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Contactless Payments:
The 'Tipping Point' Is at Hand

The move to contactless payments is gaining momentum. Consumers have a strong preference for such technology and merchants are using contactless payments to reduce waiting times, satisfy customers and boost sales.

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Introduction

Across the United States, a major awakening is occurring among consumers. Millions of Americans are now discovering that their new or reissued credit and debit cards (along with other form factors like key fobs and stickers) have an innovative feature: They are contactless-enabled. Using this technology at the point of sale, consumers can pay without swiping their cards through magnetic readers, handing over their cards to the clerk, signing their names or entering their PINs. For consumers, this means a faster checkout and a reduced reliance on cash. (Plus, they appear to enjoy simply waving a contactless payment device and paying without ever touching the pad or stylus needed for contact transactions.)

At checkout lanes with specially equipped readers, consumers with a contactless-enabled card can choose how to pay. They can use the conventional payment card contact process, which usually involves handing their card to a clerk, who swipes it and prints a receipt to sign. Or they can save time by simply waving the card within close proximity to a contactless-enabled reader to finalize the transaction in one efficient step.

Fast, secure contactless payments are appealing to merchants, too. The technology gives retailers a way to encourage more frequent visits by customers who prefer this payment method, as well as to potentially speed up transactions and reduce operational costs.

Evidence from various pilot programs shows overwhelmingly that once consumers have tried contactless payments, they have a strong preference for this method. As the move toward contactless gains momentum, more consumers will be trying—and appreciating—the speed and convenience of contactless payments, and they will remember which stores give them this option. As a result, those merchants are well positioned to increase revenue in three ways:

1. Customers who value the expediency of contactless payments are likely to keep patronizing the retailers that offer them this option (or even increase their patronage at these merchants to the detriment of merchants that do not provide this option).

2. With the ubiquity of social networking, word of mouth is far-reaching and more powerful than ever. Consumers, delighted by the speed and convenience of contactless payments, will enthusiastically publicize their experiences at merchants that offer this "cool, new way to pay."

3. Pilot programs reported by a number of sources, including Visa, American Express and TowerGroup, have shown that contactless payments can result in a 15 percent to 30 percent increase in the average transaction value.[1]

This paper summarizes the current market landscape for contactless payments and attempts to provide answers to some important questions. Do consumers, in fact, truly value the contactless payment option? Has the technology been slow to gain acceptance? Has the recession derailed the technology's future growth? Why should merchants consider investing in contactless now instead of later?

Prior to tackling these questions, let's take a quick look at the basics.

Contactless 101

Consumers can use contactless payments for transactions of any amount. In the United States, however, contactless payment is more advantageous for transactions of less than $50, as cardholder signatures are generally required for transactions exceeding that amount. No PIN or signature is required for most transactions under this threshold (please note that this is subject to individual merchant policies and card association rules). The consumer simply waves or taps the card, key fob, sticker or other contactless form factor in proximity to the contactless reader at point of sale without relinquishing possession of the item.

The contactless technology itself is based on an integrated circuit chip embedded in the card. When a customer places the contactless-enabled card within close proximity (four centimeters) to or taps the reader, the card's integrated circuit "powers up," causing it to transmit data to the reader via a radio frequency (RF) interface. All of the major card associations use the same ISO standards for the contactless cards and devices, facilitating widespread interoperability.

Contactless cards are dual-factor cards, meaning that, in addition to supporting contactless payments, they also support conventional "swipe" payments via a magnetic stripe. Separate readers can be used for contactless and swipe transactions, but it's preferable to handle all transactions on an integrated reader.

Benefits to Consumers

Speed and convenience. For consumers, contactless payments have much the same appeal as cashier-free checkout lanes. Both are convenient, and both add to the consumer's sense of saving time through self-service. Why wait in line to pay a cashier when you can checkout yourself faster? Likewise, why cope with swiping, signing and entering numbers if you can just wave and go?

Flexible form factor. Contactless technology doesn't have to be delivered on conventional debit and credit cards. Some issuers are making contactless technology available in other forms, such as mini cards, contactless stickers that can adhere to mobile phones or other convenient personal items, and key fobs that can be used without searching through one's wallet or purse.

Alternative to carrying cash and cards. An extra benefit of contactless is that it offers yet another alternative to paying with cash—and if the contactless form factor is a sticker attached to a personal item like a phone, it reduces the need to even carry a wallet at all.

Security. Instead of static security measures such as PIN codes, contactless payment cards bring dynamically generated codes into the transaction through techniques called Dynamic Card Verification Value or Dynamic CVC3 Card Validation Code. In both processes, a unique value is generated for every transaction, which the network authenticates in real time.

This approach significantly improves the security of contactless transactions. "Even if thieves create a counterfeit card with stolen data, fraud is stopped because the transaction won't occur without dynamic information being supplied and authenticated," explained John Philip Coghlan, president and CEO of Visa USA, at the Visa Security Summit in 2007.[2]

Additionally, there is less chance that the card will be lost or forgotten during the course of the transaction, since it never leaves the customer's hand. This also reduces the opportunity for a dishonest employee to steal the card's magnetic-stripe data through "skimming," the practice of fraudulently procuring card data with a hand-held electronic device (a "skimmer").

Personal hygiene. Aside from being faster, more efficient and more secure, contactless technology is the most hygienic of all payment options. There is no need to pass the card from hand to hand or use PIN pads and

styluses handled by multiple customers.

Benefits to Merchants

Faster transactions. Any measure that reduces transaction time and shortens queuing can potentially create three important benefits: improved customer satisfaction, increased revenue and enhanced operational efficiency. By increasing the speed of payment and reducing tender time, contactless payments can lead to improvements on all three fronts. Payment speed has been researched extensively; here are two of the findings:

1. According to American Express, tests have shown that contactless transactions with its proprietary ExpressPay cards are 63 percent faster than cash transactions.[3]

2. According to Aite Group, "Contactless payments are measurably faster than other forms of payment transactions; on average twice as fast as cash transactions." Aite Group's researchers analyzed the average tender times (from point of "cashier total" to point of completion), in seconds, for different payment media. The results:[4]

   → Checks   64
   → Credit/Debit   48.4
   → PIN Debit   44.4
   → Cash   28.5
   → Biometrics   15.6
   → Contactless   12.5

Key fobs and contactless stickers are additional time-savers because they reduce the time consumers waste looking for a particular card.

Faster transactions ultimately mean more revenue from increased throughput, better customer service and the loyalty of customers who prefer contactless as their payment mechanism of choice.

Greater customer satisfaction. The consumer benefits of convenience and speed cascade into multiple benefits for merchants—starting with throughput and efficiency, and ending with more satisfied customers who spend more and are more likely to keep coming back.

Improved operational efficiency. Speedier pay and tender time results from consumers spending less time rummaging around for cards or cash, orienting the card for a reader and signing or entering data. The consequence is increased throughput in checkout lines, which can mean fewer cashiers are needed to handle the same volume of transactions during peak periods.

Reduced costs of handling cash. Some merchants believe that contactless adds to costs by generating interchange fees for transactions that might otherwise have been cash transactions. However, it is important to note that cash has its costs, too. Cash must be obtained, protected, distributed to cashiers, collected from off-duty cashiers, audited and continually counted at every step. Add up the aggregate cost of all the time spent in cash handling (as well as the "shrinkage" in cash from employee thievery), and it approximates what a merchant spends on interchange fees for the equivalent value of transactions: According to a study conducted by McKinsey, the "real" cost to a merchant of a cash transaction is 1.3 percent—"no less than the transaction fee on a card."[5] That's why any technology that reduces the need for cash should be viewed as a possible benefit, not an expense—and by creating another mechanism to reduce a retailer's cash-handling needs, contactless payments can actually reduce costs.

Consumer Preference. Research has shown that consumers with contactless cards use them often and prefer shopping at retailers that accept them. According to MasterCard's 2008 U.S. Consumer Benchmark Study:[6]

→ 14 percent of consumers with contactless cards make purchasing decisions based upon contactless acceptance (up from 8 percent in 2007).

→ 77 percent of consumers who have a contactless-enabled card or device use it as their primary form of payment.

In addition, American Express has reported trial results indicating that accepting contactless cards can substantially increase average ticket size. In pilot programs with CVS, American Express found that ExpressPay customers spent 20 percent to 30 percent more with their contactless cards than with cash.[7]

Further buoying revenue, contactless payments create new opportunities for merchants to introduce customer-friendly innovations at the point of sale. For example, grocery stores could have contactless-enabled self-service kiosks stocked with cold drinks and ready-to-eat meals—in essence, a super-express lane at the front of store to serve time-pressed customers.

Incentive and loyalty programs. Contactless payments can deepen your brand relationship with customers and serve as an incentive for them to visit your stores more frequently. And you don't have to wait for NFC-enabled mobile phones to implement an enhanced rewards program. Contactless technology allows for two-way electronic communication between a merchant and a customer. In other words, a customer's contactless device can be enabled to receive loyalty program information and special offers directly from the merchant's contactless reader.

Combined with other widely deployed technologies, contactless technology can play an integral role in developing incentives and rewards that entice high usage, capture mindshare and gather data for customer analytics.

2009: The Momentum Accelerated

Industry analyst Datamonitor's December 2008 assertion that contactless payment acceptance is poised for growth has since been validated by the events of 2009, a year that included a long list of contactless rollouts, trials and milestones. Here are a just few of them:[8]

→ **January:** Sheetz, which has been using RFID-based contactless cards at its convenience stores for several years, has teamed up with Wright Express to enable drivers to make fuel purchases at Sheetz locations using NFC technology in their mobile phones.

→ **January:** U-Car Share adds the University of California to its customer list. U-Car Share uses contactless technology to enable easy rentals by the hour or by the day from unstaffed parking places across campus.

→ **March:** Contactless chip provider INSIDE Contactless and First Data announce plans to develop contactless payment stickers that can be affixed to mobile phones or other convenient personal items.

→ **March:** MasterCard announces that more than 50 million PayPass cards have been issued. The growth, MasterCard's release stated, demonstrates demand for simple payment solutions and the continuing shift toward electronic payments, validating a study by BAI Research and Hitachi Consulting that found consumers are using less cash.

→ **April:** Circle K, one of America's largest convenience store operators, begins accepting MasterCard PayPass at 1,500 locations.

→ **May:** Maryland Transit Administration accelerates its rollout of an automated, contactless fare card system.

→ **June:** Maryland and Washington, D.C. transit systems enable reciprocal use of both systems' contactless payment cards.

→ **July:** Home Depot announces it is readying 2,200 stores for contactless payments, with deployment expected to be completed by year-end.

→ **July:** Sports Authority begins accepting MasterCard PayPass at 450 stores in 40 states.

→ **August:** U.S. Bank begins using Visa payWave technology in its contactless, un-embossed debit cards for instant issue at account opening.

→ **September:** The Smart Card Alliance releases "Issuer and Merchant Best Practices: Promoting Contactless Payments Usage and Acceptance." The authoritative report gives the industry a well-researched roadmap for successfully implementing contactless payments.

→ **October:** Hess announces that it will begin accepting MasterCard PayPass at more than 870 retail outlets in the Eastern U.S.

→ **October:** MasterCard announces that nearly 61 million PayPass cards and devices have been issued as of the second quarter of 2009—up from 50 million just six months earlier. The cards can be used at 153,000 locations globally.

→ **November:** IMS Research announces that the number of retail locations accepting contactless payments globally is set to increase by more than 12.5 million in the next three years.

→ **December:** Philadelphia Parking Authority's parking facilities at Philadelphia International Airport begins accepting MasterCard PayPass. Drivers need only wave their cards in front of the reader to pay, significantly cutting time spent waiting in line at the exit.

The year 2009 also saw major launches of contactless sticker sales across 7-Eleven, Sheetz and Duane Reade retail locations in the United States.

Market acceptance of contactless payments technology is now poised for continued rapid growth. Each of the major card associations is actively promoting its branded contactless payment solution to encourage consumer usage and retail adoption: Express Pay (by American Express), Zip (by Discover), PayPass (by MasterCard) and Visa payWave (by Visa).

More merchants are now implementing contactless payment acceptance. A wide variety of technology-enabling card readers are available from manufacturers, including readers for store countertops, drive-through windows, kiosks, ATMs, vending machines, turnstiles, buses and taxi cabs.

Meanwhile, a rapidly increasing number of consumers are discovering that they are already carrying the technology in their wallets and purses.

Get Ready for Take-Off

What other evidence is there that the contactless is ready for rapid growth? Here are some facts:

1. Consumers like the technology. A study by Javelin Strategy and Research found that 37 percent of card users interested in contactless would switch issuers to get it.[9] Another Javelin study revealed that 40 percent of consumers with cell phones have used debit or credit cards for contactless payments in the last 12 months; for smartphone users, 50 percent have made contactless debit and 56 percent contactless credit transactions.[10]

2. Large retailers and quick-service restaurants (QSRs) are rolling out contactless payments. Among them are Home Depot, Office Depot, Sports Authority, BJ's and several major pharmacy chains.

3. A critical mass of cards are in consumers' hands. Market acceptance of contactless payments reached a major milestone in the third quarter of 2009, when the number of contactless-enabled credit and debit cards is estimated to have exceeded 100 million.[11] That estimate is validated by the output of INSIDE Contactless, which makes chips for card issuers. In 2008, the firm reportedly shipped almost 60 million chips for Visa- and MasterCard-branded cards to the United States alone. Since 2005, the company has shipped 100 million chips to the United States.

4. The biggest U.S. issuer has achieved excellent results. "The success of Chase Bank's launch and subsequent growth in contactless acceptance suggests that growth will almost certainly continue in the U.S. market over time. The strength of the response from both consumers and, more importantly, merchants demonstrates that the business case for contactless payments is a strong one," noted Datamonitor in its 2008 report.

5. Merchant acceptance is growing. According to a study by Gartner Research and Retail Info Systems News, "19th Annual Retail Technology Study," almost a quarter of retailers in their survey have already begun a move to contactless payments. Asked the status of various types of payment systems, 24 percent of retailers said they are in some stage of implementation or planning with contactless payment systems. Specifically, 5 percent have the technology in place; 2 percent planned to start in 2009; 5 percent have started but not finished; and 12 percent expect to start by 2011. (The study is deliberately skewed toward larger retailers: 58 of respondents have at least 100 stores.)[12]

6. Analysts see substantial growth ahead for contactless payments. Yankee Group estimates that worldwide contactless card transactions will soar from 3.5 billion in 2009 to 31.8 billion in 2013. That's "hockey stick" growth—a compound annual growth rate of 73.6 percent.[13]

7. Production costs are coming down. According to the Smart Card Alliance, "As contactless card prices continue to decrease, banks are more likely to issue 100 percent of their portfolio in contactless format."[14] July 7, 2009.

Clearly, the "tipping point" for contactless technology is almost upon us. Watch for rapid growth ahead.

If the hypothesis is correct, the risks of not implementing contactless may far outweigh the costs of upgrading to contactless readers. And it's not just today's contactless sales that are at risk; the most serious impact is long term. Once consumers grow accustomed to contactless as their primary payment type, stores without this capability may prove to be at a glaring disadvantage. Furthermore, merchants that don't adopt contactless run the risk of losing additional business to their more progressive competitors once NFC-enabled mobile phones gain widespread penetration.

What types of merchants are candidates for contactless?

Conventional wisdom suggests that the obvious candidates are retailers where throughput and speed of service are key goals. Typically, this means merchants with a high volume of low-dollar transactions—but as you will see, merchants of all types are deploying contactless technology.

The merchant categories that best fit the high-volume profile are QSRs, gas stations, convenience stores, drug stores and movie theaters. Indeed, many of the largest deployments of contactless technology have been made by companies in these segments. They include:

Arby's	BP
McDonald's	Subway
Sheetz	Clearview Cinemas
United Artists Theaters	Walgreens
7-Eleven	QuickChek
Jack in the Box	Kentucky Fried Chicken
Caribou Coffee	CVS
Rite Aid	Whataburger
Burger King	Quiznos Sub Shop
Cinemark	Dairy Queen
Long Drugs	AMC Theaters
Cold Stone Creamery	Duane Reade
Carl's Jr.	Regal Entertainment
Good Times Burger	

Yet, 2009 trends proved that merchants of all types are deploying contactless technology. As noted earlier, customers are increasingly adopting contactless payment technology and making purchasing decisions based on it. Retailers understand the importance of offering a wide breadth of payment choices as a component of increasing overall customer satisfaction. As a consequence, a diverse array of retailers beyond high-volume/low-dollar categories has deployed contactless technology:

Home Depot	Shoprite
Sports Authority	Petco
Boater's World	Office Depot
Ritz Camera	BJ's
Meijer	

When consumer preferences are considered, the diversity of represented categories makes obvious sense. MasterCard conducted research to determine which types of merchants received the most visits from new customers because they accepted PayPass. Some of the findings weren't surprising: QSRs and pharmacies won the most new customers. But the research also revealed that consumers would like to be able to use contactless payments at a wider range of merchants than expected, including department stores, home improvement stores, bookstores and sports venues.

Given the rapid growth trajectory, retailers in many categories should be considering upgrades to contactless technology. Based on the current market landscape and expectations of the future landscape, here is a more comprehensive list of companies that should consider adopting contactless technology:

→ Retailers in almost any category planning point-of-sale (POS) system replacements or additions for new store locations.

→ Retailers with significant peak-period activity, such as sport arenas, restaurants and nightclubs (where dramatic spikes in customer volume create the need for mechanisms to reduce queuing times).

→ Retailers in areas with a high penetration of contactless cards. The prevalence of these areas will increase rapidly with time.

→ Retailers that focus on customer loyalty and couponing. The two-way communications functionality in contactless technology facilitates the deployment of highly innovative rewards programs.

→ Retailers near transit systems that use contactless fare cards. Transit systems have a large nucleus of pre-sold consumers who know the technology, like it and use it frequently. In fact, several transit systems are experimenting with "open" contactless payment systems that can include local merchants (see First Data's forthcoming white paper on this topic).

→ Retailers that cater to certain demographics with a clear preference for using contactless. At the top of the list: smartphone owners. A study by Javelin Strategy and Research found that current smartphone owners are demonstrated leaders in contactless and mobile payments adoption. That finding is underscored by the rapid growth in smartphones; Javelin estimates that 114 million consumers will have smartphones by 2014—more than triple the 36 million people using smartphones in 2009. According to Javelin, other demographic traits that correlate with higher contactless usage include generation Y consumers and high-income consumers.[15]

What should merchants do now?

If your business is considering a move to contactless payment technology, a great place to start the planning process is "Issuer and Merchant Best Practices: Promoting Contactless Payments Usage and Acceptance," a September 2009 report researched and written by Smart Card Alliance's Contactless and Mobile Payments Council.[16]

This paper documents merchant best practices for the acceptance of contactless payments at the point of sale. The best-practices section gives merchants a virtual roadmap for successful deployment. Topics covered are noted below:

→ Integrating contactless payment into the merchant's customer satisfaction strategy

→ Coordinating with issuers to determine optimal deployment areas and locations

→ Selection of appropriate POS terminals that simplify ease of use and accept both contactless and traditional magnetic-stripe payments

→ Combining contactless implementation with other POS upgrades

→ Implementation planning

→ Operational considerations

→ Pilot projects

→ Employee training

→ The rollout plan, including tips on marketing, partnering with issuers and displaying signage

Regarding POS upgrades, the report states, "Merchants can future-proof their new PCI-compliant devices by selecting an integrated contactless reader option now and avoid the disruption and deployment cost that they might need to experience in the next two to three years to stay competitive and current with industry trends for mobile commerce. Business disruption, deployment cost and training cost could represent more than half of the total cost that a merchant incurs to accept contactless payments. All of that cost can be avoided by selecting a contactless option in the PCI [Payment Card Industry] PIN pad device."

Keep in mind that many consumers will eventually embrace using their mobile phones for a variety of e-commerce activities, including making payments at the point of sale, receiving/redeeming permission-based offers from favorite retailers, making purchase decisions and managing their various financial accounts. Thanks in part to the surging "critical mass" of contactless payment cards and retail terminals, investing now in contactless payment acceptance enables you to benefit from current trends, as well as to become better prepared for forthcoming innovations in retail payment systems. With contactless technology, you are in the vanguard of retailers that will be participating in the impending transition to mobile commerce.

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