

The Cognitive Bank: Redefining banks and banking



Bankers have always understood the value of information. And for better or worse, there has never been more of it than there is right now. In fact, you might think of data as the most abundant and valuable raw material in the world. But despite its inherent value, banks do not always mine it effectively. The vast majority of it goes to waste.

And this is no time to be wasteful.

There are powerful forces reshaping the banking industry, and every one of them threatens to erode profit margins. Onerous regulatory requirements can cost each bank up to USD 4 billion a year.¹ An increasingly complex security landscape puts customer data and brand reputations under constant threat. And new, disruptive competition and technologies are unbundling banking services, and targeting the most profitable parts of the business.

At the center of this unnerving landscape are banking customers who are less loyal, more demanding and increasingly comfortable with entirely digital banking experiences, from self-service to automated wealth advisory. A recent McKinsey & Co. report projects that up to 60 percent of retail banking profits are expected to become vulnerable to disruption by 2025.² And Goldman & Sachs envisions that one-third of millennials believe they won't need a bank within the next five years.³

For many banks, this combination of cost, customer expectations, traditional competitors and the FinTechs represents an existential threat. In response, the focus across the entire industry has rightly turned to offering new and improved experiences and higher value—for customers and employees—that competes with rising expectations. They are eager to define

the customer experience of banking in the digital age. Banks know they need to disrupt themselves to create new business models and develop new sources of revenue. But how?

The answer, as always, is in the data.

“How customers request, receive and act upon information from a bank defines their experience with the brand,” says Likhit Wagle, IBM Global Industry General Manager Banking and Financial Markets. “So it stands to reason that the banks that best collect, curate and present information to their customers—and the front line that interacts with those customers—will set themselves apart. We believe that data is the raw material of these experiences and cognitive computing is the engine that will deliver on its true value.”

Cognitive computing systems take vast quantities of structured and unstructured information and serve it up to customers and bank employees through simple, human interfaces. They're designed to do far more than simply provide an answer determined by a numerical expression. Instead, cognitive systems are defined by their ability to understand, reason and learn. They go beyond “if/then” scenarios to generate hypotheses, reasoned arguments and recommendations. Ultimately they guide us to a new and deeper understanding of the world around us.

“Cognitive technologies not only bring added sophistication... but introduce simpler user interfaces, for example, voice recognition, lowering the bar for user skill—which will dramatically expand the use cases over the next several years,” says IDC analyst Frank Gens. He predicts that cognitive computing will save US companies USD 60 billion a year by 2020, and lead to a 20 percent improvement in IT efficiency for financial services firms by 2018.

Indeed, 79 percent of banking executives familiar with cognitive computing already believe it will play a critical role in the future of their business.⁴ These applications never stop learning and adapting, and they scale expertise across an entire global enterprise. When done right, banks will fundamentally change the way they interact with the information they need, providing new insight into operations, regulatory obligations and, most importantly, the customer experience.

The Cognitive Bank

Cognitive systems can make sense of the world's data that computer scientists call unstructured. Although we've been able to explore some of this big data in the traditional sense, to date most of the insights it holds have been invisible to us. We knew that it was there. We knew that it had value. However, we had no means of seeing all of it, or viewing it in aggregate, or drawing meaningful conclusions from it. And by most estimates, 80 percent of the world's data falls into this category, including images, text, literature, news reports, social media and even log files from computer systems themselves.

But it's not just cognitive computing's input that sets it apart. In response to questions posed in natural language, cognitive systems can present hypotheses, reasoned arguments and recommendations that are unique to the interaction with you. They use machine learning to understand your goals, and can integrate and analyze the relevant data to help you make informed decisions and achieve those goals. In this way, cognitive computing extends artificial intelligence one step further by augmenting human intelligence, extending expertise to all corners of the bank, including customers.

In our work with banking clients, we have seen three strategic starting points for using cognitive computing. Each presents an opportunity to redefine the brand experience through new ways of interacting with information.

Designing value and delivering experiences

Cognitive systems can deliver unprecedented personalized support to financial services customers in a way that fundamentally changes the experience of the brand. It goes beyond market segmentation. It goes beyond micro-segmentation. For example, in wealth management, cognitive enhances strategies, such as goal-based investing, by not only understanding a customer's unique needs but also engaging them in a dialogue. This method helps them answer questions and become more knowledgeable about their financial health.

One leading global bank was struggling with the costs required to manage relationships with the vast majority of its affluent clients. Their labor-intensive approach was not aligned with their goals of digital reinvention, and it failed to attract younger, digital-savvy clientele. So they used the IBM® Watson™ Virtual Agent solution to build a Digital Wealth Advisor. The Digital Wealth Advisor collects data from public sources, industry information and client interactions to deliver actionable insight over a mobile device. The solution is expected to save USD 12 million over the next three years, increase the number of engagements with clients and reduce the burden on the bank's call center.

Driving agility and operational efficiency

Cognitive capabilities can allow a firm to research topics, news and trends that affect strategic decision making in a more comprehensive and consistent way. Whether you're evaluating corporate prospects, clients, vendors or new markets, the analysis of structured and unstructured data provides a complete picture, supporting informed and timely decisions.

For example, a leading financial services firm wanted to provide its sales team with a single solution for prospecting and managing the relationships with institutional clients. They used IBM Watson for Corporate Intelligence to combine real-time data sources, including proprietary and public sales prospect lists, news and social media, peer comparisons, and next-best offerings. Sales team members use natural language to interact with the tool, which gives them a complete overview of client and industry research. It has improved their leads, prioritized their efforts and facilitated the sharing of information across the enterprise. As a result, 100 percent of the sales team believe that the solution will help them win new business and share of client wallet, significantly increase their conversion rates and increase total volume.

Risk and compliance

Cognitive systems can improve enterprise-wide visibility into regulatory and internal compliance controls. By understanding the latest regulatory statutes, and comparing bank activity against them, cognitive systems can help the bank's risk officers detect when a bank cannot meet its obligations. They can also provide recommendations on how to correct course.

One European bank was looking to identify illegitimate activity in their holdings across the world, and surface any transactions that fell outside their risk profile. They needed to continuously

compare this activity with the latest news and regulatory changes. The bank deployed cognitive technology to reduce their risk exposure and enhance their due diligence processes. As a result, they have improved the "know your customer" (KYC) process, gained greater knowledge of their customers, and reduced their risk of abuse by criminals and money launderers. Plus, they have significantly decreased the likelihood of incurring compliance penalties.

Time is a gift. IBM Watson gives you more of it.

Introducing IBM Watson for Cyber Security—the world's first cognitive analytics solution using core IBM Watson technology to understand, reason and learn about security topics and threats. It taps into security knowledge that has previously been dark to an organization's defenses, enabling security analysts to gain new insights and respond to threats with greater confidence at speed and scale. People can read, understand and use reasoning skills to make decisions. IBM Watson uses the same techniques to do something similar but at a larger scale.

IBM Watson performs statistical analysis on a corpus of data, looking for patterns, defining relationships between that data and forming hypothesis to help people make better decisions. It is intended to be a trusted advisor to security analysts, uncovering insights and patterns into security incidents, while suggesting possible solutions to stop a threat.

This security instance of IBM Watson resides in the cloud and applications are able to query IBM Watson for Cyber Security and receive advice, investigation results, and so forth. It's all designed to help you spend less time on the mundane and more time doing things that matter.

Conclusion

We are in the early stages of the Cognitive Era™. Ten, maybe 20 years from now we will look back on today's computers as rigid, impersonal and impossibly slow and limited. And while there is already significant value being returned from cognitive solutions, it's hard to fathom that we still haven't scratched the surface of technology that can understand, reason and learn. We believe it will revolutionize the way humans work with information of all shapes and sizes. For banks, where the products and services are predominately digital, the effect of these new ways to interact and to capture, retain and reuse knowledge will be transformative.

Cognitive systems bring more certainty to business, and IBM® is uniquely positioned to shepherd financial institutions through this journey. In fact, IBM Watson is the first—and only—complete cognitive computing platform. When Watson defeated Jeopardy! champions Brad Rutter and Ken Jennings in 2011, it did one thing—natural language Q&A based on five technologies. Today, Q&A is only one of many IBM Watson

capabilities available as an application programming interface (API). Since then, we have developed more than two dozen new APIs powered by 50 different cognitive technologies. And the list continues to grow.

IBM Watson is engaged with clients in 25 countries and 20 different industries, and our security services division is trusted by more than 10,000 clients in 133 countries. Combined with our deep industry expertise, we believe that IBM can deliver a safe, secure and truly transformative cognitive computing experience.

For more information

To learn more about the IBM Watson cognitive computing platform for banking, please contact your IBM representative or IBM Business Partner, or visit the following website:

ibm.com/banking/the-cognitive-bank



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Software Group
Route 100
Somers, NY 10589

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- ¹ Financial Times. “Banks face pushback over surging compliance and regulatory costs.” May 28, 2015.
- ² McKinsey & Co. Global Banking Review 2015.
- ³ Goldman Sachs. “Goldman Sachs Global Investment Research’s Future of Finance.” 2015.
- ⁴ <http://www.ibm.com/common/ssi/cgi-bin/ssialias?subtype=XB&infotype=PM&htmlfid=GBE03713USEN&attachment=GBE03713USEN.PDF>



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