

EMV AND NFC

THE TOP PAIN POINT IN THE PAYMENTS EXPERIENCE—AND HOW TO FIX IT





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The U.S. payments landscape has evolved rapidly over the past few years. Chip cards are now reaching ubiquity—nearly 75 percent of cards processed on Square now contain a chip, up from around 40 percent in September of last year. At the same time, NFC payments like Apple Pay, Android Pay, and Samsung Pay have entered the market, with a notable uptick in adoption among certain demographics.

As consumer payment behavior shifts, Square conducted a survey to gauge consumer sentiment toward new payment technologies like chip cards and NFC. The survey, which garnered responses from over 1,000 consumers, illuminated interesting trends in how people view security, convenience, and speed as part of the in-store payments experience.

Report Highlights

- Thirty-seven percent of consumers are frustrated with slow lines at checkout.
- Consumer dissatisfaction with chip cards stems primarily from transaction speed.
- Security concerns are the main deterrent for NFC adoption: 77 percent of consumers have not adopted mobile payments (NFC), with most citing security as the reason.
- Forty-four percent of millennials have adopted mobile payments.
- Most Apple Pay and Android Pay users utilize the technology at least once a week.
- NFC is the favored payment method among consumers who have used chip cards, magstripe cards, and NFC.
- NFC adopters cite speed, convenience, and utility as a backup wallet as their top reasons for use.
- Of current Apple Pay and Android Pay users, most say they are likely to actively seek out businesses that accept it.



Summary of Findings

Overall, consumers surveyed stated that security and speed are the most important elements of making a payment in stores. When it comes to new payment technologies, they perceive chip cards as more secure than magstripe cards, but note widespread dissatisfaction with the time chip cards take to process.

The majority of consumers have not yet adopted mobile wallets, citing perceived security concerns as the main deterrent. This represents a widespread misconception of the technology, as mobile payments' sophisticated layers of security make them the most secure form of payment.

Among consumers who have adopted NFC (mostly millennials), however, most view it as their ideal payment method. These respondents cite convenience, speed, and security as the top benefits, with most saying they are likely to actively seek out businesses that have adopted the technology.

It will be interesting to watch NFC adoption trends as consumers become more aware of the security benefits of the technology. Coupling security with its speed and convenience (especially as compared to chip cards), NFC checks all the most important boxes that respondents indicated were necessary in a satisfactory payments experience. Businesses should stay a step ahead and adopt a point of sale that accepts NFC payments in addition to chip cards to avoid another reterminalization.

Survey Findings: A Deeper Dive

Speed and security are the most important to consumers.

Consumers are most frustrated with slow lines at checkout. Thirty-seven percent of those surveyed said this was a top pain point when shopping in stores. In an era of instant gratification from online shopping and on-demand apps, this annoyance is not surprising.



37%

**SAY TOP PAIN POINT
IS SLOW LINES**



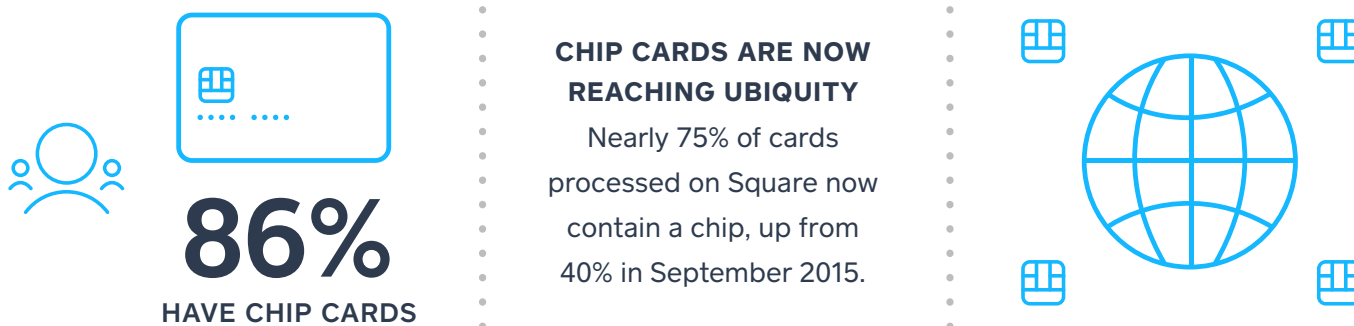
29%

**ARE UNEASY WITH THE
THREAT OF PAYMENTS FRAUD**



However, although people are more frustrated with the time it takes to check out in stores, they rank security as the most important element of paying with credit cards or mobile wallets. Perhaps because of recent high-profile security breaches, most consumers surveyed are concerned that their credit card information is at risk, with 29 percent of respondents indicating that they're most uneasy about the threat of fraud and identity theft in the payments process.

Transaction speed is the most frustrating aspect of chip cards.



Chip cards are reaching ubiquity—86 percent of consumers surveyed reported that their credit card has a chip. However, while consumers view chip cards as more secure than magstripe cards when it comes to fraud, they are discontented with the speed of chip card transactions. (Chip cards have a longer transaction time because of all the security checks that go into processing a payment.) Of survey respondents who indicated dissatisfaction with the chip card experience, 80 percent of debit card users and 73 percent of credit card users noted speed as the main annoyance.

#1 DISSATISFACTION WITH CHIP CARDS IS SLOW SPEEDS

POSSIBLE INDICATOR ▶ Consumers report chip cards are taking a step back technology-wise









The source of this dissatisfaction stems primarily from the fact that chip cards are slower to process than magstripe cards, the payment type people have been using for years. Ninety-one percent of debit card users indicated this was frustrating, as did 87 percent of credit card users. This could indicate that consumers feel chip cards are taking a step back technology-wise, even though they're more secure.



While chip cards help alleviate some consumers' security anxieties, they fall short in one of the top indicators of customer satisfaction in the payments process—expedience.

NFC is the most secure form of payment—yet consumers are unaware.

NFC SECURITY

 SECURE FROM FRAUD  NFC uses a one-time-use cryptogram that cannot be reused by a fraudster for other purchases.	 FINGERPRINT I.D.  You can enable this additional layer of security on your phone which is extremely hard to get past.	 SECURE AGAINST THEFT  If your phone is stolen you can have the individual token canceled vs. canceling your physical credit card.
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Seventy-seven percent of survey respondents haven't used NFC technology, with nearly half citing security concerns as the main reason why they haven't tried it. This represents a consumer perception gap, as NFC is actually the most secure form of payment.



77%

HAVE NOT USED NFC



NFC payments are protected by sophisticated security checks and layers of data encryption. The elements are as follows:

Tokenization

The first thing to understand is that with NFC, your credit card number isn't actually stored on your phone. When you sign up with a mobile wallet like Apple Pay, Android Pay, or Samsung Pay, you take a photo of your credit card through the app, which then uploads it to your bank. Next, the bank assigns you a "token," which is a randomly generated number that your bank ties to your credit card. This is a stand-in for your actual number and is useless to fraudsters.



Dynamic information

During a transaction, the mobile wallet creates a dynamic cryptogram—an authenticated message that contains the token, information about the transaction, and the seller's identity. Each cryptogram is used only once and is unique to each payment. A digital "signature" uses a secret key that lives on your device and is part of the cryptogram, which proves that the payment is coming from your individual smartphone. The issuing bank looks at the one-time cryptogram, matches it to your token in its system, and verifies the transaction is coming from your phone.





Fingerprint identification

Fingerprint identification technology is an important additional layer of security and can be enabled for Apple Pay, Android Pay, and Samsung Pay (depending on the model of the phone). If you have this feature enabled, you can make a payment by touching your finger to your device or entering your passcode. So if your device were to fall into the wrong hands, the fraudster would need your device passcode or to find a way to get past the fingerprint ID security layer, which would be extremely difficult.

Secure against fraud

Your card information stays safe during every stage of a payment. When you make a payment, the merchant never sees your actual credit card number—the terminal reads only the token and passes it to the bank. If fraudsters were somehow able to “listen in” and intercept the data, they wouldn’t be able to reuse it for fraudulent activity. This is because every time your phone communicates with the payments terminal, it generates a new, one-time-use cryptogram. Once that cryptogram is used to charge your credit card account, it can’t be used again.

Secure against theft

If your wallet is stolen, you need to cancel your physical credit card. However, if your mobile device is lost or stolen, you can simply call your credit card company and it will cancel that individual token. Your physical credit card is still secure. Additionally, with NFC payments, a credit card can have multiple tokens, one for each device. So if your iPhone is stolen and you also have an Apple Watch, you can still use your watch to make contactless payments because it has a different token. And again, thieves can’t make a payment using your mobile wallet without your fingerprint or phone passcode.



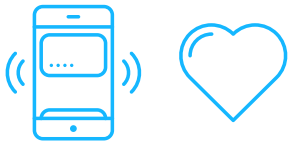
Consumers who use mobile wallets are extremely satisfied

Though most consumers surveyed have not yet used NFC, adoption levels are higher among millennials. Forty-five percent of 18- to 34-year-old respondents have used NFC, compared with 26 percent of non-millennials. As the millennial demographic typically sets technology trends, this could be an indicator that NFC is primed to spread to the broader consumer set.

NFC SATISFACTION



People who use NFC are extremely satisfied with the technology.



NFC ADOPTION RATES

45%

MILLENNIALS
(AGE 18-34)

26%

NON-MILLENNIALS
(AGE 35+)

People who use NFC reported being extremely satisfied with the technology. In fact, most indicated it was their ideal payment method, above both chip cards and magstripe cards. In line with that sentiment, most Apple Pay and Android Pay users utilize NFC frequently. Fifty-six percent of Apple Pay users and 67 percent of Android Pay users reported paying with their app more than once a week, noting speed, convenience, and its utility as a backup wallet as the top reasons for use.

MOBILE WALLET USAGE: 1+ TIME PER WEEK

56%



APPLE PAY USERS

67%

ANDROID NFC USERS



NFC USAGE

★ ★ TOP REASONS ★ ★



SPEED



CONVENIENCE



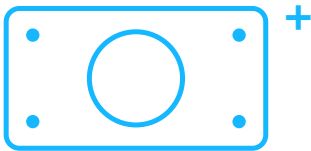
BACKUP



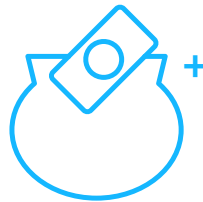


Businesses benefit from accepting NFC.

Consumers most value speed, security, and convenience in a shopping experience. As NFC hits all those marks, businesses that adopt and encourage NFC usage are likely to facilitate a more satisfying checkout experience.



**NFC CUSTOMERS
REPORT BEING MORE
LIKELY TO SPEND MORE**



**NFC CUSTOMERS
REPORT BEING MORE
LIKELY TO TIP**



**NFC CUSTOMERS ARE
LIKELY TO ACTIVELY SEEK
OUT BUSINESSES WITH NFC**

What's more, accepting NFC payments could have a positive impact on a business's bottom line. In the survey, most Apple Pay and Android Pay users said they would be likely to actively seek out neighborhood businesses that accept mobile payments. Customers also stated they tend to spend more when they use NFC. At Square's #PayFasterPortland event, customers who used their NFC device tipped more than customers who used traditional credit cards, and the survey findings are in line with this behavior as well.

Conclusion

Consumers today are extremely concerned about their credit card information being compromised. They're also frustrated with long lines at stores, wanting the checkout experience to be as quick and easy as possible. While chip cards help to alleviate some security concerns, they can be a dissatisfying customer experience due to their sluggishness.

There is a large perception gap when it comes to NFC mobile payments like Apple Pay, Android Pay, and Samsung Pay. Though NFC is actually the most secure form of payment, consumers are still skittish about adopting it due to security concerns.

Once consumers adopt NFC, however, most view it as their payment method of choice, above both chip cards and magstripe cards. They are also likely to seek out businesses that take NFC payments—and they say they spend more there. Adopting a point of sale that accepts NFC in addition to chip cards is a smart strategy to stay current with the swiftly changing payments landscape.



Methodology

The survey, conducted by Square in partnership with the research firm Qualtrics, reached 1,050 online respondents across the United States with the goal of understanding attitudes and perceptions toward three different payment methods: (1) EMV chip cards, (2) NFC mobile payments, and (3) magstripe cards. Participants were all U.S. residents, over 18 years of age, and not working in market research. The key metrics evaluated were financial product usage, mobile device compatibility, product and services satisfaction, technology usage and experience, and psychographics.

About Square, Inc.

Square creates tools that help sellers of all sizes start, run, and grow their businesses. Square's point-of-sale service offers tools for every part of running a business, from accepting credit cards and tracking inventory, to real-time analytics and invoicing. Square also offers sellers financial and marketing services, including small business financing and customer engagement tools. Businesses and individuals use Square Cash, an easy way to send and receive money, as well as Caviar, a food delivery service for popular restaurants. Square was founded in 2009 and is headquartered in San Francisco, with offices in the United States, Canada, Japan, and Australia.



Square powers business of every size by offering custom processing rates, advance reporting, world-class data security, and partner integrations and APIs.

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