

# McKinsey on Payments

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## The role of data analytics companies in mobile commerce

Now totaling \$200 billion in global transaction value, mobile commerce is projected to grow by 35 percent annually over the next five years. In the U.S. alone, mobile payments should surpass \$200 billion in transaction value by 2016. The combination of mobile technology and high-powered analytical tools gives consumers broader selection and more competitive pricing, while enabling merchants to extend their footprint and respond promptly to opportunities. But mobile commerce also threatens to leave traditional players on the outside looking in, and raises privacy concerns among consumers. For companies with robust data assets (banks, merchants or any company with historically deep archives of consumer data), mobile disruption opens up three distinct opportunities to serve merchants and other consumer-facing enterprises: lead generation, risk analytics and security.

**Badal Malick**  
**Steven Rudolph**

### **Mobile as a commerce disruptor**

Mobile technology flattens the familiar contours of the retail landscape, as digitally sophisticated attackers reach across geographic, sector and channel boundaries. This creates numerous pain points for stakeholders in the ecosystem of merchants, providers and consumers (see “Disruption brings opportunities in merchant payments,” page 21). Traditional merchants suffer from “showrooming”—where customers visit a store to “kick the tires” and then purchase the item online. Banks risk losing fee revenue and brand visibility, particularly in the

lucrative middle market and small business segments, as innovative providers like Square and Stripe deliver easy-to-use mobile card acceptance solutions. Consumers harbor concerns about fraud risk, ID theft and privacy, and may push back at the proliferation of marketing messages.

Most established retail businesses recognize the strategic importance of the mobile channel, but struggle to reconcile huge technology costs with uncertain returns. For example, fees from mobile payments will not justify investments in mobile tech platforms.

So a number of data-intensive players, from large retailers to credit bureaus, are looking beyond traditional revenue models for new opportunities to leverage data capabilities across the retail commerce value chain (Exhibit 1).

**Three opportunities for mobile commerce enablers**

Companies with dual competency in big data and mobile platforms can help traditional players compete aggressively across the “search-shop-buy” value chain. Specifically, they can deliver customized offers, mobile-based credit scoring and digital security (fraud prevention and privacy protection). These services are mutually reinforcing such that each creates data insights for the others. Deeper and more detailed understanding of customer behaviors—the time-honored basis of risk management and fraud control—is

also the key to smart offers and increased sales for retailers (Exhibit 2, page 12).

**1. Lead generation**

Data service providers can help merchants engage with consumers and understand their needs with a mobile-based lead generation engine.

Analyzing the digital “footprints” of a mobile device against historical archives (comprising demographic profile, purchase/transaction history, browsing patterns), a merchant (and its data analytics partner) can tailor a message to a consumer’s current location and circumstances. A high-end auto manufacturer, for example, could find potential invitees to an exclusive show-room consultation by targeting affluent individuals who made car purchases more than three years ago and happen to be in zip or postal codes with branded dealerships.

Exhibit 1

**Data companies can deepen their footprint in the mobile commerce “search-shop-buy-bond” consumer journey**

	Pre-visit	Decision-making		Transaction			Post-visit	
	Find and compare local merchants	Product research	Price comparison	Authenticate/verify	Credit	Pay	Review business/advocate	Loyalty/repeat sales
<b>Disruption enabled by mobile platforms</b>	Timely local searches and review apps	Pull: real-time peer advice, user reviews, product information Push: targeted, context-based offers	Real-time price comparison across competing merchants Price guarantees	Credit decisions Merchant authentication Consumer data security	POS credit and deferred solutions (e.g., transaction-level financing)	Mobile payment and banking (NFC, digital wallets, m-bill pay)	Instant mobile reviews “Check in” feeds to social network	M-coupons and online loyalty programs
<b>Current solution providers</b>	AroundMe Yelp	Google Groupon	RedLaser Amazon	Guardian Analytics Actimize ThreatMetrix	Bill Me Later Credex Equifax	Google Wallet ISIS Visa Discover	Foursquare Swipely Facebook	Tag Tile Square CodeBroker

Source: McKinsey analysis

Small merchants might jointly invite “in-market” shoppers to participate in a survey, game or contest with the chance to win special gifts, store coupons or loyalty points. To make the sale, merchants must follow the mobile “digital trail” to understand the shopper’s immediate goals and generate an individual, contextualized offer at an appealing price. This sustained engagement generates real-time data with which to fine-tune offers and can lift conversion rates as much as 15 to 20 times.

By adding real-time information about online prices into the analysis, the merchant can determine whether to set the offer by competitive market pricing alone or by a range of parameters, such as demand, inventory and liquidity requirements. San Francisco’s

parking scheme sets hourly rates according to demand and availability, using sensors to keep track of open spaces, and publishes this information to a mobile app.

**2. Risk analytics**

Other mobile-based data services, such as risk analytics and security, can help merchants compete for a sale while also reinforcing customer loyalty. Imagine, for example, a customer walks into a big-box retail store, scans a product barcode and compares prices and specifications for products available in the store and at nearby competitors. In addition to matching the digital competitors’ pricing, a brick-and-mortar merchant’s mobile offer can emphasize local, “high-touch” service, combining special financing with an extended

Exhibit 2

**Data companies can support retail merchants with three mutually reinforcing services**



Source: McKinsey analysis

store warranty. Not only does the credit offer create opportunities for continued interaction with the customer, but it enables the merchant and its data partner to participate in the lucrative store credit market. But this is only possible with instant information exchange in a dynamic online marketplace of consumers, merchants and

For mobile commerce to grow, consumers must be confident that transactions are safe and secure.

Big data capabilities can enable merchants and processors to filter mobile transactions that fall beyond the user's behavioral profile.

lenders. To keep these offers in line with commercial strategy, merchants will need the support of complex data engines that account for specifics of the transaction and weigh lifetime customer values against the transaction, pricing against the cost of financing (including risk of default), and immediate funding needs against near-term sales targets.

Data service providers can also power these platforms to give consumers greater transparency and control by opening the store financing market to a broader group of lenders (e.g., mid-tier banks, alternative financial institutions, direct operator billing). Lenders with access to big data analytical capabilities can also extend the credit market to underserved segments with new approaches to consumer credit-scoring. Finally, mobile marketing platforms can support loan repayment programs with

more effective communication on payment plans and faster contact methods for collections, should the loan go into default. (According to FICO, 40 percent of defaulting borrowers who pay via mobile phones do so within 30 minutes of notification, and 78 percent do so within two days.)

### 3. Security

For mobile commerce to grow, consumers must be confident that transactions are safe and secure. Big data capabilities can enable merchants and processors to filter mobile transactions that fall beyond the user's behavioral profile. A consumer security solution, distributed as a separate mobile app or embedded within a digital wallet or vault, could link with point-of-sale (POS) systems, enabling businesses, government offices, charities and non-profit organizations to authenticate customers and verify their eligibility for offers, benefits and credit.

For example, a baker at a local farmer's market could join a government disbursements mobile platform, diversifying the nutritional offering for family assistance programs. Merchant acquirers (banks and processors) can also use mobile-based filters and authentication tools, monitoring "card not present" transactions and mobile card acceptance, e.g., screening for money laundering, electronic kiting and other types of fraud with low-value high-volume mobile transactions, without lengthening settlement times.

Data service providers might also license a mobile security filter to consumers in order to safeguard and monitor access to sensitive financial and non-financial information. Each session involving data exchange should require multi-layer security, using a

combination of device recognition, passwords and security questions. Sessions involving higher-value transactions or accessing highly sensitive account information should be protected with additional, multi-factor authentication.

### **Seizing the opportunities**

To compete aggressively as enablers of mobile commerce, traditional data services companies must pay special attention to three strategically vital areas: big data, consumer privacy and strategic partnerships.

### **Big data is critical**

Generating actionable insights from existing stores of *structured data* can give mobile enablers an edge. The most valuable insights,

however, will emerge through the application of advanced algorithms to *unstructured data* (e.g., natural language voice and text records, visual images) collected from online and mobile messaging systems, social networks and other sources.

Established data companies can produce unique and powerful insights by analyzing new data against their extensive historical archives of demographic and transactional data. But to win, they must garner the talent, specialized skills and complex technology required to analyze diverse sets of structured and unstructured data in real time. They must become experts in big data. (See “The impact of big data on payments,” *McKinsey on Payments*, March 2012.)

## **Trusted data intermediary**

Data-rich companies may decide to pool their assets in a jointly owned subsidiary, provided they maintain confidentiality about customer relationships and data collection capabilities.

The main value of a trusted data intermediary to merchants (and other retail businesses) is achieving a comprehensive view of the widest cross-section of consumers, while also protecting the confidentiality of the data and safeguarding strategically sensitive information (e.g., scope and depth of data supplied by any single subscriber). By analyzing aggregated anonymous consumer data, the data intermediary could provide clients/participants (the original owners of the data) with a detailed understanding of market segments and micro-segments. Clients could then analyze their smaller sets of proprietary data with greater predictive accuracy.

A large brick-and-mortar merchant, for example, might have extensive stores of historical data but lack visibility into mobile search and social networking activity. If it implements a mobile marketing platform, it will need to analyze newly collected mobile data against the data intermediary's pool of “mobile digital footprints,” obtained from participants with deeper experience in mobile communication.

On the security and risk management side, the trusted intermediary would analyze individually identifiable data across diverse accounts to establish a comprehensive customer transactional behavior profile. This would enable it to monitor the consumer's personal digital identity and detect possible fraud and ID theft. For personal privacy protection, consumers could subscribe to tiered services (e.g., basic protection of payment transactions, mid-level monitoring of mobile apps that copy personal data stored on the handset or in the cloud, and top-level coverage including searches for personal information retrievable through Internet searches). The solutions currently available are often fragmented by function and channel. The security analysis and monitoring performed by a trusted data intermediary would be more robust and reliable than any single company could develop independently. Such a scheme would allow merchants, banks and other payments providers to extend trust and loyalty among their consumer clients and reduce the system-wide cost of fraud.

**Stay abreast of evolving privacy concerns**

In Europe, digital privacy protections are already high. In the U.S., a recent FTC report supports legislation requiring data brokers to give consumers access to any data collected and traded, similar to existing European rules. Increasingly, data companies are using permission-based consumer “opt-in” models to balance consumer data privacy. Anticipating these trends, a host of new “personal identity management” firms have emerged to help consumers manage their digital reputations (e.g., Reputation.com). As public sentiment grows in support of consumer empowerment and data privacy rights, data players must work with regula-

tory agencies and balance the desires of public advocacy groups to implement measures for transparency and accountability around the capture and use of consumer data.

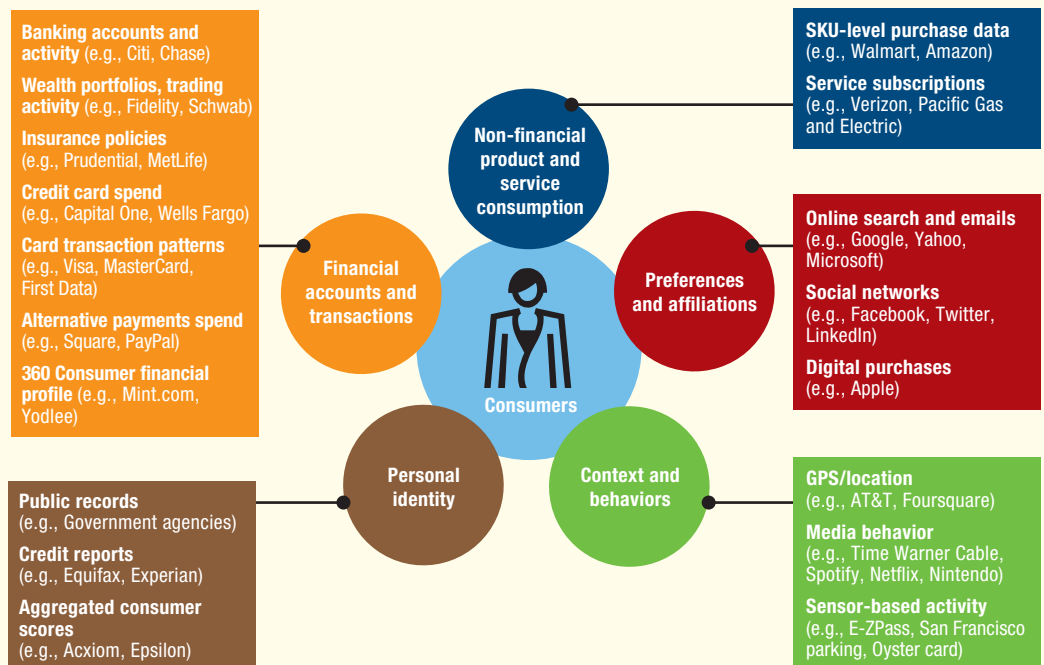
**Select partners according to commercial strategy**

No single organization has a comprehensive view of the customer, and strategic partnerships can be a practical way to optimize data assets in order to compete successfully as a mobile commerce enabler (Exhibit 3).

Partnerships may take the form of vendor-client relationships, industry consortia or jointly owned subsidiaries. A data company might rely on the technology skills of an existing intermediary (e.g., Cardlytics and Edo

Exhibit 3

**No single player can provide a comprehensive consumer profile**



Does not represent an exhaustive list of data assets or relevant companies

Source: McKinsey analysis



facilitate data-pooling between credit card issuers and merchants for targeted card-linked promotions). However, building one partnership at a time can be slow work. Consortia may be the better route (e.g., digital wallet initiatives Isis and MCX). Where companies have complementary data sets but cannot partner directly, the best path may be to establish a data intermediary subsidiary (see sidebar, page 14).

When evaluating the compatibility of a potential partner, companies should examine three attributes closely:

- **Big data resources:** Complementary data sets, technology and analytical skills
- **Go-to-market capabilities:** Streamlined processes for product design and development, marketing channels and implementation skills
- **Regulatory constraints:** Restrictions on consumer data usage differ by sector,

which affects a partner's flexibility to respond to market opportunities

\* \* \*

Any organization significantly invested in data collection and storage must protect and leverage these assets. Competitive power resides not only in the technical skill and capacity to create a product or deliver a service, but also in the ability to collect information about how goods and services are selected and consumed. By applying big data analytical methods to expansive streams of consumer data, mobile commerce enablers can help merchants address individual consumer needs with personalized offers, dynamic pricing and real-time financing, in a mobile commerce environment that is safe and secure.

**Badal Malick** is an alumnus of the New York office and **Steve Rudolph** is a principal in the Boston office.