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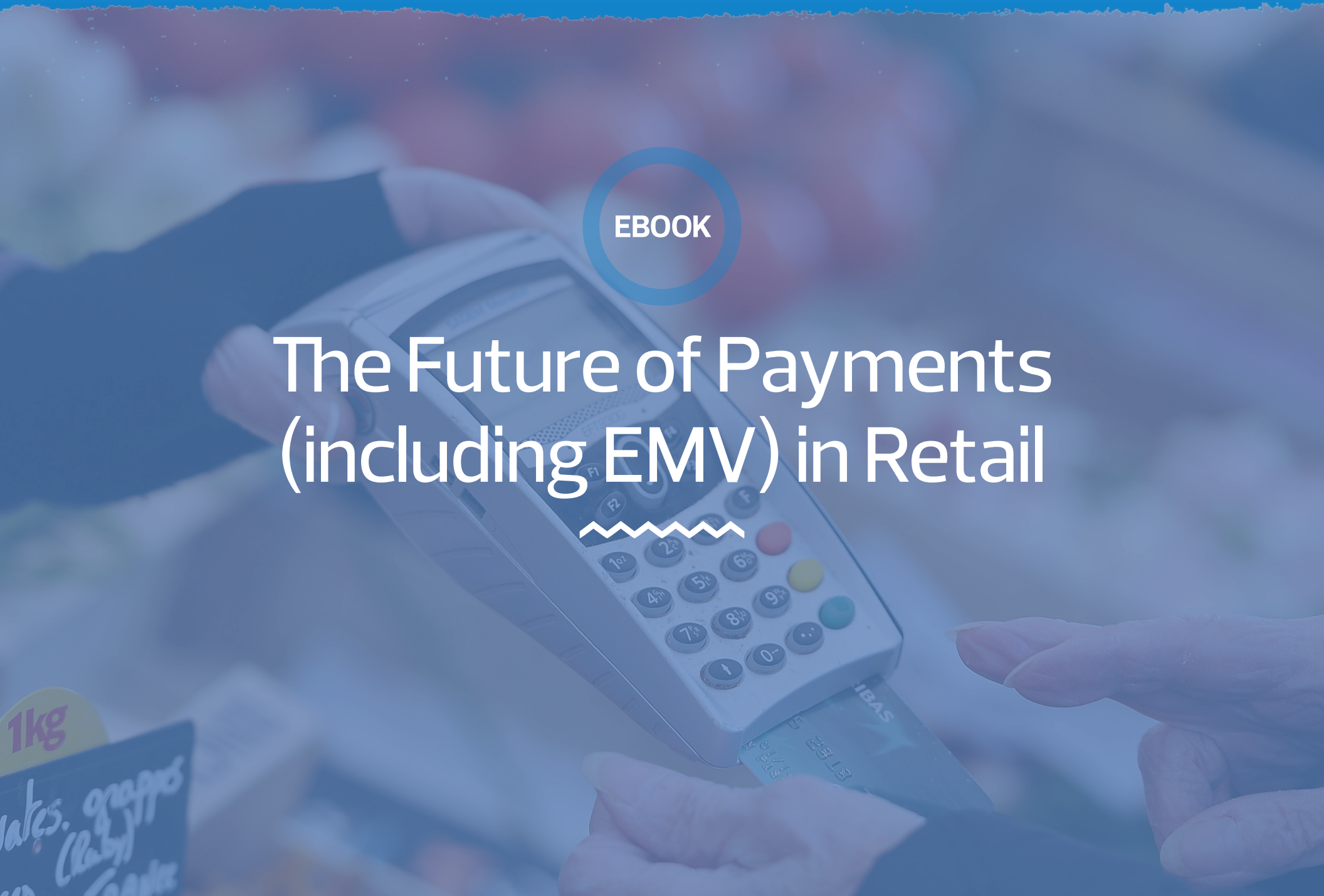

EBOOK

# The Future of Payments (including EMV) in Retail

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CHAPTER 1

# Introduction

You've probably heard something about "EMV" or "chip-and-pin" lately. And if you have credit cards, then you've even received brand-new cards that have an embedded chip in them. There are also a lot of new ways to pay without even using a card, such as Apple Pay. Yes, you can even pay with a watch now. Things are a changin! Here we'll try to educate you on the current state of the payments ecosystem, along with some notes about the possible future of payments.

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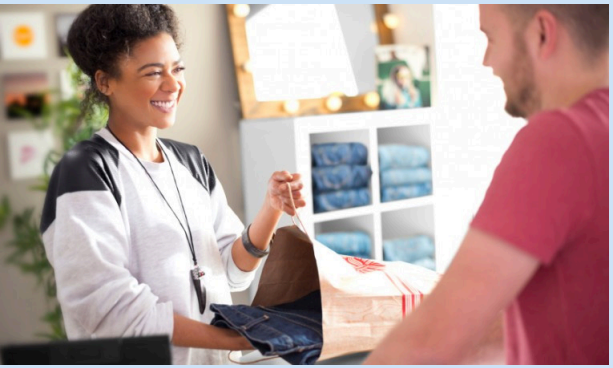
CHAPTER

# What is EMV?



**EMV, which stands for "Europay, MasterCard, and Visa", is a standard for payment cards and the payment terminals that are designed to accept payments from them. EMV cards are smart "chip" cards that store account information on a circuit within the card rather than on a magnetic stripe found on credit cards of the past.**

EMV chip cards are inserted into the payment terminals rather than swiped, so that the terminal can read the account information and process the transaction. Typically, a pin-number is then used to authenticate the cardholder – which has resulted in the standard being called "chip-and-PIN".

The EMV standard has been widely accepted in Europe for a number of years, only recently spreading to the United States. One of the reasons for adoption is because of a shift in liability for who is responsible for fraudulent payments. Previously, card issuers took liability for any fraudulent card-present transactions. In recent years there have been a number of high-profile credit card data breaches at major retailers, so shifting the liability for fraud could have a big impact on the payment ecosystem.


In October of 2015, card payment networks such as Visa and MasterCard shifted the liability for card-present fraudulent transactions to the retailer – but only if they did not have an EMV payment terminal in place. However, if a retailer implements EMV payment terminals at their store then the liability remains with the card issuer. This is driving the adoption of this new payment technology, although adoption has been much slower at independent retailers who have a much lower incidence rate of fraudulent transactions that result in a chargeback.

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# What are the benefits of EMV?

**So what are the benefits to moving to the EMV standard and chip-and-pin? There is one big one that is driving adoption of this technology – improved security resulting in much less fraud.**

Old-style credit cards with magnetic stripes relied on the security of the mag-stripe along with the cardholder's signature and other visual cues such as holograms on the card itself. Unfortunately, these security measures were not up to the task or ignored. How often does a cashier check your signature against what's on the back of your credit card? And more importantly, fraudsters quickly developed ways of counterfeiting cards with magnetic stripe data that was stolen. This allowed thieves to create fake cards tied to real accounts, which they then could either take money from ATMs or purchase goods that would be sold for cash. This has become a widespread problem, and is occurring with increasing frequency.

The card networks look to change this with EMV, as the chips within these new cards are much more secure and difficult to counterfeit than magnetic stripes. The chips utilize cryptographic algorithms such as Triple DES, RSA, and SHA to authenticate the card with the processing terminal and card issuer – and when combined with a

PIN number from the cardholder it is assured that the transaction is legitimate. Because of this extremely high level of security, and the impossibility (at least today) to fake these new cards, banks and card issuers have been able to push through the liability shift to merchants if a fraud claim is made against a card-present transaction.

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# Is there a deadline for adopting EMV?


**As of October 1st, 2015 liability has shifted to merchants for card-present transactions if EMV credit card terminals are not in place. The Visa, MasterCard, Discover, and American Express card networks put this deadline in place.**

While the liability shift deadline has passed, the data shows that businesses have been very slow to adopt this new payment technology. As of March 2016, only approximately 35% of businesses were equipped with terminals that could accept chip-enabled cards.

What is driving the slow adoption of this technology? There are a number of reasons that not every business was ready to accept these cards on the deadline date. First, many have made the decision that the new liability does not outweigh the cost for implementing new payment terminals. For business that were rarely the target of fraudsters, and those who had little or no chargebacks, a decision was made that it just isn't worth the investment.

For some, they did not want the added burden of implementing new technology right before the busy holiday season. Many businesses implemented EMV technology in the first part of 2016 after the holidays.

There are also technology-based reasons for the slow adoption. Many technology providers, such as payment processors, terminal manufacturers, and point-of-sale developers did not have their systems ready in time for the deadline. While many have since implemented the technology to accept chip cards, some have decided to shelve their products and "end of life" their payments business. You will want to check with your technology provider to see if they plan on supporting EMV so that your business can plan accordingly.

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# Should I adopt EMV now?

**EMV is here to stay, and all card issued will have chips embedded for the foreseeable future. It is not known when magnetic stripes will be discontinued on cards, but for now most cards that are issued support both chip as well as magnetic stripe payment terminals.**

Whenever card issuers stop printing cards with magnetic stripes then adopting EMV payment terminals will be a necessity, but until then it is up to you whether you implement these new payment terminals. The deadline was not something that impacts your ability to accept cards, nor did it begin some type of penalties, but it did shift liability when fraud occurs in your store. For your business, you may want to review your past history with chargebacks to determine if it is worth implementing EMV terminals sooner rather than later.

If chargebacks happen frequently at your store, or your have large dollar amount transactions, you may want to implement EMV terminals now.

However, if you've never had a chargeback or your average ticket is low then it may be something you can wait on. But for brand new stores, it is highly recommended that you begin operating with an EMV chip-and-pin ready terminal.

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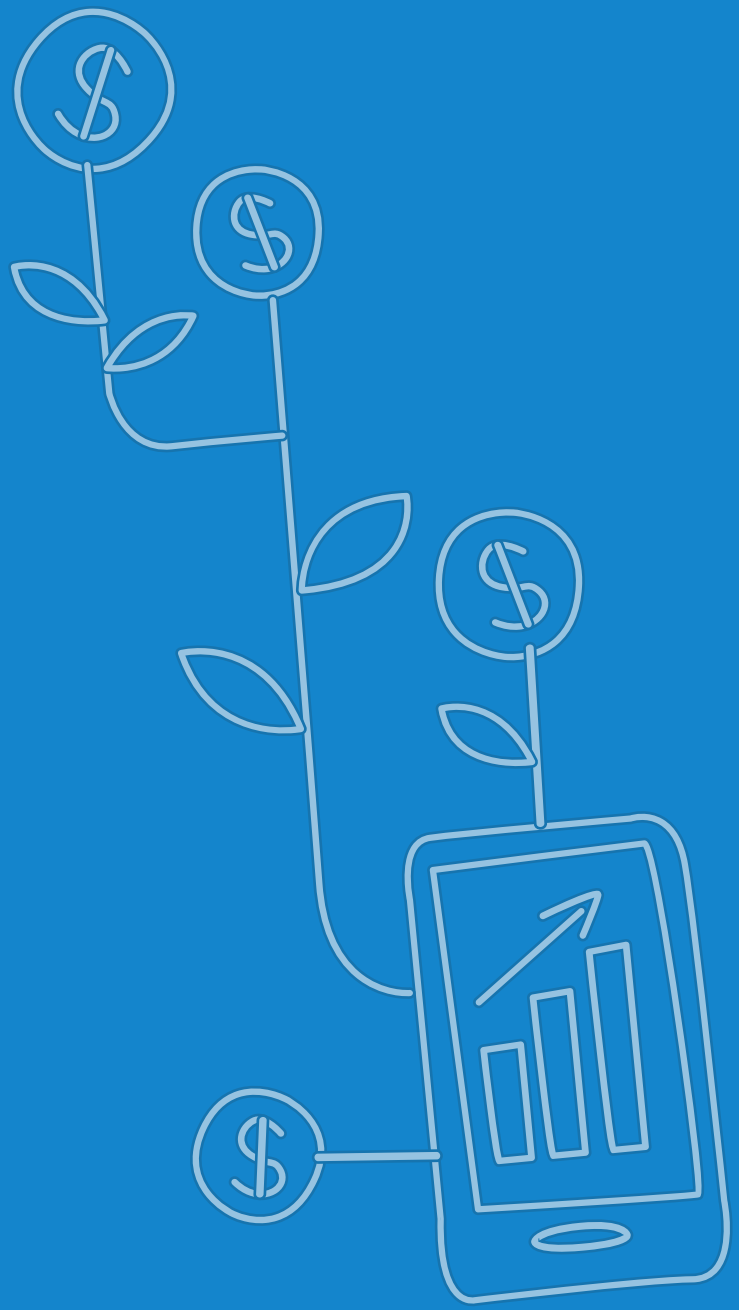
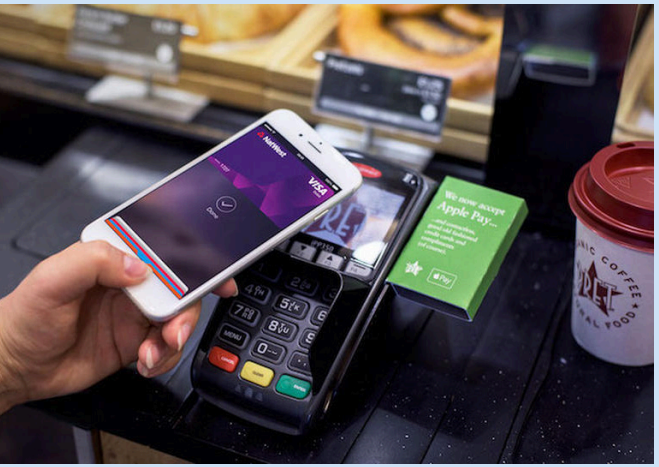
# What about Apple Pay?



**Another major player in the future of payments will be Apple. Just like they revolutionized the music & phone markets, Apple has the payments market in its sight. Apple Pay was announced at its iPhone 6 debut event in 2014, and it is a mobile payment & digital wallet system that lets users pay from their iPhone (6 and later models), Apple Watch, and even some recent iPad models. The service made its initial debut in the United States on October 20th, 2014 and has since been rolled out to other countries.**

Others had previously tried to tackle mobile payments, such as PayPal and Google with their Wallet service. However, technology journalists derided these attempts as they often made the payment process inconvenient with added steps. Apple Pay aims to solve this through a tight integration of software and hardware (their own devices) that may actually make the payment process simpler than swiping or inserting a card. Apple has also been diligently working with banks to add support for Apple Pay.

Because of the popularity of the iPhone and Apple Watch, a sizable chunk of the consumer market have the ability to utilize Apple Pay. In fact, it was announced that more than 1 million credit cards had been added




to Apple Pay within just 3 days of its availability. As of early-2016, nearly a quarter of all consumers with compatible Apple devices had tried the service. Apple's CEO Tim Cook revealed that over 1 million new users were trying the service every week. All of these usage numbers point to a service that has great potential for changing the way people pay.

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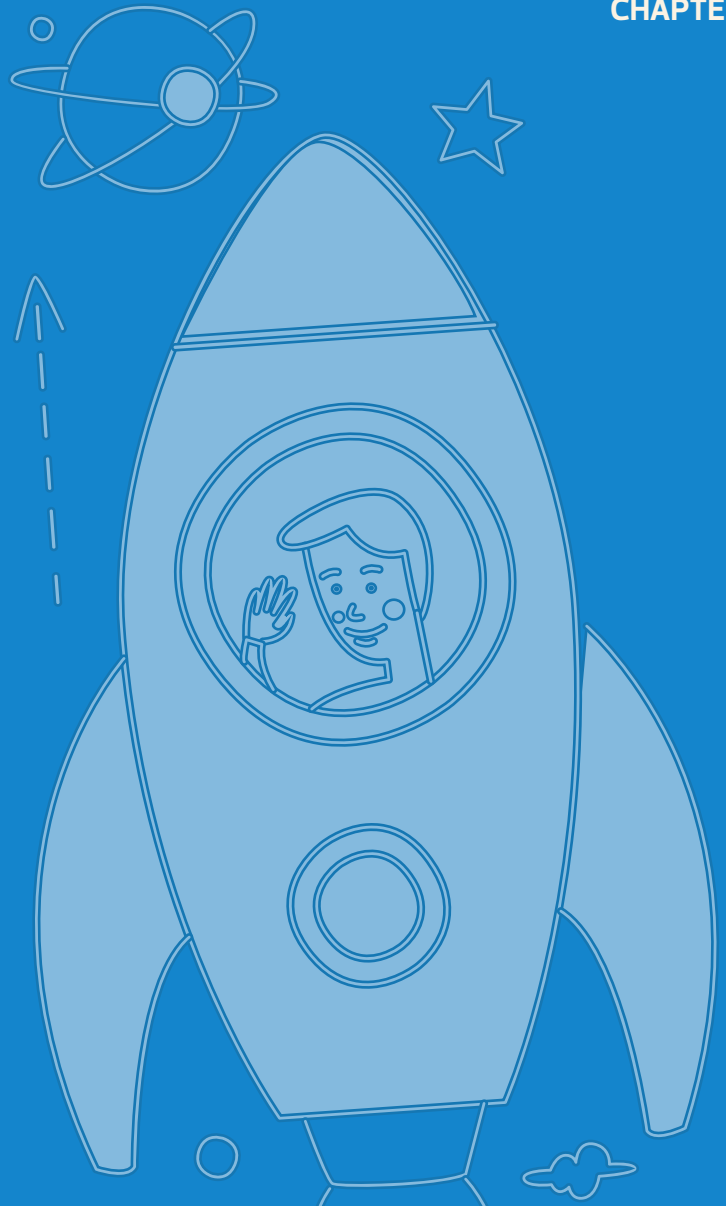
# What does the future hold?




**The future of payments is unfolding before us, with more change happening now than ever before. Not since the advent of the credit card has there been so much change to the status-quo of paying for products and services.**

EMV is certainly here to stay, and it is a matter of time before all merchants have payment terminals that accept the new chip-and-pin cards. But could cards go the way of the Dinosaur all together with new services like Apple Pay?

That level of disruption is very unlikely to happen soon, especially if the most popular alternative-payment service is locked into specific hardware manufacturers (even if it is Apple).

What does this mean for you, the retailer? In time, new payment services like Apple Pay could eventually lead to lower credit card fees. And new technology that fights fraud, like EMV, will also lower the costs for accepting credit cards. Embracing these new technologies will eventually help your bottom line & make consumers more at ease with utilizing credit cards in retail establishments. When you decide to purchase a new payment device or point-of-sale software, you'll want to make sure that it supports EMV & Apple Pay to future-proof your business. But as always, stay tuned, because you never know what breakthrough technology could be coming our way next! numbers point to a service that has great potential for changing the way people pay.

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