



How behavioral science can unleash digital payments adoption

Consumer Survey Report

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Executive Summary

Mobile payments have failed to make a dent in the U.S. despite the fact that we have one of the highest smartphone ownership rates in the world. The share of smartphone ownership in the U.S. now stands at an impressive 77%.¹. Yet only one in ten smartphone users in the U.S. consider mobile as the preferred method of payment.

The unimpressive adoption of mobile payment in the U.S. is also alarming if we consider that mobile payment options have been available for several years. Technology giants Apple have invested heavily to make Apple Pay available since 2014. Meanwhile Google and Samsung's mobile payment services have been available in the U.S. since 2015.

Mobile payments can deliver substantial benefits for the consumer and companies alike. The ability to consolidate payments into a smartphone instead of having to wrestle with cash, credit cards, paper coupons or loyalty cards affords ease, convenience and speed. Mobile payment technology is also more secure, and holds the potential for substantial cost improvements including decreased infrastructure and operational costs.

Given our high smartphone penetration, the availability of mobile payment services offered by notable industry giants Apple, Google and Samsung, and the benefits of mobile payments, why does the U.S. consumer still prefer to pay by cash or card?

In this report, we seek to understand the psychological factors driving U.S. consumers' payment behaviors and decisions. We focus on their decision-making process paying close attention to their unconscious biases and psychological fallacies. We identify behavioral barriers as opposed to technology or infrastructure issues that impede mobile payments adoption; and explore behavioral based approaches to motivate and encourage continued mobile payment usage.

We will be sharing insights drawn from a survey of U.S. adults* about their payment attitudes, behaviors and preferences.

**For a full methodology and details on the survey, please see the Appendix.*

¹ Pew Research Center (2018) "Mobile Fact Sheet"

Highlights

The majority of U.S. consumers (89%) still prefer paying with cash, credit card or debit card. Only 7.6% of respondents consider mobile as the preferred method of payment.

Concerns about mobile payment security are causing U.S. consumers to think twice about paying with their smartphones. Almost 40% of reasons given for not using mobile payments were related to concerns over fraud and identity theft. Among non-mobile payment users, only 13% believe that mobile wallets are secure.

Almost 70% of reasons for not using mobile payments were related to a lack of confidence in using mobile payments. Reasons for not using mobile payments included: I am not tech savvy (22.9%), risk of losing phone (17.7%), feared forgetting passwords (10.7%), might make mistakes (9.1%) and frustration setting up the new payment feature (9.3%).

Social pressure has a minimal influence on mobile payment adoption. Even if half of their friends or a celebrity were using it, most consumers said they would still be unlikely to try a mobile payment app. Since celebrity endorsements and other forms of social influences will not necessarily encourage mobile payment usage, more innovative thinking is needed to incentivize adoption.

Consumers prefer mobile payment apps offered by their primary bank. Among mobile payment users, 75% agree that they prefer to use a mobile payment app offered by their primary bank over one offered by a software company or another bank.

The Two Systems: How our Customers Make Decisions

Most of us prefer to make decisions using this system!

System 1	System 2
	
Thinking is unconscious and instantaneous	Thinking is conscious, slow, and effortful

First, we need to understand how consumers make decisions. In psychology there is a phenomenon where some of our decisions seem to happen unconsciously, while others are made conscientiously and deliberately. It would appear that we are of two minds. To demonstrate this phenomenon, let's look at the two images above.

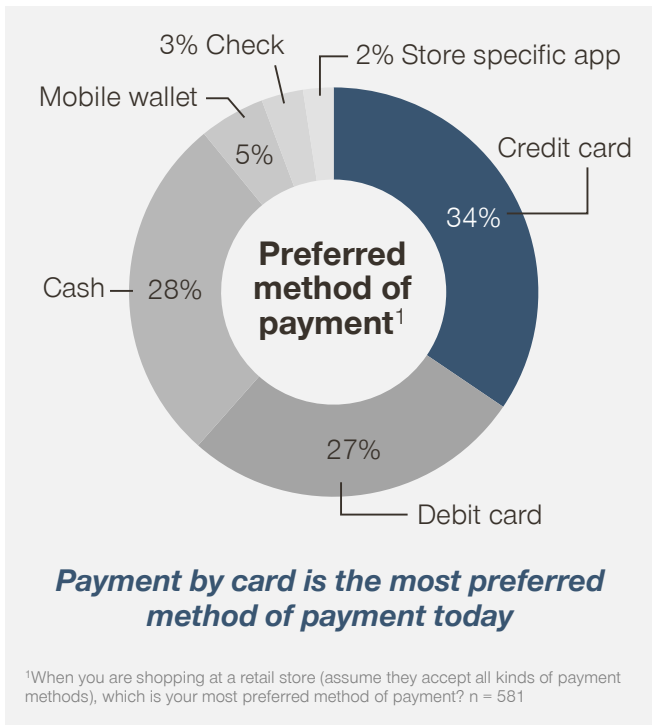
The left image, a crying baby immediately elicits an instinctual response on our part. This is System One thinking where our brains are on autopilot, and our response is instantaneous, reactive and does not require much concentration. While our response to the crying baby is fast and intuitive, our response to the second image is slow and requires deliberate rational thinking. Some effort is needed to pay attention, even pull out a paper and pen to solve the problem.

While it is tempting to assume that our customers are tapping into System Two thinking or the rational mind when making decisions that impact their financial lives, this is in fact not always the case. In reality, consumers often tap into System One thinking when making financial decisions. System One thinking is after all easier, requiring less concentration and energy. Some might even argue that it is less painful compared to the more logical but energy-intensive System Two thinking.

We have designed mobile payments offerings with the assumption that consumers are always rational. In reality their behaviors are often instinctual, shaped by hidden psychological, emotional, social and cognitive forces and biases that might not always be based on fact.

If we want greater mobile payment adoption, we need to unmask these hidden psychological barriers and find ways to address them.

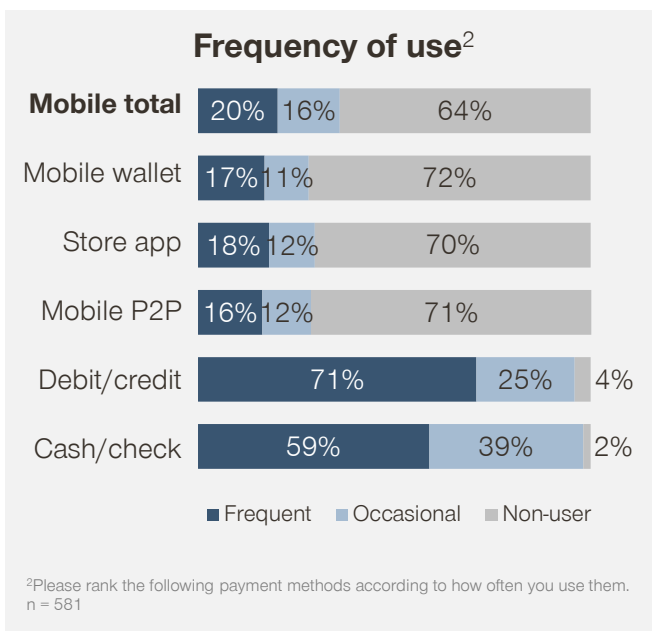
Mobile Payments Usage is Substantially Lower than Cards, Cash and Check



In our survey, we found the U.S. consumer overwhelmingly prefers debit or credit cards (61.4%), and cash (27.5%) when making a payment. Only 7.6% of consumers said they prefer using mobile wallets and mobile payments apps when making a payment.

In terms of actual payment behaviors, the U.S. consumer also heavily favors cash and card. In our survey, 70.9% of our respondents said they used debit or credit cards frequently when making a payment. Similarly 58.9% said they frequently used cash or check when making a payment. By comparison, only 20.3% of respondents were frequent users of mobile payments to pay for goods and services.

Among consumers who are using mobile payment apps frequently (at least a couple times per month) or occasionally (at least a couple of times a year), data shows that they are agnostic towards the type of mobile payment method. In another words, consumers who have adopted mobile payments are equally likely to use a person-to-person (p2p) mobile payment app like Zelle or Venmo, store specific mobile payment app like Starbucks, or a mobile wallet app like Apple Pay or Google Pay. Meanwhile, non-users of mobile payments are universally not using mobile payments apps of all types.



Why U.S. Consumers are not Using Mobile Payments



U.S. companies have invested heavily to develop the technology to enable secure mobile payments. Yet, consumers are not paying using their smartphones. A knee-jerk reaction here might be to suggest offering consumers incentives to use mobile payments and penalizing them for non-digital payment behaviors. However, these carrot-and-stick method are unlikely to work and might serve to further alienate our customers.

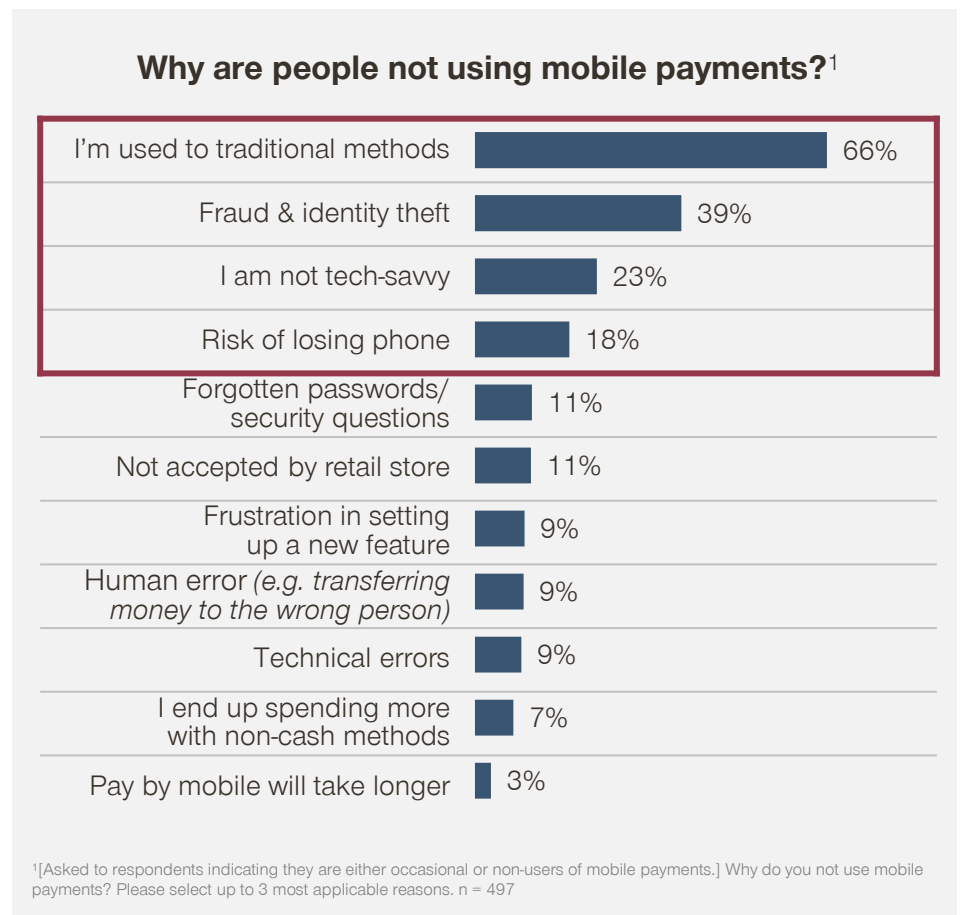
Our research revealed that simple psychological barriers are often the primary cause for the lack of mobile payment adoption in the U.S. For example a significant percentage of respondents in our survey said they are not using mobile payments because they are concerned that they are not tech savvy, they might make a mistake or they might get frustrated with setting up the new payment feature. They are also concerned about losing their phones. In other words, one of the biggest reasons why U.S. consumers are not using mobile payments stems from their lack of confidence about using the payment method.

There are four psychological biases or barriers keeping U.S. consumers from using mobile payments:

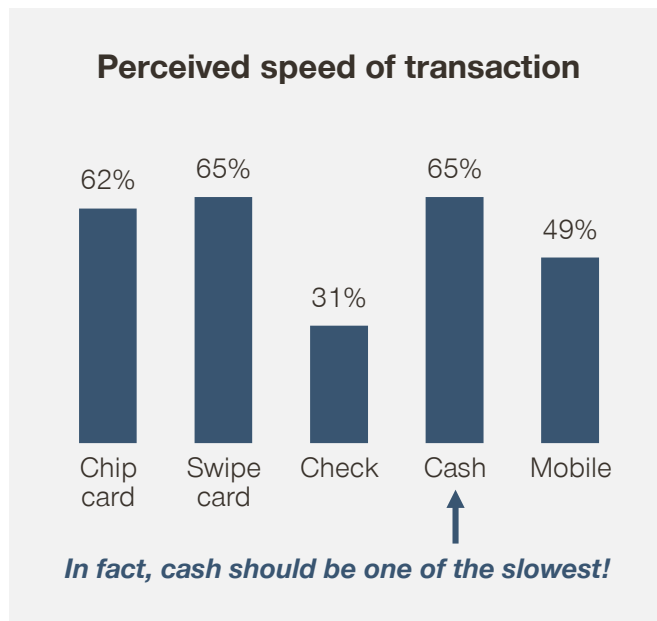
Lack of Confidence—69.7% of answers for not using mobile payments was related to a lack of confidence when using the mobile payment feature such as not being tech savvy (22.9%), losing the phone (17.7%), forgetting passwords (10.7%), making mistakes when making a mobile payment (9.1%) and frustration in setting up the new payment feature (9.3%).

Entrenched Payment Habits — American consumers already have well-established payment habits using traditional methods. Most consumers (66.2%) are not using mobile payments because they are accustomed to traditional payment methods and see no reason to switch.

Concerns about security — Concerns about mobile payment security are causing U.S. consumers to think twice about paying with their smartphones. Another big reason (almost 40% of answers) for not using mobile payments was because of concerns over fraud and identity theft, when mobile payments methods are in fact more secure than traditional methods.



Mobile Payments are too Slow – Mobile payments are perceived to be a slow payment method. In our survey respondents said cash, swipe card and chip cards were faster than mobile payments, when in fact mobile payment is one of the fastest. Surprisingly, 65% of respondents said paying with cash is faster than paying with mobile payments, when it fact cash should be the slowest way to pay for goods and services. Mobile payments feel slower because there is an awkward pause as the consumer waits for the payment terminal to confirm the transaction. That 10-second pause when the consumer is holding his phone in mid air over the terminal feels like an eternity because the consumer is motionless. By comparison, when paying with cash, the consumer is in constant motion – from extracting his or her wallet from a pocket or bag to removing the cash to handing it over to the cashier to waiting for the change. This constant motion distorts time. The misperception that mobile payments are slow is another psychological bias that must be addressed if we want consumers to adopt this new payment method.



Breaking the Psychological Barriers to Adoption



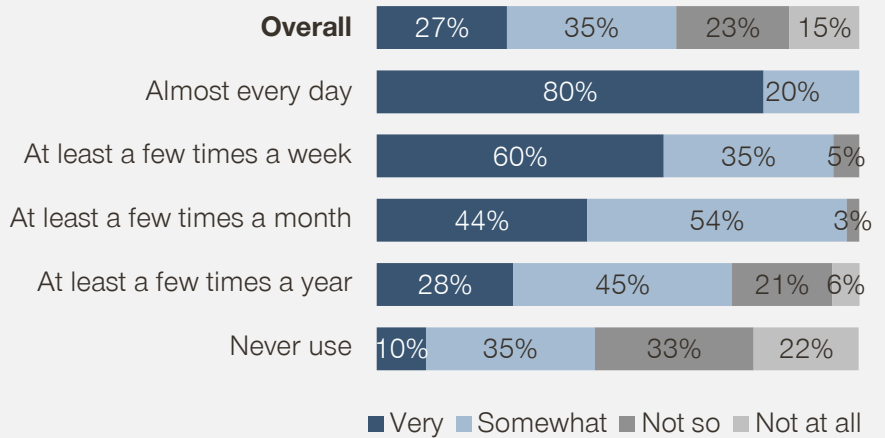
If we want greater mobile payment adoption, we need to address the psychological barriers to adoption and give customers compelling reasons to change their current payment habits.

Instill User Confidence – There are a number of ways we can build consumer confidence in mobile payments. This includes using notifications sent to their smartphones as a text message or in-app confirmation when a payment transaction is completed. In our survey, an overwhelming number of respondents (64.5%) said receiving a notification to confirm a transaction would make them feel more confident about the payment method.

Our research also tells us that there is a strong direct correlation between assurance and use. Frequent users of mobile payments have a greater degree of assurance that mobile payments transaction will be successful compared to less frequent mobile payment users.

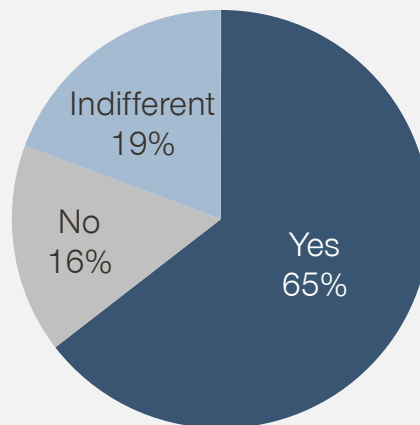
Frequent users have greater trust in mobile payments

Frequency of mobile payment usage & trust in a successful transaction¹



¹If you were to initiate a mobile payment transaction, how confident are you that it would be conducted successfully? n = 581

Would you feel more comfortable if you received a confirmation of the transaction?²

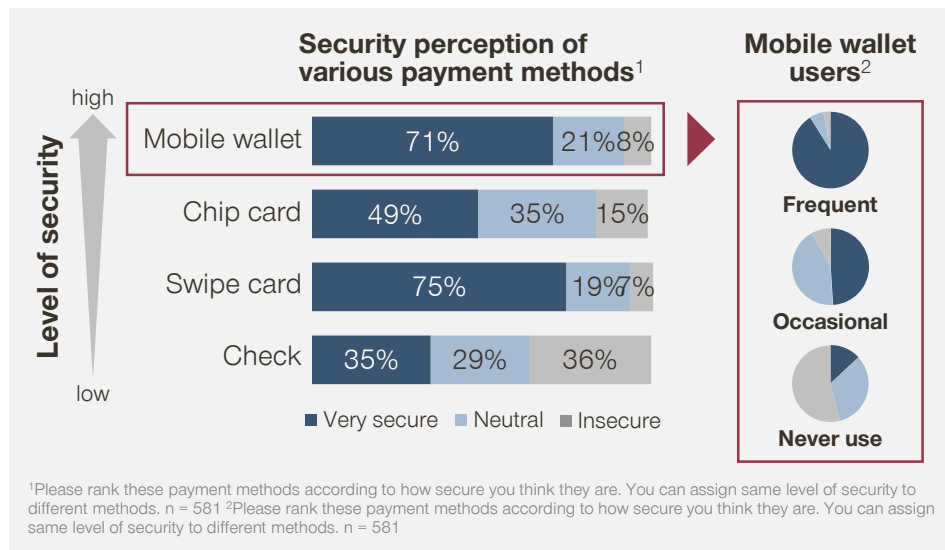


²Would you feel more comfortable (or confident) using mobile payments if you received a confirmation when the transaction completed? n = 581

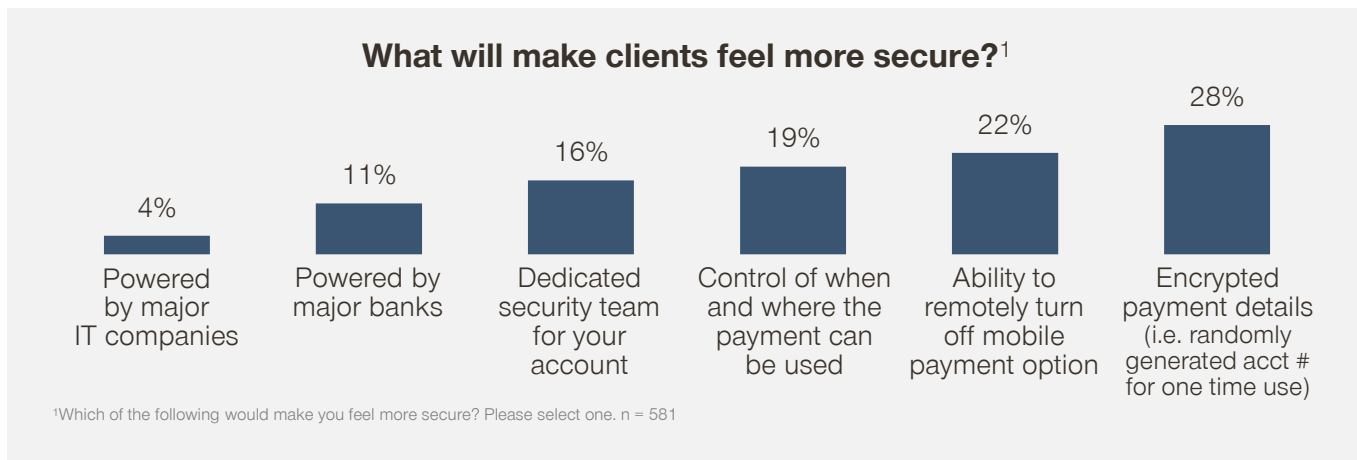
To address the misperception that you have to tech-savvy in order to use mobile payments, we can employ innovative design including an easy step-by-step set-up process to improve the experience of downloading and configuring a mobile payment app for the first time.

Close the Gap on Security Misperception – There is clear misalignment between perception and reality about mobile payment security. While frequent mobile payments users are aware that using mobile payments is more secure compared to traditional payment methods, this is not the case with non-mobile payment users. Only 13% of non-mobile payment users believe that mobile wallets are secure. We must prioritize educating customers on the security of mobile payments.

Only 13% of non-mobile payment users believe that mobile wallets are secure. We must prioritize educating customers on the security of mobile payments.

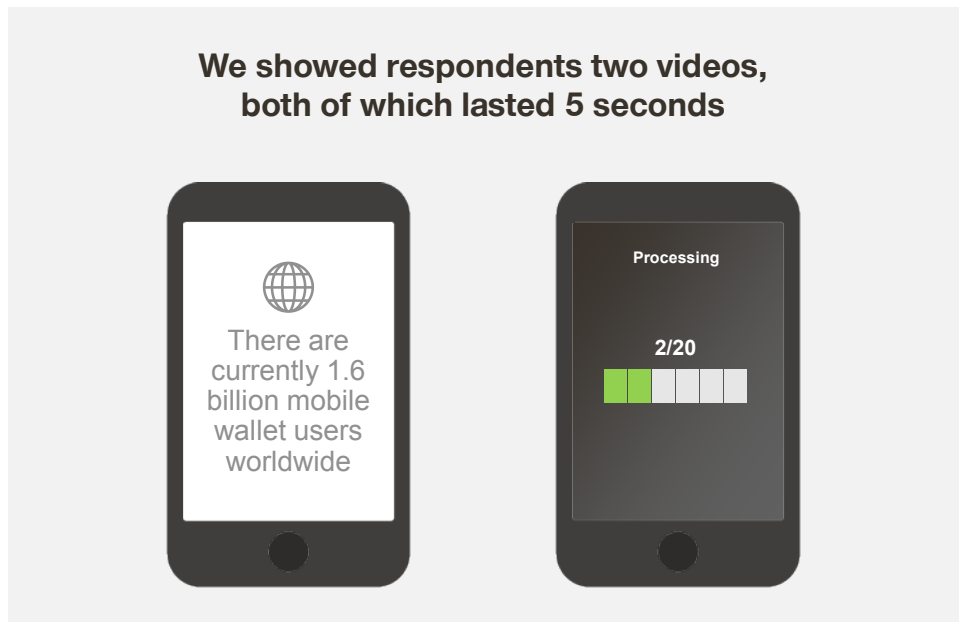


Add Features to Improve Security Perception – We can convert as many as 22% of non-mobile payment users to mobile payments if we can address misperceptions of the payment method's security. This can be easily accomplished by adding specific features designed to make users feel more secure. In our survey, respondents said they would feel more secure with features like encrypted payment details (28% of responses), if they had the ability to turn mobile payment on or off on their smartphone (22% of responses), and the ability to control when and where payment can be used (19% of responses).



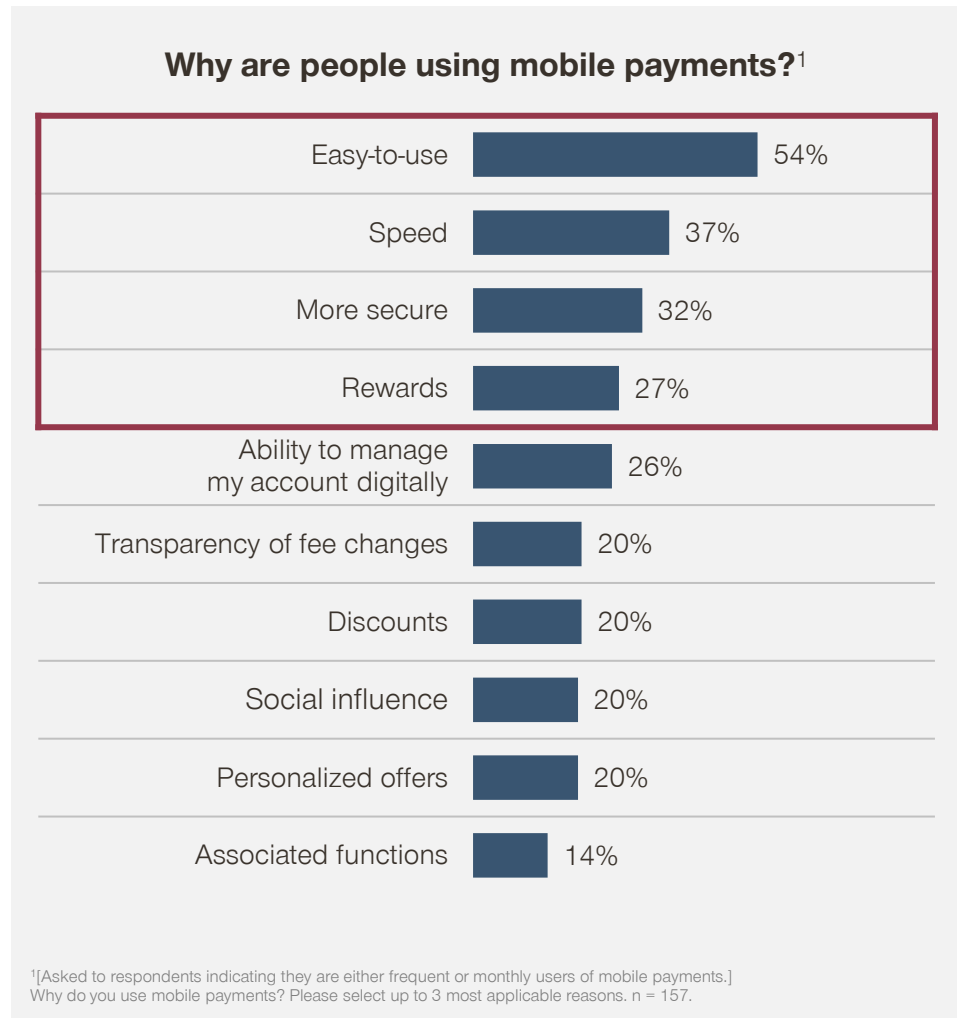
Create a Richer, Faster Mobile Payment Experience – A mobile payment transaction typically takes about 10-seconds to complete. However this can seem like an eternity to the user standing motionless holding a smartphone in mid-air over a terminal while he waits for the transaction to process. To reduce the perception of time we can introduce videos or interactive elements during the processing period. Showing fun facts or figures can add an entertaining element and reduce the pain of the pause.

Consistently showing “fun facts” or images, over a processing bar, led customers to believe that the video was actually shorter



Why Some U.S. Consumers use Mobile Payments

Ease-of-use and speed are top of the list for ensuring customers stay engaged with mobile payment apps



Ease-of-use, speed and security are the top three reasons people use mobile payments.

Respondents who use mobile payments said their top three reasons for preferring this method of payment was ease-of-use (53.5%), speed (36.9%) and more security (31.%).

Convenience is an important factor influencing these consumers' decision to adopt mobile payment. Consumers who use mobile payment are also attracted to the better security offered by that method.

How to Change Payment Habits

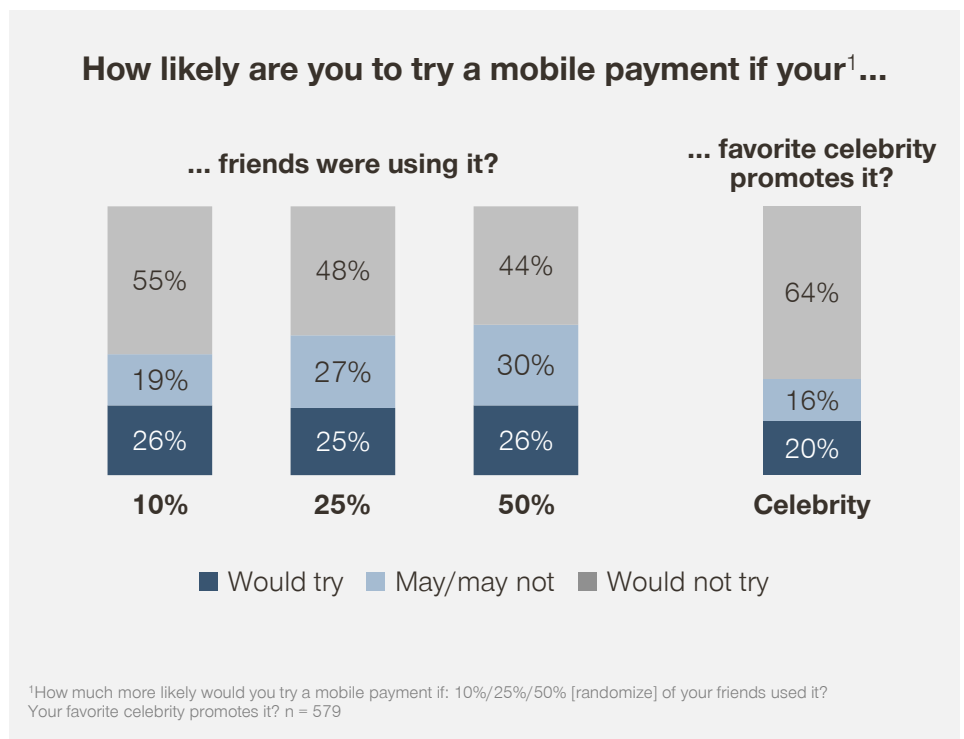
It is not enough to convince U.S. consumers to try mobile payments. There is also the challenge of how to change entrenched payment habits of the American consumer overwhelmingly content with cards and cash.

The nature of habits is such that, once formed can be so ingrained and second nature that breaking or changing them can be near impossible. Not only do consumers need a compelling reason to switch to mobile payments, they also need a supportive environment to reinforce the new behavior.

Contrary to popular belief, social pressure has a minimal impact to encourage non-users to consider paying using their smartphones. Most respondents in our survey said they would not try mobile payments even if half of their friends were using it.

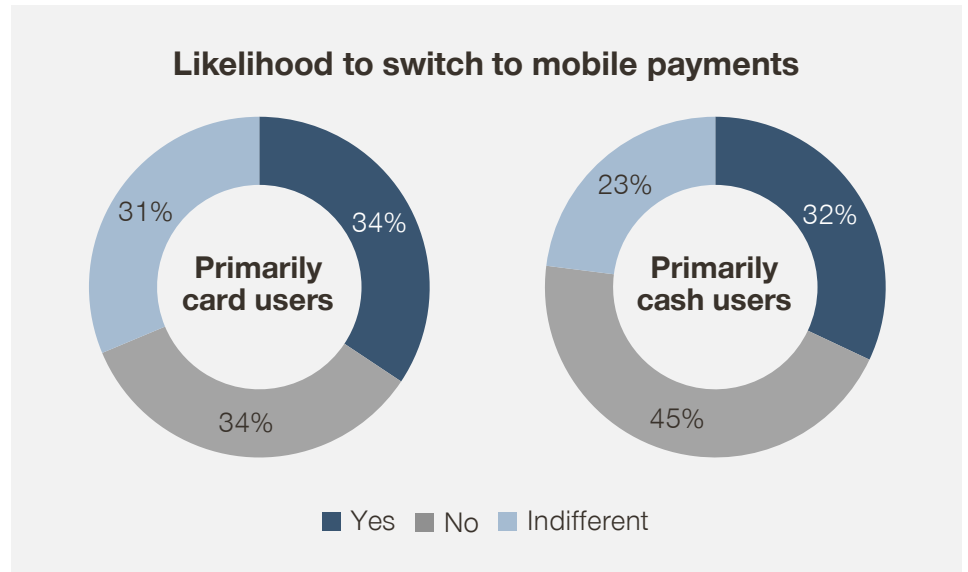
Similarly they said they could not be swayed into adopting mobile payments because of a celebrity endorsement.

Although younger consumers are more susceptible to social influences, celebrity endorsements and other forms of social influences will not necessarily encourage mobile payment usage



Rewards can be a powerful mechanism to influence behavior and reinforce habits. In our survey, 66% of card and cash-using respondents said they would be willing to switch to mobile payments if they were offered some form of reward, to do so. We also found that card users are more willing to switch or try mobile payments compared to cash users.

Roughly 1/3 of users would be willing to switch for a reward, with the potential to convince even more



Some Rewards work Better than Others to Encourage Behavior

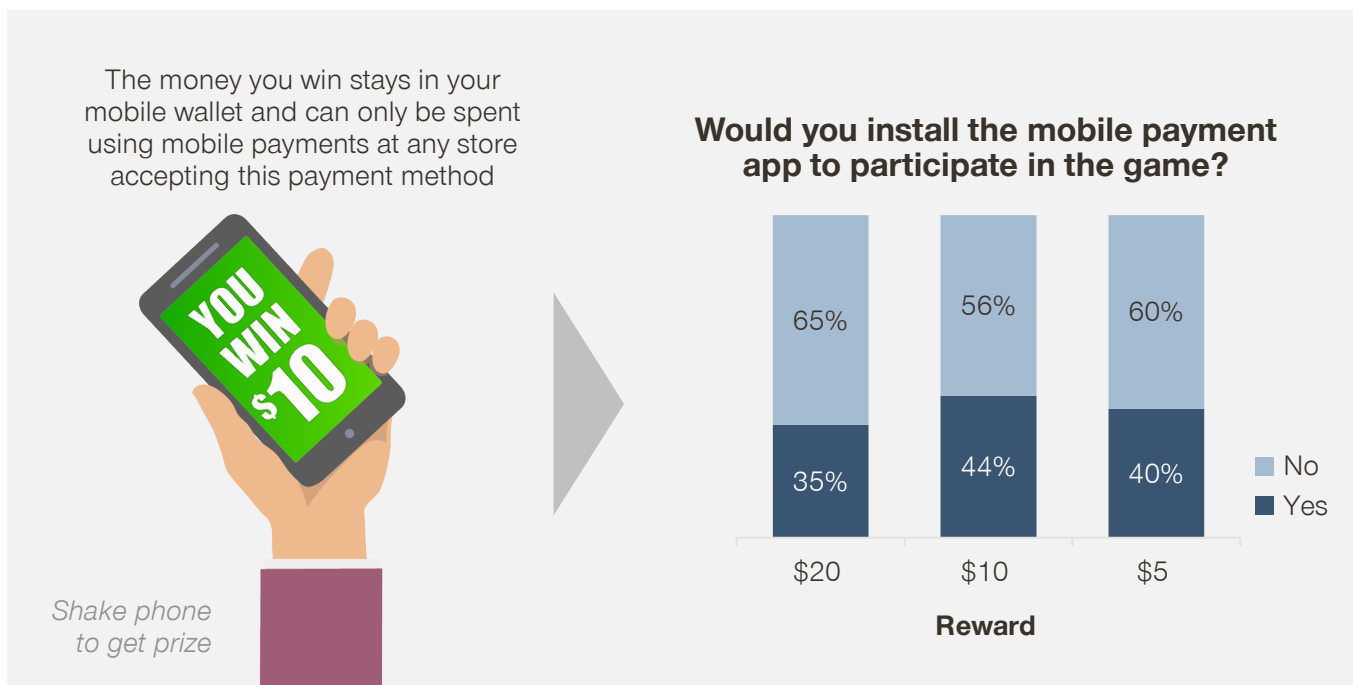
Customers seek a gamified experience

There are number of ways to incentivize and reward mobile payment behavior, from promotional offers to discounts at favorite stores to cash back on selected purchases. Respondents showed a preference for some incentives or rewards over others. Cash-back rewards are a clear favorite with 56.5% of respondents. So are loyalty programs that let users earn points.



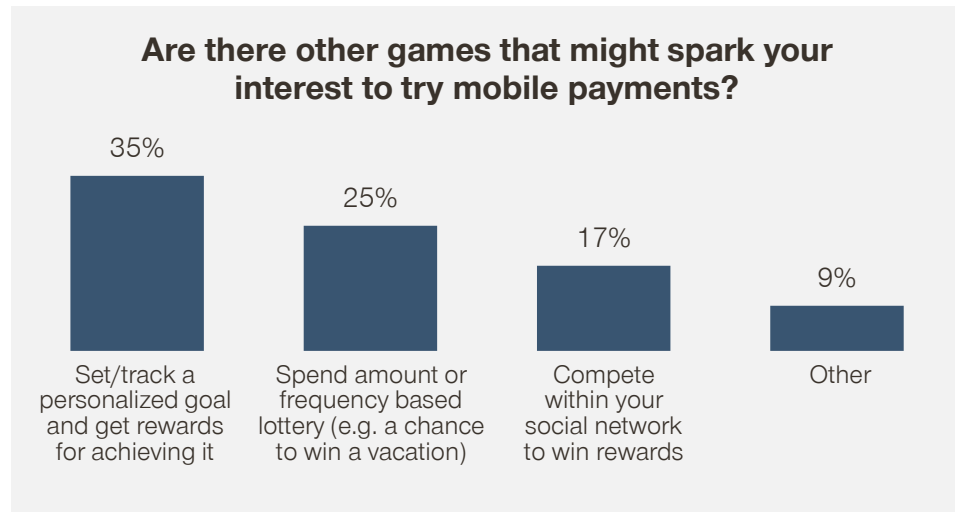
Rewards Need not be Rich

While cash is king when it comes to incentivizing behaviors, we found the size of the monetary reward has little significance to encourage continued mobile payment behaviors. In our survey respondents were equally willing to use a mobile payment app for a \$20 reward as they would for a \$5 reward. This important finding suggests that we need not offer super rich rewards to encourage users to continue using mobile payments. We just have to offer a reward.



Gamification can be Effective to Encourage Continued Use

In addition to monetary rewards, we also found consumers responding to gamification incentives. For example, a large number of respondents said they would respond to incentives like setting personal goals accompanied by a reward upon achieving it (35% of responses), a lottery (25% of responses) and competing with others to win a reward (17% of responses).

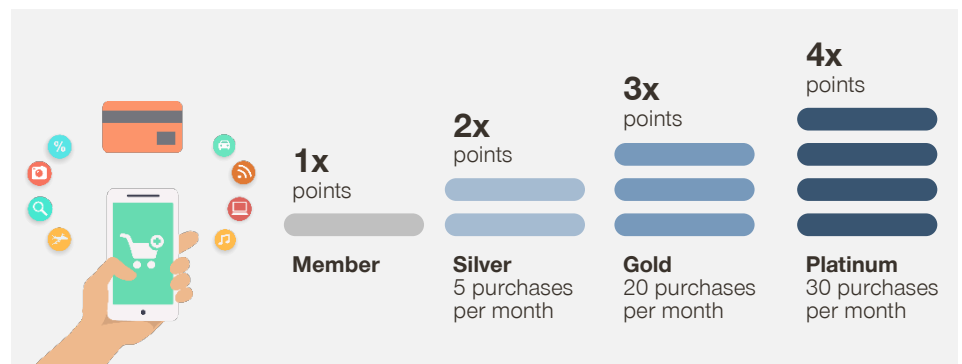


Samsung Pay's Habit Forming Rewards Program

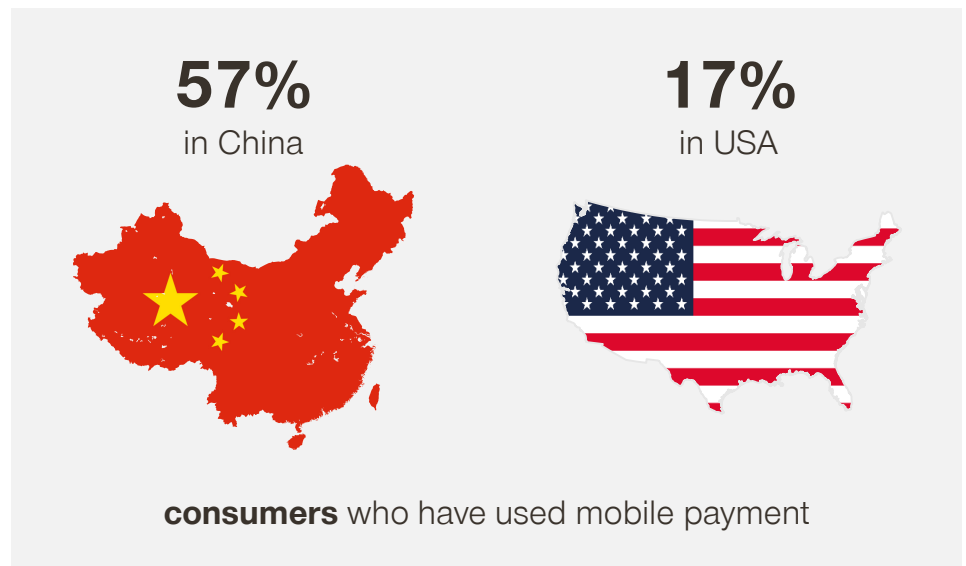
Samsung Pay uses frequency of purchase as a primary metric in its rewards program to drive habit forming top-of-wallet behavior

Samsung Pay's loyalty program is a great example of how to reward and encourage continued mobile payment behaviors.

In late 2016, Samsung Pay launched a reward program with an interesting twist. Instead of rewarding users for the amount of money they spent or the value of their transactions, Samsung rewarded users for their frequency of use. Samsung Pay users were also divided into loyalty tiers based on how many transactions they made each month. The more they used Samsung Pay, the more they were rewarded.



China's Great Leap into Mobile Payments



Learnings for the U.S.

- *China's payment apps are integrated with multiple other service lines (e.g. online shopping and e-payment as part of an instant messaging app) creating an end-to-end customer experience*
- *Merchant adoption is high – value-add must exist for both merchants (e.g. offer discounts and encourage customers to engage) and shoppers (benefit from the discounts)*

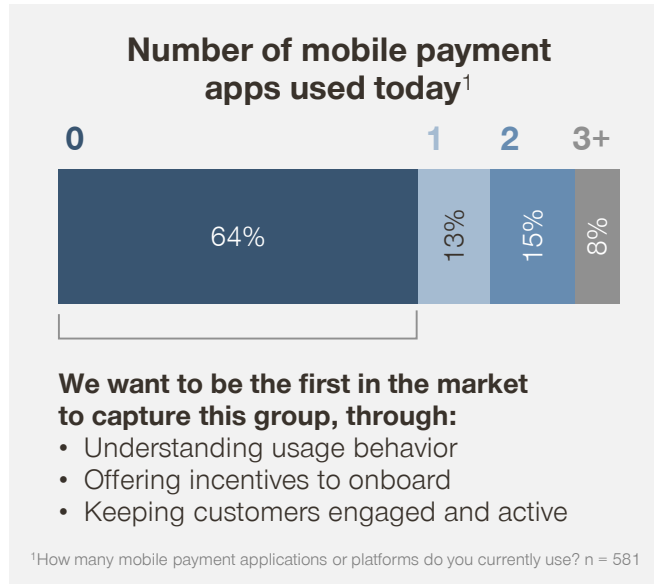
In China, more than 57% of consumers have used mobile payment compared to only 17% of consumers in the U.S.⁴ Mobile payments in China, which totaled \$9 trillion in 2016, has become the standard way to pay for goods and services. Here technology firms have elbowed out banks to dominate mobile payments. Chinese e-commerce giant Alibaba Group Holdings, which owns AliPay; and technology conglomerate Tencent Holdings, which owns payment platform WeChat Pay, together hold a market share of 92% of mobile payment transactions in China.

What lessons can we draw from the Chinese mobile payment experience?

A number of psychological barriers to adoption that continue to persist in the U.S. simply did not exist in China. For example early on Chinese merchants were able to accept mobile payments on their smartphones, which meant they did not have to purchase new, expensive equipment. Another barrier – the perceived lack of speed with mobile payments – was also never an issue. In China, the predominant technology for mobile payment is the QR code, a contactless payment method that involves scanning a matrix barcode that can be executed without a delay.

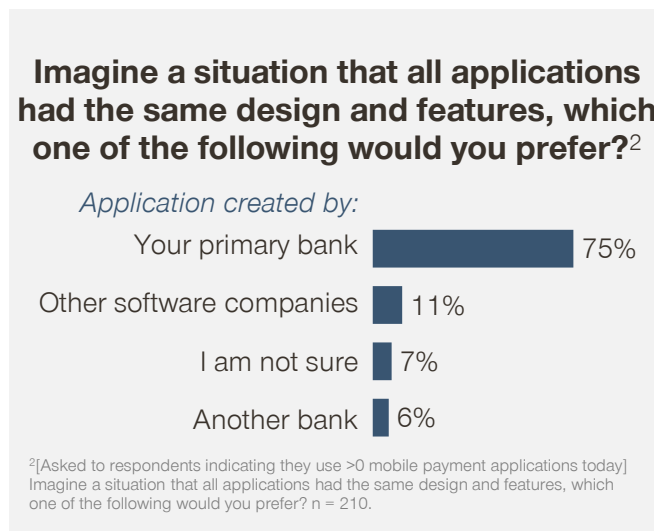
⁴ <https://www.aciworldwide.com/news-and-events/press-releases/2017/september/mobile-payments-rise-in-popularity-reaching-tipping-point-in-some-countries>

Non-Mobile Payment Users Represent a Significant Growth Opportunity Especially for Banks



The percentage of consumers not using mobile payment apps is significant. There are as many as 64% of smartphone-owning consumers who are not currently using a mobile payment app of any type. There is a clear opportunity for an enterprising player to establish itself as the go-to app for mobile payments.

Banks are in the best position to capitalize on this opportunity. Among respondents who actively use mobile payments, a large number of them (75%) said they would prefer a mobile payments app from their bank. Everyone will agree that trust is an important factor when choosing a bank. The strong preference for a mobile payment app from their primary bank suggests that trust in the provider is also an important factor influencing the decision to adopt mobile payments.



The Future of Mobile Payments

In designing the mobile payment experience, we have simply neglected to consider the psychological, cognitive, emotional, cultural and social forces shaping the U.S. consumer's payment choices and decisions.

If we want American consumers to enthusiastically embrace mobile payments, we must recognize their decision-making process. Some research is needed to uncover the behavioral barriers that prevent them from adopting a mobile payment habit.

There are a number of behavioral-based strategies we can use to steer consumers towards a mobile payment habit including:

- **Offer Meaningful Incentives & Rewards**– Customers need to receive some type of benefit or reward to support and reinforce their new mobile payment habit.
- **Make it Easy, Satisfying & Fun**– A superior user experience is more important than monetary benefits to encourage consumers to continue using mobile payments. More efforts is needed to add new features and interactions that are satisfying to customers
- **Create a Supportive Environment** – Making small but effective changes to the payment context can help promote and reinforce a new mobile payment habit. Consumers are more likely to pay with their smartphones if they are confident their mobile payment method will be accepted and successful.

Significant opportunities exist to expand mobile payments adoption in the U.S. The percentage of consumers not using mobile payment apps is significant. Companies who can develop an understanding on this U.S. consumer segment's payment behaviors and motivations, and can develop a strategy to convert them to mobile payments, have an opportunity to capture a sizable user base.

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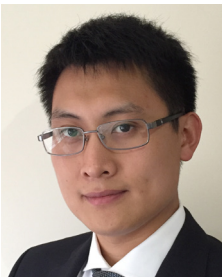


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David is an expert in developing B2B product and pricing strategies, product portfolios, price models, value communication, and B2B negotiation strategies for banks and financial institutions. David received an MBA from Duke University Fuqua School in Business specializing in Marketing Strategy and Finance, and a BS in Chemical Engineering & Economics from Columbia University in the City of New York.

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Wenbo has supported and led projects with leading financial institutions to improve, innovate and optimize product, pricing and customer management strategies. Wenbo has a MS in Engineering from University of Rochester, and a BS in Mechanical Engineering from Shanghai Jiao Tong University in China.

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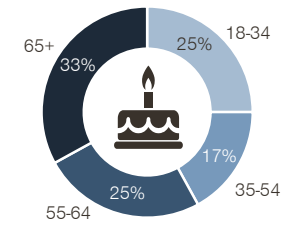
Jenna has worked with leading retail banks on optimizing checking and deposit portfolios and has experience working with B2B service providers. Jenna has a Master of International Business from Queen's University in Canada, and a Bachelor of Commerce from McMaster University in Canada.

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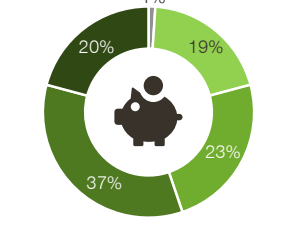
Appendix

Breakdown of 581 survey respondents

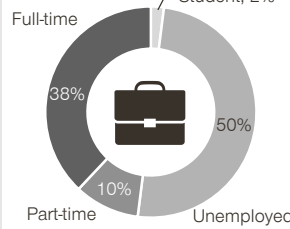
Age



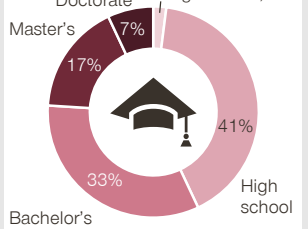
Household income



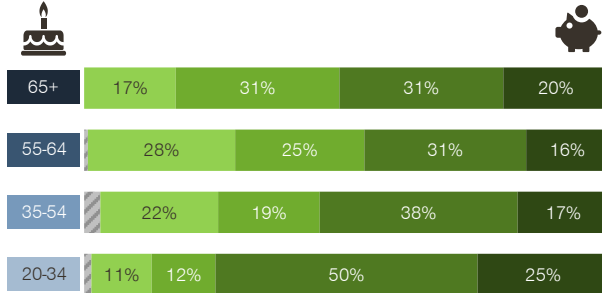
Employment



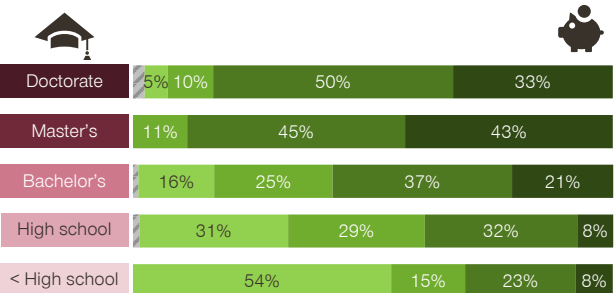
Education



Household Income + Age



Household Income + Education

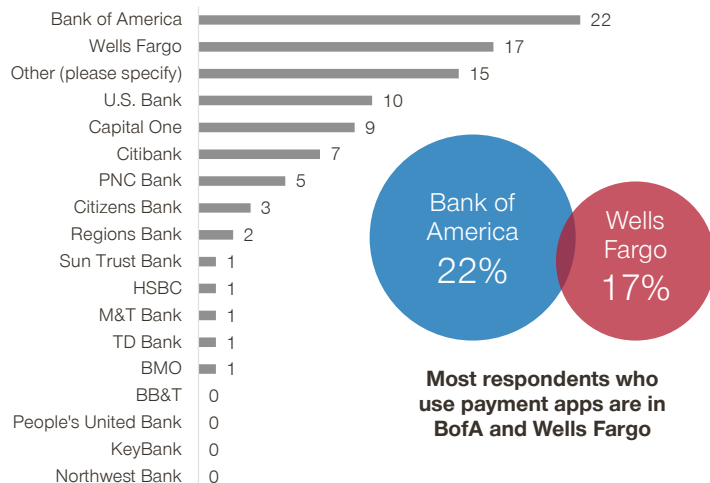


Legend: No income, Below \$25k, \$25-49k, \$50-100k, Above 100k

n=581. Source: Simon-Kucher & Partners Payments Research Study

Which Bank is your primary one

(the bank where you keep most of your funds and/or transact the most frequently)? Please choose one.



n=210 (Only showed to people who use at least 1 mobile payment application platform).

Simon-Kucher & Partners at a Glance



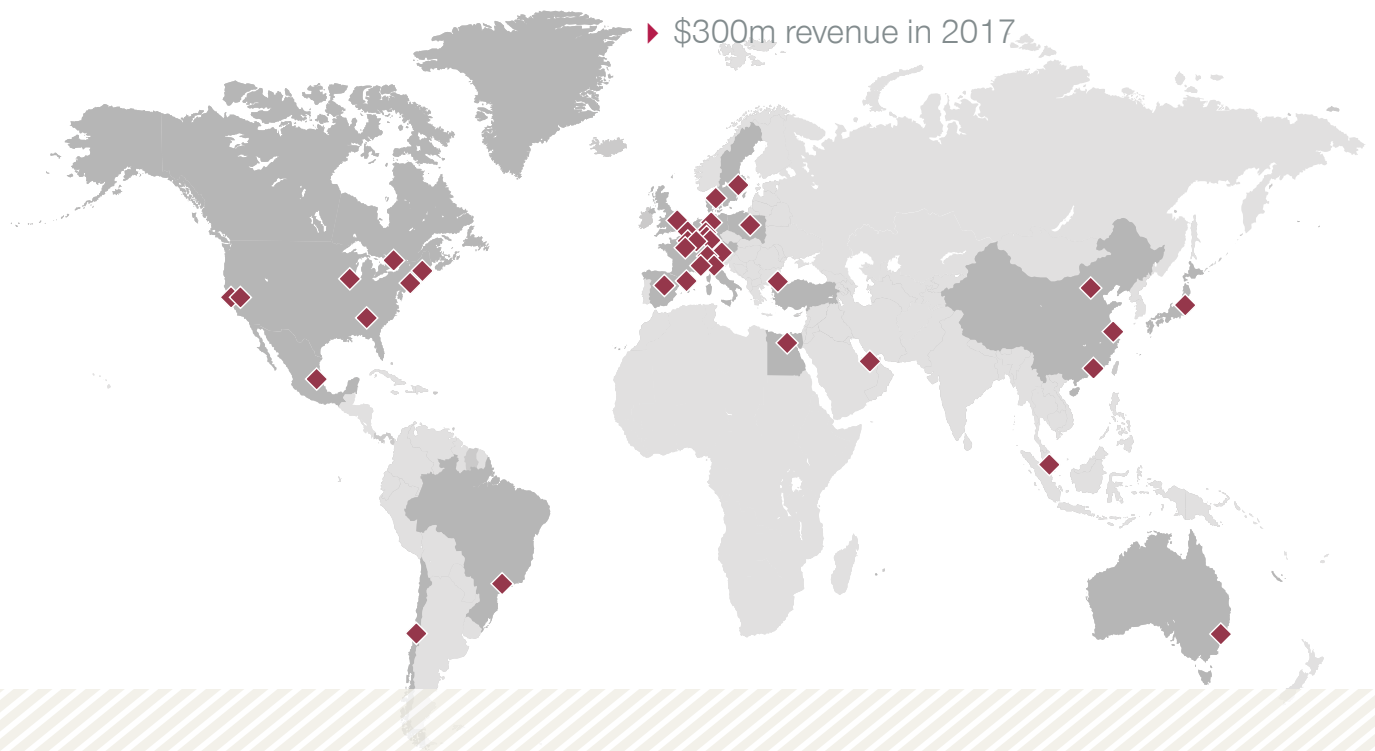
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"... the world's leading pricing consultancy ..."

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"... in pricing you offer something nobody else does"

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