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# McKinsey on Payments

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## The battle for the point of sale

For the last decade, Web commerce has promised to transform traditional brick-and-mortar business. Now, with the arrival of smartphones and a new generation of mobile point-of-sale (POS) systems, the transformation has taken a leap forward. Payments service providers are offering an array of products that are reinventing the POS experience. Merchants are deciding which systems will not only boost their sales, but improve their day-to-day relevance for customers. Consumers, meanwhile, are beginning to adapt to a daily shopping experience that is radically redefined. To be sure, digital checkout raises concerns—cost, stability and security of data, among others. But the recent adoption of digital POS systems by retailers ranging from Starbucks to Nordstrom’s suggests that they are here to stay.

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The traditional merchant POS system is being transformed for small merchants and large retailers alike. San Francisco’s Flywheel Coffee, for example, allows customers to pick up their cappuccinos using a digital POS system called Square Wallet: Customers simply pull out their mobile phones, locate the store, read the menu, place their orders and pay for their purchases. No credit card. No waiting. No hassle. The system even sends a new customer’s photograph to the barista so they feel like a regular the first time they step through the door. Flywheel is not alone in digitizing its coffee business: Starbucks recently signed up with Square, and will roll out the new POS service across its 13,000 locations.

Other large retailers are transforming their checkout experience. Nordstrom’s is using mobile POS devices so that staff can engage with customers anywhere in the store. Urban Outfitters is not only embracing iPads, it’s getting rid of traditional cash registers and terminals. “Two or three weeks ago we placed our very last cash register order,” noted Urban Outfitters CIO Calvin Hollinger. “All our stores will be equipped with iPod touches and iPads.”

### **The moment of truth for merchants and consumers**

The point of sale is sacred ground in the commerce experience. It encompasses three key elements: The moment of purchase

(time); the transaction between merchant and consumer (relationship); and the equipment that facilitates and completes the transaction (the device). The critical shift now is in the technology of the device—which in turn changes the purchase experience for the consumer and the merchant.

Two major trends are reshaping the POS. First, the systems themselves are being radically redefined by new technology, open platforms and cloud computing. Second, a wave of commerce innovators are battling to get access to these systems. Together, these two trends are transforming the traditional checkout experience.

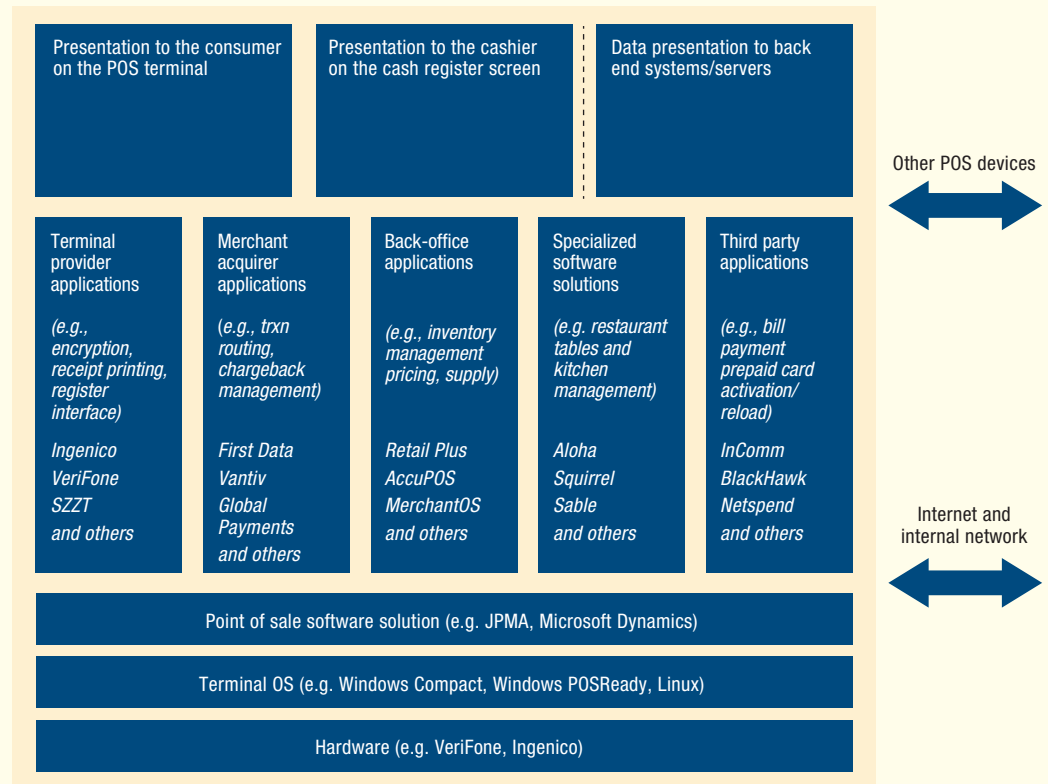
### Trend 1: Transforming the POS

Until recently, most POS systems were designed to have tightly focused functionality and a high degree of dependability (Exhibit 1). The market was led by equipment makers including VeriFone and Ingenico (makers of card swiping devices); software system providers like Micros (which makes integrated systems for restaurants, hotels, etc.); and payments processors like First Data (whose systems make credit and debit payments swift and secure). It was a tightly managed ecosystem, with a few “gatekeeper” players controlling POS access—much like the telecom industry before the iPhone.

Exhibit 1

**Service providers that have point-of-sale real estate have a head start in introducing new services**

POS system – software &amp; hardware diagram



Source: McKinsey analysis

If that closed system was POS 1.0, open, cloud-based platforms are now leading the transition to POS 2.0. These open platforms not only allow integration across devices and channels (e.g., enabling on- and offline commerce), but give POS entrepreneurs the ability to develop new services that tie into the merchant's existing payments, marketing and back-office accounting systems. As Leonard Speiser, co-founder of POS start-up Clover noted, "The moment you open a system up, you enable new innovations and get products right to your customers."

Now that smartphones and tablets are powerful enough to serve as POS platforms, the "sacred" POS commerce experience is po-

tentially open to anyone seeking to reinvent the merchant-customer interaction.

"[We're] concerned with design," Jack Dorsey, the founder and CEO of Square, remarked recently, pointing to a photo of the Golden Gate Bridge and using it as a reference to the merchant payments experience. "This is what I want to build. This is classy. This is inspiring. This is limitless. Every single aspect of this is gorgeous."

The playing field has been leveled so that new entrants, be they Clover or ShopKeep POS (another tablet-based system), can create new, open platforms that allow developers to build new services. Notably, new entrants may have the ability to drive down prices in this arena, in service of adjacent

Exhibit 2

## Transaction models for mobile payments at the POS

### Read-only NFC

Phone or sticker touch at POS to send customer payment information  
One tag always transmits the same message



### Read-write NFC

Phone or smart-card touch at POS to send customer information and receive merchant information/offers



### QR-code

Customer generates or receives QR-code on phone and scans phone into QR reader  
Code may contain different information each time



### mPOS

Merchant's phone or tablet (with additional peripherals) swipes customer's card or reads through direct NFC or Bluetooth



### Apps in terminal

Terminal software upgrade allows customer to pay at a terminal using a unique identifier (e.g., phone number + PIN)



### In-person e-commerce

Merchant recognizes customer (with geo-locating), and merchant completes transaction "in the cloud" while authentication and inventory-check occur in person



### SMS

Any two phones with SMS send value directly to each other



### Self-checkout

Customer "scans" items themselves throughout location, and completes transaction on phone "in the cloud"



revenues from other business. Established leaders like First Data and VeriFone are responding with enhanced, app-driven strategies for their own devices. The new world of POS is open to any number of players.

### **Trend 2: New payments services competing for limited access**

While the POS is being transformed, an array of new payments solutions and applications are also competing for access to merchant terminals (Exhibit 2). Google Wallet has been advancing NFC-based payments. PayPal is leveraging its software applications on existing terminals to connect to the Internet. Apple is pioneering self-checkout options with EasyPay and open-store formats.

Looking beyond payments, new entrants such as CardSpring (a platform that allows card-linked loyalty apps); POS LAVU (providing payments and management apps for restaurants); and LevelUp (acquisition and loyalty programs) are reinventing merchant rewards programs linked to check-out. Considering that mobile devices are proliferating and that writing a mobile phone app takes a couple of smart entrepreneurs and very little money, it is easy to see why the POS 2.0 industry is bursting with possibilities.

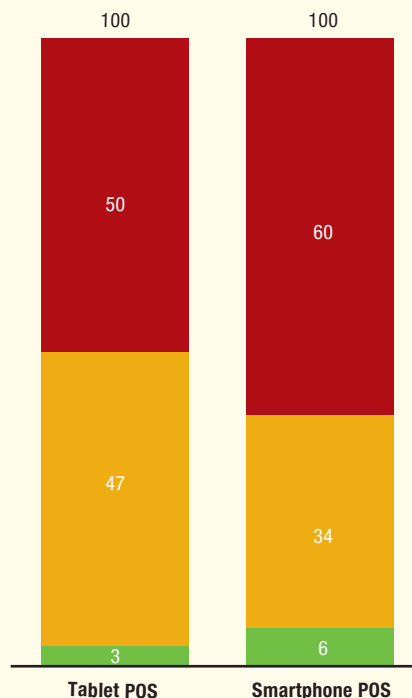
Success is not easy, however. To achieve mass usage, digital payments entrepreneurs must win over both the consumer and the

Exhibit 3

### **Small businesses are largely open to alternative POS systems**

#### **Would you consider using an alternative POS system?**

Percentage respondents



#### **No**

"My current system works fine"  
 "It needs to integrate into my other systems"  
 "They are not durable enough"  
 "iPads are too expensive...easy to steal"

#### **Yes**

"If it is simple and saves me money, sure"  
 "Better display and interface"  
 "If it saves me money"  
 "Becoming more popular and would be easier to update in the future."  
 "Seems like it would be simple and save space on the counter"

#### **Already use it**

"Works with our software"  
 "Ease of use, simple setup, maintenance free, easily replaced, takes up very little space on the counter"

merchant. Thus far, none of the players—merchant acquirers, device manufacturers or software providers—have a lock.

### The merchant perspective

Merchants have particular concerns about POS 2.0. Security and stability are paramount. They don't want to invest in fly-by-night POS schemes that may not be around in a few months. Also, they need partners

Merchants don't want to turn their POS into a test lab for every start-up with a new payments solution. They have to balance experimentation with running their day-to-day business.

who can help them scale their solutions. POS applications must be appropriate for the merchant. For instance, retailers like Nordstrom's, Sears and Macy's—those with checkouts distributed throughout the stores and a consultative sales approach—want a multi-device strategy, with both traditional registers and iPad-equipped POS. Smaller retailers, with a single location, may prefer lighter, more flexible POS solutions. Then there are food trucks, taxis and other mobile businesses, with different needs. Still other stores, such as high-volume, multi-lane retailers, may require another approach.

Regardless of the complexities, merchants are intrigued. According to McKinsey's Small Business Acquiring Panel, roughly half of small businesses are willing to consider alternate POS models *if the particular model delivers value* (see Exhibit 3, page 27

and "Driving merchant services and digital commerce," page 30).

### Competitive implications

The merchant POS system, therefore, is the narrow gateway that must be unlocked to access to the consumer's "moment-of-truth." Here are a few of the considerations:

- **Secure merchant trust:** Merchants don't want to turn their POS into a test lab for every start-up with a new payments solution. They have to balance experimentation with running their day-to-day business. As a result, they are selecting partners carefully.
- **Ensure integration:** Offering successful applications will hinge on the deployment models for merchants. Integrating applications into a seamless solution is complex and will be a critical differentiator.
- **Build scale and momentum:** The merchant landscape is highly fragmented and populated with legacy systems. So converting a critical mass of businesses is extremely challenging. Players should look for merchant partners or niches to gain traction and scale
- **Evaluate partnerships:** Due to the scaling challenges, many players will look to strategic partnerships to drive adoption. For example, Heartland Payments has teamed up with LevelUp to bring new checkout options to merchants; PayPal is working with large companies (VeriFone) and small players (ShopKeep POS). Further alliances are expected.

\* \* \*

Who will rise to the top in merchant POS? No one has fully broken out of the pack, and

even if one does, a major system failure, a security breach or just customer confusion could derail the leader. POS 2.0, after all, is a platform. Whichever system climbs to the top will subsequently affect terminal manufacturers, software providers, business solution providers, marketing companies, retail logistics providers and everyone else. And

whatever the outcome, one thing is clear: Tomorrow's shopping experience will look very different from today's.

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