The PayPal Official Insider Guide to

MOBILE PROFITS

Make money anytime, anywhere

Matthew T. Jones
with **Kirsten Barta**

The PayPal Official Insider Guide to

MOBILE
PROFITS

Make money anytime, anywhere

Matthew T. Jones
with Kirsten Barta

PayPal ™ / *Press*

The PayPal Official Insider Guide to Mobile Profits
Matthew T. Jones
with Kirsten Barta

Notice of Rights

Notice of Liability

Trademarks

for Mary,

whose encouragement is the equal of all I may attain

Acknowledgments

AUTHOR'S ACKNOWLEDGMENTS

My big thanks to PayPal Press Director Janet Isadore for launching this book and encouraging the highest standards. Thanks also to Peachpit's Project Editor Michael J. Nolan, Development Editor Jeff Riley, Designer Charlene Charles-Will, and Production Editor David Van Ness for making the book creation a smooth and enjoyable process. Finally, my thanks to the many "friends of the book," whose inspiring personal and professional support made this writing possible, including David Jones, Sarah Jones-Reti, Randall Moore, Linda Cahir, Carl Stone, Sheila McCarthy, Roy Blitzer, and Greg Elmiger.

Kirsten Barta would like to thank her family and friends for their unwavering support, and most of all her husband, Scott, for making every day wonderful.

PAYPAL PRESS ACKNOWLEDGMENTS

Kudos to Kirsten Barta, our contributing writer for chapters 7–9, whose mobile user experience know-how, astute research, and reader-first writing focus make this book especially valuable.

We especially applaud Kent Griffin, Sr. Product Marketing Manager, whose great mobile subject-matter expertise is matched only by his superb dedication to this book's success; Stephen Strauss, Sr. Manager of Merchant Marketing, whose thorough knowledge of the mobile industry provided invaluable research to support our perspectives; and John Heisch, our Visual Designer, whose artistic eye helped provide valuable figures for this book.

PayPal Press would also like to thank the following team members for their many creative talents and constructive contributions: David Hershfield, Sarah Brody, Laura Chambers, Cynthia Robinson, Anjali Desai, Jonah Otis, Cynthia Maller, Raji Nayak, Brian Phelps, Josh Loman, Sebastien Taveau, Sarah Evans, Eunice Louie, Sumin Eng, Sophia Cheng, and Shimone Samuel.

Foreword

I'm often asked when I think mobile payments will "take off" … my answer is always that mobile payments has already taken off.

This is an exciting time to be part of the mobile payments business, and PayPal, as the industry leader, has seen tremendous growth in just the last few years. We're expecting to see $3 billion in mobile payments volume in 2011, after $750 million in 2010, and we process over $10 million in mobile transactions each day.

What's driving this growth? The exciting news is that there's not just one factor. The penetration of smartphones, the innovation around features and use cases, the explosive growth of apps, and the fact that consumers are quickly becoming familiar with using their phones to shop and buy makes this the ideal time for merchants to adopt mobile.

Today, there's an $8 trillion market in electronic transactions for mobile payments still to tap. We're thrilled to be at the center of mobile payments innovation.

PayPal helps customers pay for anything, almost anywhere, anytime, and in any way—especially now via their mobile devices. We've been changing the way the world uses money for over 12 years, and with 100 million active customers worldwide, the best is yet to come—in mobile payments and beyond.

—Laura Chambers
Senior Director, PayPal Mobile

Contents at a Glance

Contents

Introduction:
Welcome to Mobile Profits

A 2010 PayPal survey found that small- to medium-sized businesses that offered PayPal in addition to traditional credit and debit card payments registered up to a 14 percent increase in sales.

It follows reason, too, that adding PayPal Mobile will further enhance the reach and profit margins of your mobile sales venues.

Follow Our PayPal Mobile Guide

To appreciate what PayPal Mobile can do for your business, we'll show you all of the latest mobile payment services best practices, trends, stats, tools, tips, techniques, insights, and advice to help you make more money, including:

- How the world of mobile commerce works and how you can grow your new business.

- Which mobile selling techniques make sense—and make money.

- Why the best time to sell via mobile is right now (as the latest unique research shows).

- How to track mobile payment and selling trends and innovate for your business.

- Which mobile payment options are right for the way you sell.

- What it takes to make a successful mobile business, according to merchant examples.

- How to easily integrate and adapt PayPal Mobile Express Checkout, PayPal Mobile Payment Library software, the PayPal Mobile app, and more.

- Why you need to regularly assess—and improve—your mobile business.

- How to market your new mobile business for fast-changing consumer shopping patterns.

- What you can do to upgrade your mobile website or app to attract broader, deeper, and more profitable business.

We suppose that like most readers of this book, you already own a PayPal merchant account, and are mainly interested in learning how to add PayPal Mobile payments and related checkout features to grow your profits. That's good. That's why we wrote this book for you.

The following PayPal refresher, then, should help reinforce your knowledge and suggest where PayPal Mobile fits into your overall mobile payments and selling strategy.

For those merchants who are new to PayPal, we trust this introduction will prompt you to read a more detailed and complete explanation of all PayPal services, products, and functions at www.PayPal.com. And if you're a web or mobile developer, we suggest you visit the recently updated and expanded developer network website at www.X.com/mobile for PayPal integration tips, steps, code samples, and more.

PayPal and the Mobile Marketplace

PayPal is one of the world's largest online payment services, providing credit and debit card processing, accepting bank payments, and offering other transaction processes, along with shopping cart and checkout services.

And PayPal Mobile offers Mobile Express Checkout, Mobile Payment Libraries, the PayPal Mobile app, and much more.

PayPal worldwide serves hundreds of thousands of online and mobile merchants, as well as traditional retailers with an online presence. Without PayPal, many online and mobile merchants would be unable to accept credit and debit card or bank payments, limiting their range of potential customers.

It follows, then, that the core PayPal business—in principle and practice— also offers a solid foundation and ongoing support for its mobile operations and your mobile revenue aims.

Today, businesses of all types and sizes use PayPal to handle their eCommerce—and, increasingly, mobile commerce—transactions, and PayPal is the leading provider of payment services in the small business market. Businesses can choose from various levels of service, from simple "click to buy" buttons to automated shopping cart and checkout functions.

PayPal Mobile, of course, optimizes such services for use with smartphones and other mobile devices.

PayPal continues to grow, improve, and expand its payments functionality. By the end of 2009, PayPal was facilitating $72 billion in total payment volume per year from more than 87 million active accounts.

And younger sibling PayPal Mobile is fast gaining in global payments traffic, too, with $750 million in mobile payments volume last year and nearly $3 billion projected for 2011.

PayPal offers your customers added convenience because they don't have to enter their payment and shipping information every time they buy something from you online. Customers just log in to PayPal and that information is provided automatically when they're ready to buy your products or services.

With some PayPal Mobile products, customers can also remain logged in to their accounts, allowing them to skip the login page the next time they shop and enjoy a faster checkout.

PayPal also provides a more flexible checkout process, as your customers can choose multiple payment methods from a single "digital wallet." They can store more than one credit or debit card in PayPal, or select electronic withdrawal from a bank account, and then choose the preferred payment method when they check out online or by a mobile website or app.

Most importantly, PayPal offers your business and customers enhanced safety and anti-fraud tools for online purchases. PayPal's Purchase Protection program protects customers from eligible unauthorized transactions.

And by having PayPal handle all of your customers' financial data, including securely storing credit card information, they don't have to worry about sharing that data with other merchants on the Web.

In the case of PayPal Mobile, minimal data entry for customers means faster, more convenient, and less complicated mobile payments made on the go and from wherever they are.

PayPal Mobile for Your Business

Some of PayPal's most important payment processing features for merchants include the following.

BROAD ACCEPTANCE

PayPal lets even the smallest sellers accept customer payments. This is especially helpful for new mobile app developers who want to accept and process purchases.

RELIABLE SHOPPING CART AND CHECKOUT SYSTEMS

Many merchants with small or mid-sized businesses like yours lack the ready resources to create their own online or mobile checkout system. PayPal, however, can provide a checkout system with a flow that looks like your website—only better.

SIMPLE SIGN-UP

PayPal's online registration for merchants is a simple process involving a minimum number of steps. And once you create a merchant account and obtain PayPal approval, you can start selling as soon as you're ready.

EASY INTEGRATION

Once you've created a PayPal account, you'll find it easy to integrate PayPal into your existing business accounting and financial systems. For extra help with integration—including installing mobile apps—merchants can follow detailed instructions and even get sample code for PayPal on the developer website, www.X.com/mobile.

FULL TRANSACTION MANAGEMENT

Whether you're integrating into a custom-built operation or manually processing your customers' transactions, PayPal's account management tools will come in handy. PayPal carefully tracks all payments and provides a detailed transaction history for you. You'll also appreciate PayPal's mobile-optimized transaction history tool, developed by popular demand.

FASTER ACCESS TO MONEY

PayPal works effectively and efficiently throughout your customer billing, order shipping, and payment processing. Even with the industry's variable processing times to deposit money into your bank account, PayPal's payment processing acts smoothly to allow a better cash flow and let you concentrate on other areas of your business. The same services work well in even fewer PayPal Mobile payment processing steps, further streamlining the time it takes to be paid and appreciate your profits.

ENHANCED SECURITY

PayPal offers enhanced security and fraud protection for consumers and an effective level of protection for companies of all sizes. And in a sometimes uncertain emerging mobile market, offering your mobile customers PayPal Mobile's trusted security assurances is an added incentive for them to shop with you and not your less-assured competitors.

MINIMAL FEES

In comparison to the complex charges of some credit card processing services, PayPal merchants merely pay individual transaction fees at comparable rates. The same standard applies, of course, to PayPal Mobile payments.

GREATER CREDIBILITY

Displaying the PayPal logo online or on your mobile website or app checkout pages can bring an immediate boost to your business's credibility, especially if you're opening a new venue. Consumers who already have confidence when paying with PayPal will also more readily trust your business—and that can help convert more sales for you.

INTERNATIONAL TRANSACTIONS

PayPal also makes it easier for you to reach more potential customers by accepting payments from international customers. PayPal handles non-U.S. payments in most major currencies—including allowing currency conversions. Happily, the same applies for PayPal Mobile.

The Opportunity Is There

More and more online and mobile consumers are discovering and relying on PayPal for multiple uses—from simple send- or receive-money personal exchanges to complex business mass payments. It's clear that "waiting until the mobile market sorts itself out" isn't the most prudent business decision.

Read on, then, as we show you how to apply PayPal Mobile to help you make mobile profits anytime, anywhere.

This page intentionally left blank

4

Tapping Trends in Mobile Selling and Payments

Consumer adoption of popular mobile devices, such as smartphones, tablets, e-book readers, netbooks, and other portable media, has become so mainstream that many mobile trends now have as much to do with new selling and payment opportunities as with updates to hardware and software technologies.

Consumers have begun to expect such prevalent access to mobile content, products, and services that merchants must keep pace with fast-moving mobile trends. You must adapt ways to synchronize your content, rely on the Internet "cloud," and maintain the consistency of your shopping and checkout experience across multiple mobile devices.

Adapting to Business in the "Cloud"

Mobile industry analysts speak of the cloud as a single point of access to multiple servers via a digital network, such as the Web, that's offered through a cloud provider or other commercial organization. Cloud users, including your customers, may more conveniently connect via their net-book, tablet, smartphone, or other mobile device to your information in the cloud. The cloud server provides and manages various apps and data, including product information, presentations, chats, documents, blogs, videos, photos, and more, so customers don't need to download and install the information on their own devices.

Whether they're eager to join with customers in the cloud or not, a large number of companies today either don't have a mobile strategy or are only planning one. Those with a working strategy can improve their approach and move to the next level of mobile business mastery. In each case, merchants will do well to understand and apply the major mobile selling and payment trends.

Appreciating New Consumer Options

Consumers are rapidly expanding their spending with smartphones. It's easy to see that mobile selling and profits are on the way up. Across various industries, merchants have reported that consumer shopping activity and buying are rising, even as more mCommerce services are emerging.

According to John Donahoe, President and CEO of eBay, "Mobile is clearly becoming a new way people shop. … [eBay has] nearly tripled mobile gross merchandise value year-over-year to nearly $2 billion, with strong holiday shopping momentum in late 2010. And in 2011, we expect mobile to double to $4 billion."

Along with this consumer behavior that promises increased profits come added initiatives for mobile merchants. There was a time when smartphones did well to provide access to the Internet, apps, email, calendars and contacts, text messaging, games, music, videos, and shopping. But in 2011, merchants with mobile websites and apps need to keep pace with consumers' increased demands for many next-generation mobile shopping features.

These include common smartphone website and app features:

- Location-based mobile services that help consumers find real-time deals and offers in physical stores.

- "Transparent" pricing that allows comparison-shopping among mobile and physical stores (and, if the buys are better, potentially favoring more mobile than in-store purchases).

- Mobile website and app product reviews about what to buy and what to avoid. Consumers can now scan a product's bar code to immediately pull up web ratings about the item's pros and cons and make an informed purchase.

- Social shopping that lets consumers interact with peer opinions while reading and comparing mobile product and service reviews.

- Discount offers and coupons pushed to consumers' smartphones to notify them of instant shopping bargains and drive "foot" traffic to offline stores (according to a Forrester Research report, 34 percent of U.S. smartphone users received such notifications in 2010).

- Immediate gratification in obtaining various products, services, and content—especially of digital goods, like music and video—delivered instantly and wirelessly.

This is just a sampling of the latest consumer shopping options in the fast-changing world of mCommerce. Knowing what consumers expect and anticipating what the industry may offer them will help you apply sensible, appropriate options for your mobile customers.

Serving Social Shopping Preferences

Many merchants who are new to the mobile market are all atwitter about today's Internet social shopping buzz. The industry has coined a term for this trend called "SoLoMo," or Social, Local, Mobile. This acronym suggests that web consumers are social in their shopping choices, local in their buying preferences, and mobile in their purchasing solutions. But what are some of the more meaningful preferences that can lead to profits?

Well, according to Forrester Research, in terms of social shopping preferences, consumers in late 2009 were drawn to sharing shopping ideas with friends and making buying choices via websites like Twitter and Facebook (253 and 662 million unique visitors, respectively). They also turned to gaming—and buying digital services—in social groups on websites like Zynga (130 million active monthly gamers). Other social shopping consumers began pooling their e-coupons on some of today's hottest trendsetter websites like Groupon (51 million subscribers).

Of course, there are other meaningful examples of mobile consumer social shopping preferences for niche websites, including sharing music lists (Shazam, Pandora), communication (textPlus, Digg), store locations (foursquare, Whrrl), and, of course, the consumer opinion websites that merchants frequent as well, including those with customer product and service reviews (Yelp, Epinions).

So how do you make money serving mobile consumers' social shopping preferences? In one example, if you're a mobile game developer, you can now select PayPal as a payout option when you integrate credits as the virtual currency in your Facebook games. Adding PayPal brings a secure and flexible payout method that makes integrating the virtual currency even easier.

For more information about how to monetize your mobile website or app through social media, see Chapter 10, "Growing Your Mobile Business."

TIP: When signing up for Facebook Credits for the first time, you can now add an existing PayPal account in the onboarding flow. You can also sign up for a new PayPal account by securely repurposing all the information you entered for Credits Onboarding to create a PayPal account.

Offering More Digital Goods for Sale

Digital goods include, well, virtually anything intangible that you can purchase on a smartphone or other mobile device. Consumers are now making such purchases on a regular basis, spending as much as $50 per month on any single type of mobile digital good, according to a recent Kleiner Perkins Caufield & Byers study.

This means consumers are buying digital products, such as games, music, videos, news content, reservations, tickets, GPS maps, and downloadable podcasts as well as services, such as in-game currencies, points or rewards, subscription codes, data storage, media tools, and other enhancements.

What does this have to do with your mobile business? Plenty, if you sell— or are encouraged to sell—digital goods. The same Kleiner Perkins Caufield & Byers study cited above found that mobile digital goods revenue jumped from $500 million in 2008 to more than $2 billion in 2011.

When it comes to making the most of your business presence on social interaction websites, it pays to offer a payment option.

Targeting Tablets

Without going into a deep dive on the technical comparisons of various mobile devices, we can make a few basic observations that should help you further understand the devices that consumers use and how you can reach them through the most popular mediums.

Of course, we suggest you extend your mobile website or app presence to cover multiple mobile devices (and platforms) at once (more on this in Chapter 6, "Finalizing Your Mobile Launch"), but some devices clearly offer better reach and potentially broader access to your customers.

Tablets Attract Customers

More and more, tablets are becoming the digital space where mobile merchants find their customers. Optimizing your mobile website or app design and functionality to suit tablet usage makes sense when you realize that, according to a recent Apple report, the company's iPad now outships the iPhone nearly 5 to 1 (due in large part to large shipments of the new iPad 2) and the iPod greater than 10 to 1 in global markets.

PayPal INSIDER

🏠 Q & A on Mobile Trends

Laura Chambers, Senior Director of PayPal Mobile, surmises where mobile is headed next—and how PayPal will play an important role in the coming changes for merchants.

Competition is heating up in the mobile payment space. What advantages does PayPal Mobile offer?

In a recent survey, consumers reported that they see us as the most trusted brand in mobile payments. This trust is driven by PayPal's outstanding focus on security and consumers' familiarity with paying through us on their mobile devices. Across the competitive landscape, some people miss the idea that to be a mobile payments company, you actually have to be a payments company first. This is a hard thing to do, but PayPal has been doing payments for over 12 years. We have a full set of risk and analytics tools, outstanding customer support, and over 100 million customers and merchants who favor us. So the transition to mobile payments is significantly easier for us than for companies coming from the device world only, or the carrier or search worlds.

Can you provide some meaningful statistics on mobile payments and the use of PayPal Mobile?

Three years ago, we did $25 million in mobile payment volume, and in 2011, we're going to do well over $3 billion. We have over 8 million active users, and process over $10 million in mobile payments every day. This growth is being driven by the strength of our products and position, as well as the adoption of smartphones and the continuing improvement of mobile commerce and shopping experiences on mobile phones. People are simply becoming more familiar with making mobile payments, and we keep payments very easy and secure.

What will the development of so-called "proximity technology" and local shopping mean for PayPal Mobile?

Local shopping is a very exciting arena for mobile payments. The lines between offline and online shopping are rapidly blurring, and mobile is at the heart of that transition. Proximity technology,

A Morgan Stanley survey also drove home the point that whether you share your mobile business via a smartphone or a tablet, the pair of mobile devices combined is projected to outship desktop and notebook PCs by nearly a billion units globally in 2011.

A recent e-tailing group survey showed that 68 percent of tablet owners say they used their devices to make a purchase compared with 48 percent of smartphone owners. This makes the point that even though consumers

which includes technologies such as mobile near-field communication (NFC), Bluetooth, QR code scanning, Wi-Fi, and audio, is a great way to get devices to talk to each other. However, this is just a communication method. It's much more important to focus on the holistic consumer experience. A "tap" of your smartphone is not that much simpler than a "swipe" of a card to make a payment, and it requires a change in behavior. So proximity technology alone will not radically change local shopping. But if proximity technology is combined with other value for consumers in a meaningful way, it could be revolutionary.

How is the development of mobile apps working on the PayPal developer open platform?

It's going very well, because we're offering developers a lot of flexibility. Previously, the only way developers could monetize their mobile apps was by getting users to download and pay for them. That obviously created friction for the users of those apps. Since we've developed the PayPal Mobile Payments Library, developers have found

many ways to monetize their apps—and they're innovating. We solved the payments problem for developers, so they can leverage payments from within their apps and don't have to rely simply on up-front fees for downloading their apps.

What do you see in the future for PayPal Mobile and mobile payments?

Over the next two years, we'll see massive changes in mobile payments, with many tests and trials of new ideas and technologies. Your wallet will be digital and available in the cloud wherever you are. Consumers will have access to a variety of payment methods, coupons, receipts, and more to make their mobile shopping a richer and better experience. In the next year, we'll also be doing many programs with offline stores, bringing this holistic experience to the market. We're going to keep innovating at PayPal Mobile to meet the new and growing needs of our merchants and their customers.

may access the Web via tablets less frequently than they do via smartphones, they're buying on tablets more regularly.

The same e-tailing group survey noted that 88 percent of respondents rated their tablet shopping experience as somewhat to very satisfactory, compared with 73 percent of those using smartphones. Both numbers are encouraging for mobile business, and, apparently, the mobile device gaining the most customer attention is the tablet.

Tablets May Overtake Smartphones

Tablets may soon become consumers' preferred mobile device over smartphones (outside of making calls, of course)—and a better mobile outlet for product and service displays—for several key reasons. Tablets have the obvious creature-comfort advantage over smartphones (not to mention laptops) when chosen for extended reading or viewing time in an easy chair. Tablets also offer increasingly higher-resolution displays or more engaging visuals; more rich content for mobile web browsing, videos, and e-publications; longer battery life (thanks to better processors); and more app marketplaces offering a wider array of options.

Tablets can be a boost to merchants who need to clearly display products in a highly visual way on their website or mobile app. For example, if you want to sell the fine details in, say, the high relief of collectible coins, tapping and zooming the image on a tablet can render more accurate detail. The same image enlarged on a smaller smartphone screen may actually further blur the specifics.

And as more merchants and developers create apps exclusively for tablets, specialty content will be in higher demand. Some have already made tablet apps showing classic print magazine ads with large, splashy photo spreads to "flip" through or catalogs with rows of product images for "window-shopping." Such features may make the case for greater mobile sales through tablets.

This is not to say that tablets will entirely replace other mobile devices. Many consumers view tablets as an accessory mobile device. According to a Morgan Stanley report, 55 percent of potential tablet users do not expect

their tablet to replace the purchase of other mobile technology platforms, such as a smartphone.

From your mobile merchant perspective, then, suffice it to say that optimizing your mobile business for today's fast-proliferating tablets is the broad-minded and forward-thinking path to pursue.

Engaging the Emerging Global Market

Though an International Telecommunication Union study says that five countries, including China, Russia, Brazil, India, and the U.S., comprise 46 percent of all global mobile consumers today, other mobile market trends suggest that growth among international mobile web customers is literally all over the map.

A Kleiner Perkins Caufield & Byers survey notes that the following countries boast some of the world's fastest growing populations of mobile web subscribers (subscriber numbers are in millions): Korea, 40; Italy, 31; Australia, 18; Taiwan, 11; Saudi Arabia, 8; South Africa, 7; Israel, 5; and Singapore, 4.

Our point is that if you're a U.S.–based merchant and need to focus your new business only on the U.S. mobile customer market for now, there are global mobile profits waiting for you when you're ready to expand internationally.

Of course, how quickly and easily you expand into global markets may have to do with the kind of products you sell, from physical items to digital goods. Some kinds of merchandise are better suited for international sales, considering the impact to your business of shipping costs, cross-border fees, regional regulations, and the like. It's smart to learn from the real-world global selling experiences of your merchant peers.

PayPal Mobile makes a number of its international payments and transaction tools available for merchants, including helping you handle cross-border payments, make currency conversions, and more.

Assessing Mobile and Point-of-Sale

The trends we've discussed may be interesting to many, but what can these developments mean for your mobile selling and payments? What exactly is *point-of-sale* (POS) and how is it a potential opportunity for your mobile profits?

Mobile point-of-sale payments can allow more immediate purchases and impulse buying with related proximity hardware, including smartphones and other mobile devices. Enabled mobile devices can offer rich-media consumer experiences and a suite of new selling tools for merchants.

A POS Shopping Scenario

For example, imagine yourself as a consumer using the convenience of point-of-sale services. Your smartphone notifies you of a nearby store with an offer for an item that you've been eager to buy (say, that anniversary present that's, ahem, "been on your mind" recently). You like the Internet product reviews and recommendations you've read on your smartphone, and you've prudently saved the offer in your mobile "wallet." You make your way to the physical store, find the item, and pay for it using a payment method stored on your phone. Upon the successful payment, the offer is applied, customer loyalty accumulated, and a purchase receipt automatically stored in your mobile wallet (not to mention a spousal deed well done).

If you take advantage of mobile point-of-sale features as a merchant, you can use mobile device screens for a number of marketing and payment functionalities.

Pre-transaction features can help your customers locate a physical store, find products, get coupons, review financing terms, and learn about warranties.

During the transaction, your customers can pay with convenience, custom services, and confidence.

Once the transaction is completed, you can continue to control the mobile device screen and the customer experience to confirm the purchase, check the receipt, provide customer notifications, manage returns, supply refunds, handle product recalls, ensure loyalty awards, update payment method preferences, and cross- or up-sell merchandise to encourage additional shopping.

POS Success Factors

Why does this new mobile technology matter? Because mobile point-of-sale payments can create greater buying and checkout options for you and your customers. To be effective, however, a point-of-sale service should reflect much of the following:

- The consumer experience should be intuitive and the payment means clear and valuable.

- The point-of-sale service should work across multiple mobile devices, reach a meaningful demographic of consumers, and be available at the places where consumers shop the most.

- Merchants must realize the point-of-sale service value through lower costs of sales or higher customer conversion rates and tie payments to the best pre- and post-transaction customer experiences.

- The technology must be scalable, with easy-to-integrate message formats, and simple for consumers to access, regardless of their carrier or mobile device.

NOTE: A "tap" won't beat a "swipe" at a point-of-sale transaction. According to PayPal, 12 percent of U.S. payment cards have tap technology enabled, with nearly 150,000 points of acceptance through high-sales merchants, but only 0.01 percent of transactions go through tap technology. A tap may be more convenient than a swipe, but it hasn't been widely adopted.

True, the new technology has to prove it's compelling enough to change current consumer behavior. And yet there are significant numbers of smart spenders and mobile shopping trendsetters to justify providing them with more point-of-sale coupons, discounts, local store referrals, and checkout and payment options.

Despite the newness and still-evolving state of point-of-sale operations, there should soon be better mobile capabilities for consumers and fresher profits for you by adopting the tools.

A Closer Look at POS

Let's take a closer look at such point-of-sale payments with proximity hardware, and then you can judge the value and potential for yourself.

In point–of-sale and proximity hardware operations, there are at least three criteria through which consumers and merchants may interact:

- Payments
- Credential storage
- Coupon exchanges

Regarding payments, the mobile market over the next year or two should help determine whether most consumers will remain committed to paying "remotely" via the Web or if they will increasingly adopt point-of-sale payments with their smartphones.

Mobile credential storage and exchange criteria will likely include means for finer customer personal identification, social networking and buying possibilities, and location-based marketing.

Personal identification tools will allow merchants to better note returning and repeat customers as well as various loyalty-program members as they enter an offline store.

More social networking and buying possibilities will enable your customers to solicit product opinions among their extended interest groups like those on Facebook, Twitter, YouTube, Yelp, Google+, and other social interaction websites.
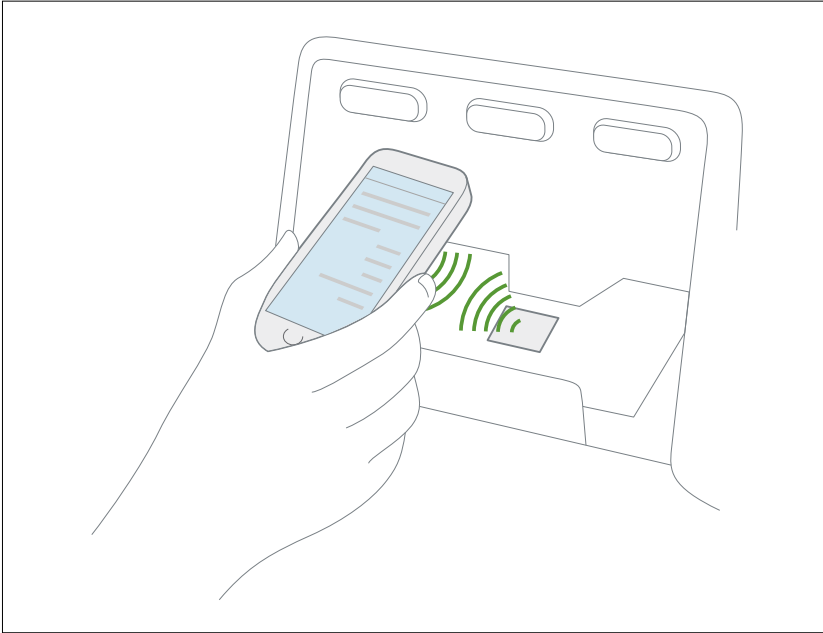
Figure 4.1
In this depiction of a near-field communication action, a customer uses his NFC-equipped smartphone for identification to access his bank account at an ATM terminal.

The mobile merchant's basic ability to push (or pull) offer coupons and provide various notifications for their point-of-sale customers is also helping determine the merits of this system and its potential broad adoption.

As you might have guessed, there are also several competing standards for point-of-sale features and technologies, with varying strengths and weaknesses.

Let's define a couple of the major terms: *near-field communication* and *contactless payments*.

Near-field communication (NFC) payments allow simplified transactions, data exchanges, and connections between NFC-equipped devices with a simple touch. A smartphone or tablet with an NFC chip can make a credit card payment or serve as a keycard or ID card, such as at an ATM terminal, as shown in **Figure 4.1**. NFC devices can also read NFC transponder tags on retail displays, such as posters or signs, to find more product information as well as present a marketing audio message or video clip. NFC can also share contacts, photos, music, apps, or pair Bluetooth devices.

Contactless payment systems—sometimes called "touch and go" or "wave and pay" operations—involve credit cards and debit cards, key fobs, smartcards, or other devices that use radio-frequency identification (RFID) for making secure payments. An embedded chip and antenna enable consumers to wave their card or fob over a reader at the point-of-sale.

In some cases, a consumer can obtain a "contactless sticker" chip from a commercial provider that adheres to a smartphone and links to a money account for making direct payments. The provider, in turn, equips merchants in given areas with payment devices that work with its chip.

Technically, contactless stickers are a subset of NFC technology, as they share the same RFID protocol. Most payment readers now integrating the NFC/RFID part do so at a significant additional cost.

From a replacement point of view, the cost is not prohibitive. However, the merchant must upgrade infrastructure to align with the Visa or Master-Card requirement of online Dynamic Data Authentication. This puts the burden of the upgrade on the merchant, not the acquirer. In this sense, adopting contactless payments can be an expensive proposition for some merchants.

Near-field communication is the early front-runner among the competing standards, but there are certainly some worthy challengers. We compare them in **Table 4.1**.

NFC payments may offer convenience and a smoother consumer experience, but so far not many merchants are onboard with this innovative payment technology.

Most experienced mobile merchants are familiar with NFC, thanks to the growing number of contactless payment readers being deployed and the National Retail Federation's effort to promote NFC awareness through industry white papers.

However, a large number of merchants have yet to be convinced that the expense of adopting this novel technology will have a clear return on their investment.

Most industry forecasters see NFC becoming available on major smartphones by late 2011, with the tool being adopted only for other mobile devices and by mainstream merchants about mid-to-late 2012.

Table 4.1 **Comparing Point-of-Sale Standards**

Standard	Consumer experience	Merchant experience	Opportunity for large scale adoption
Near-field communication	Likely among the most popular early adoptions	Can be expensive hardware	Effective up to 2" from store payment readers and 12" from transit pass readers
Contactless payments sticker	It's "on" the smartphone	Can be expensive hardware	Early iterations are promising
Audio	Need an app	Mostly inexpensive hardware	Works on all smartphones
Bar code scan at point-of-sale	Need an app	Need point-of-sale hardware	Some limit on the quality of the mobile device's screen display matched with the bar code reader's ability to adapt from the glass reflection
Bar code scan for in-app purchase	Need an app (but generally a good experience)	Software integration only	Limited use cases
Software solutions	Need an app	Software integration only	Limited use cases
Credit card at point-of-sale	Same as card	Same as card	Not differentiated
Hands-free: No need for a smartphone, just a phone number and PIN	No smartphone required	Requires some integration	Works on most PIN pads

Figure 4.2

In this point-of-sale shopping scenario, Jane uses her smartphone to receive instant mobile coupons and buy from several local stores at once.

She gets another mobile offer in the store.

Jane gets a supermarket mobile coupon in the parking lot.

Jane pays with her phone at the point of sale.

She gets a coffee shop mobile coupon while in the supermarket.

Jane picks up her coffee around the corner.
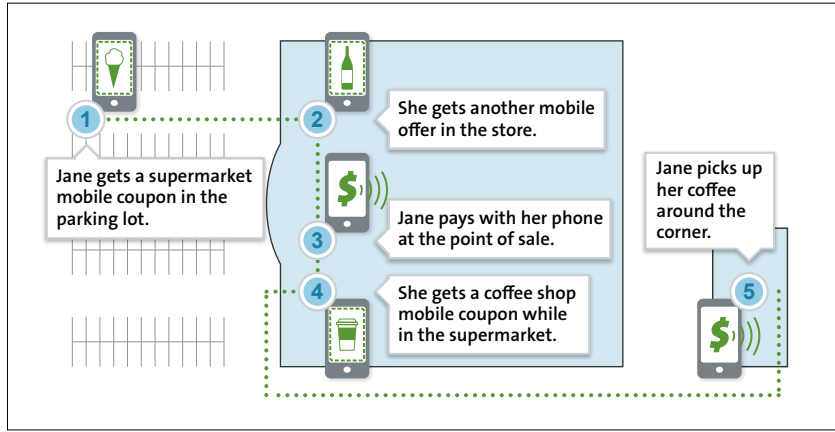
POS Purchasing from End to End

Looking at point-of-sale capability in the following scenario shows how mobile can play a key and comprehensive role in making such purchases successful, as shown in **Figure 4.2**.

1. Jane drives into the parking lot of her local Safeway supermarket on a hot Tuesday afternoon. Before she enters the store, Safeway sends her a "Buy 1, Get 1 Free" mobile coupon for her favorite ice cream.

2. Jane continues into the store and shops for the items on her list. Knowing her interest in red wine, Safeway also sends her a "$2.00 off" mobile coupon for a new brand that the store has begun to stock.

3. Jane proceeds to checkout and, again via her smartphone, pays for her goods at the point-of-sale using her bank as the payment method.

4. While still at the checkout station, Jane, a regular Starbucks customer, receives a mobile offer from the nearby coffee shop and uses her phone to buy an ice-cold Frapuccino for just $3.00.

5. Once Jane exits Safeway and loads her groceries into her car, she drives over to Starbucks, where the coffee treat is ready for her to pick up.

POS Steps Using a Smartphone

The following explains what a similar point-of-sale scenario looks like in a typical shopping and checkout flow on a customer's smartphone, as noted in the steps below and shown in **Figure 4.3** on the next page.

You'll see that in just a few steps a customer can do everything to complete a POS purchase on his smartphone, from choosing a payment method to scanning a product bar code to locating and picking up a purchased item at a physical store.

For example, say that David is shopping in a physical store and has access to payment methods via a smartphone. Here are steps he may take to complete a POS purchase:

1. David shops for a desired item, makes a selection, and scans the product bar code with his smartphone.

2. David views the product scan results for local stores and their product inventory and prices.

3. David then locates a preferred store nearby via the GPS function on his smartphone, and selects the product for purchase and in-store pick-up.

4. David selects to process the purchase on his smartphone.

5. David then chooses a payment method (via a credit card, bank, or other).

6. Once at the store, David picks up his product (already paid for via mobile phone) and, on the way out, swipes the electronic receipt on his smartphone at the store's security reader.

As you can see, the entire product shopping, purchasing, and pick-up cycle takes place with a smartphone all in the palm of a person's hand. This unprecedented consumer buying power and convenience means a host of new marketing opportunities for mobile merchants.

With mobile tools, you can control the mobile point-of-sale customer buying experience from end to end. This means that in a single, synchronized,

Buyer scans product barcode.   Buyer views scan results.   Buyer locates store.
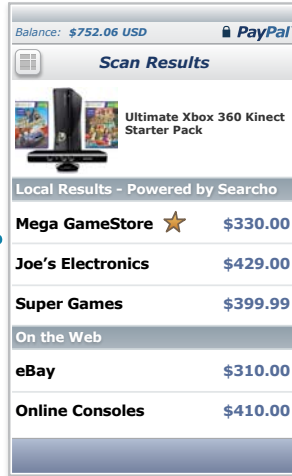
Figure 4.3 *This sample point-of-sale shopping and payment flow on a smartphone reveals a seamless end-to-end experience, from scanning a product bar code to locating a store for pick-up to completing a payment. (Note: The PayPal screens depicted are suggestions only, and not part of a current live POS check-out flow.)*

uninterrupted mobile screen flow, you can display your mobile website or app marketing pages, product catalog, bar code data, payment details, physical store location information, checkout confirmation, and receipt on any customer's smartphone or other mobile device.

In the end, however easily and precisely your product pitches find and entice your mobile customer, the entire mobile point-of-sale buying experience occurs where and when the customer decides—and that's part of any quality customer service, online or offline.

Adopting "Augmented Reality" Apps for Selling

Mobile "augmented reality," a new technology now being tested in various prototypes and functioning apps, promises to bring still more mobile "cool tools" for consumers and more mobile merchant selling opportunities for you.

Buyer selects PayPal checkout.

Buyer selects payment method.

Buyer captures receipt.

Balance: *$752.06 USD*   PayPal

Back   *XBox 360 Kinect*

Ultimate Xbox 360 Kinect Starter Pack
Product # 23098713
Our Price: $330.00
Average Customer Rating
★★★★★ (3 reviews)

In the Box:
- Xbox 360 4GB S Console
- Kinect Sensor
- Kinect Adventures rated "E"
- Xbox 360 Black Wireless Controller
- Xbox 360 Composite A/V cable (SD)
- 1 Month Xbox LIVE Gold Membership
- 1 year limited warranty on console (90 days on accessories)

Checkout WITH **PayPal**

Mega GameStore

My Total: **$330.00** USD

Review   PayPal

Funding
Bank Account xx0217

Pickup Location
447 Great Mall Drive,
Santa Clara, CA 95035

Pay

Cancel

Balance: *$422.06 USD*   PayPal

Receipt

Date: 08/10/2011   **Mega GameStore**

447 Great Mall Drive,
Santa Clara, CA 95035

Qty Item   Price
1   XBox 360 Kinect $330.00

Total: **$330.00**

123456

Augmented reality apps basically provide an overlay of digital information on real-world views (or a window of data associated with actual objects), as seen through a smartphone's camera.

How Do Augmented Reality Apps Work?

In the simple analysis, augmented reality adds captions to the pictures you see through a smartphone camera viewfinder.

For example, imagine you're a realtor and your clients are busy house hunting. They're out for a drive through a favorite neighborhood, and spot a great house with a For Sale sign.

It's raining and they don't have time to take a home tour, but using a smartphone equipped with an augmented reality app, they can point their phone's camera at the house as they drive by, click on an information label associated with the house for sale, and see a write-up and photos from the real estate listing on the phone screen.

Assuming they're thrilled with the house details, you may thank your mobile augmented reality app for leading to a sale.

Or consider this "augmented" selling scenario. Say the same house hunters are also in the market for your home improvement materials, but all salespeople are occupied with other customers in your store.

Simply by taking a smartphone camera view of your flooring samples (tagged with augmented reality information), they can learn anything about the products, from available finishes, colors, sizes, and textures to information about where to order and pick up supplies.

And, as the couple is waiting in the store checkout line by the reading rack, they can also point their smartphone camera at an augmented-reality-enabled magazine to read a short review of your paints for their new home, too.

What's the Value of Today's Augmented Reality Apps?

Right now, mobile augmented reality tools are mainly the work of small startups that have built their fledgling apps on Apple's iPhone and Google's Android platforms.

And while ABI Research noted in a 2010 study that augmented reality app revenues totaled a mere $21 million, the same finding suggested that with rapid development improvements and broader marketing, the income total could exceed $3 billion by 2016.

That means there's room for mobile growth and selling opportunities using augmented reality apps in your marketing, search, social networking, selling, and PayPal payment processing methods. The key to product development, consumer adoption, and your potential profits will be moves made by mobile tech giants like Apple and Google.

Such companies will need to provide updated computer vision technologies for various smartphone cameras to send their image information to the growing data cloud and then back to the customers' phones to complete an action.

Of course, the long-term benefits for merchants and consumers alike will depend on how quickly augmented reality technologies are integrated with a wide range of apps running on various mobile devices and platforms.

Summary

No matter how you interpret the business prospects of such mobile industry trends, we can focus the decision for you this way: it's never enough to follow trends (or, frankly, our advice alone) in lockstep; you'll do better to apply the most relevant industry initiatives as part of your own well-planned course.

That could mean several fresh approaches, including

- Reconsidering your current online customers as mobile shoppers.

- Repositioning your products via social shopping websites or apps.

- Restocking inventory to offer items of more interest to mobile consumers.

- Redesigning your mobile website or app to attract tablet consumers.

- Adapting parts of your core business for the international mobile market.

- Timing participation in mobile point-of-sale ventures to maximize your profits.

- Investigating emerging technologies like "augmented reality" and others so that you remain aware and able to adopt your business to how your customers prefer shopping.

Taken as a whole, we ask you to consider these trends and their impact on your mobile plans along with industry best practices that will help drive your new mobile business, the subject of our next chapter.

Index