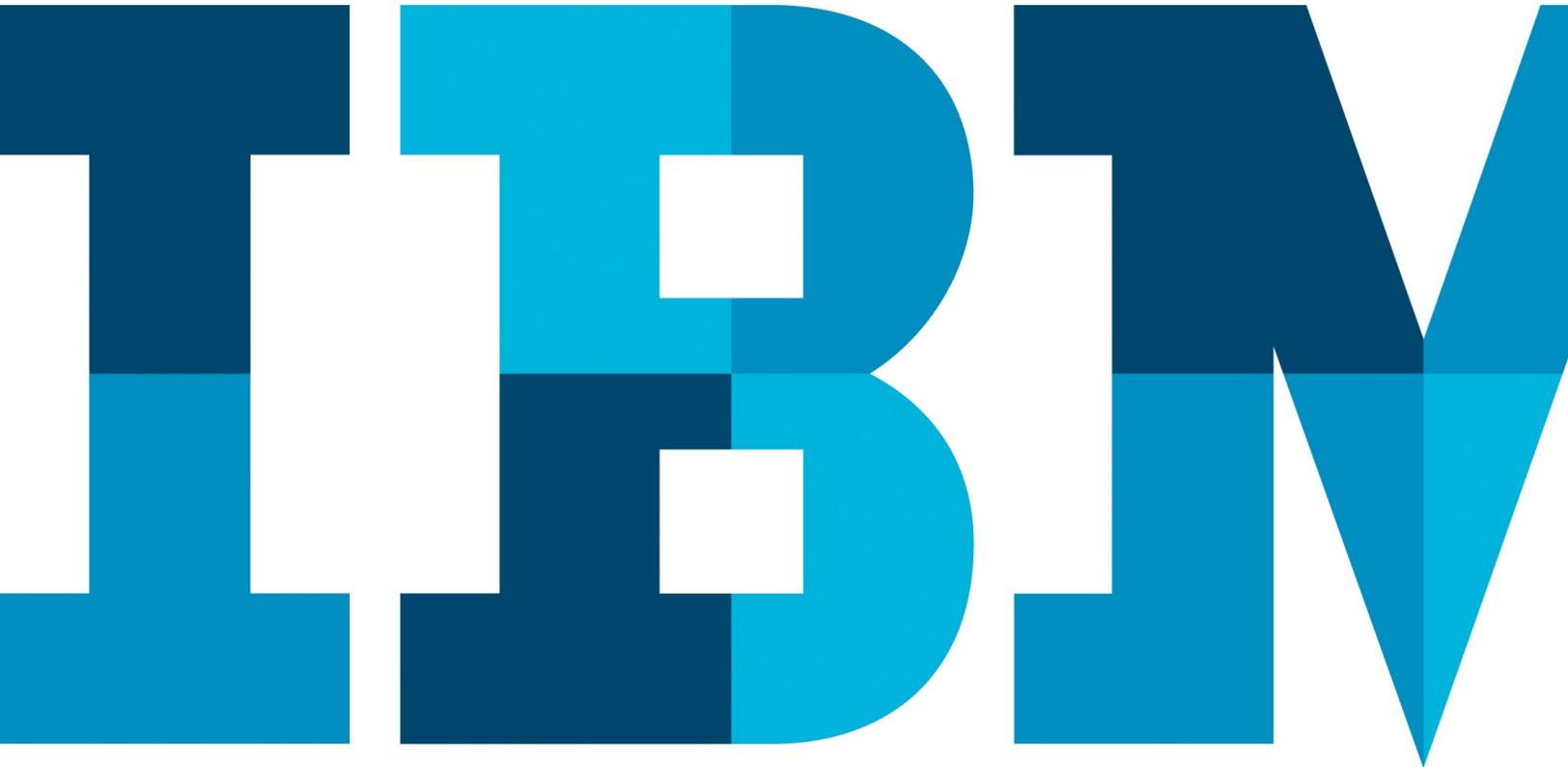# Radical transformation in financial services

*Creating tomorrow's financial institution through new business models*

IBM

## Executive summary

Financial institutions should consider rapidly transforming business models in ways that are cognitive and digital. These transformations should include:

- Developing alternative revenue sources (using marketplace banking strategies and cognitive technologies)
- Streamlining costs by:
  - Advancing digitization initiatives optimized across the enterprise
  - Creating an efficient, flexible IT infrastructure based on micro-services and open APIs
  - Using cloud models to streamline costs and enable scalable growth

Financial institutions that fail to become cognitive and digital risk survival.

Tepid global economic expansion during the current economic cycle has driven improved profits for the financial services industry. Profits for the US financial services industry in particular are at record levels. However, these absolute profits mask underlying business challenges and are speciously leading the industry to delay essential operating model transformation.

Figure 1 is illustrative:
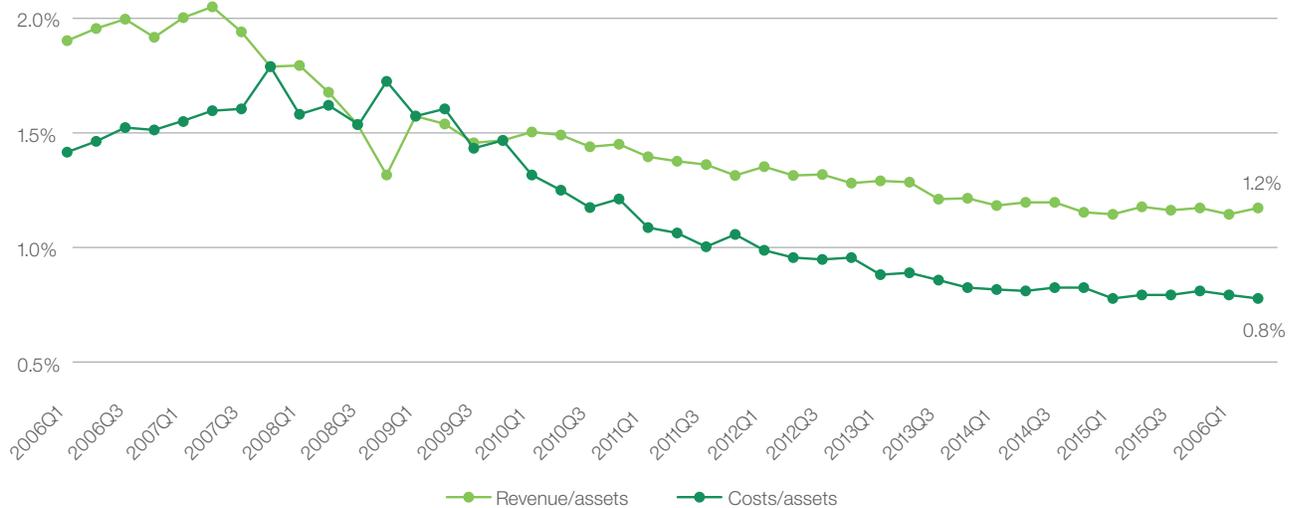
Revenue = interest income, non-interest, security gains (losses)
Cost = interest expense, non-interest expenses, provisions

*Figure 1.* Revenue and costs as a percentage of assets. Over the past decade, revenues-to-assets in the global financial services industry has declined.

**Revenue effectiveness**—While revenues and profits have improved for more than a decade, the industry has experienced a sustained decline in revenues-to-assets. The industry's absolute growth in revenue does not appear to be due to better customer operations, but rather a combination of tepid economic growth and related monetary stimulus (for example, quantitative easing) fostering nominal growth in financial assets.

**Cost efficiency**—While the industry has been unable to improve revenue effectiveness, improved profitability has been achieved by even more aggressive cost reduction. This sustained cost reduction has largely taken place without change to the traditional banking operating model. As a result, further cost reductions are more likely to impact customer experience, resiliency and regulatory compliance.

These challenges are a clarion call for financial institutions to develop new business models.

Prospectively, the financial industry faces continued low return on equity (ROE), slow growth and rising structural costs due to:

- Continuing global macroeconomic slowdown—and the end of the debt super-cycle
- Waning effectiveness of quantitative easing programs
- More sophisticated, demanding customers
- Intensifying government regulations
- Threats from new competitors, such as fintechs

On a global level, average GDP growth has continued to decline, as shown in Figure 2. Further, coincident inventory-to-sales ratios are nearing a peak and manufacturing—and service-level purchasing manager indices (PMIs) are declining. This is a result of the multi-decade, global debt cycle that is now finishing.



Global GDP rate of growth decline = 0.1% per annum

*Figure 2.* Long-term trend in global GDP growth (annual percentage). Global GDP growth rate has declined (one-year average) over the past 65 years. (Source: World Bank and IBM Analysis)

The global yield curve is also flat for banks (that is, the spread between the 10-year and 1-year treasury rate). This has a direct impact on core bank lending profits, traditionally achieved by borrowing short and lending long. A flat yield curve removes the spread.

These macroeconomic and other forces potentially culminate in a "perfect storm." Financial institutions need to respond—vigorously

Best-practice financial institutions need to embrace a new "go-to-market" strategy and delivery model based upon a combination of cognitive and robotic solutions, enterprise-optimized digital delivery, integrated data management and flexible/scalable infrastructure.

This delivery model has been shown to:

• Increase customer satisfaction dramatically and improve top-line revenue
• Reduce non-interest operating costs by as much as 40 percent
• Create an agile, responsive business environment

Given the current global, macroeconomic landscape, financial institutions must embrace this radical transformation—and do it now.

## Radical business model transformation

An effective approach for radical business model transformation has two goals:

• Strategic cost savings
• Rekindling revenue growth

IBM suggests an approach to achieve these goals based on five key levers that have proven successful with clients:

• Top-line revenue rejuvenation
• Operating model transformation
• End-to-end enterprise digitization
• Cognitive computing and advanced analytics
• Infrastructure modernization

A discussion of each of these levers follows.

## Top line rejuvenation

Financial institutions can rejuvenate stagnant top-line growth by:

• Diversifying into non-traditional, fee-based revenue sources, such as marketplace banking
• Promoting better cross-sell/up-sell/referral business streams

While other factors also exist, (for example, general banking fee increases) given the macroeconomic environment, broader diversification into marketplace banking offers promise.

Marketplace banking centers on selling more than financial services and encompasses the notion that financial services are a small part of a customer's wallet share. Banks have customer relationships and a wealth of information about their clients that is beneficial to partners—enabling both to target offerings more effectively.

This customer and information base is unique to banks and something that fintechs cannot yet readily offer.

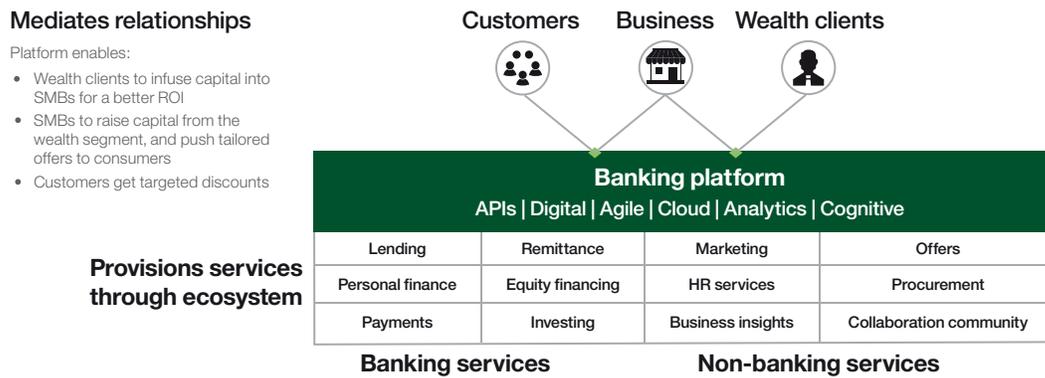Figure 3 illustrates the characteristics of a marketplace bank.



**Mediates relationships**

Platform enables:

- Wealth clients to infuse capital into SMBs for a better ROI
- SMBs to raise capital from the wealth segment, and push tailored offers to consumers
- Customers get targeted discounts

**Customers    Business    Wealth clients**

**Provisions services through ecosystem**

**Banking platform**
APIs | Digital | Agile | Cloud | Analytics | Cognitive

| Lending | Remittance | Marketing | Offers |
|---|---|---|---|
| Personal finance | Equity financing | HR services | Procurement |
| Payments | Investing | Business insights | Collaboration community |

**Banking services          Non-banking services**

*Figure 3.* The architectural diagram of a marketplace bank shows the relationship between customers, the banking IT infrastructure and the services provided. A marketplace platform allows banks to enrich customer experience by leveraging the power of an ecosystem.

Marketplace banking is not a "one-size-fits-all" strategy. Financial institutions have a number of ways to advance this strategy as shown in Figure 4.



**Model A: Marketplace          Model B: Distributor          Model C: Factory**

Distribution channels

Open APIs and ecosystem partners

Product factory

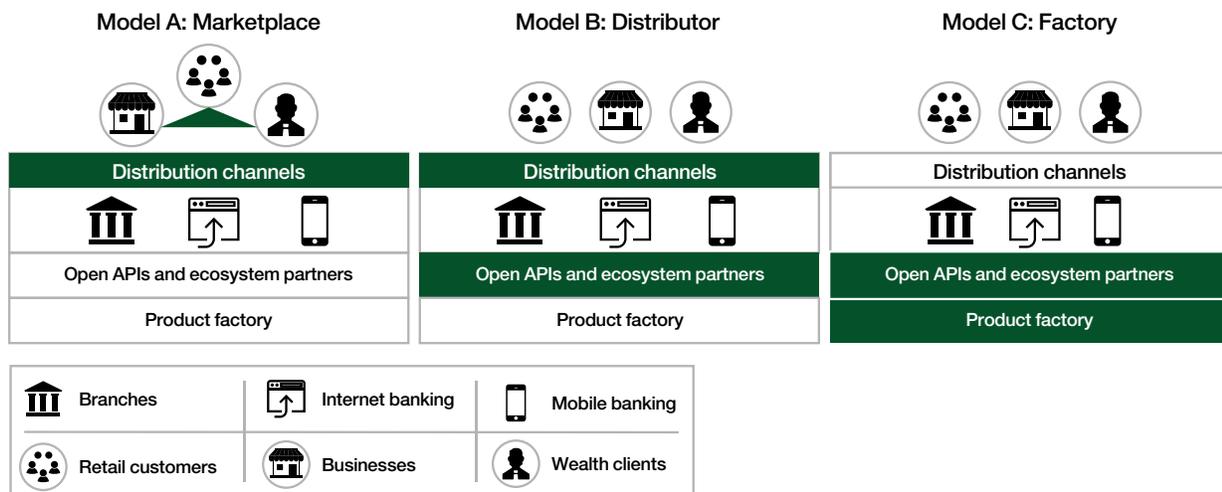| Branches | Internet banking | Mobile banking |
|---|---|---|
| Retail customers | Businesses | Wealth clients |

*Figure 4.* There are three models for platform banking with associated strategic implications. The different approaches of the three models are highlighted in green.

**Model A: Marketplace:** The marketplace model bank has deep customer relationships that can be used to connect their customers with other stakeholders. This enables the bank to be a marketplace for direct client-to-provider services such as "crowdfunding." The bank provides a platform for the peer-to-peer exchange of value. For example, banks might create incremental revenue streams and new sources of value by connecting affluent wealth management customers with small businesses looking for expansion capital.

**Model B: Distributor:** The distributor model bank uses customer insight and distribution assets to sell products that are sourced from a partner ecosystem. The bank's differentiation is an omnichannel relationship with the customer. The bank is agnostic to the origin of the products.

The premise of this model is customer intimacy and engagement. A bank in a distributor model designs a unique value proposition based on the needs of target customer segments. The bank then partners with banking and non-banking providers to provide the underlying services.

**Model C: Factory:** The factory model bank is a product "factory" that provides financial products to other members of the ecosystem. Others own the customer relationship and distribute the products. The bank provides the banking license and the ability to hold funds.

In this model, the bank provides open access to data and services through industry-standard APIs, allowing intelligent distribution of products and development of innovative, third-party services. The bank can also provide core banking services and products to others who, in turn, build unique value propositions.

Figure 5 describes how marketplace banking can create new value.

| Bank marketplace in action | | | | Customer benefits | Bank benefits |
|---|---|---|---|---|---|
| **Meet Brioche** Indie cafe and SMB client | • Brioche is an indie cafe in Toronto. <br> • It struggles to get enough patrons, as they opened recently. | • Brioche is a bank customer. <br> • They have a business account, and use the bank's merchant services. | • They post a voucher on the bank marketplace. <br> • They offer a 20 percent discount | • Grow revenue through new customers <br> • Highly effective marketing by paying for conversions not impressions | ▲ Fee-based income <br><br> ▼ Reduce churn |
| **Meet Mary** Graphic designer and retail customer | • Mary is a bank credit card holder. <br> • She is in her mid-twenties, and supports local businesses. | • **She is going to** Toronto Islands over the weekend. <br> • She pays for her ticket with her bank credit card. | • The bank marketplace pushes an in-app offer to her phone to try Brioche. <br> • She redeems the offer and loves the experience. | • Get special offers to discover new experiences <br> • Save on everyday spending | ▲ Increase card spend <br><br> ▲ Improve NPS |
| **Bank services** Business insights and investment | • With all the new business and exposure, Brioche now needs to expand. <br> • They need funding, business advice and services for expansion. | • Brioche's owner logs into the bank's marketplace. <br> • She navigates to 'Business Insights' to get contextualized and data-driven knowledge and advice from the bank. | • The marketplace connects her to a wealthy investor. <br> • The investor infuses cash, takes a stake and helps Brioche expand to a franchise model. | • Brioche gets contextually relevant advice based on 'Businesses like me' <br> • Brioche is able to get funding to expand. <br> • The bank's wealth client gets a high return. | ▲ Fee-based income <br><br> ▲ Improve retention |

*Figure 5.* This is how marketplace banking can work. The table rows are examples of customers. The columns list the customer interactions with the bank and benefits to both the customers and the bank.

## Case Study: Marketplace banking

A premier marketplace bank in Europe has been highly successful by applying two principles of financial innovation consistent with a distributor model:

- **Openness** is the principle that enables a bank to cultivate an ecosystem of partners and capabilities and use APIs to develop differentiating products/services.
- **Community** is the principle of bringing users together and creating a bond with them, as well as between the customers themselves, where appropriate.

This bank and its ecosystem partners use open APIs to create services and provide offerings such as international payments processing, foreign exchange and other specific products. The bank then integrates these services to enhance the customers' experience.

In tandem, the bank draws customers from target retail and corporate communities on the internet, especially those with a natural affinity. The goal is to provide an experience tailored to the needs of each digital customer.

Early results are impressive:

- From 2012 to 2014, the bank's customer base has grown six-fold and deposits have grown by 300 percent.
- Compared to a typical tier 1 bank's IT cost/user of USD 200/user, the marketplace bank's costs are USD 15/user. This is due to the advancement of a lean, scalable IT architecture. Furthermore, these costs are expected to decrease as the bank benefits from additional economies of scale.

The net result is a new bank that is community based, designed and driven by the customer with open access to a broad ecosystem of products/service providers, and underpinned by simplified/open API technology architecture.

## Operating model transformation

The associated operating model of banks can be redesigned as a set of business components in support of marketplace and digital banking. Compared to monolithic operating models, components provide a granular view of the organization that enables banks to respond quickly and efficiently to sudden market changes.

In the past, banks have used an operating model more akin to "pipes" than to "platforms." Products were often developed, sold and serviced in silos (for example, transactional products, card services, installment loans, wealth management products and student loans). With the rise of new competitors and digitally savvy customers, and the increasing need for product innovation—this model is becoming obsolete.

This inflexible model is also redundant and inefficient. For banks to effectively rejuvenate top-line growth via marketplace banking, and to drive operational efficiency, this operating model must be restructured.

More recently, banks have gained operational efficiency through shared services, and operations and technology (O&T) centralization. While these next step initiatives have been successful in reducing cost, the focus has primarily been within specific lines of business (LoBs) or functions.

Component Business Modelling (CBM) provides a "one bank" approach for aligning customer journeys and common services. CBM expresses bank functions using a common language at the enterprise, business and functional level. "Hot spots" and opportunities for cross-bank synergies can be readily identified and the operating model designed to address these opportunities.

The loose-coupling of a component-based operating model can help a bank source specific components through an optimized cloud-based service provider, without disrupting the rest of the operating model. Common components, such as KYC (know your customer) or distressed credit management, can be easily identified and developed across lines of business on a shared basis and delivered via the cloud. This can provide significant savings and greater operational flexibility.

## Case Study: Operating model transformation

A global bank headquartered in Western Europe is realigning its operating model to become component based. As part of this initiative, the bank mapped all LoBs and corporate functions to a common business architecture. The bank could then readily identify opportunities for sharing, centralization and consolidation across departmental and LoB silos.

The bank is also taking the next steps and mapping customer journeys directly to this component model and identifying reusable components, exposed as services, across journeys.

Through this bold transformation, the bank expects to reduce relevant, non-interest operating costs by up to 40 percent. Approximately 23 percent of the savings will be achieved directly by digitization—the other 17 percent, through applications and data transformation, cloud-based delivery and real estate savings.

## End-to-end enterprise digitization

Customer journeys can be integrated and aligned with component models to facilitate "process" digitization (for example, account opening, trade capture and billing). Most organizations today advance digitization in a spot manner—enterprise-optimized frameworks such as CBM are central to a better, faster solution.

Digitization goes hand-in-hand with implementing a layered architecture where the core systems are simplified. This layered architecture includes:

- A **business services layer** that contains business rules and is responsible for process orchestration, complex event processing, event-based routing, security, audit and other functions.
- An **integration services layer** that exposes functions from the core systems and supports the business services layer.
- A **channel integration layer** that enables an omnichannel customer experience. Channels are responsible for authentication, authorization, device enablement and the user interface.
- A **master data hub** comprised of customer, product and agreement data.

Further, an agile development framework is an essential prerequisite for digitization, coupled with a two-speed IT approach. Critical customer and support systems for digitization (systems of interaction or insight) require transformation at high speed. Legacy core systems of record have low tolerance for errors and necessitate a slower rate of change.

Based on this foundational architecture model—digitization can move a financial institution up the value chain in an accelerated manner from automation to robotics to cognitive as shown in Figure 6.
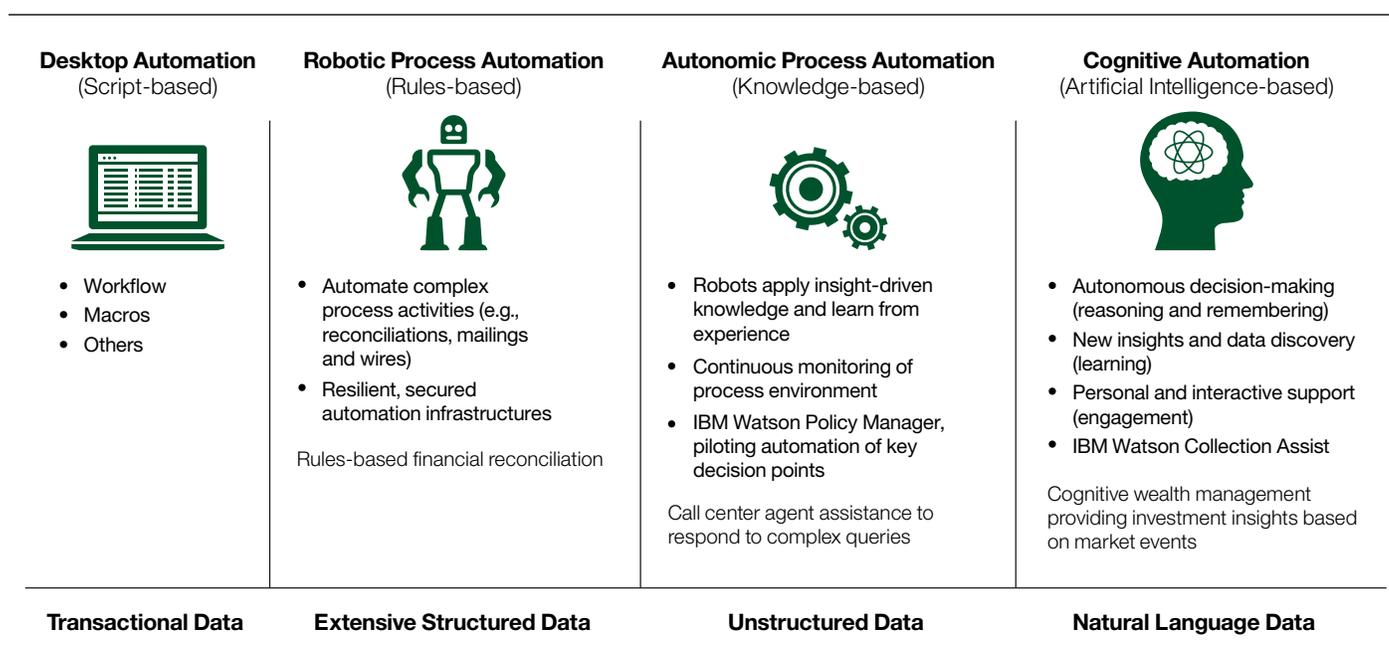
| **Desktop Automation**<br>(Script-based) | **Robotic Process Automation**<br>(Rules-based) | **Autonomic Process Automation**<br>(Knowledge-based) | **Cognitive Automation**<br>(Artificial Intelligence-based) |
|---|---|---|---|
| • Workflow<br>• Macros<br>• Others | • Automate complex process activities (e.g., reconciliations, mailings and wires)<br>• Resilient, secured automation infrastructures<br><br>Rules-based financial reconciliation | • Robots apply insight-driven knowledge and learn from experience<br>• Continuous monitoring of process environment<br>• IBM Watson Policy Manager, piloting automation of key decision points<br><br>Call center agent assistance to respond to complex queries | • Autonomous decision-making (reasoning and remembering)<br>• New insights and data discovery (learning)<br>• Personal and interactive support (engagement)<br>• IBM Watson Collection Assist<br><br>Cognitive wealth management providing investment insights based on market events |
| **Transactional Data** | **Extensive Structured Data** | **Unstructured Data** | **Natural Language Data** |

*Figure 6*. How marketplace banking can work. The digitization value chain for financial institutions.

## Case Study: End-to-end digitization of a global bank

This global bank realized it could achieve significant value by digitizing extensively at the enterprise level. Using the customer journey and component models discussed above, the bank identified 400 processes across corporate, wealth and personal banking for the application of digitization and robotics.

In the first step, the processes were identified in aggregate using teams from across the organization and distilled within a process mapping and attribution tool. The bank established priorities for digitization based on total process cost, number of FTEs, customer impact and the like, while the overall process architecture made it easier to identify common services.

Next, critical foundational technology components were put in place, such as an enhanced middleware layer. These components were essential to accelerate the implementation.

Finally, the team set up an onshore/offshore model for digitization with design largely done onshore and development and multiple testing stages done offshore to promote a 24x7 delivery model, while optimizing capabilities and minimizing costs.

This model helps deliver digitization with factory-style efficiency. Approximately 20 journeys can be released per month with 14-week cycle times for a typical journey. Explicit learning curve targets are incorporated to lower the cost per journey substantially over a 3- to 4-year delivery horizon.

The effort has been highly effective. Approximately 90 journeys for the consumer bank have been completed and released to date and back office savings approach 50 percent—enough to cover the original investment many times over.

## Cognitive computing

Cognitive computing refers to a fundamental difference in how systems are built and interact with humans. Traditional programmable systems are fed data and their results are based on processing that is preprogrammed by humans. The cognitive era, on the other hand, is about thinking itself—how we gather information, access it and make decisions.

Cognitive-based systems build knowledge and learn, understand natural language, and interact more naturally with human beings than traditional programmable systems. The term "reasoning" refers to how cognitive systems demonstrate insights that are very similar to those of humans.

Banks can also use cognitive computing to help create deeper personalization of the customer experience, drive better engagement and increase wallet share. Using cognitive computing, banks can create competitive differentiation.

The following case studies illustrate how cognitive computing can both improve customer cross-sell/up-sell/referrals and markedly improve customer service. While cognitive computing is in a nascent stage, the potential impact can be dramatic.

## Case Study: Cognitive computing for customer service

A large, Latin American bank set a goal of providing cognitive, self-service capability to customers to reduce cost, provide higher quality service and greater customer satisfaction and ultimately, to drive growth.

As part of an enterprise digitization strategy, the bank implemented a cognitive agent assist solution to reduce the number of calls to their call center and shorten wait times for customers. The company also wanted to reduce the cost of training call center agents.

The cognitive solution provides answers to call center agents, branch employees (and eventually, customers) on products and process questions and provides digital call routing as needed. IBM® Watson™ is used to get consistent and rapid answers to questions such as:

- What are the different type of mortgage loan operations available?
- What are the primary differences between a gold and platinum card?
- What are my options for sending an international wire transfer?

The benefits of the solution are to reduce:

- Average call duration by 24 percent
- Average call wait time by 16 percent
- Email volume by 60 percent
- Overall call center costs by 20 percent

## Case Study: Cognitive computing for wealth management

Service is just one aspect of cognitive computing; Cognitive also helps generate cross-sell/up-sell.

The wealth management team at a large US bank set a goal of improving the effectiveness of client prospecting in three key areas:

• Systematic analysis of client portfolios
• Personality alignment to provide the right client/wealth advisor "match"
• Successful investment strategies for each client

Cognitive computing was a key enabling mechanism. For this effort, the client embarked on a six-month, proof-of-concept across the wealth management department with strong engagement of multiple wealth managers.

The cognitive solution was empowered and trained to support the wealth management process via ingested data from bank databases, Facebook and other sources.

The cognitive solution, based upon IBM Watson technology, carefully filtered customer lists and associated bank data, juxtaposed against the personality characteristics and style of wealth managers to identify the higher probability customers and the best match between advisor and client.

During the early implementation, the wealth management team realized significant benefits:

• 5 to 10 percent increase in client acquisition
• Shortened the time needed to qualify a lead by 20 percent
• 5 to 10 percent increase in client wallet share

In addition to the transformation levers highlighted above (revenue rejuvenation, operating model, end-to-end digitization, cognitive and analytics), there are other complementary ones such as:

• Application transformation to create a more agile, flexible environment
• Data transformation to provide better business, customer and regulatory management
• Infrastructure management to provide for a scalable, secure, and low cost delivery model.

Related case studies are highlighted below.

## Infrastructure modernization

Financial institutions need flexible, scalable infrastructure to support growth and minimize cost. Hybrid cloud solutions can provide this type of flexible, least-cost infrastructure. It allows critical applications in a distributed environment to be run in the cloud—either on or off premises. It also facilitates modernization and enhancement of the legacy environment. Hybrid cloud provides the seamless orchestration and security for this lower cost, flexible solution to be run securely and effectively.

## Case study: Infrastructure modernization:

A US institution set a goal of modernizing and simplifying infrastructure to lower operational costs while creating a more scalable environment. Several hundred applications were reviewed for rebuild, retain, replace and rationalization opportunities—to develop the optimum portfolio strategy.

An application workload and disposition strategy was then advanced to determine infrastructure choices in terms of on- or off-premises cloud, public versus private cloud, specialized versus general environment, mainframe versus server. Implementation began with those applications most suitable for a cloud environment.

This transformation journey involved implementing private cloud at the client's data center using hybrid cloud services for automation and orchestration. The bank:

- Built an "as-a-service" model by jointly establishing technology standards.
- Conducted an information life cycle management (ILM) study for storage optimization.
- Used a storage-as-a-service model including policy-driven automation and tiered options based on application business needs.

By refreshing their server environment into a "compute-as-a-service" model, the bank is on track to achieve an estimated 20 to 30 percent reduction in infrastructure management costs.

This approach has helped improve service, increase reliability and agility, and speed the delivery of services and projects.

## Natural efficiency – A new model for transformation and accelerated delivery

Given the criticality of moving with intensity now and the radical nature of the delivery model transformation, financial professionals reading this article might ask:

- How do we get this done in an expeditious manner?
- How can we manage the risks?
- How can we improve the odds of success?

To achieve this final aspect of radical transformation, best-practice financial institutions are now adopting a delivery model predicated on what is called "natural efficiency."

Traditionally, financial institutions have used an "engineered efficiency" model for transformational solutions—advancing solutions in particular business areas with limited best-practice sharing/integration, managing the solutions under their own aegis, and selectively using third parties for support. This model provided incremental yield in the 10 to 30 percent range.

Natural efficiency is a new, transformative approach to implementing complex organizational change. It involves taking:

- An enterprise approach to solution development.
- Using third parties to create solutions in a consortium model.
- Using outcomes-based reward structures.
- Establishing integrative governance strategies.

The yield from natural efficiency is in the range of 30 to 60 percent cost savings, with accelerated results as shown in Table 1.

| Engineered efficiency saves 10 to 30 percent | Natural efficiency saves 30 to 60 percent |
|---|---|
| Achieved by traditional approaches: <br> • Process reengineering, overhead cost management and improved efficiency <br> • Applications and IT infrastructure rationalization <br> • Vendor management/strategic procurement <br> • Workforce balancing, offshoring <br> • Customer relationship management <br> This approach is functionally driven, inward-looking, cost-centric and often limited in lifespan. | Achieved by holistic approaches bringing together: <br> • Green, agile, automation, robotics, cognitive computing <br> • Demand-based, "pay-as-you-go" utility services, XaaS <br> • Supplier and customer ecosystems <br> • Hybrid IT and migration to cloud <br> This approach is cross-functional, focused on business outcomes and designed to provide long-term, sustainable efficiency. |

Table 1 – Comparison of natural efficiency versus engineered efficiency – natural efficiency is a potential breakthrough.

## Case Study: Natural Efficiency

A global bank set goals of dramatically improving the customer impact and global efficiency of their global operations by implementing a standard, scalable operating model, digitizing operations globally, rationalizing a 4,000+ diverse applications architecture, transforming the underlying data model, and delivering the solution with a cloud infrastructure.

The bank wanted to shift customers and their business model from traditional operations to digital operations and grow sales via digital channels. The firm set a bold target of a 40 percent reduction in their cost-to-income ratio for this transformation with the aim of becoming the premier "go to" global bank.

The bank realized that a transformation of this complexity and scale would be difficult and beyond the capabilities of either themselves or a single strategic partner. They decided to work with an integrated consortium comprised of best-practice partners.

Multiple consortiums bid on the work, and a consortium under the aegis of IBM was ultimately selected. Successful projects to date include:

- Developing an enterprise-level CBM consisting of 90 level 1, 400 level 2, and several thousand level 3 components
- Digitizing approximately 100 primary processes around customer journeys and digitization factories linked to CBM services
- Developing a data fabric for enterprise-wide data management
- Developing an application performance monitoring solution consolidating four thousand applications
- Building a hybrid cloud hosting environment for operation of these applications
- Building a fraud management solution to reduce credit card fraud cost by 10 percent.

The bank anticipates saving over USD 4 billion in operating costs over the next five years and a total savings in non-interest operating costs 40 percent.

The complexity of this large scale transformation is managed through an open, networked solution maintained by integrated performance management and governance techniques.

## Conclusion

Financial institutions must restructure their business models quickly—and do so in ways that are cognitive, digital and analytical. The macroeconomic landscape is expected to remain highly challenging throughout this decade, putting even more pressure on financial institutions' top and bottom lines.

Institutions should accelerate their transformation agenda and leverage the construct of natural efficiency to achieve these aims.

The first steps financial institutions can take towards achieving these aims should be to:

• Create a roadmap with specific goals that help guide the implementation.
• Build momentum with short-term "wins" that help fuel the implementation, for example:
  – Early cloud implementations on a distributed platform
  – Accentuated, location optimization of business resources
  – Extreme, lean, process re-design
  – New performance frameworks to drive customer responsiveness, agility and speed
• Adopt an integrated governance structure for aligned business, operations, IT support and engagement on a global basis

Institutions that fail to become cognitive and digital risk future survival in much the same way as traditional department stores lost to online behemoths, or video stores lost to Netflix and other video on demand providers. Institutions that take the steps listed above can be tomorrow's winners and reap the rewards.

## Why IBM?

IBM is unmatched in bringing the critical mass of global, industry, and technical capabilities essential to help financial institutions successfully and radically transform in the cognitive era.

Our approaches have been honed from a myriad of successful large scale transformational assignments for clients worldwide.

At IBM, people are the most important asset and are unmatched in bringing strengths as both advisors and technical experts in the disciplines required for transformational success.

Lastly, IBM commits to achieving client outcomes. We directly align our target outcomes with those of our clients—to achieve the very best outcome in the best way.

## For more information

To learn more about Radical Transformation in Financial Services, please contact your IBM representative or IBM Business Partner, or visit the following website: **ibm.com**/banking

Additionally, IBM Global Financing provides numerous payment options to help you acquire the technology you need to grow your business. We provide full lifecycle management of IT products and services, from acquisition to disposition. For more information, visit: **ibm.com**/financing

## About the authors

**Stephen Reiser** is a vice president and partner in the IBM financial services practice and leads our complex transformation practice. He brings in-depth financial service experience across the sector (banking, financial markets, asset management and insurance). He also has hands-on engagement leadership expertise both as a consultant and as a line banker—in designing and delivering complex transformation programs—and has worked in most major, global markets.

**Anthony Lipp** is the Global Strategy Leader for Banking and Financial Markets at IBM. He supports the development and execution of IBM's strategy for its business serving banking and financial markets clients worldwide. He has diverse industry and management consulting experience serving top management on major strategy, organization and enterprise transformation initiatives in the banking, capital markets and insurance industries.

**Adnan Haider** is a subject matter expert on marketplace banking and front-office transformation. He has led a range of initiatives for clients globally related to customer journey definition, omnichannel design, end-to-end accelerated journey digitization, and target operating model design and delivery.

**Sajal Mukherjee** provides leadership for our global core platform transformation work. He brings deep experience in systems transformation in support of new cognitive and digital models.

**Stuart Bilick** is the portfolio marketing manager for IBM Global Banking. He is responsible for developing the IBM global marketing strategy for serving the business and technology needs of financial institutions.