Banking, Marketing and Big Data

The role of big data and analytics in driving revenue while enhancing the customer experience.

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Executive Summary

Big data won't solve every challenge a bank faces today, but it does address quite a few of them. Banks are already using advanced analytics to drive revenue by picking, tailoring, and automating highly profitable marketing campaigns. They've also found it to be an indispensable tool for managing the relationship with customers over digital distribution channels.

Introduction

Big data have been buzzwords for years in the financial services industry, but only recently have banks started using data analytics to meaningfully drive revenue and improve the customer experience. Banks on the leading edge today are using advanced analytics to inform and prioritize among marketing campaigns, tailor those campaigns to the most receptive customers, and then automate the campaigns so that dozens, if not hundreds, can be run simultaneously by an even modestly sized bank.

The results thus far have been promising. One bank has used data insights to more than double the profitability of its least profitable customers. Another is running marketing campaigns informed by data that generate triple-digit returns on investment. Yet another has integrated big data into its standard operating procedures so deeply that the insights from its analytics platform dictate which marketing campaigns the bank runs across all of its business verticals.

Encouraged by success stories like these, banks are accelerating their investments in big data. Financial institutions cite data analytics as their top technology priority over the next year, according to PwC.[1] In a similar survey of global and regional banks by McKinsey & Co., every respondent listed advanced analytics among their top priorities with plans to invest further in the techniques[2]. Surveys like these reflect the still-prevalent belief that cracking the code on big data continues to offer banks the rare opportunity to gain a competitive edge.

Driving Revenue

Growing revenue in a responsible way has always been a vexing challenge for banks. It's not the growing part that's hard. A bank can grow revenue by simply easing underwriting standards and boosting loan volumes. But this increases credit risk, leading to higher charge-offs in the future. This weighs on a bank's profitability through a full credit cycle, and in the worst cases can evolve into an existential crisis. The challenge is thus to grow revenue responsibly. And ideally in a way that doesn't require regular infusions of capital.

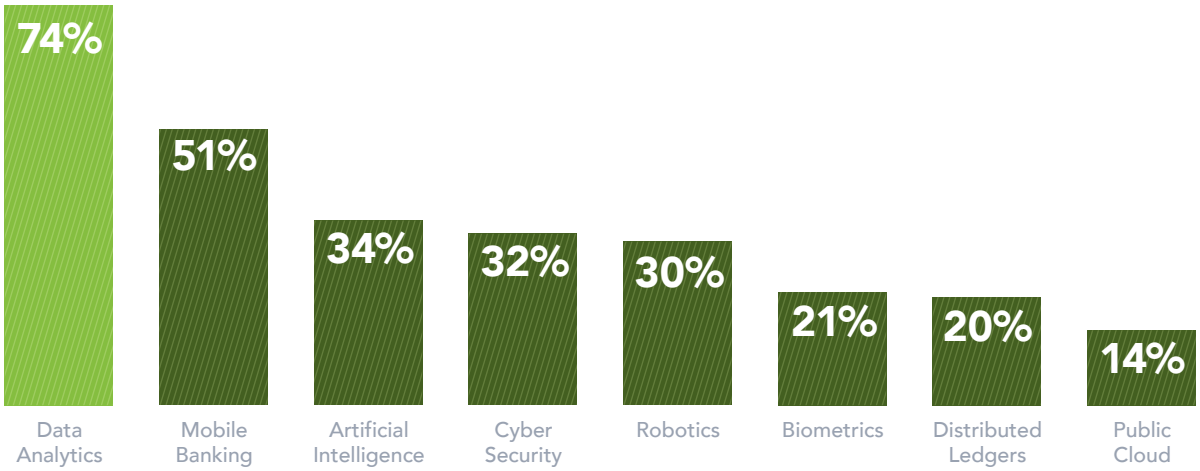
The traditional solution has been to find a niche in the financial services market and charge a premium for specialized products. In U.S. Bancorp's case, the nation's most profitable big bank spent years investing in its payments and wealth management units. It now has an outsized presence in both low-risk, capital-lite businesses compared to others in its

[1] *PwC. (2017) Global FinTech Report 2017. Page 9.*

[2] *Garg, A., Grande, D., Macias-Lizaso Mirando, G., Sporledger, C., Windhagen, E. (2017, April). Analytics in banking: Time to realize the value. McKinsey & Co.*

Investment Focus

Investing in data analytics is the top investment priority for financial institutions over the next 12 months, according to PwC's Global FinTech Report 2017



peer group. This has helped U.S. Bancorp generate industry-leading returns on equity for seven years in a row.

> Data analytics offers another solution to growing revenue in a responsible way. It does so by giving banks a tool to fortify their marketing efforts.

Marketing aimed at driving cross-sales got a bad name after unsavory sales practices came to light at a major U.S. bank in 2016. But it remains one of only three ways a bank can grow – the other two being to attract brand new banking customers or acquire customers from competitors. Additionally, the need for enhanced cross-selling techniques will intensify with time, as traditional teller interactions become less frequent and more digitally-savvy generations come of age.

- 60 percent of PNC Financial retail customers used non-teller channels for the majority of their transactions in 2016, up from 40 percent three years earlier.[3]
- Approximately the same number of Fifth Third Bank's customers rely solely on its digital channels as do those that rely exclusively on its branches.[4]
- One in five deposits at Bank of America are made on a mobile device by its 22 million active mobile users. That represents the volume of nearly 1,000 financial centers, with 22 percent of its total sales now coming from digital channels.[5]
- J.D. Power estimates more broadly that half of millennials, a third of Generation Xers, and 16 percent of baby boomers use mobile banking channels, though they supplement these with intermittent branch visits.[6]

Implementing Analytics

The banks that are already using big data to drive their marketing efforts have tended to implement their advanced analytics programs in stages.[7]

They start with marketing automation software. This allows a bank to automate messages along a pre-defined sequence of events, like a series of onboarding emails that welcomes new customers and prompts them to set up direct deposit or activate a debit card. A bank can also automate messages based on triggers, such as branch and website visits or a customer's birthday.

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[3] *The PNC Financial Services Group. (2017, March 1). 2016 Annual Report, Letter From CEO. Page 4.*

[4] *American Banker. (2016, March 23). From Branches to Big Data: How Fifth Third Is Shifting Resources.*

[5] *Bank of America. (2017, April 18). 1Q17 Conference Call, Prepared remarks by Paul Donofrio.*

[6] *J.D. Power. (2017, April 27). Among Millennials, Highest Satisfaction Achieved When Combining Mobile and Branch Banking. [Press Release].*

[7] *Information comes from interviews with bankers and data analytics executives.*

> Banks have found the return on investment from marketing automation to be substantial, in part because it makes it possible for banks of almost any size to simultaneously run multiple one-to-one marketing campaigns crafted around unique goals.

The second stage is to create a model that measures per-customer profitability. This requires a bank to estimate the revenue and expenses generated by individual products, and then develop a 360-degree view of each customer's product portfolio, as well as how they engage with the bank. One bank used insights from its profitability model to identify customers who visited branches to deposit checks as opposed to using remote deposit capture. To lower servicing costs, and thereby improve the profitability of these customers, the bank designed a marketing campaign that educated them on remote deposit capture and included a check for a nominal amount to encourage them to try it out. Seven percent of these customers permanently switched to using remote deposit capture.

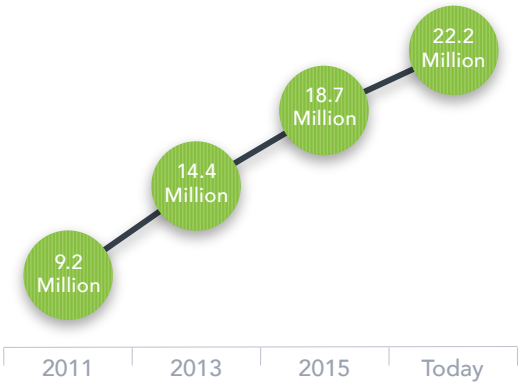
The third stage is to implement a system that, building on insights from the profitability model, allows a bank to select the next-best product to sell each customer, as well as the most effective channel over which to do so. One data analyst referred to this as an opportunity-sizing engine. This makes cross-selling easier, because the interactions can be tailored to a customers' needs. It also helps a bank sidestep the common pitfall of selling products to customers who neither want nor need them. A product that isn't used, or a misinformed cross-selling attempt that mars the customer experience, impairs as opposed to promotes profitability. Customers want smart offers tailored to their personal and business lives and they want it delivered at the right time, over the right channel and with the right message.

The final stage that banks at the forefront of big data are taking today is to integrate these three systems, closing the loop between insights and action. This is the holy grail of advanced analytics and business intelligence, and it's no longer just a theoretical construct. Financial institutions - and not just the big ones - are in the process of doing it right now. The regional banks that are doing so even consider their size to be an advantage, since they have fewer data silos to contend with. Some of these banks even run all of their data through a single third-party core processor. The advantage this offers can't be overstated. Big data is great, but if it's all over the place in disparate locations, then it's not as helpful or powerful.

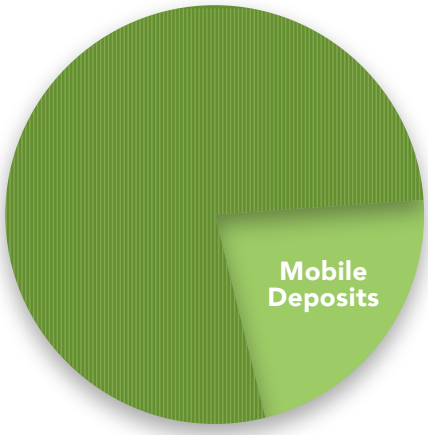
The next frontier will be to use data analytics on the fly, combining machine learning techniques and artificial intelligence with real-time data to further refine how, when, and where to engage customers for cross-selling purposes. Machine learning is already being applied to make sense

Bank of America: The Growth of Mobile Banking

Active Users of Bank of America's Mobile App



Mobile Devices Account for One out of Every Five Deposits at Bank of America



of large, unstructured data sets; using it to drive revenue will be a natural progression in the evolution of big data, marketing and banking.

Designing Content

Big data isn't only about helping banks identify the best time and place to engage with specific customers, it also informs the design and content of the marketing campaigns themselves. This is especially relevant in the context of marketing automation software. Even with a sophisticated marketing automation system, if you have ineffective email messages or call center scripts, the system will just automate ineffective marketing content.

The 360-degree view of a customer that comes from implementing a per-customer profitability model goes a long way in this regard. If a bank knows which products a particular customer already has, and their buying behaviors, it can narrow down which additional products or services to offer that person in the future, while at the same time tailoring the content of the marketing materials accordingly. Just as importantly, this knowledge enables a bank to avoid inundating customers with irrelevant offers for products they already have or don't need, potentially making them less responsive to future campaigns.

Using big data to identify and respond to customer lifecycle events similarly helps to inform how, when, and where to engage with customers. Much of this can be derived from cross-referencing demographic data and transaction patterns in existing accounts. For instance, a person with a steady job who's currently paying rent and is about to turn 30 is much more likely to purchase a house than, say, a 65-year-old who's already paid off his mortgage and is living off a fixed income. An effective big data program that incorporates this information allows a bank to distinguish between the two and to accommodate their respective preferences in the design of any emails or call center scripts that are fed into the marketing automation platform.

Customer Experience

Beyond helping banks drive revenue, big data also plays a central role in the customer experience. This is especially true with Millennials, the generation born between 1980 and 2000, who will make up over 40 percent of the workforce within five years.[8] Leveraging big data to provide the

[8] *American Bankers Association. Millennials and Banking. [Infographic].*

Millennials & Banking 5 Important Facts

44%

Born between 1980 and 2000, Millennials will make up nearly half the U.S. workforce by 2022

83.5 Million

Millennials are the largest generation in American history

71%

Would rather go to the dentist than the bank

77%

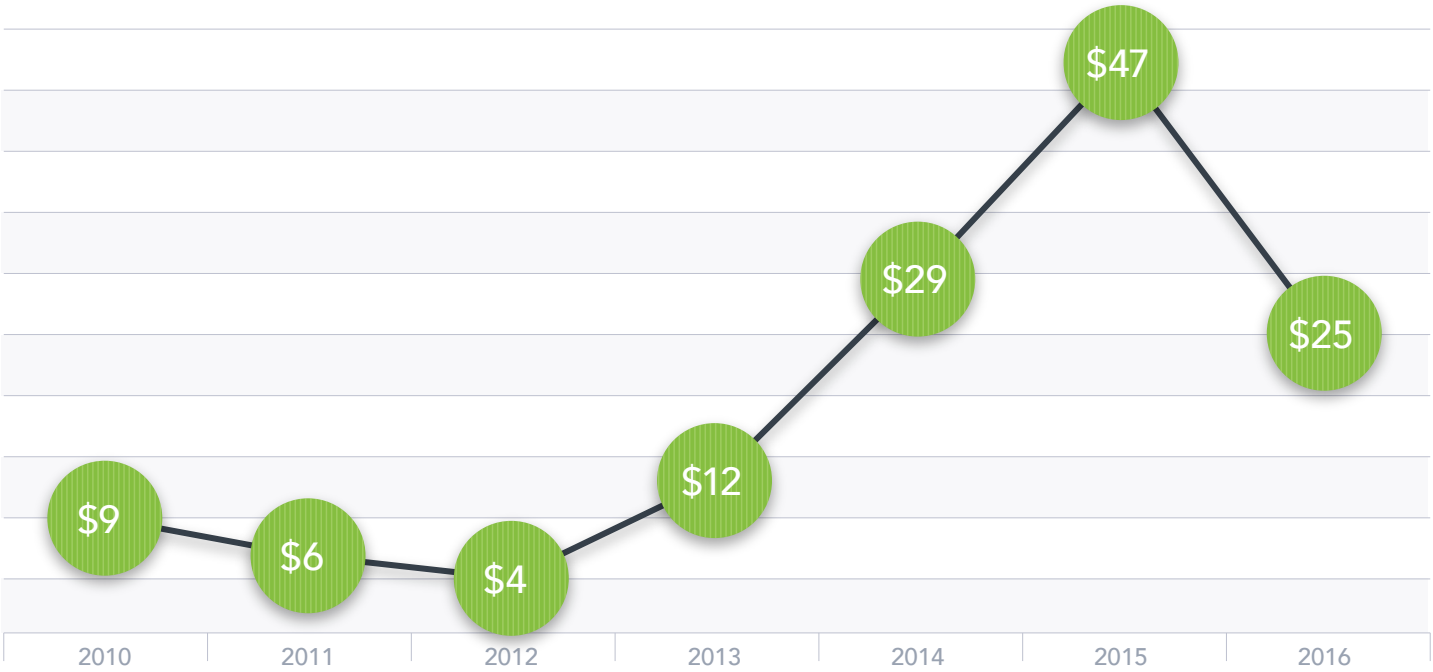
Have their smartphone with them at all times

3x

Millennials are three times as likely to open a new account on their phone than in person

Money is Pouring into Fintech

Total global investment in fintech companies (billions of dollars)



slick and seamless digital experience this generation has been conditioned to expect from companies like Apple and Facebook will be necessary to attract and retain these customers and employees.

Making this more important is Millennials' existing opinion of banks. The American Bankers Association estimates that 71 percent of Millennials would rather go to the dentist than listen to what banks are saying. More than half don't think their bank offers anything unique. And 68 percent say the way people access money will be totally different in five years. Meanwhile, 77 percent of Millennials say their smartphone is always with them, and that they're three times more likely to open a new account with their phones than in person.

Millennials expect a polished and intuitively designed digital experience. Simple's banking app offers a case in point. It combines a sleek minimalist user interface with accounts backed by BBVA that are designed to help people save money. "It's the whole idea of banking, remade with lovely design, equally lovely tools to help you save (right inside your account)," says its website. Simple also did away with overdraft fees. And it advertises that customers can open a new account "in just a couple minutes."

Banks can use big data to level the playing field with fintech companies when it comes to the digital experience.

> Data analytics packages are already allowing banks to analyze website traffic flows, determine if and when a customer will overdraft their account, reduce the time it takes to onboard a customer, and decrease false fraud alerts and unnecessary account suspensions.[9]

One of the largest banks in India, for example, uses its customers' previous digital sessions to personalize their future experience. When a customer logs onto the bank's website and selects a preferred language, that preference populates across the bank's other distribution channels, helping to decrease the length of ATM sessions by 40 percent.[10]

[9] *Information comes from interviews with bankers and data analytics executives.*

[10] *Shee, Y., Crompton, D., Richter, H., MÆhle, S. Big data in banking for marketers. Page 43. [Whitepaper]. Evry.*

Where are Banks at Today with Big Data?

A recent survey of global and regional banks by McKinsey & Co. found that a few banks have yet to begin using advanced analytics, a few are already seeing rewards, but most are stuck.

Success Stories

As data analytics programs have matured, the success stories of banks using big data to drive cross-sales or otherwise increase revenue have begun to proliferate:

- In the first nine months after a major Australian bank began using big data to make more targeted offers, 37 percent of customers who interacted with a teller and 60 percent of customers who engaged with call center staff signed up for an additional banking product.[11]
- A top consumer bank in Asia used advanced analytics to explore several large data sets and identify thousands of microsegments in its customer base. The bank used this information to build a next-best product model that increased the likelihood a customer would buy an additional product by a factor of three.[12]
- A regional bank in the United States has generated a 600 percent total return on investment over the past decade by using data analytics to prioritize competing marketing campaigns and more efficiently allocate marketing resources.[13] In 2016, the bank even began selling big data services to its own commercial customers.[14]
- Other leading banks in the United States are using big data to design targeted marketing programs that increase credit and debit card usage. They're doing so by offering discounts to retailers and restaurants based on preferences discerned from customer transaction histories, as well as by creating tailored customer-centric rewards programs.[15]

Window Of Opportunity

The chance to gain an edge in a highly commoditized industry like banking is rare, but big data provides one such opportunity.

> The banks at the forefront of data analytics are driving revenue and retention by picking, tailoring, and automating highly profitable marketing campaigns.

They're also using big data to continually refine the customer experience. But because these banks are the exception to the rule, with most other banks "started but stuck" when it comes to implementing advanced analytics, according to McKinsey & Co., the window of opportunity to gain an edge remains open.

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[11] *Corner, S. (2014, March 4). Westpac using big data to woo customers with offers made to measure. The Sydney Morning Herald.*

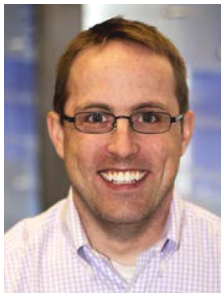
[12] *Garg, A., Grande, D., Macias-Lizaso Mirando, G., Sporledger, C., Windhagen, E. (2017, April). Analytics in banking: Time to realize the value. McKinsey & Co.*

[13] *IBM. First Tennessee Bank: Applying analytics to drive higher ROI from market programs. Slide 10.*

[14] *First Tennessee. (2016, March 24). First Tennessee to offer small businesses the power of big data [Press Release].*

[15] *Shee, Y., Crompton, D., Richter, H., Mæhle, S. Big data in banking for marketers. Page 27. [Whitepaper]. Evry.*

About the Authors



About John Maxfield

John Maxfield is a contributing writer, editor, and podcaster at The Motley Fool. His work has appeared in Time, USA Today, AOL Daily Finance, among other places, and he's a regular guest on CNBC and other media outlets. He also contributes regularly to Bank Director magazine. John has a B.A. in economics from Lewis & Clark College, and a J.D. from Southern Methodist University's Dedman School of Law. He's a licensed attorney in the State of Oregon.

About Jonathan Rowe

Jonathan Rowe is the chief marketing officer at nCino. Jonathan Rowe oversees the company's research, marketing, recruiting and business development activities, and has helped establish nCino's brand as the worldwide leader in cloud banking. He has presented at over 30 banking and technology conferences and has published numerous articles and whitepapers on financial services. He is a faculty member at the Graduate School of Banking at Colorado where he teaches portfolio management. Prior to joining nCino, Jonathan was a professor in the Cameron School of Business and director of the Entrepreneurship Center at the University of North Carolina at Wilmington. He holds an MBA from Babson College and a Ph.D. from the University of Auckland. Jonathan can be reached at jonathan.rowe@ncino.com.

About nCino

nCino is the worldwide leader in cloud banking. With its Bank Operating System, built on the Salesforce platform, financial institutions can deliver the speed and digital experience that customers expect, backed by the quality and transparency that bankers need. Follow @nCino or visit www.ncino.com.