McKinsey on **Payments**

Recapturing banking's analytics edge

The banking industry has long been at the forefront of analytics innovation. Long before big data became a buzzword, banking embraced the use of very large datasets in credit bureaus, pioneered predictive modeling in risk and fraud assessment, and introduced real-time decision engines to enhance the customer experience. These innovations are now deeply embedded in the banking industry, and have been widely adopted by other sectors. More recently, though, banks have struggled to stay ahead in data and analysis, and find themselves being overtaken by cutting-edge technology companies and retailers.

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In the late 1980s and early 1990s, getting enough data was the main challenge. In the second wave of analytics now breaking, data is abundant; the challenge is in handling the volume, making sense of it and acting on it.

Virtually every bank in the world has a suite of advanced analytics initiatives under way. However, these initiatives tend to come up short on measurable results, and often fail to even aspire to transformative impact.

Roadblocks to advanced analytics initiatives

Advanced analytics initiatives fail for three primary reasons:

1. Inspired by a tool or technique, not by the use case

Many of the datasets and techniques available today are seriously "cool"—at least to professional analysts. Unfortunately, too many advanced analytics initiatives are seduced by the "wow factor" and squander credibility and business sponsorship when efforts fail to deliver the expected rewards.

One leading Scandinavian bank invested in a tool that harvests near-real-time data from transactions and Web-service platforms to create a virtually live 360-degree customer view. The bank could have used this view to improve its management of customer credit risk, attrition risk and receptiveness to upselling. However, because of hurdles in embedding the tool into its risk, service and sales systems, it failed to deliver tangible value.

The most successful advanced analytics initiatives work backward from business problems, not forward from the possibilities of data or technologies. This fact is especially important at a time when technology is developing so rapidly.

2. Too compartmentalized

When advanced analytics is done well, data and insights from one area can have a big impact on others. For example, merchant transaction patterns are now used to design and optimize spend stimulation campaigns, and can also be used to reduce fraud and risk. However, banks often fail to capture this cross-functional potential because spend stimulation is owned by one department while fraud protection is owned by another.

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At one leading European bank, merchant data is owned by marketing, which has its own embedded analytics team that is highly proficient at using the data to optimize campaigns. However, the data is not even visible to the bank's risk analysts, who sit in another building across town. It isn't that the marketing team is trying to hoard data; it is just that the effort to share data across functions has never been given priority in a demanding and resource-constrained environment.

The most successful advanced analytics efforts take a broad view of data, span the whole organization and engage all business leaders. They set priorities for opportunities and data access in accordance with strategic goals and operate across functions and businesses. By adopting this approach, some companies have developed enhanced sales techniques capable of unlocking hundreds of millions of dollars in additional revenues.

3. Targeted at small improvements

Too many analytics initiatives are incremental—led by support functions, serving a single departmental customer, seeking marginal improvements over existing strategies. Working on such narrow initiatives can make executives feel like Gulliver being tied down by the tiny people of Lilliput.

One leading pan-European personal loans provider is investing in an analytics platform to integrate data from the credit bureau, customers' Web-browsing history, service operations, and fraud in close to real time. The business case for the new platform is built on improving risk prediction. Important though this is, such a focus is unduly limiting. Designing the new platform to support multiple applications from the outset would be cheaper and more effective than broadening later on.

The most successful initiatives address multiple business problems and have a clear view of the implementation path. Now that data and analytics have the power to change the game, banks need to raise their aspirations for the scope of their analytics efforts. They have access to so much rich and powerful data; it's time they made better use of it.

To recapture its historic leadership in analytics, the banking industry needs to set up initiatives that are cross-functional, tied to

Exhibit 1

To derive value from data analytics, banks need talent in a number of specific roles

Leads strategy design and execution for data and analytics; provides links between IT, analytics and business

Provide solid understanding of statistics and analytics to inform business decisions

Analytics

Data scientists

Analytics consultants

Head of analytics

Ensure internal customers are supported by best-in-class models and algorithms

IT

Data strategists

Business decision-makers

Ensure data is captured and stored in usable and scalable ways

Source: McKinsey analysis

specific use cases and ambitious in scope. That means organizing analytics appropriately—a process that involves more art than science—and pointing it at the right challenges. This article looks at some of the issues that arise in organizing for analytics, and then explores two areas where efforts are starting to have a big impact on both customer experience and bottom-line results.

Organizing for analytics innovation

At the moment, the possibilities opened up by technology are running far ahead of the business applications. Business leadership and organization are the main limits to innovation.

Business leaders who understand data and analytics, have a vision of the real-world possibilities they can unlock, and know how to marshal the organization to deliver on that vision are rare. And even a great business leader needs a strong support structure

before analytics can become central to a company's culture (Exhibit 1).

The support structure for analytic innovation starts with internal consultants who can apply advanced techniques to problems and opportunities and teach as they work. Data strategists are needed to structure existing data and ensure that future data is captured in a usable and meaningful way. Finally, successful innovation requires data scientists who are skilled at building models and creating tools that anyone in the organization can use to access the insights generated.

Hiring people with these skills has never been easy, and will get steadily harder. Analytical talent is in short supply across the board. The McKinsey Global Institute forecasts a shortfall of 140,000 to 190,000 analysts by 2018 in the U.S. alone.

Exhibit 2

When selecting an organizational approach to analytics, banks must weigh the pros and cons of three models

	Business-driven			Centralized (third-party or independent unit)	Top-down
	Business functions		IT	IT/CFO	CEO
	Analytical groups		Data quality & management	Independent analytics group	Integrated group (chief analytics officer)
Pros	Most targeted Best individual results			Tight controls and data structures More cost-effective Can drive impact across the business	Strategic and high impact Quickly gains traction
Cons	Difficult to scale Business leaders must be comfortable with analytics Reinforces silos			Difficult to allocate resources Separated from individual business problems	Resistance from other business leaders Risks being a flash in the pan

Source: McKinsey analysis

Assuming that it manages to hire the right talent, a company then needs to organize it into a structure. There are three broad approaches (Exhibit 2), with a variety of hybrid options:

The *business-driven* approach, where analytics is embedded in individual business units and functions, works well for aligning analytics efforts with specific business problems, and is often preferred by companies with a relatively long and successful tradition of analytics. However, the model tends to suffer from incrementalism.

A *centralized* approach with analytics expertise concentrated in an independent unit is often favored by companies that are putting a stake in the ground and declaring that analytics will be a big part of their future. It gives the group a chance to learn, experiment and grow analytics knowledge in all business units. It also tends to be the best solution for controlling investments and ensuring data standards are maintained across the organization. Unfortunately, this approach can take years to get off the ground because it involves not only building a team but also earning the respect and trust of the whole company.

A *top-down* or *CEO-sponsored* approach can deliver the quickest results and cut through business silos. On the other hand, a high-powered central team runs a bigger risk than other approaches of producing white elephants that undermine the broader

organization's support for analytics. To avoid this trap, the central team must take care to ensure that its efforts support and empower business leaders.

In practice, elements of two or all three approaches are often blended. The most effective approach for any company will depend on its growth aspirations, cost constraints, leadership skills, talent, and a host of other considerations.

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Fraud: Supercharging prevention efforts

Fraud control is one of the business areas where analytics is most deeply embedded for banks. Widely used industry tools such as FICO's Falcon are based on advanced neural network algorithms that give lenders an up-to-date view of fraud risks. Most of these tools are managed within departmental silos that are accountable for fraud losses and operations costs. Because these groups are so used to dealing with data and incorporating it into their operations, they are often a good place to kick off an effort that gradually widens in scope.

So how should banks glean insights from their fraud control? It's likely that most are already attuned to finding links between data and fraud events. The real impact kicks in when they find links between fraud events and other factors such as account renewal, satisfaction scores and cross-sell results—or even better, between these factors and purchasing behavior. Joining the dots can help to reduce fraud and increase customer satisfaction, card usage and other metrics.

One European bank found that the real value of fraud management was in marketing. Market research showed that the biggest drivers of customer satisfaction (and dissatisfaction) were fraud-related experiences, ranging from irritation at having transactions declined while travelling to gratitude for protection when a card was lost. Further analysis showed that phone calls from the fraud department to verify transactions significantly increased customer satisfaction, as they were seen as evidence that the bank cared about its customers.

With this in mind, the bank redesigned its entire fraud-control process to serve a new purpose: maximizing customer satisfaction. Fraud losses and operational costs were no longer goals, but constraints. The company established new data streams to enable customers to show it their cellphone location, and built new analytical models to segment customers according to their sensitivity to fraud. It redefined contact frequency norms, increased staffing levels and retrained fraud investigators.

It took a year-long cross-functional effort to embed this new approach, but it paid off. Customer satisfaction scores increased from below average to the top quartile, and the new strategy covered its costs in less than three months.

To make an initiative like this work, companies need business leaders who are willing to work with fraud and other departments for a positive outcome. And some initiatives require close collaboration with a third party (Exhibit 3). In such cases, addressing issues of data governance and privacy can be as challenging as the analytics themselves.

Digitization: Beefing up online servicing and marketing

Web service, like fraud control, is a well-established part of the banking ecosystem. It is typically managed as part of operations—as a low-cost way of getting statements to customers and collecting payments from them.
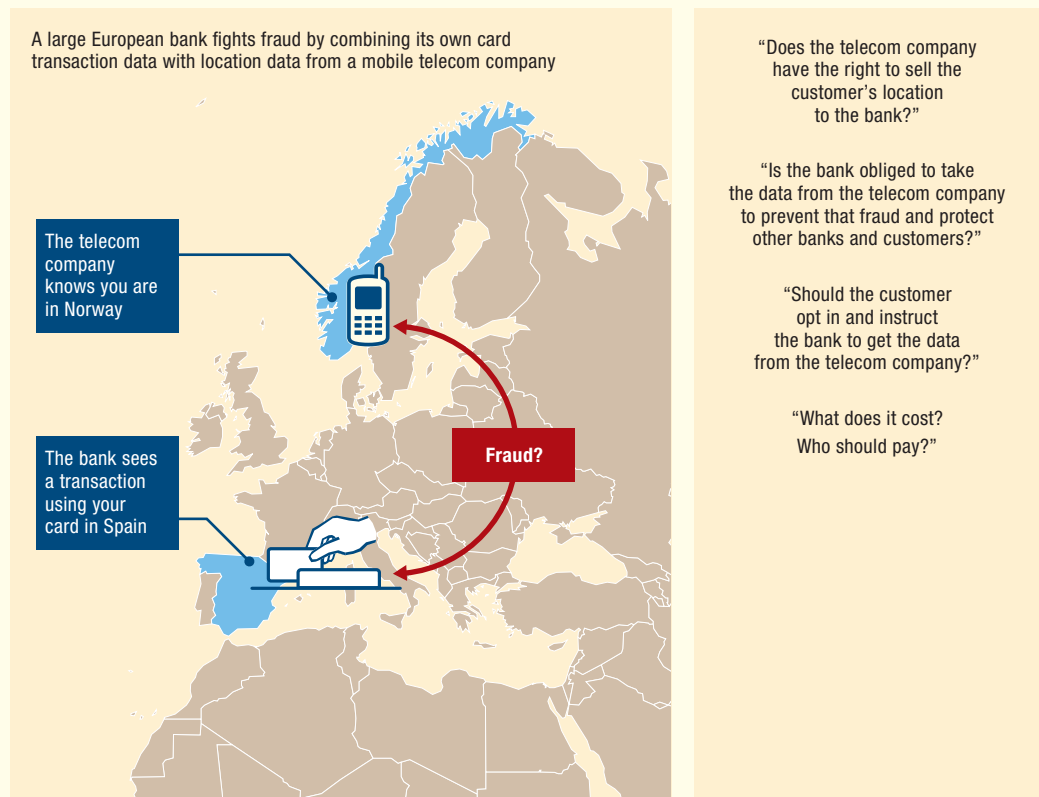
Some banks have made big efforts to use their Web service platform to increase sales. Today's powerful algorithms support targeted advertising that uses both browsing history and statement data to show the right ad to the right prospect at the right moment. Even so, person-to-person channels still account for

Exhibit 3

A credit card issuer is using telecom data to fight fraud

Source: Interviews with industry experts; McKinsey analysis

A joint venture with a telecom company enables one bank to use location information to reduce fraud . . .

A large European bank fights fraud by combining its own card transaction data with location data from a mobile telecom company

The telecom company knows you are in Norway

The bank sees a transaction using your card in Spain

Fraud?

. . . but the partners are still trying to forge a workable governance approach

"Does the telecom company have the right to sell the customer's location to the bank?"

"Is the bank obliged to take the data from the telecom company to prevent that fraud and protect other banks and customers?"

"Should the customer opt in and instruct the bank to get the data from the telecom company?"

"What does it cost? Who should pay?"

the lion's share of sales volumes. Finding ways to tip the balance and generate more sales from Web and mobile channels could enable banks to capture significant untapped value.

One Latin American bank found that a lack of basic banking knowledge among its customers was the biggest barrier to widespread take-up of its online services. Customers felt there was no one to answer basic questions, such as: *Which product should I apply for? What do I do if I forget my PIN? How do I make a payment?*

The bank responded by launching a series of short online films to guide customers through every aspect of the online banking process. Instead of using analytics to identify which products to sell to which customers, the bank used it to decide which films to show them. It also offered to set up instant messaging chats with agents to clear up any questions not covered in the films.

Skeptics dismissed the new approach as naïve, complaining that screen space, agents and creative agency resources were being diverted away from "hard" sales messages toward "soft" educational content. Early sales results were disappointing, but the bank stayed the course. A year after launch—when the creative teams had improved the educational films and analytics had revealed which sequences of films to show to which customers—the strategy had tripled sales rates on the Web channel.

In more mature markets, analytics have been used to develop new service offerings. Knowing that automated bill payment is a driver of account longevity, one U.S. bank is building a mobile platform that takes advantage of the cameras in smartphones. All customers have to do is take a photo of almost any recurring bill using the bank's mobile app, and the app will set up an automated

Tailoring the online customer experience

How can analytics innovation translate into a more compelling—and profitable—customer experience?

Take Joe, a long-term user of online banking. He regularly logs in to his bank's Web site to make payments, check balances or transfer funds between accounts. Over a few months, Joe notices new content on his bank's site, but not wanting any new financial products, he ignores most of them. Eventually a message catches his eye, prompting him to book a holiday using his air miles before they expire.

A couple of weeks later, he clicks on a banner offering a report on his credit history. Not long after that, he clicks on another that takes him to an analysis of his credit-card spending over the past 15 months. He gradually gets used to lingering online a little longer to scan new messages from the bank.

Later that year, when he logs in to pay for his daughter's music lessons, he sees a banner suggesting he put his Christmas bonus into a higher-yield money-market fund rather than leave it in his savings account as he did last year. It takes him only a couple of clicks to do so.

Those two clicks for Joe translate into a doubling of the value of this customer relationship for the bank. As part of a systematic program to make the most of its Web-servicing platform, the bank has designed unobtrusive tailored journeys for every customer, based on the preferences each user reveals in clicking on or ignoring different messages at different times. The algorithm that determines which set of messages each customer sees runs into hundreds of thousands of business rules, and would have been too complex to manage even 10 years ago. The program has enabled the bank to turn around its reputation as a digital laggard and generate a 10-fold increase in online sales conversions.

payment. Using this type of seamless integration of data and technology to capitalize on analytics insights across organizational boundaries is what will drive banks' growth and competitiveness over the next few years.

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The banking industry is capable of creating outstanding customer experiences while delivering step-change improvements in profits. However, this is no easy journey, and it can easily be thrown off track by the quest for a secret sauce—that elusive but all-powerful transformative algorithm. To capture pragmatic real-world improvements, banks need to work out how to use analytics innovation to enhance the customer experience and mobilize functions and units across the organization.

Although expertise in this growing field is scarce, leadership and organization are scarcer still. Leading and organizing to capture the promise of advanced analytics needs to be front and center of the agenda for bank CEOs.

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