrency blockchain ledgering is greater than that used to power the entire country of Ireland. With energy use growing at exponential rates, by the end of 2018 cryptocurrency "mining" could be responsible for 0.3% of the world's entire energy consumption.[1] For an industry which did not exist in 2008, that impact is extraordinary.

Financial markets have been fascinated by the rise of these cryptocurrencies, not least because the value of Bitcoin has accelerated dramatically. From January 1, 2017, to December 31, 2017, the value of a Bitcoin leapt from $985 to $13,860 per unit, a 1,307% increase, which is slightly higher than the 0.10% annual percentage rate (APR) in a typical savings account.

On the other hand, since the start of this year, Bitcoin's value has fallen to $6,370 as of July 11, an annualized 103% loss, making that 0.10% APR look a bit better.

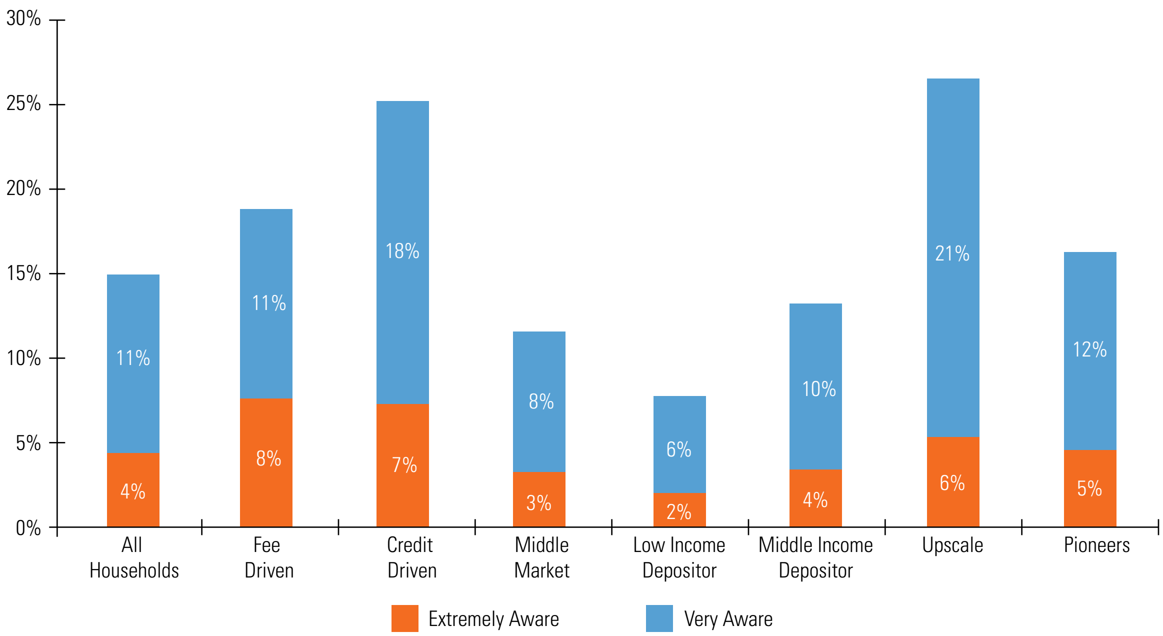
The challenge for Bitcoin and other cryptocurrencies is acceptance of use as an actual currency. The first use of Bitcoin as a currency reportedly occurred on May 22, 2010, when a Bitcoin owner spent 10,000 Bitcoins to buy two Papa John's pizzas. Eight years later, those two pizzas would have cost the equivalent of $83 million.

As a result, most coin holders don't want to spend their coins to buy things, since the escalation in value, even with the recent volatility, makes "Holding on for Dear Life" (HODL) the standard plan.

Consumers do not seem to share Wall Street's fascination with cryptocurrencies. Only 15% of consumers consider themselves "extremely" or "very aware" of cryptocurrencies. While more affluent segments are more aware of cryptocurrencies, Pioneers as a whole are not.

[1] De Vries, Alex. "Bitcoin's Growing Energy Problem," Joule, May 16, 2018. Found at: https://www.cell.com/joule/fulltext/S2542-4351(18)30177-6

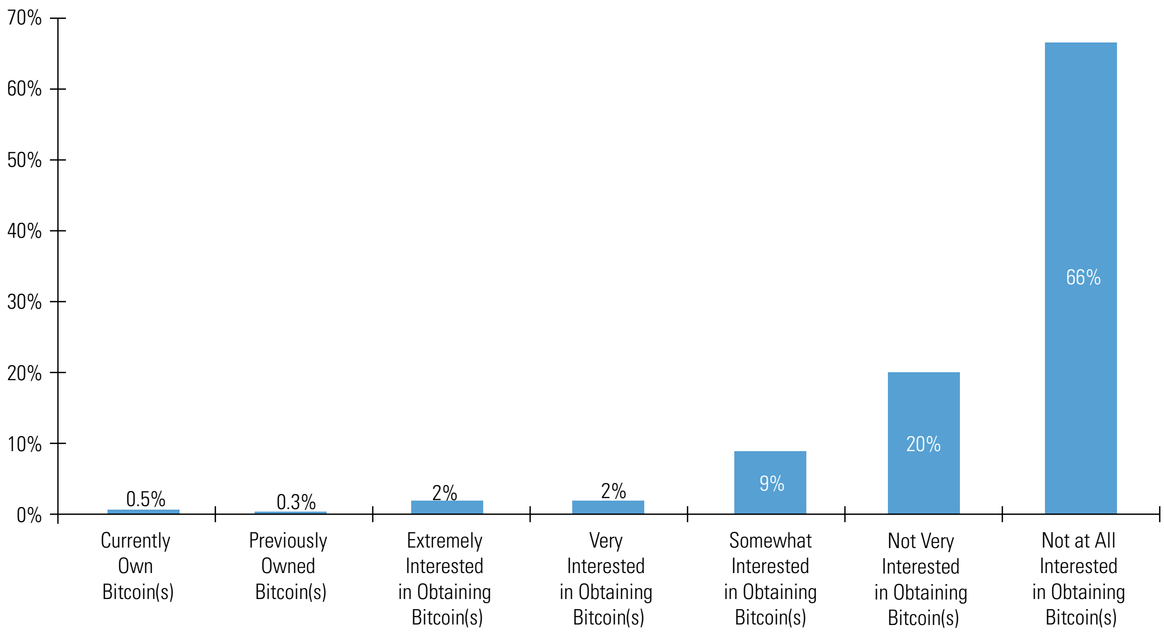
Figure 3: Percent of Households Expressing Awareness of Cryptocurrencies, by Consumer Segment



Source: Raddon Research Insights

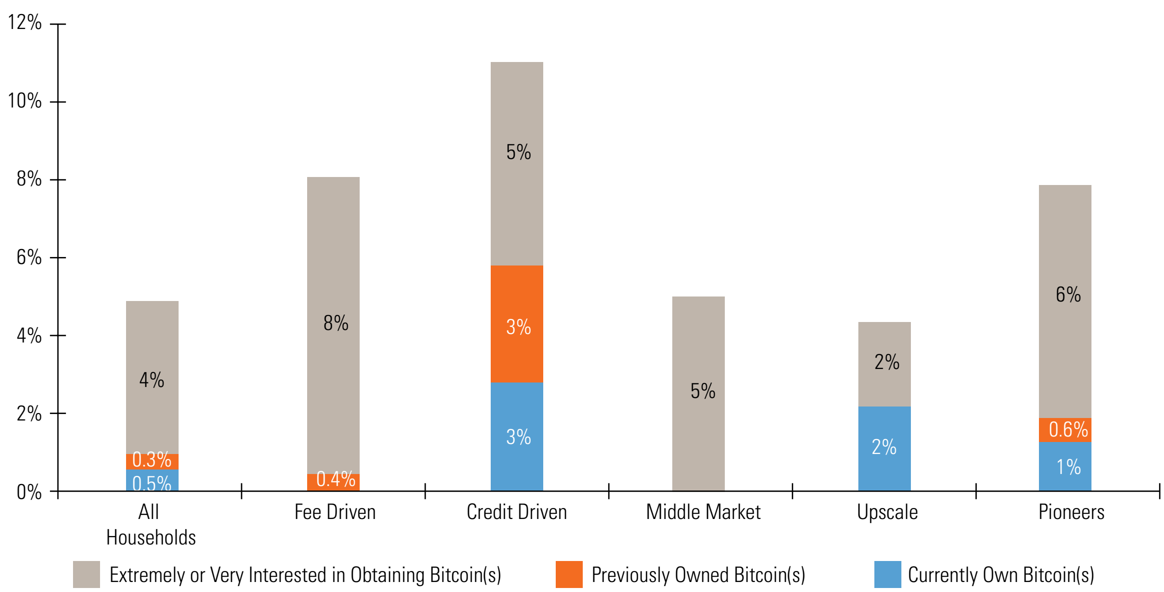
With reasonable awareness, especially among affluent consumers, one might expect a desire to own cryptocurrencies. However, most consumers express little to no interest, even among affluent segments.

Figure 4: Percent of Households Owning or Interested in Owning Bitcoin



Source: Raddon Research Insights

Figure 5: Percent of Households Owning or Interested in Owning Bitcoin, Key Segments

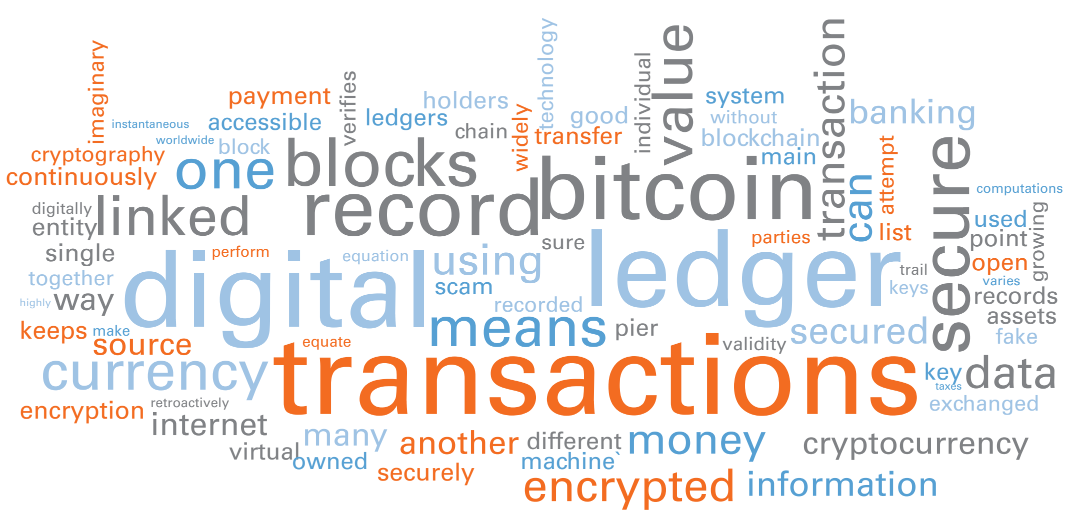


Source: Raddon Research Insight

Only affluent Millennials, the Credit Driven segment, show interest in and use of Bitcoin specifically. The reticence from the rest of the population likely comes from the complexity of the technology as well as the clear parallels to asset bubbles in the past, whether it be housing, Beanie Babies or tulip bulbs.

We asked consumers what they thought of "blockchain" technology, and overwhelmingly consumers had no idea what blockchain is.

On the other hand, those consumers who are very or extremely aware of cryptocurrency have a much stronger understanding of blockchain:



The strong correlation with "digital," "ledger" and "transactions" shows that consumers who are aware of cryptocurrency have a clear understanding of the underlying technology. This connection is compelling in light of the findings of Raddon's recent study on financial literacy, which indicated that Americans often think they are more knowledgeable than they actually are. Here, at least, consumers are clear-eyed about what they do or do not know.

While cryptocurrency may be a passing fad, the allure of a digital payment method that is simple and secure is much more popular.

The Digitalization and Mobilization of Transacting

Subscribers to Raddon Research Insights will be familiar with our recurring studies on payments, channels and mobile banking. Smartphone adoption, now as high as 81% according to our 2017 study, "Payments Insights: Rise of the Digital Pioneers," has fueled uses of mobile devices for payments in ways that would have been unfathomable even a decade ago.

One of the chief threats to banking in the "FinTech" space is the adoption of mobile wallets, a catch-all term for using one's smartphone as a payment device. Currently, many mobile wallets, like Apple Pay and Samsung Pay, link to debit and credit cards; however, that standard may not be the future standard.

The first threat comes from the world at large. In America and much of the developed world, financial institutions and the payment networks, like Visa and MasterCard, are the gatekeepers of purchase transactions. For any purchase, a significant percentage of the purchase price covers fees to those gatekeepers – about 2.75%, according to analysis by Glenbrook Partners. The lion's share of those fees is interchange, which has become the largest source of noninterest income for banks and credit unions.

In China, those gatekeepers have been bypassed. Instead, Chinese consumers are increasingly using two social media platforms, Alipay and WeChat, to circumvent the market. In 2016 alone, consumers spent over $2.9 trillion via these two systems.[2]

[2] Surane, Jennifer and Christopher Cannon. "Why China's Payment Apps Give U.S. Bankers Nightmares," Bloomberg, May 23, 2018. Found at: https://www.bloomberg.com/graphics/2018-payment-systems-china-usa/

Analysts project that, by 2020, these and other third-party providers will claim 40% of the various credit card fees. In America, that percentage would represent $43 billion in lost revenue to financial institutions.

For the consumer, using Alipay or WeChat is simple. Just transfer money from your bank account into the app and use it to pay for everything, not only in China but increasingly around the world. Alipay is now offering to pay customers interest for keeping their money on deposit there, representing another threat.

The second, even more present threat comes from Starbucks. In 2018, research firm eMarketer expects 23.4 million people to use the Starbucks app for a point-of-sale transaction at any of its 27,000 stores worldwide at least once every six months. That usage rate is higher than Apple Pay's 22.0 million, Google Pay's 11.1 million and Samsung Pay's 9.9 million, despite greater availability of all three platforms at far more locations.[3]

Currently, most Starbucks app users load dollars from their credit or debit card into the app. The threat to revenue occurs when Starbucks starts to promote loading from other sources via Automated Clearing House (ACH). At that point, every subsequent purchase would come without revenue to financial institutions.

Mobile Payments: Still Building Support

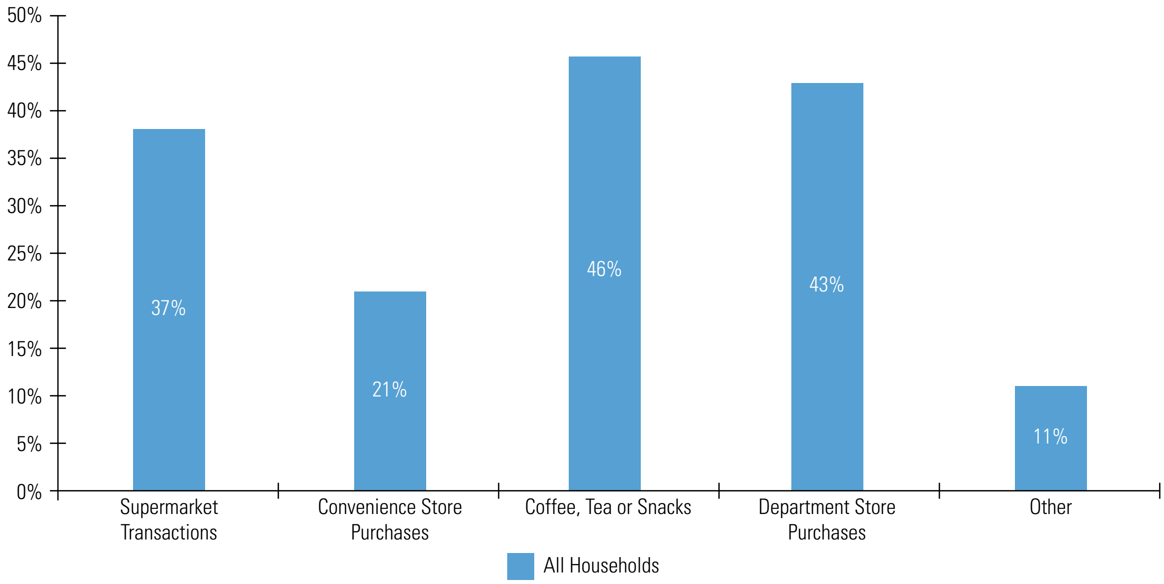
Consumers are still divided on the merits of mobile payments.

Only 8% of American households say they use a mobile wallet, like Apple Pay, with Credit Driven (15%), Millennials (14%) and Digitals (12%) most likely to use mobile wallets.

On the other hand, 17% use mobile payments, with Starbucks and similar merchant-based apps making up the difference between that 17% and the 8% using mobile wallets. This gap between mobile wallet usage and mobile payment usage is evidenced by the types of transactions made with mobile payments and the cards used in mobile payments, as shown in Figures 6 and 7. Reward cards like Starbucks' are used by nearly as many payment users as credit or debit cards.

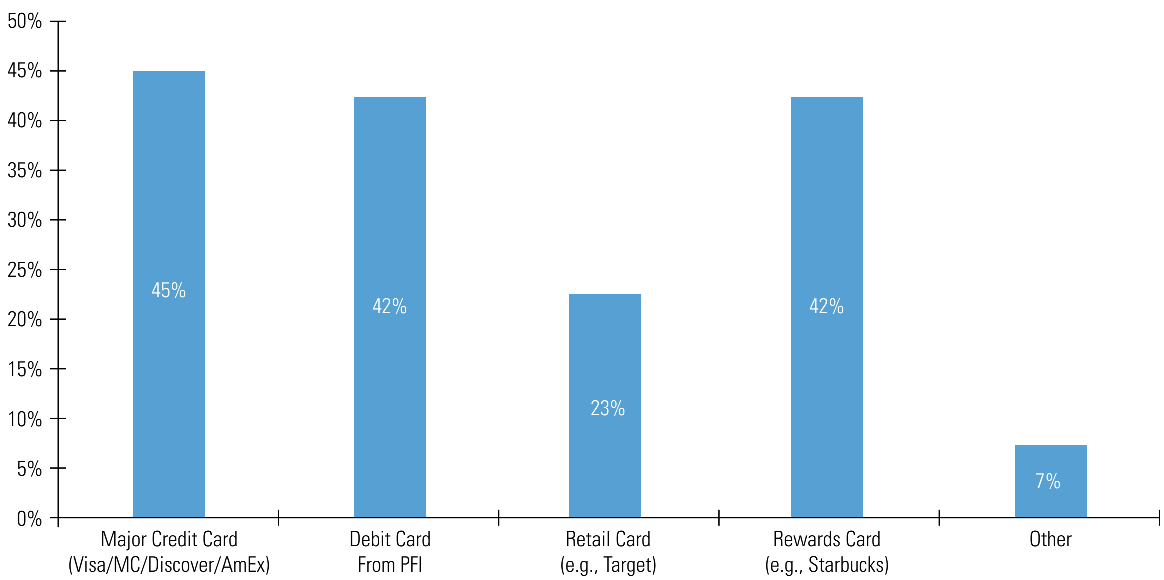
[3] "Starbucks App Leads Mobile Payment Competitors," eMarketer, May 22, 2018. Found at: http://www.emarketer.com/newsroom/index.php/starbucks-app-leads-mobile-payment-competitors/

Figure 6: Types of Transactions Made With Mobile Payments



Source: Raddon Research Insights

Figure 7: Cards Used for Mobile Payment



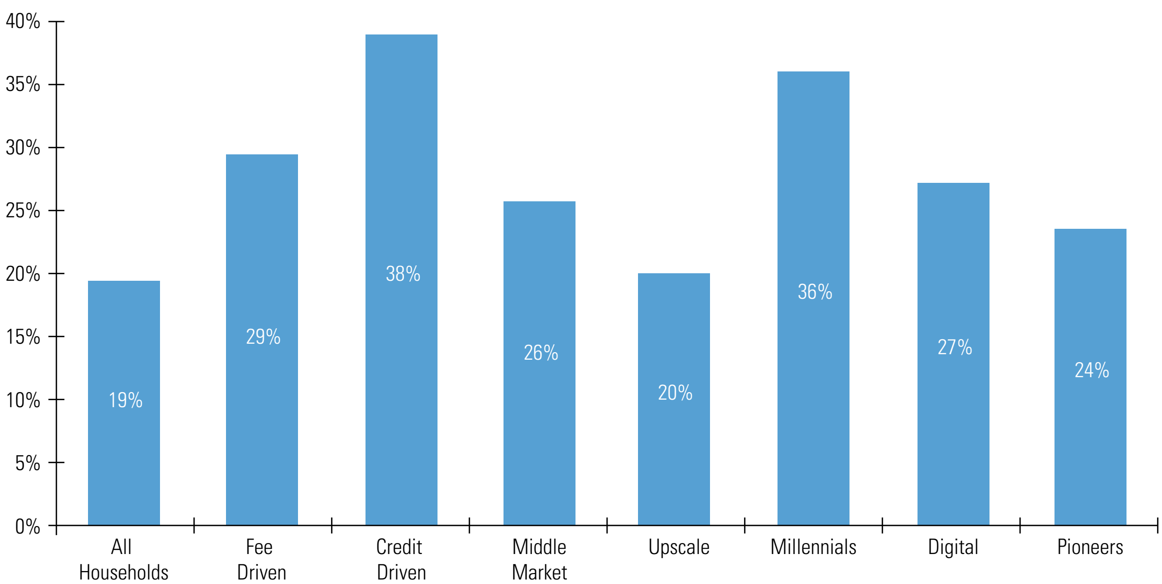
Source: Raddon Research Insights

Starbucks represents only the thin edge of the wedge; after all, only a relatively small amount of consumers' disposable income is spent on coffee, tea and breakfast sandwiches. If large retailers such as warehouse stores or groceries successfully adopt this model, banks and credit unions could expect a dramatic reduction in interchange income.

In the meantime, mobile payments seem likely to grow in popularity. As shown in Figure 8, 19% of consumers suggest that they are extremely or very likely to use mobile payments in the next five years, up from 17% in 2016. One in five may not seem like a huge number, but 36% of Millennials express that they are at least very likely. As in other digital cases, age seems far more predictive than income.

Interestingly, Digital consumers are slightly more disposed than Pioneers to use mobile payments in the future.

Figure 8: Percent of Households Extremely/Very Likely to Use Mobile Payments, Key Segments



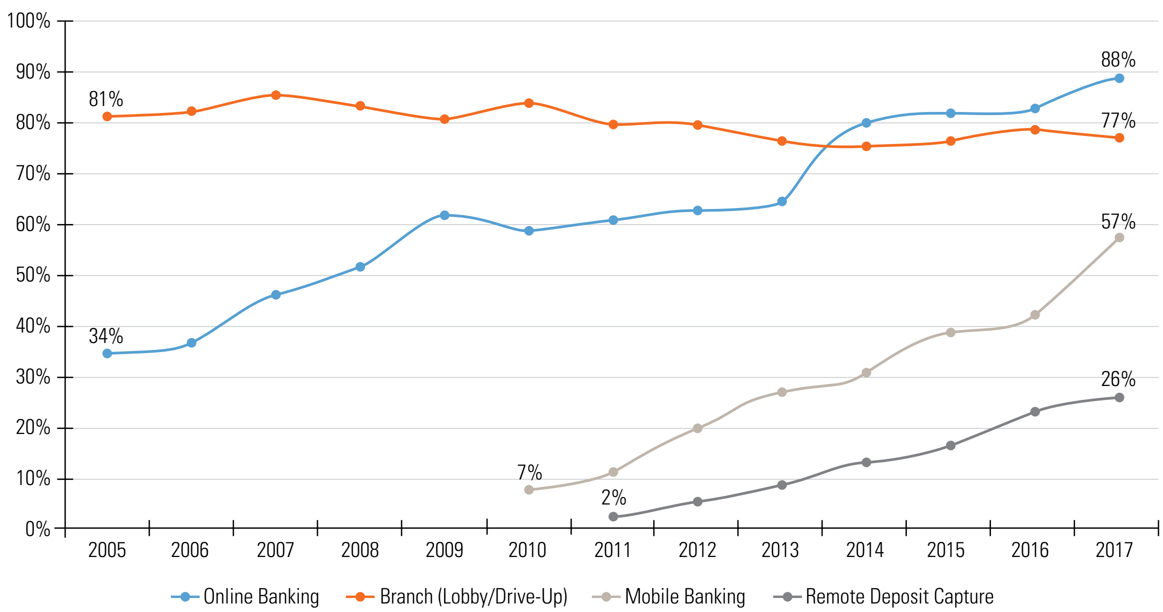
Source: Raddon Research Insights

As mobile payments grow in speed and acceptance, expect the most disruption in this crucial arena. Consumers in general may be lukewarm, but when more than one in three people under age 40 expect to use a payment method, that payment method will grow.

Branching in the Digital Era

The number of bank and credit union branches has declined 8.4% since 2008, from 120,827 to 110,712, according to Federal Deposit Insurance Corporation (FDIC) and National Credit Union Administration (NCUA) data. While some of this reduction can be attributed to the Great Recession and the subsequent slow but steady recovery, consumer behavior accounts for the greatest part of the rationale. FMSI estimates that teller transactions in total have fallen around 5%, from about 980 million in 2007 to 930 million in 2017.[4]

Figure 9: Delivery Channel Usage Over Time



Source: Raddon Research Insights

On the other hand, the retail industry has seen a far greater slowdown. Visits to shopping malls, for instance, fell 50% between 2010 and 2013, according to Cushman & Wakefield, and Toys R Us, Sears and others have had well-documented troubles.

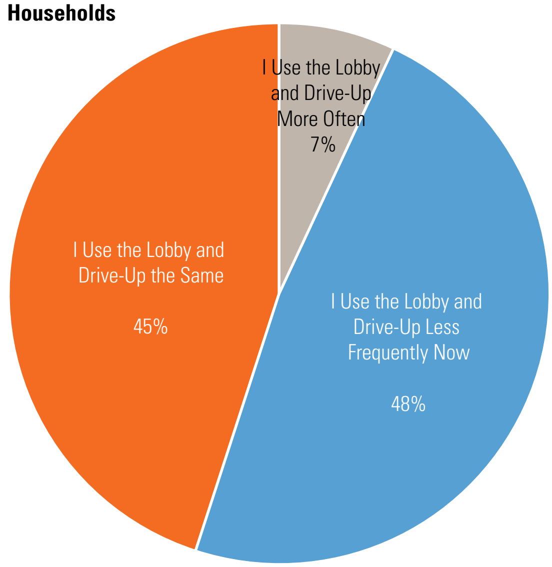
[4] FMSI, "FMSI 2017 Teller Line Study." Found at: https://www.kronos.com/node/19281?fs=200&at=g

Consumers' Perceptions of How They Use Branches

Consumers have adopted an online and mobile lifestyle that is impacting their use of retail space. Physical bank branches are no exception.

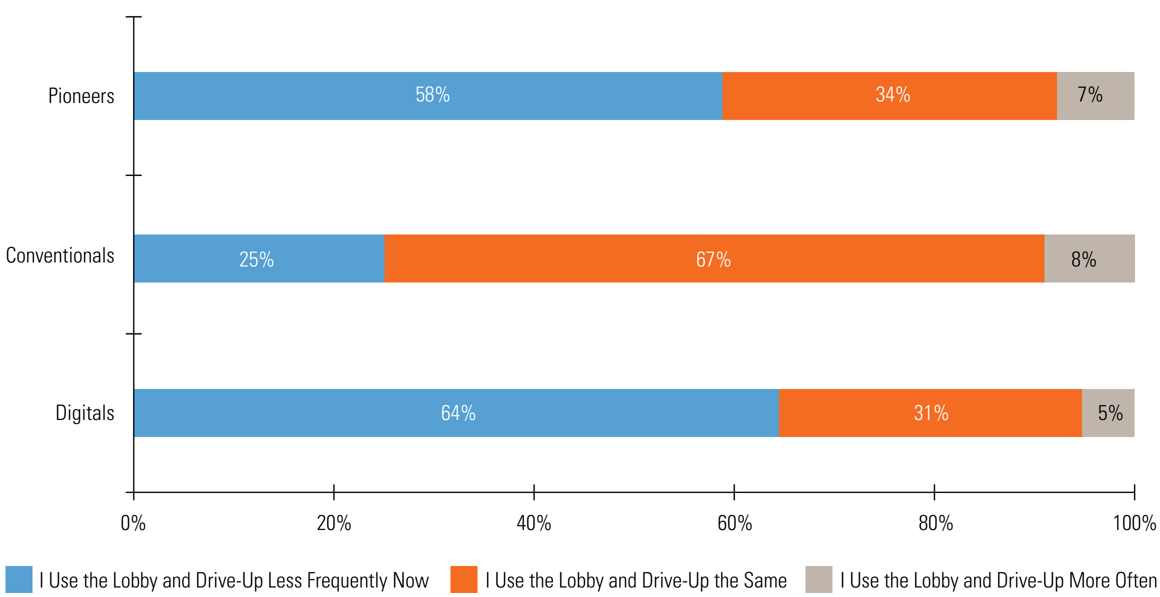
Nearly half of all Americans (48%) report that they use the lobby and drive-up less often today than in the past, thanks to improvements in technology. That percentage is up significantly from 2013, when 37% reported lower use. In 2018, Credit Driven (62%) and Upscale (59%) consumers are the most likely to make this statement, but even 40% of the Low Income Depositors, typically the least prone to change, say that technology has reduced their lobby usage.

Figure 10: Change in Branch Usage Due to Technology, All Households



Source: Raddon Research Insights

Figure 11: Change in Branch Usage Due to Technology, Attitudinal Segments



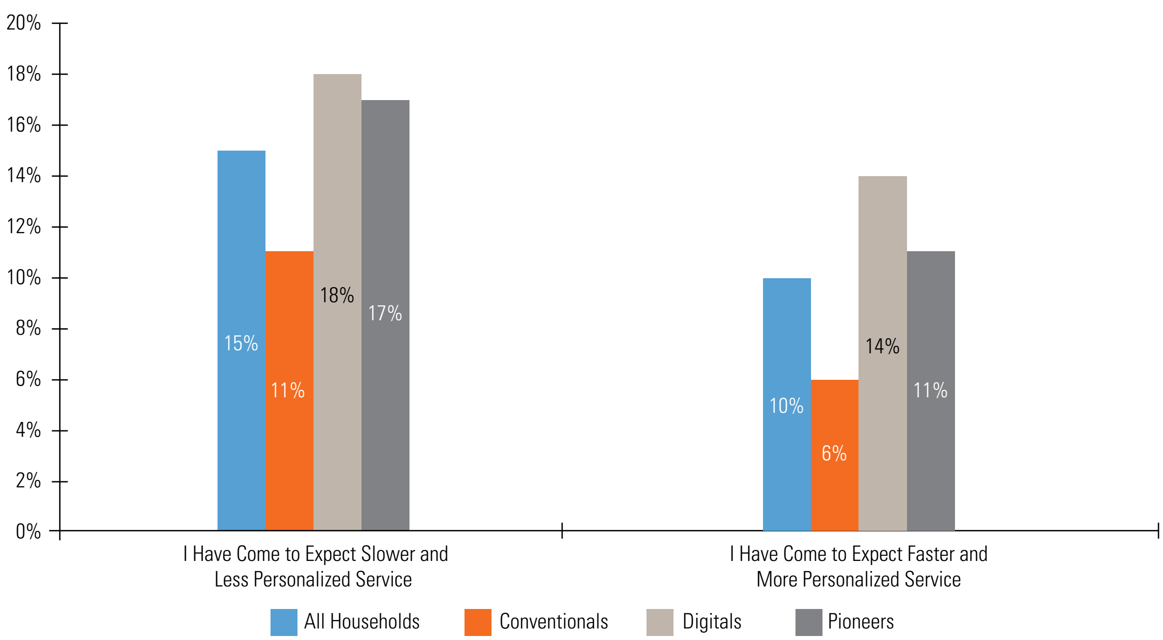
Source: Raddon Research Insights

Interestingly, the majority of Americans (57%) still say that technology has not obviated the need for a branch. Only 22% claim that branches are no longer necessary; five years ago, that percentage was 19%: a small change given how many consumers have actively changed their banking behavior.

With more Americans being accustomed to an online world, their expectations of what happens at a physical store, whether it be retail, food service or financial services – has largely remained unchanged. Of those surveyed, 75% say their expectations have not changed.

Intriguingly, the other 25% are fairly well spilt between two groups: cynics who expect worse service because shopping or ordering in person cannot compare to the speed and efficiency of the online experience, and optimists who expect the in-person experience to duplicate the speed and efficiency of the online experience. But none of our age, income, regional, attitudinal or PFI segmentations predict into which bucket a consumer will fall. As Figure 12 shows, Digitals are more likely to be cynical, but they are also more likely to be optimistic.

Figure 12: Change in Consumer Expectations of Service at Physical Storefronts for Any Retail Store, by Attitudinal Segment



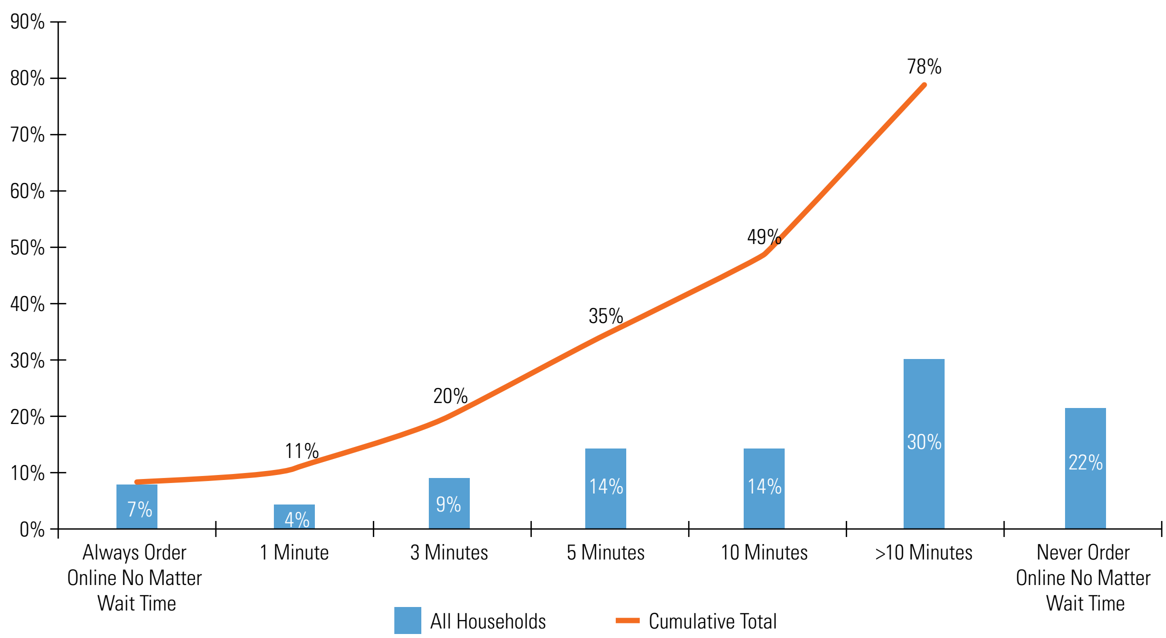
Source: Raddon Research Insights

In Line or Online: Choosing When to Wait

To understand consumers' preference for using online channels or waiting in line at a physical location, we asked a very basic question: When buying a good or service, do you a) stand in line at the counter, b) order online to pick up or c) either one, depending on the wait?

Given a choice between waiting in line at a physical location or ordering online, the slight majority of Americans (52%) prefer to stand in line. Millennials, particularly the higher-income Credit Driven segment, and Pioneers are most likely to prefer ordering online. The wait is the real determinant, as most people may prefer waiting in line but will go online if the wait is long enough. Only 22% of consumers refuse to order online.

Figure 13: Amount of Wait Time Required to Switch to Ordering Online



Source: Raddon Research Insights

As one would expect, younger people, Digitals and Pioneers, are far less patient: 42% of Pioneers will switch to save a five-minute wait, while only 27% of Conventionals would switch in that case. Interestingly, credit union primary members are also significantly more patient in this area: 28% would order online when faced with a five-minute wait, compared to 38% of major bank primary customers.

If most consumers still see value in the branch that cannot be replaced by technology, the factors that drive that opinion are rooted in distrust of online security. We asked consumers to rank eight factors in terms of importance when conducting a transaction. Far and away, security was the most important factor, with 41% ranking it first and 71% ranking it in the top three.

Figure 14: Ranked Importance of Branch Transaction Factors

Branch Transaction Factor	Total Score	First-Place Votes
Security of the Transaction	266	41%
Speed of the Actual Transaction	164	15%
Wait Time to Speak With Staff	142	14%
Friendliness of Staff	130	14%
Speed of Identifying You	68	3%
Greeted by Your Name	52	5%
Ability to Schedule in Advance	49	5%
Informed of Latest Promotional Offer(s)	29	3%

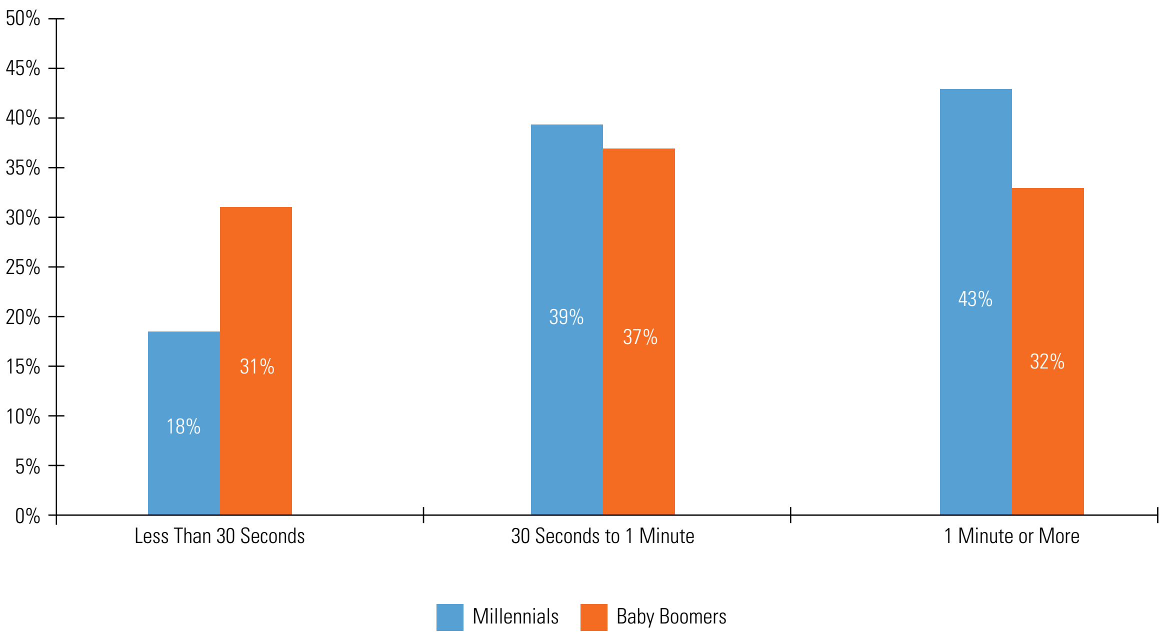
Interestingly, the only difference between how the average consumer ranks these factors and how Pioneers rank them is that the Pioneers put the least emphasis on being greeted by their name.

Identification in the Branches

The fifth factor on this list was speed of identification. Given the proliferation of ID theft, proper identification has become increasingly important for security, both for consumers and for institutions. However, consumers also expect speed as much as security.

Twenty-five percent of consumers believe that identification at a branch should take 30 seconds or less, with an additional 39% believing identification should take 30 seconds to a minute. Interestingly, Baby Boomers are the least patient when it comes to speed, while Millennials are willing for identification to take longer.

Figure 15: Expected Speed to Identify Customer at Branch, by Generational Segment



Source: Raddon Research Insights

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One way to increase both the speed and the security of identification is the use of biometric identification. By scanning a customer's fingerprint, retina, palm or face, institutions can recognize customers far more precisely than they might otherwise be able to.

Customers are increasingly open to this concept. When asked to rank their preferred method of identification, 37% ranked biometrics first, the same percentage as rated their wallet (photo ID, for example) first. Using the phone ranked last, with only 27% ranking it first. While the acceptance of biometrics seems positive for biometric providers, note that 42% ranked it last of the three, showing some significant pushback as well, especially among Gen X, where 52% ranked it third.

While biometrics in general might be disconcerting to some consumers, palm authentication specifically seems more broadly appreciated. Fifty-three percent of consumers say that they would be somewhat or especially comfortable with using a palm scanner, and 41% find the technology valuable. Upscale (59%) and Traditionalist (61%) households say that they would be most comfortable with palm-scanning technology, while Gen X (46%) and Millennials (48%) would be the least comfortable.

One avenue of identification with which consumers are not comfortable is implanting a microchip into their hand or body. A company in Wisconsin made headlines in 2017 by encouraging their employees to implant a chip which would allow them to check through security, purchase snacks from vending machines and perform other tasks that would normally require an ID card. Two-thirds of Americans (66%) are not at all interested in this potential trend, while only 8% are very or extremely interested. Twelve percent of Pioneers are very or extremely interested, however, showing that there may be some opportunity for embeddable technology among this disruption-ready group.

Cutting the Cord: Disruption in Other Industries

In 2007, *Forbes* magazine ran a cover story with the headline: “Nokia One Billion Customers – Can Anyone Catch the Cell Phone King?” Also in 2007, Apple launched the iPhone.

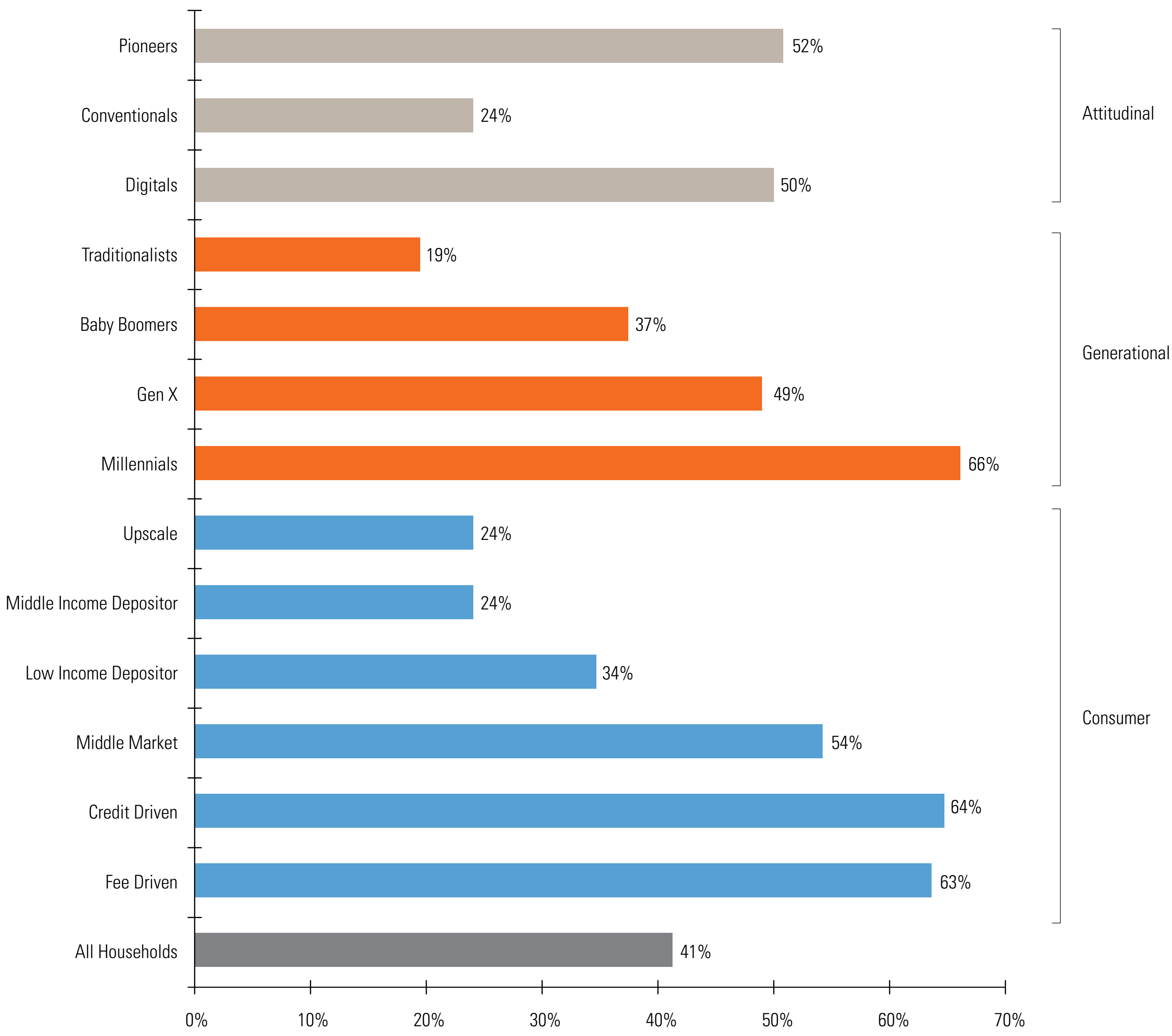
As Nationwide’s 2004 ad campaign put it, “Life comes at you fast.” While financial institutions hold tremendous incumbency advantages in a highly regulated industry, consumers are by no means beholden to use today’s banks and credit unions in the future.

To understand the risk of technology firms entering the financial space, consider their impact on other industries.

Hanging Up the Phone

Twelve percent of Americans in our study, including 24% of Millennials, say they have never owned a landline home phone. Of those who have had a landline phone, 41% no longer have that service. Sixty-six percent of Millennials who owned a landline phone have canceled that service.

Figure 16: Percent of Households Who Have Canceled Their Landline Phone, Key Segments



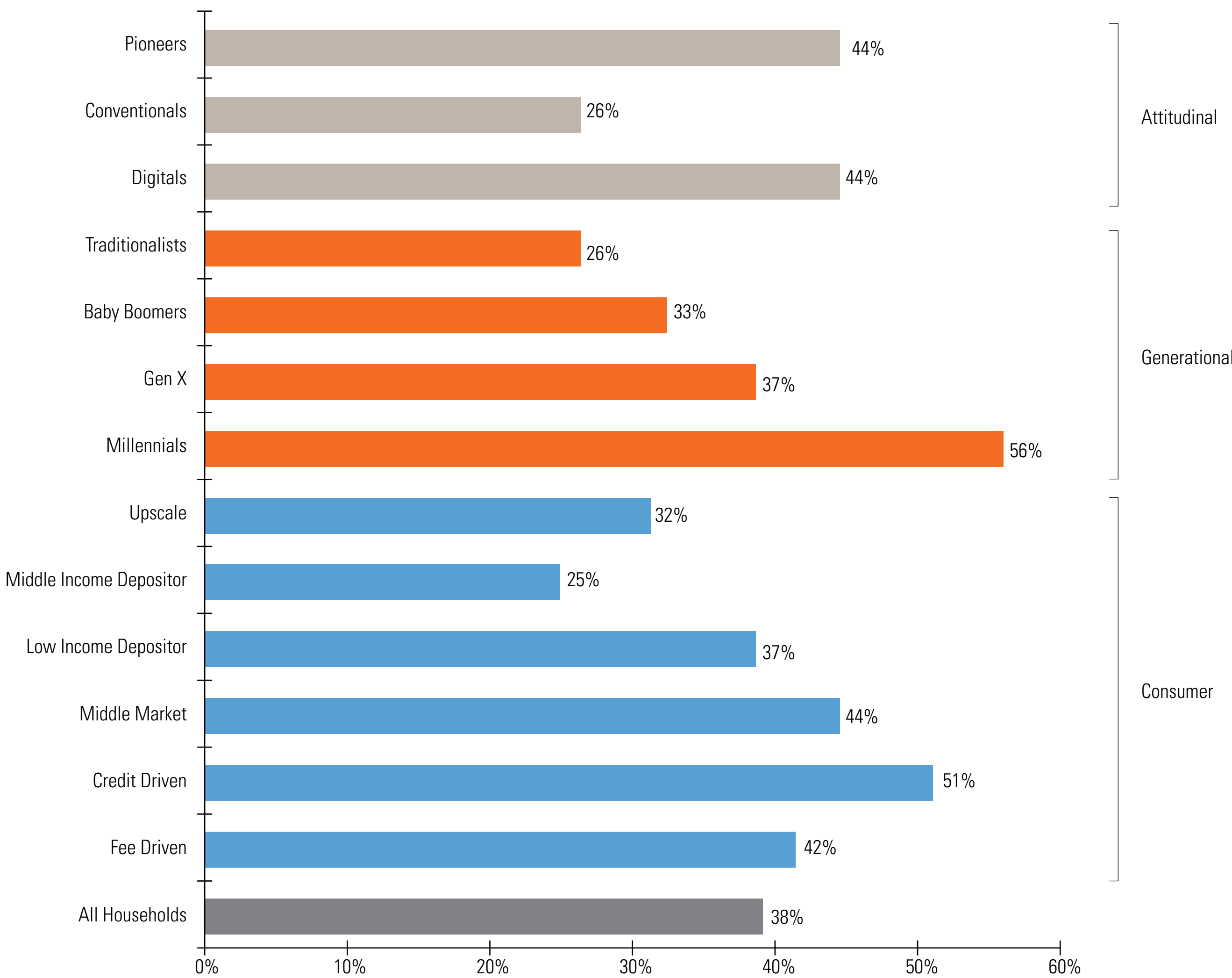
Source: Raddon Research Insights

Note that income has no impact on phone disruption. Age and comfort with technology and disruption are the only predictors of the willingness to cut the phone cord.

Unlimited Channels and Nothing On

That same predilection manifests itself when considering television. Seventy-eight percent of Americans have had cable television at some point in their lives, but of that group, 38% no longer have cable. Some may have switched to satellite, but only 48% of Americans have ever had that service. If cable-cutters have switched to satellite, they might not have stayed, since 47% of all satellite owners have turned off the dish. More likely, they have moved to a streaming service like Hulu – 41% of consumers have used one of those services, and 60% have used Netflix specifically. Both of those have a much higher retention rate, as 75% of users still subscribe to those services.

Figure 17: Percent of Households Who Have Canceled Their Cable Subscription, Key Segments



Source: Raddon Research Insights

As we have seen with phones, younger consumers and those with more digital affinity are more likely to have canceled their cable.

Other disruptive choices have followed a similar pattern. Younger consumers are much more likely to have used, and still use, music services like Spotify or Pandora and delivery services like Amazon Prime, HelloFresh or Peapod. Unlike telephone and television, these services are less ubiquitous, and income plays a significant role in adoption.

Consider Amazon Prime, which 55% of our survey respondents claim to have subscribed to at some point, although only 75% of those have remained signed up. Seventy-nine percent of Credit Driven households have used Amazon Prime at some point, compared to 58% of Fee Driven, who are the same age but have less income. Also, of those who had ever subscribed to Amazon Prime, 35% of Fee Driven households have canceled, while only 21% of Credit Driven have done so. Upscale shoppers find the most value: Only 11% of them have canceled their Amazon Prime subscription.

Availability matters as well. While 14% of urban dwellers have used a grocery delivery service like Peapod or Instacart, only 8% of suburbanites and 6% of rural consumers have. Where streaming options and mobile phones have been disruptive, these delivery services are less obviously impactful. Fifty-five percent of those using a grocery delivery and 73% of those using a meal delivery service like HelloFresh have canceled. Interestingly, this is the only aspect of these disruptions where we see a divide between the Digitals and the Pioneers: The Pioneers are more likely to cancel their delivery service subscriptions than the Digitals (65% cancellation of grocery versus 54% for Digitals). One hypothesis is that Pioneers switch early and expect a higher-quality service immediately.

Whichever industry we consider, though, young people are most inclined to abandon incumbents and consider alternatives.

Future Channels: Disruption from Wearables to Virtual Assistants

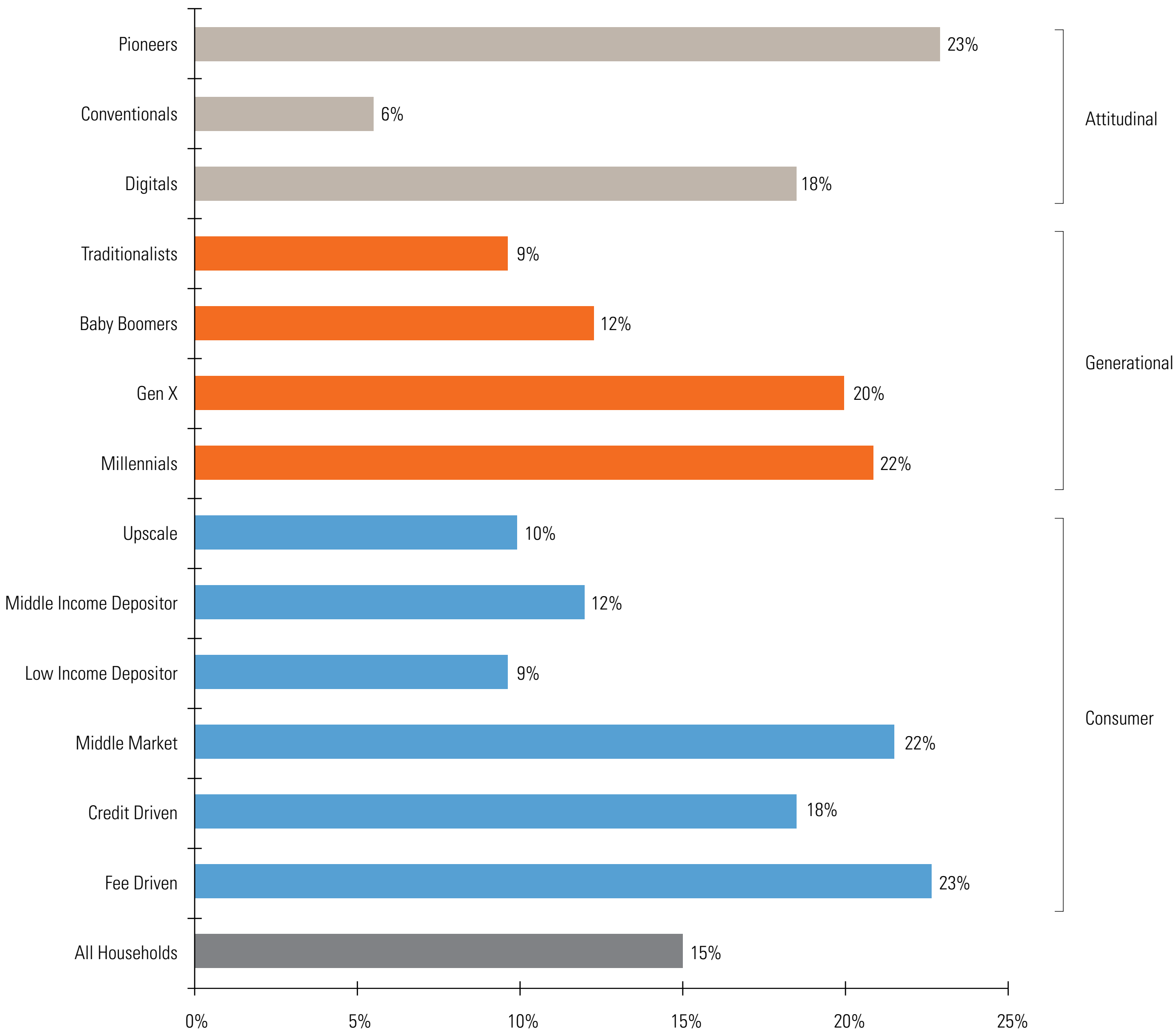
Changes coming to financial services involve more than existing channels; new channels or means of accessing transactions are on the horizon or in some cases already here. As consumers adapt to using wearable technology or virtual assistants, these channels represent another expense for financial institutions looking to keep pace.

Online Chat Functionality

Online chat has become a popular feature on corporate websites around the world as a convenient way to prompt customers for action or help guide support inquiries. Consumers seem to have embraced this feature: 51% of households say they have used an online chat feature at least once.

Repeated use is less common. Fifteen percent claim to use the feature once a month, with 5% of those users using it at least once a week. As Figure 18 shows, younger consumers and those with a Pioneer orientation are more likely to use this feature. Note that this is use on any website, not strictly for financial services.

Figure 18: Online Chat Usage, at Least Once Per Month, Key Segments



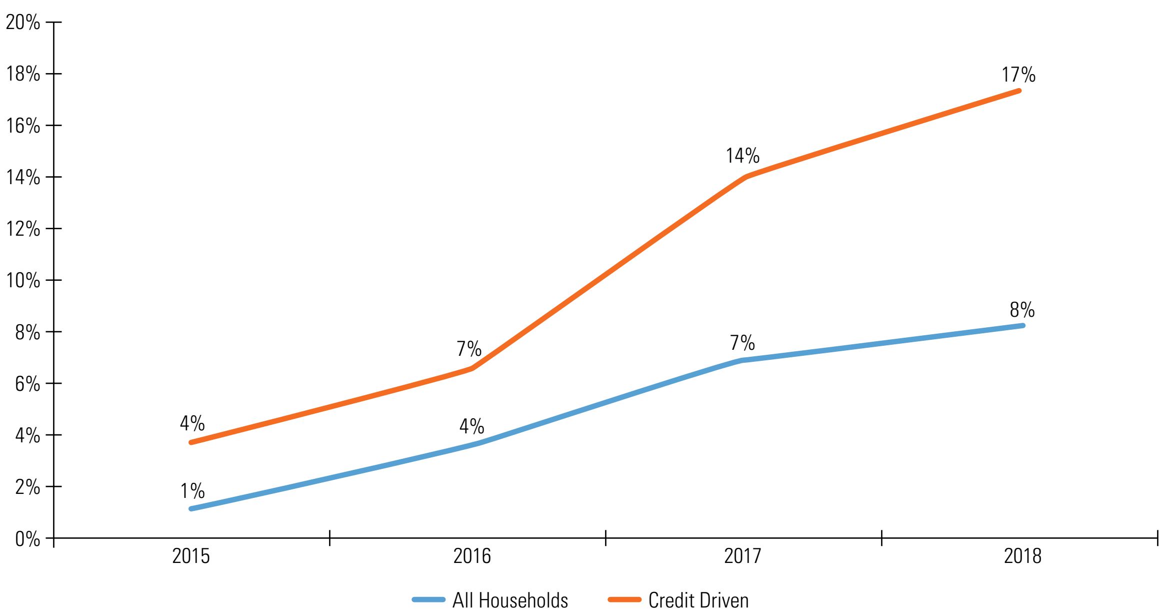
Source: Raddon Research Insights

Given the segments most attracted to this feature, consider increasing your availability and functionality of online chat if you have or seek younger, more digitally aligned customers.

Smartwatches: Time for Wristside Banking?

Apple launched the Apple Watch in 2015, and in just three years 8% of consumers claim to own one. Tellingly, that percentage jumps to 17% of Credit Driven and 16% of Millennials overall. As Figure 19 shows, the growth among affluent Millennials has been particularly noticeable.

Figure 19: Trend in Smartwatch Ownership

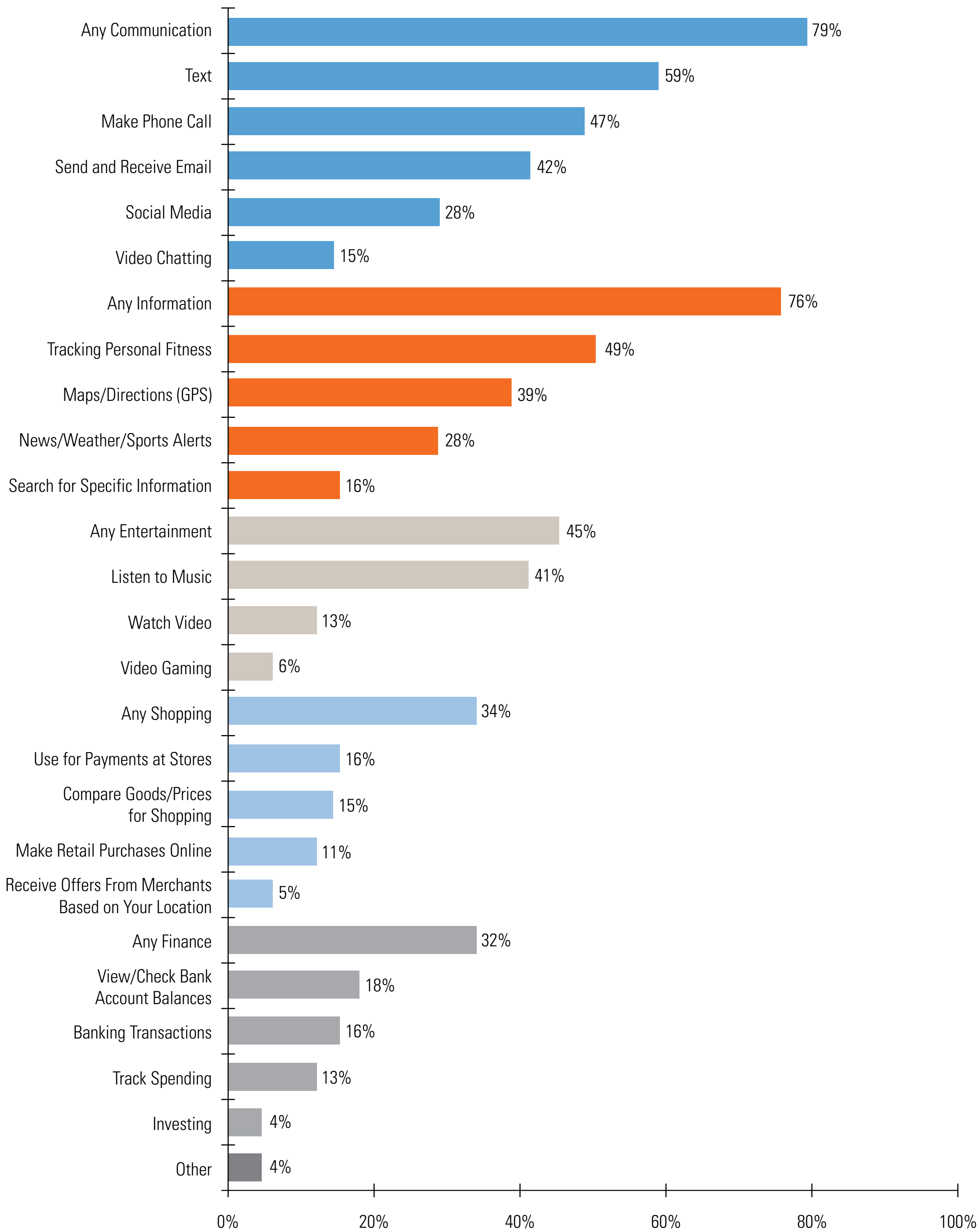


Source: Raddon Research Insights

On the other hand, the growth may have a ceiling. Only 6% of consumers who do not own a smartwatch intend to buy one in the next year, the same percentage as in 2016. Fee Driven – less affluent Millennials – are driving demand today, with 13% saying they plan to buy a new smartwatch.

As smartwatches evolve and companies like Apple and Google add more functionality, more consumers are finding uses for their smartwatches. Communicating and receiving information are currently the two most prominent uses; however, one out of six wearers uses the watch for banking and payments.

Figure 20: Uses for Smartwatches



Source: Raddon Research Insights

Virtual Assistants

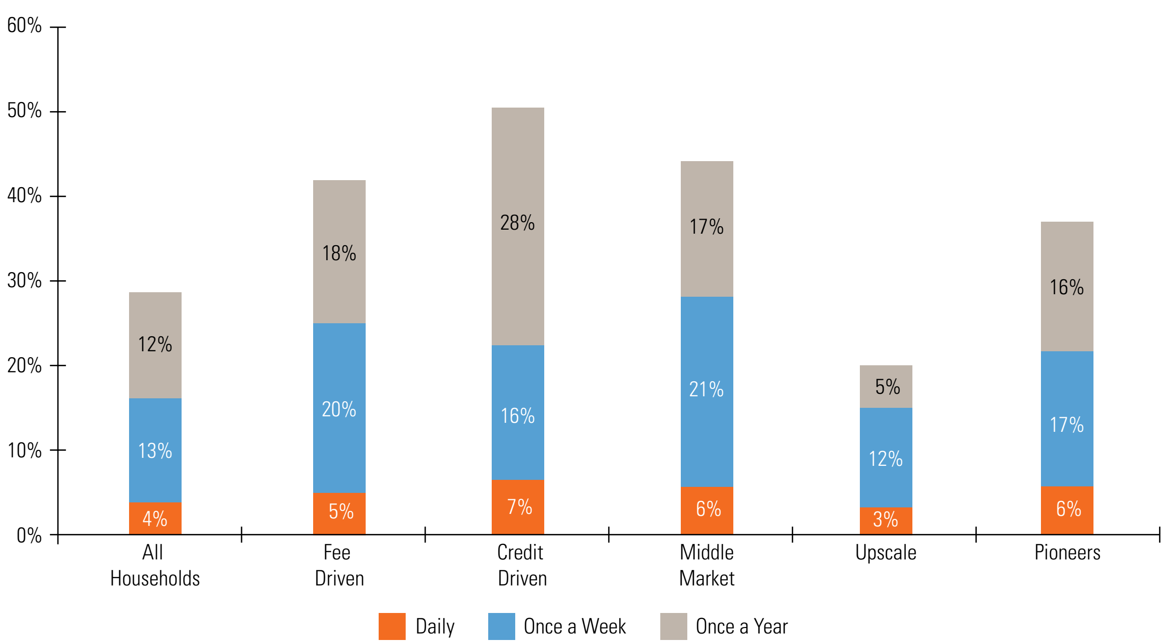
The other potential growth area for watches and other wearables is their connection with a virtual assistant.

Alexa, Siri and Ok Google have gone from being novelty items to being essential tools for some consumers. In our survey, we found that 4% of Americans use their virtual assistant daily, while another 13% use it at least once a week.

Overall, these assistants are still far less used than advertising and media would make it appear. Only 29% of Americans have ever used a virtual assistant, although usage is much higher among younger segments and Pioneers. As we have seen previously, affluence does not predict usage, as Upscale consumers show the same usage as Middle Income Depositors, a typically older segment.

To reduce demand further, those consumers who do not currently use a virtual assistant seem uninterested in using one. Only 10% of nonusers are at least somewhat likely to get one in the next year, and only 2% are very or extremely likely.

Figure 21: Virtual Assistant Usage, Key Segments



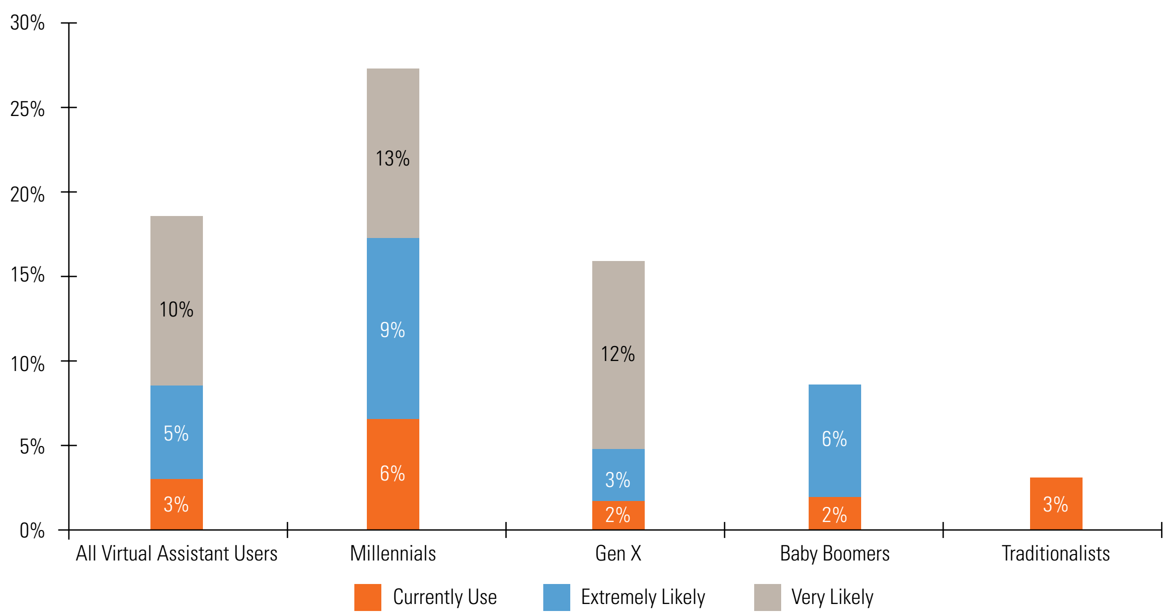
Source: Raddon Research Insights

Among those consumers who have used a virtual assistant, Apple's Siri was the most popular single assistant, with 32% of users, although Amazon's Alexa (28%) and Echo (19%) combined for nearly half of all users. Google Home placed fourth with 16%.

Using the virtual assistant for financial transactions may begin to gain more bandwidth. Nine percent of users said they had associated their credit or debit card with their assistant to allow for swift purchasing. Seventeen percent of Millennial users had associated their card. Despite that relatively high number, only 3% of users said that they had used their assistant to conduct payment transactions, with another 12% very or extremely likely to do so.

Banking with virtual assistants seems popular with Millennials. Six percent say they currently use their assistant to conduct banking transactions, with another 22% being very or extremely interested in using this channel.

Figure 22: Percent of Virtual Assistant Users, Banking or Expressing Interest in Banking Via That Channel, by Generation



Source: Raddon Research Insights

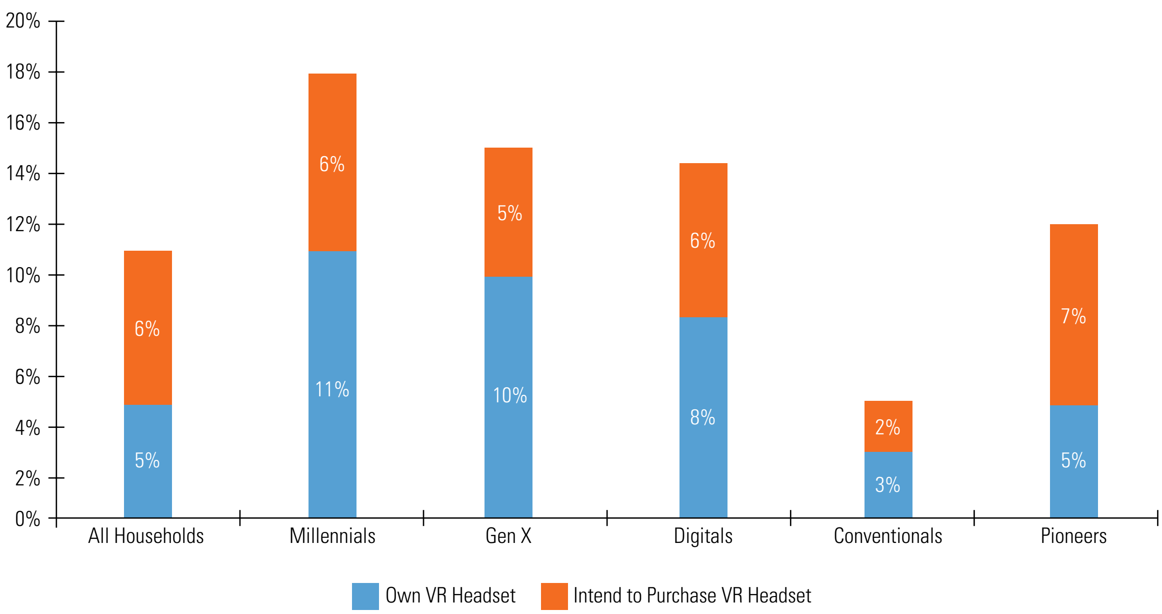
While security issues have arisen with these devices, their popularity looks certain to grow among those consumers who currently have one. Institutions allowing transactions to be completed via virtual assistant may find resonance among those younger consumers looking to use this channel.

A Virtual Branch for a Virtual Headset?

Imagine building a virtual branch in virtual reality, where consumers can walk in, interact with staff and complete transactions, all seemingly live and in person, while they are actually seated in their basement. This concept may seem like science fiction, but that future state may arrive sooner rather than later.

Already 5% of consumers say they have a virtual reality headset such as Oculus' Rift or Samsung's Gear VR, with another 6% looking to purchase one in the next year. Among Millennials, those percentages are 11% and 6%, respectively.

Figure 23: Virtual Reality Headset Ownership and Expected Purchase, Key Segments



Source: Raddon Research Insights

While the notion of a virtual reality banking office might seem some distance away, remember that the smartphone is only 11 years old. Life comes at you fast.

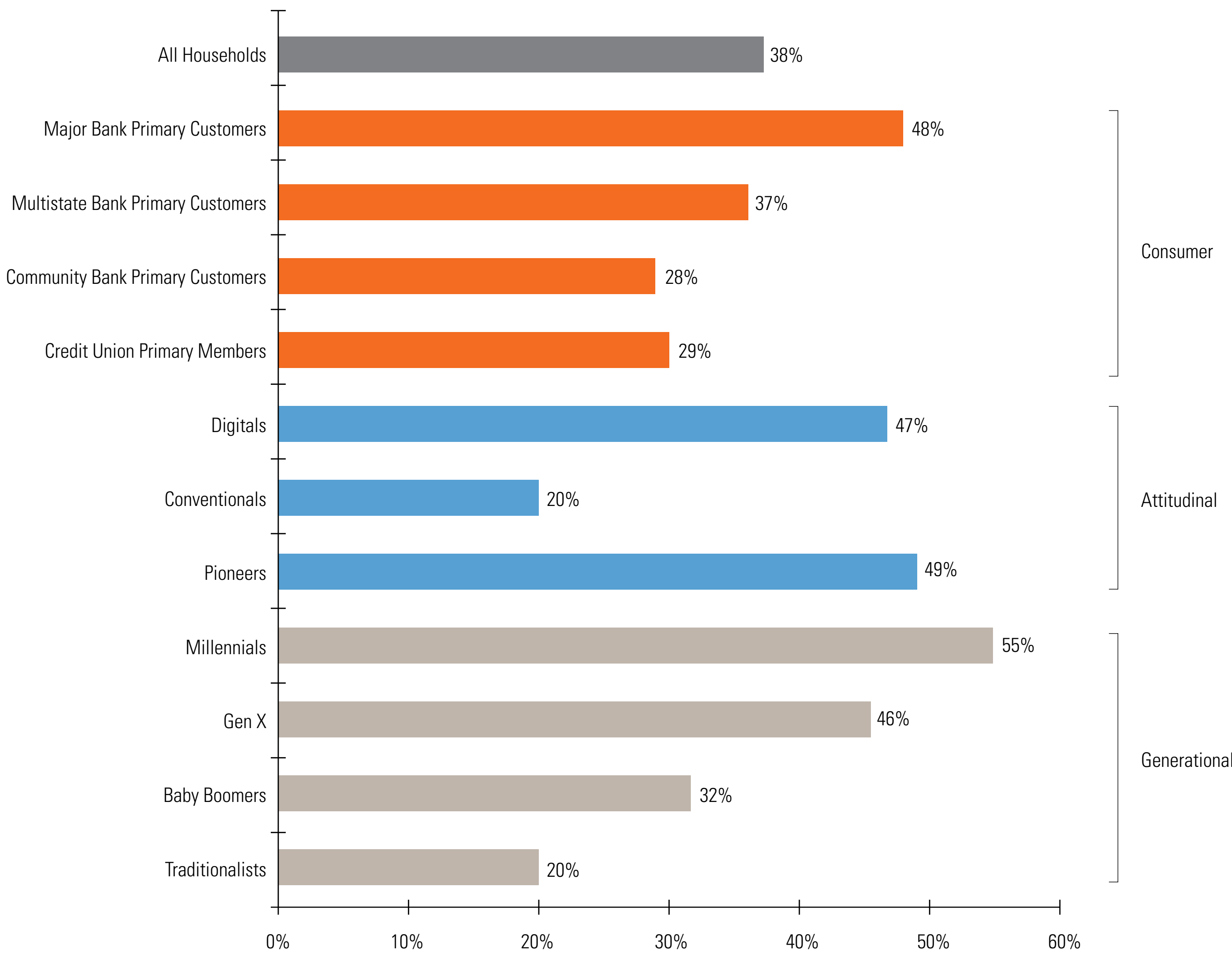
Disruption: A Change of Terms

Technological innovation is changing how American consumers bank, but competition from players outside the industry will change where they bank.

We asked consumers how likely they would be to bank with certain companies or organizations if they were to offer banking services. Fully 38% of the respondents suggested that they would be very or extremely likely to bank with at least one of these groups, implying that they have a need that is not currently being filled by incumbent banks and credit unions.

The groups most likely to seek out one of these outside companies overlap: young people, primary customers of major banks, and Digitals and Pioneers.

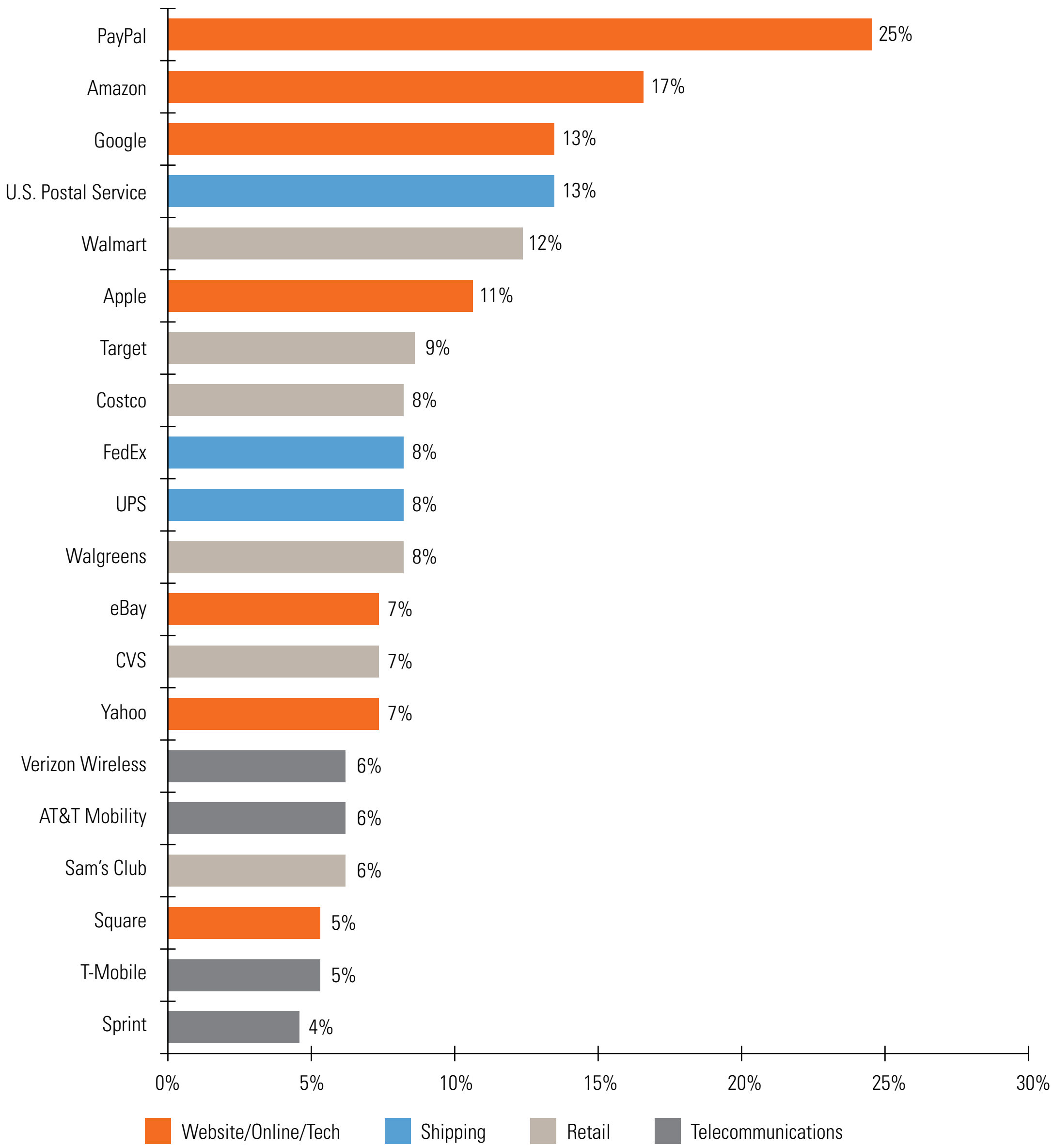
Figure 24: Very or Extremely Likely to Use Outside Company for Banking, Key Segments



Source: Raddon Research Insights

Credit union members behave differently. They are only slightly older than major bank customers and are younger than the other two banking segments, yet they are significantly less willing to use a disruptor for banking services.

Figure 25: Very or Extremely Likely to Use Outside Company for Banking, by Company



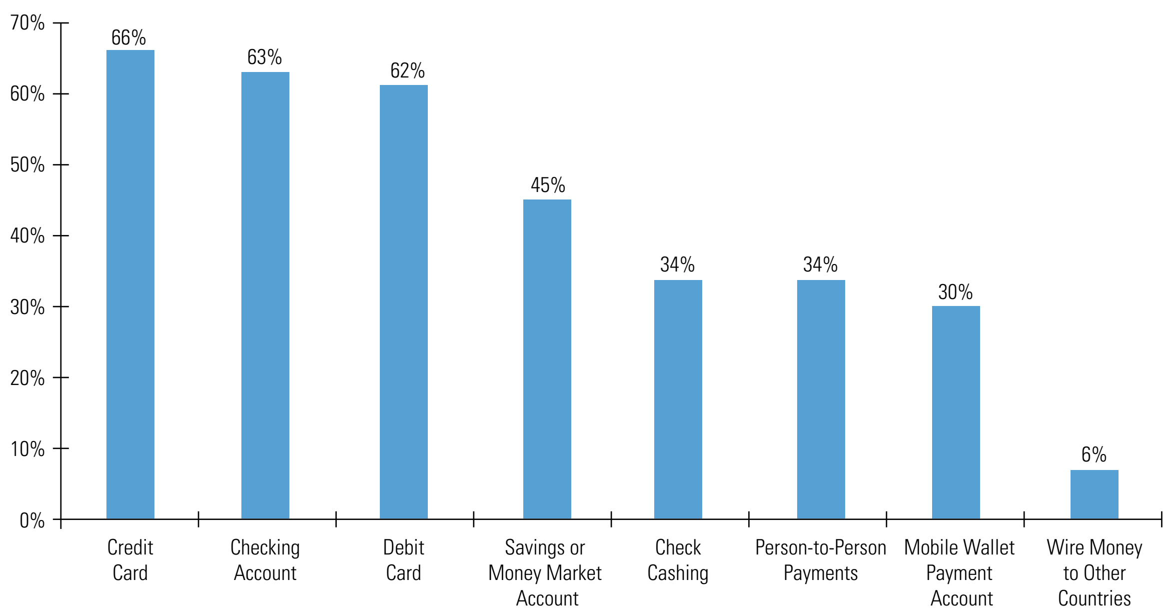
Source: Raddon Research Insights

Online or tech companies like PayPal, Amazon and Google lead the pack among organizations that consumers would be likely to use for banking services, PayPal largely on the strength of its use for payments already. The U.S. Postal Service also scores quite well, as does Walmart. Telecommunications companies generally score lowest in the group.

Across the board, Millennials are more interested than other generations in using any of these companies or organizations for banking. For example, 38% would use PayPal, 28% would use Amazon and 20% would use the U.S. Postal Service.

These consumers are interested in potential solutions from these possible disruptors, but not for every service.

Figure 26: Products Desired by Those Consumers Likely to Use Other Companies for Banking



Source: Raddon Research Insights

Three products stand out above all: credit card, checking account and debit card. For Millennials, demand is particularly focused on the two card products. Our hypothesis is that this desire for disruption stems almost entirely from a desire to break from the costly payment environment. Free checking has nearly vanished from the banking industry, although some banks and credit unions still offer free checking within certain requirements like direct deposit.

Electronic payments have become the dominant method of completing a purchase. According to the Federal Reserve,[5] card payments accounted for 48% of all retail payment transactions, and electronic methods like bill pay and ACH represented an additional 11%, while cash represented only 32%.

With the decline of free checking, consumers without the ability to pay for a payment account are effectively shut out of participating in the economy. Consumers with intermittent or no online access are also impacted. According to our latest deposit research, 27% of American households have less than $1,000 in deposits at any institution. These consumers cannot afford to pay $72 per year to have access to a payment account with a debit card. Thus we see such strong affinity for new players who might allow access to the economy for free once more.

[5] Matheny, Wendy, Shaun O'Brien and Claire Wang. "The State of Cash: Preliminary Findings from the 2015 *Diary of Consumer Payment Choice*," Federal Reserve Bank of San Francisco, November 3, 2016. Found at: https://www.frbsf.org/cash/publications/fed-notes/2016/november/state-of-cash-2015-diary-consumer-payment-choice/

Strategic Implications for Managing the Threat of Disruption

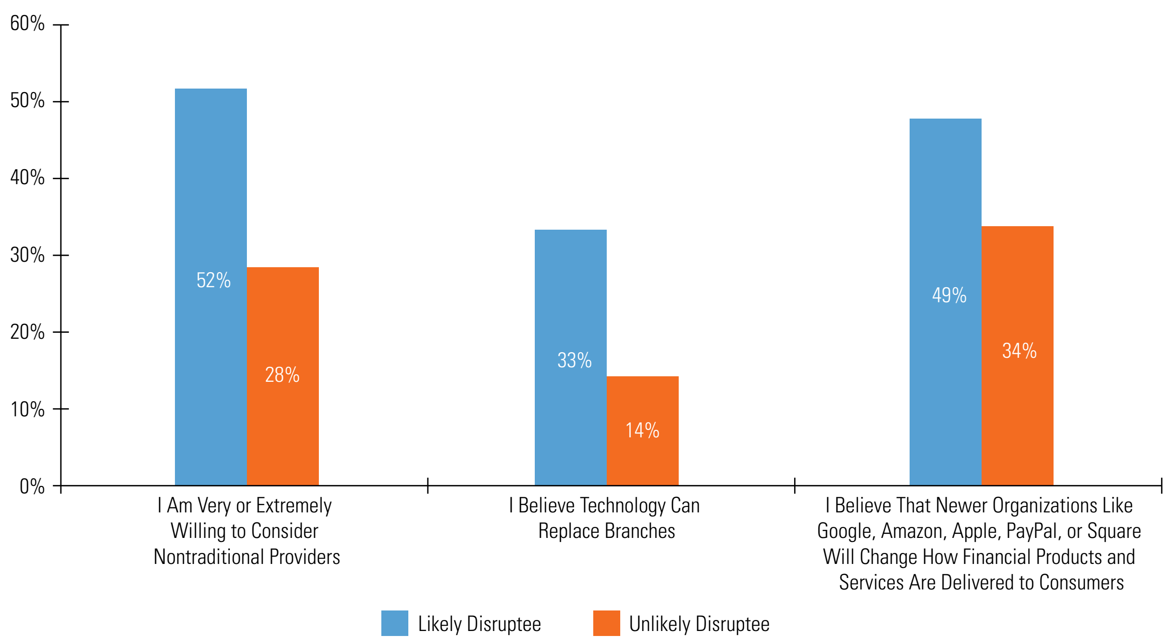
Banks and credit unions should examine the long-term trends and judge for themselves the risk of industry disruption through financial technology.

Identify Potential Disruptees

By identifying current customers who are likely candidates for disruption, institutions can understand the risk posed and determine whether investment in payments technology and digital infrastructure is likely to pay off.

After analyzing the survey responses to determine which consumers are most likely to consider nontraditional sources for banking, Raddon has found one single variable that most often predicts that likelihood: If consumers have tried a nontraditional provider in another industry, such as streaming TV, Amazon Prime or Spotify, they are significantly more likely to be interested in a nontraditional provider.

Figure 27: Disruptive Metrics



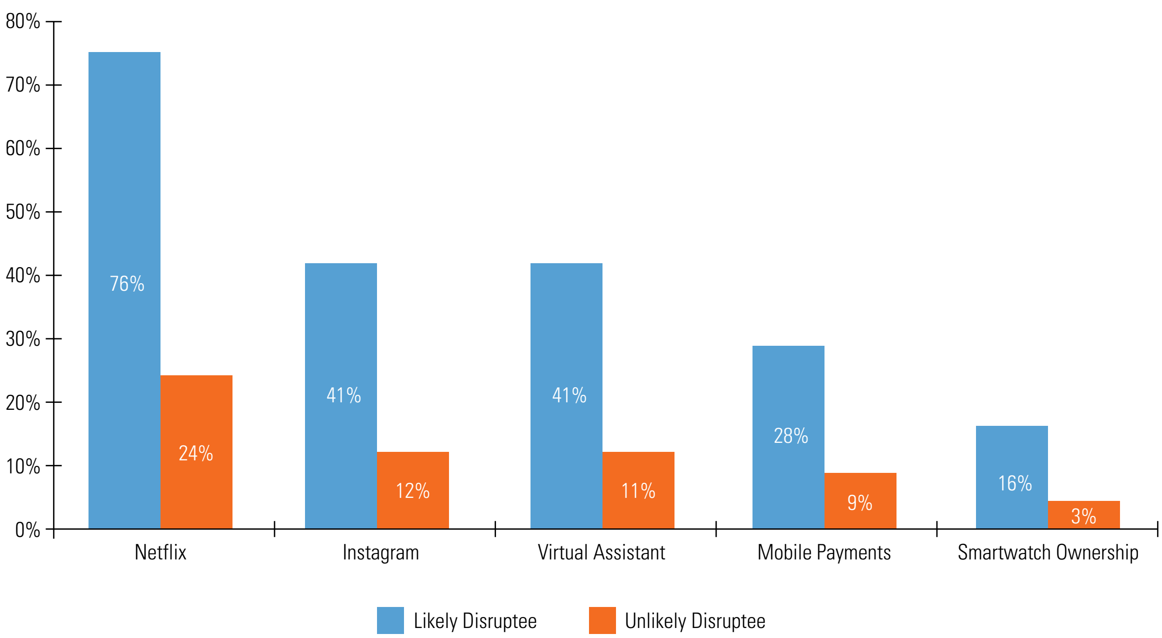
Source: Raddon Research Insights

An institution can identify these "Likely Disruptees" in several ways.

First, consider age. As has been shown repeatedly, younger consumers are far more interested in technology and considering alternative providers. Sixty-eight percent of Millennials would be considered Likely Disruptees, compared with only 28% of Baby Boomers or 19% of Traditionalists.

Second, consider device usage. Ninety percent of Likely Disruptees have smartphones, compared with 67% of Unlikely Disruptees. Other channels show markedly higher usage among Likely Disruptees as well, including Netflix, Instagram, virtual assistants like Alexa, mobile payments and smartwatch ownership.

Figure 28: Monthly Usage of Selected Devices and Channels, by Disruption Propensity



Source: Raddon Research Insights

Banks and credit unions can use their payments data to identify what percentage of their consumers fall in this Likely Disruptee segment. For example, a regular Netflix or Amazon Prime payment each month is a sign that the consumer could be at risk. A regular round-dollar transfer to Starbucks implies moving money to Starbucks' app.

Find Appropriate Technology Partners

The reality of economic scale is that most financial institutions do not have the resources to build their own technology internally and are, as a result, reliant on third-party firms to supply technology for core systems, online and mobile banking, wealth management and any number of additional technical software and channels.

With the increasing speed of transformation and disruption, financial institutions are best suited to find those partners who are constantly updating, challenging and improving their services. A user interface that is fresh, modern and appealing in 2018 may feel awkward and difficult to use by 2021. Challenge vendors to provide solutions that integrate seamlessly with your other providers and that will remain as strong in five years as they are today.

Disrupt Yourself

Consumers turn to disruption when a process is too cumbersome or frustrating. Improve your own institution's processes by using staff to improve the customer experience. Encourage them to find areas either in their own experience as customers or through the interactions they have with customers. Are there processes where data must be entered twice? Is there a delay in processing which could be removed?

Consider the findings from the previous study, "Keys to Loyalty": Problem resolution can be the most significant arbiter of loyalty. Identify the reasons customers most commonly call or come in to complain, ask questions or resolve an issue; what technical improvements can you make to reduce the frequency of those occurrences or make those interactions more efficient when they do occur?

One example is an institution that said customers would inundate its call center with calls during tax season, asking when the institution would send their tax documentation. A new process of digital communication through email and messages in online banking helped improve the customer experience and provided relief to the call center, allowing it to address more pressing requests.

Put a process improvement function in place in which you are identifying and solving these chokepoints every quarter.

Finally, partner with disruptors as appropriate. If someone else has solved a problem you have identified as a significant obstacle for your customers, find a way to bring that solution onboard.

Develop a Payments Strategy for the 2020s

Today's payment system resembles a utility, something which, in the minds of many, all consumers ought to be able to access. If banks and credit unions cannot effectively and efficiently offer access to this payment infrastructure to all consumers, then either Washington or other companies will find a way to do it.

According to a recent American Banking Association (ABA) survey, 87% of banks do not have a formalized payments strategy. While the payments landscape may be changing, that transformation is not so daunting that institutions cannot plan for it.

- Consider how your institution will connect with mobile wallets and payment functionality.
- Ensure that your mobile app stays up to date with functionality that pairs with smartwatches, allows easy payments and works with as little friction as possible.
- Think about how you can replace potentially lost interchange income if consumer trends continue toward ACH in lieu of cards.

Do Not Forget to Be High-Tech *and* High-Touch

Change is happening, threats are on the horizon, but transformation will not happen wholesale or overnight. Institutions that bridge the transformation will do so via the integration of high-tech with high-touch in a seamless delivery ecosystem. Each side should inform the other.

The word "seamless" has become relatively trite, but the reality is that consumers increasingly expect all interactions with any institution they use to feel the same. This integration is not limited to login IDs or brands; if a consumer emails about an issue and then calls the contact center, will the representative answering the call see the email conversation? What about Twitter complaints or live chat? In all channels, institutions should know what is happening in the others so that the interaction is, in fact, seamless.

Financial institutions should consistently reimagine and re-create their processes to make things simpler and easier for the consumer or business customer AND reduce their cost curve. This dual focus has helped the "disruptors" succeed, but financial institutions can do the same.

Banks and credit unions should think about how they use new technologies to improve the customer experience – for example, biometrics so that they immediately know who has walked into the branch or who is calling and can pull up their information. Consumers, especially younger consumers, seem to be less concerned about the "big brother" issue associated with this type of recognition. Voice recognition in call centers would work much the same way: allowing for ease of doing business while also maintaining strong security measures. Or consider the use of mobile chat as a way to provide personal, face-to-face service in a mobile environment.

Branches still have a role, but as Raddon has noted in previous analyses, that role is less about transacting and more about consultative sales. Branches should be cheaper, smaller, staffed more effectively and tied to digital channels and presence so that visiting the branch feels like visiting the mobile app.

Above all, financial institutions should be disrupting themselves, not waiting for others to disrupt them. Ask questions. Constantly challenge previous processes. Consider a focus on continuous innovation or even creative destruction. The 2020s will bring even more transformation – will you be a disruptor or be disrupted?

Survey Methodology

The national consumer research used in this document was gathered from an online survey conducted in early 2018. Invitations to respond to this 15-minute survey were emailed to a randomly drawn sample of members of a nationally representative online survey panel. Online survey respondents were given reward points as an incentive for completing the survey instruments. During the 10-day time frame, 1,200 online surveys were completed.

The body of the collected survey data was then balanced to reflect the composition of the six Raddon Consumer segments within each of nine U.S. Census regions:

- New England (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont)
- Middle Atlantic (New Jersey, New York, Pennsylvania)
- East North Central (Illinois, Indiana, Michigan, Ohio, Wisconsin)
- West North Central (Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota)
- South Atlantic (Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia)
- East South Central (Alabama, Kentucky, Mississippi, Tennessee)
- West South Central (Arkansas, Louisiana, Oklahoma, Texas)
- Mountain (Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming)
- Pacific (Alaska, California, Hawaii, Oregon, Washington)

The confidence interval for any proportion gathered in each survey is in the range of 1.70% and 2.83% at the 95% level of confidence. This means that in 95 out of 100 cases, the data yielded by a sample is within +/-1.70% to +/-2.83% of the proportion that would be obtained if every consumer with online access in the nation were studied.

Raddon's Six Consumer Segments:

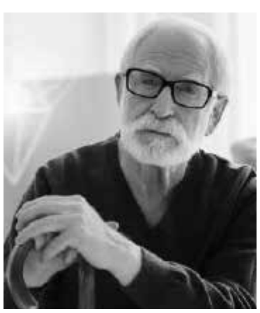
Income	Age: 18–34	35–44	45–54	55+
$125,000 or More	**Credit Driven** 9%	**Upscale** 12%		
$50,000–$124,999		**Middle Market** 16%		**Middle Income Depositor** 13%
Less Than $50,000	**Fee Driven** 18% of Households		**Low Income Depositor** 32%	

Source: Raddon Research Insights

As a point of reference, below is a guide to the alignment of the Generational and Consumer segments:

- **Gen Z** (born 2000 and after): This generation primarily falls into the Fee Driven segment.
- **Millennials** (born 1979–1999): This generation will predominantly fall into the Fee Driven (lower income) and Credit Driven (higher income) segments, with some older Millennials possibly in the Middle Market or Upscale segments.
- **Gen X** (born 1965–1978): This generation aligns with one of four Raddon Consumer segments: the lower income Fee Driven or Low Income Depositor segments, or the Middle Market or Upscale segments.
- **Baby Boomers** (born 1946–1964): This generation is now in the Low Income Depositor, Middle Market, Upscale, or Middle Income Depositor segment.
- **Traditionalists** (born 1922–1945): This generation falls into the Low Income Depositor (typically single-income retirees), Middle Income Depositor, or Upscale segment.

Generational Segments:



1922–1945
Traditionalists

1946–1964
Baby Boomers

1965–1978
Gen X

1979–1999
Millennials

2000 to Current Day
Gen Z

About the Author

Andrew Vahrenkamp is responsible for Raddon Research Insights, Raddon's national consumer research program. A former finance and marketing executive in the credit union industry, he uses his more than 20 years of experience to find trends and patterns in consumer behavior and to develop solutions for institutions, particularly in their strategic planning, product development and marketing strategy.

About Raddon

At Raddon, we arm financial industry decision makers with objective data gained through our innovative research techniques and unique database resources. We offer far more than data. We provide strategic guidance and tactical solutions to meet the challenges of the continuously changing financial services industry. Since 1983, Raddon has provided innovative research data, insightful analysis, strategic consulting, and marketing solutions to hundreds of financial institutions across the nation. Because we serve financial institutions exclusively, we have an in-depth understanding of the market and recognize critical issues that shape the industry.

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